FOUNDATION

MCQ 1

Rewritten Question

An 82-year-old male visits the outpatient department for a routine evaluation. His medical history includes hypertension, osteoarthritis, and mild cognitive impairment. Over time, he has experienced increasing fatigue and difficulty performing daily activities. Physical examination reveals slow gait, decreased handgrip strength, and mild cognitive deficits. His body weight has remained unchanged. Which assessment tool is most appropriate to evaluate his overall health status?

Options

a. Clinical Disability Scale
b. Clinical Fragility Scale
c. Clinical Frailty Scale
d. Geriatric Depression Scale
e. Mini-Mental State Examination

Correct Answer

✅ **c. Clinical Frailty Scale**

Reasoning

This patient demonstrates **frailty features**:

- Slow gait
- Reduced grip strength
- Fatigue
- Functional decline
- Cognitive impairment

The **Clinical Frailty Scale (CFS)** assesses:

- Physical function
- Cognition
- Mobility
- Independence

It is specifically designed to evaluate **frailty in elderly patients**, even when weight is stable.

Why others are wrong

- **Disability scale** → focuses on dependence, not frailty
- **Fragility scale** → not a standard assessment tool
- **Geriatric Depression Scale** → screens for depression
- **MMSE** → cognitive screening only, not functional status

High-Yield Points

- **Frailty ≠ disability**
- Frailty includes weakness, slowness, exhaustion
- **CFS score ≥5** → frail
- Commonly tested in **geriatrics & internal medicine**

MCQ 2

Rewritten Question

Which type of acne is characteristically associated with systemic symptoms such as fever, joint pain, and elevated erythrocyte sedimentation rate (ESR)?

Options

a. Acne conglobata
b. Acne excoriée
c. Acne fulminans
d. Acne keloidalis nuchae

Correct Answer

✅ **c. Acne fulminans**

Reasoning

Acne fulminans is a **severe inflammatory acne** variant with:

- Sudden onset
- Fever
- Arthralgia
- Malaise
- Raised ESR and CRP

It often occurs in **young males** and may be associated with isotretinoin initiation.

High-Yield Points

- Acne fulminans = **systemic illness**
- Treated with **systemic steroids first**, then isotretinoin
- Conglobata → severe but **no systemic symptoms**

MCQ 3

Rewritten Question

Which of the following statements regarding psoriasis is correct?

Options

a. Psoriasis primarily affects flexural surfaces
b. Systemic corticosteroids are the mainstay of treatment
c. Type 1 psoriasis is associated with HLA-Cw6
d. Histopathology shows basal layer degeneration

Correct Answer

✅ **c. Type 1 psoriasis is associated with HLA-Cw6**

Reasoning

- **Type 1 psoriasis** (early onset) is genetically linked to **HLA-Cw6**
- Usually presents in younger individuals

Why others are wrong

- Psoriasis → **extensor surfaces**, not flexural
- Systemic steroids → **contraindicated** (rebound risk)
- Histology shows **acanthosis**, not basal degeneration

High-Yield Points

- Auspitz sign
- Koebner phenomenon
- Histology:
    - Parakeratosis
    - Munro microabscesses
    - Elongated rete ridges

MCQ 4

Rewritten Question

All of the following statements about impetigo are correct **EXCEPT**:

Options

a. Mild cases can be treated with topical mupirocin or fusidic acid
b. It may lead to post-streptococcal glomerulonephritis
c. Bullous impetigo results from exfoliative toxin of Staphylococcus
d. It is a highly contagious infection most common in children

Correct Answer

✅ **All statements are correct → NO incorrect option**

⚠️ **Exam note:** This is a **poorly framed MCQ**. All options are correct.

High-Yield Points

- Bullous impetigo → **Staph aureus toxin**
- Non-bullous → **Strep pyogenes**
- Honey-colored crusts
- PSGN risk present but **not ARF**

MCQ 5

Rewritten Question

Which of the following statements regarding molluscum contagiosum is **incorrect**?

Options

a. Lesions are dome-shaped, skin-colored, umbilicated papules
b. Most commonly affects children above one year of age
c. Lesions can be treated by gentle expression after bathing
d. It is caused by human cytomegalovirus

Correct Answer

✅ **d. It is caused by human cytomegalovirus**

Reasoning

Molluscum contagiosum is caused by a **poxvirus**, not CMV.

High-Yield Points

- Umbilicated papules = buzzword
- Common in children, sexually active adults, immunocompromised
- Self-limiting
- Curettage / cryotherapy used if needed

MCQ 6

Rewritten Question

Koebner phenomenon (appearance of lesions at sites of trauma) is observed in which of the following conditions?

Options

a. Lichen planus
b. Psoriasis
c. Human papilloma virus infection
d. All of the above

Correct Answer

✅ **d. All of the above**

Reasoning

Koebner phenomenon occurs in:

- Psoriasis

- Lichen planus
- Vitiligo
- Warts (HPV)

High-Yield Points

- Trauma → new lesions
- Commonly tested dermatology concept
- Also seen in **lichen nitidus**

MCQ 7

Rewritten Question

A 25-year-old woman presents with intensely pruritic, flat-topped, violaceous papules located predominantly in the flexural areas. What is the most likely diagnosis?

Options

a. Psoriasis
b. Lichen striatus
c. Lichen nitidus
d. Lichen planus

Correct Answer

✅ **d. Lichen planus**

Reasoning

Classic **6 P's of lichen planus**:

- Pruritic
- Purple

- Polygonal
- Planar
- Papules
- Plaques

Flexural surfaces are commonly involved.

High-Yield Points

- Wickham striae
- Koebner phenomenon
- Associated with **Hepatitis C**
- Treat with topical steroids

Ultra-High-Yield Rapid Review

- Frailty → **Clinical Frailty Scale**
- Fever + acne → **Acne fulminans**
- Psoriasis genetics → **HLA-Cw6**
- Bullous impetigo → **Staph toxin**
- Molluscum → **Poxvirus**
- Koebner → **Psoriasis, LP, warts**
- Purple itchy papules → **Lichen planus**

MCQ 8

Rewritten Question

Which of the following features distinguishes **scabies in adults** from scabies in children?

Options

a. Face is not involved
b. Groin is involved
c. Ivermectin is not effective in adults
d. Areola is not involved

Correct Answer

✅ **a. Face is not involved**

Reasoning

- In **adults**, scabies typically **spares the face and scalp**
- In **infants and young children**, face, scalp, palms, and soles **can be involved**

Why others are wrong

- **Groin involvement** → occurs in adults ✔️ (not a differentiating factor)
- **Ivermectin** → effective in adults ❌
- **Areola involvement** → common site in adults ❌

High-Yield Points

- Adult scabies sites:
    - Finger webs
    - Wrist flexors
    - Axilla
    - Genitalia

    - Areola

- Treatment:
    - **Permethrin 5% topical**
    - **Oral ivermectin** (especially crusted scabies)

MCQ 9

Rewritten Question

A 45-year-old man presents with multiple physical complaints involving different organ systems for the past two years. He has been evaluated by several specialists, and all investigations are normal. He frequently changes doctors, uses medications briefly, and carries multiple prescriptions. He remains excessively worried about his symptoms and continuously seeks new treatments. What is the most likely diagnosis?

Options

a. Illness Anxiety Disorder
b. Chronic Mood Disorder
c. Somatization Disorder
d. Autonomic Dysfunction Disorder
e. Delusional Disorder

Correct Answer

✅ **c. Somatization Disorder**

Reasoning

Key features:

- **Multiple physical symptoms**
- **Multiple systems involved**
- **Long duration**

- **Repeated medical consultations**
- Symptoms are **not intentionally produced**

This fits **Somatic Symptom Disorder / Somatization Disorder**.

Why not illness anxiety disorder?

- Illness anxiety → **minimal symptoms, excessive fear**
- Here → **many symptoms**

High-Yield Points

- Somatization → symptoms > anxiety
- Hypochondriasis → anxiety > symptoms
- Management:
    - Reassurance
    - Regular follow-up with **single physician**
    - Avoid unnecessary investigations

MCQ 10

Rewritten Question

A 40-year-old woman presents with **acute onset blindness** for 4 days. The symptoms began immediately after her husband remarried. Ophthalmological and neurological examinations, along with investigations, are completely normal. What is the most probable diagnosis?

Options

a. Bilateral ophthalmitis
b. Occipital lobe infarction

c. Hypochondriasis
d. Conversion disorder
e. Dissociative amnesia

Correct Answer

✅ **d. Conversion Disorder**

Reasoning

- **Acute neurological deficit**
- **Psychological stressor**
- **No organic cause**
- **Sensory loss (blindness)**

→ Classic **conversion disorder**.

High-Yield Points

- Conversion disorder = **functional neurological symptom**
- Sudden onset
- Often follows emotional trauma
- Not intentionally produced

BLOCK / PALLIATIVE CARE MCQs

MCQ 1 (Palliative Care)

Rewritten Question

Palliative care addresses which of the following aspects in patients with serious illness?

Options

a. Emotional aspect only
b. Emotional, physical, and spiritual aspects
c. Physiotherapy and spiritual therapy only
d. Physical symptoms only
e. Counseling for curative treatment only

Correct Answer

✅ **b. Emotional, physical, and spiritual aspects**

Reasoning

Palliative care is **holistic**, focusing on:

- Pain and symptom control
- Psychological support
- Social and spiritual care

High-Yield Points

- Palliative ≠ end-of-life only
- Can be given **alongside curative treatment**
- Improves **quality of life**

MCQ 2 (Hospice Care)

Rewritten Question

In palliative care, **hospice** is a program that:

Options

a. Provides only medical treatment
b. Provides counseling and spiritual therapy only
c. Has no effect on patient management
d. Provides care to people near the end of life who have stopped curative treatment
e. Provides only dietary support

Correct Answer

✅ **d. Provides care to people near the end of life who have stopped treatment**

Reasoning

Hospice care:

- For **terminal patients**
- Focuses on **comfort, dignity, symptom relief**
- Curative treatment is stopped

High-Yield Points

- Hospice = end-of-life care
- Palliative = anytime in serious illness
- Emphasis on comfort, not cure

MCQ 3 (Pre-operative Assessment)

Rewritten Question

A 45-year-old female with a history of COPD is scheduled for lung resection surgery. She is a former smoker. Which preoperative assessment is **most essential** to optimize perioperative management?

Options

a. Pulmonary function tests (PFTs)
b. Electrocardiogram (ECG)
c. Complete blood count (CBC)
d. Liver function tests (LFTs)
e. Renal function tests (RFTs)

Correct Answer

✅ **a. Pulmonary function tests (PFTs)**

Reasoning

- Lung surgery + COPD → **pulmonary reserve assessment is critical**
- PFTs assess:
    - FEV1
    - DLCO
    - Surgical risk

High-Yield Points

- Lung resection → **PFTs mandatory**
- FEV1 < 1.5 L → high risk
- Smoking cessation ≥ 4 weeks pre-op

MCQ 4 (Hodgkin Lymphoma)

Rewritten Question

A 25-year-old female presents with painless cervical lymphadenopathy. Biopsy shows Reed–Sternberg cells. What is the most commonly used treatment for Hodgkin's lymphoma?

Options

a. Chemotherapy
b. Radiation therapy
c. Immunotherapy
d. Bone marrow transplant
e. Surgery

Correct Answer

✅ **a. Chemotherapy**

Reasoning

- First-line treatment → **Combination chemotherapy (ABVD)**
- Radiotherapy may be added in early-stage disease

High-Yield Points

- Reed–Sternberg cells = Hodgkin
- ABVD regimen:
    - Adriamycin
    - Bleomycin
    - Vinblastine
    - Dacarbazine

MCQ 5 (Aggressive NHL)

Rewritten Question

A 60-year-old male with B-cell lymphoma presents with rapidly enlarging lymph nodes, fever, and night sweats. Which treatment is most commonly required for aggressive Non-Hodgkin's lymphoma?

Options

a. Chemotherapy
b. Immunotherapy
c. Stem cell transplant
d. Radiation therapy
e. Surgery

Correct Answer

✅ **a. Chemotherapy**

Reasoning

- Aggressive NHL → **systemic disease**
- Mainstay treatment → **Combination chemotherapy (e.g., R-CHOP)**

High-Yield Points

- B symptoms = fever, night sweats, weight loss
- R-CHOP:
    - Rituximab
    - Cyclophosphamide
    - Doxorubicin
    - Vincristine
    - Prednisone
- Transplant → relapse or refractory cases

EXAMINER FAVORITE RAPID PEARLS

- Face spared in adult scabies
- Multiple symptoms + many doctors → somatization

- Sudden blindness + stress → conversion disorder
- Hospice = end-of-life, no curative treatment
- Lung surgery → PFTs mandatory
- Reed-Sternberg → Hodgkin → ABVD
- Aggressive NHL → R-CHOP

MCQ 6

Rewritten Question

A 45-year-old male presents with **painless, rubbery cervical lymph nodes** that have been progressively enlarging over the past 6 months. He also reports **night sweats and unexplained weight loss**. Which of the following is the most likely finding on lymph node biopsy?

Options

a. Reactive hyperplasia
b. Granulomatous inflammation
c. Metastatic carcinoma
d. Hodgkin's lymphoma
e. Non-Hodgkin's lymphoma

Correct Answer

✅ **d. Hodgkin's lymphoma**

Reasoning

Key clues:

- Painless lymphadenopathy
- Rubber consistency
- **B symptoms** (night sweats, weight loss)
- Gradual progression

These features are **classic for Hodgkin's lymphoma**.

High-Yield Points

- Hodgkin lymphoma spreads **contiguously**
- Cervical nodes most common
- Diagnosis → **Reed–Sternberg cells**
- B symptoms = poor prognostic sign

MCQ 7

Rewritten Question

A patient undergoing chemotherapy for **acute lymphoblastic leukemia** develops nausea, vomiting, and muscle cramps. Laboratory findings reveal:

- Hyperuricemia
- Hyperkalemia
- Hyperphosphatemia
- Hypocalcemia

What is the most likely diagnosis?

Options

a. Acute kidney injury unrelated to chemotherapy
b. Electrolyte imbalance due to poor diet
c. Tumor lysis syndrome due to chemotherapy
d. Metabolic acidosis from renal tubular acidosis
e. Hypercalcemia of malignancy

Correct Answer

✅ **c. Tumor lysis syndrome due to chemotherapy**

Reasoning

This is the **classic electrolyte constellation** of tumor lysis syndrome caused by rapid tumor cell breakdown after chemotherapy.

High-Yield Points

- Seen in leukemias & lymphomas
- Causes:
    - ↑ Uric acid
    - ↑ K^+
    - ↑ Phosphate
    - ↓ Ca^{2+}
- Prevention:
    - Hydration
    - **Allopurinol / Rasburicase**

MCQ 8

Rewritten Question

Auer rods are characteristically found in which of the following conditions?

Options

a. Acute myeloid leukemia
b. Blast crisis of chronic myeloid leukemia
c. Acute lymphoblastic leukemia
d. Hodgkin's lymphoma
e. Sideroblastic anemia

Correct Answer

✅ **a. Acute myeloid leukemia**

Reasoning

Auer rods are **needle-shaped azurophilic inclusions** formed from fused lysosomes and are **pathognomonic for AML**.

High-Yield Points

- Seen especially in **APL (M3)**
- APL → t(15;17)
- Treatment: **ATRA**
- Risk: DIC

MCQ 9

Rewritten Question

Reed–Sternberg cells are diagnostic of which disease?

Options

a. Acute lymphocytic leukemia
b. Multiple myeloma
c. Hodgkin's lymphoma
d. Coeliac disease
e. Chronic lymphocytic leukemia

Correct Answer

✅ **c. Hodgkin's lymphoma**

Reasoning

Reed–Sternberg cells are:

- Large
- Binucleated
- “Owl-eye” appearance

High-Yield Points

- CD15+, CD30+
- Derived from **B cells**
- Required for diagnosis of Hodgkin lymphoma

MCQ 10 (Paper formatting corrected)

Rewritten Question

A 60-year-old male presents with **heaviness in the left hypochondrium**. Examination reveals a **massive firm spleen extending to the umbilicus**. There is **no lymphadenopathy**. Laboratory findings:

- TLC: 140,000
- Neutrophils: 88%
- Lymphocytes: 15%
- MP slide: Negative
- Liver normal on ultrasound

What is the most likely diagnosis?

Options

a. Chronic lymphocytic leukemia
b. Chronic myeloid leukemia
c. Mantle cell lymphoma

Correct Answer

✅ **b. Chronic myeloid leukemia**

Reasoning

- Massive splenomegaly
- Very high TLC
- Predominant neutrophils
- MP slide negative (rules out malaria)

Classic for **CML**.

High-Yield Points

- CML → **BCR-ABL (Philadelphia chromosome)**
- t(9;22)
- Treatment: **Imatinib**
- LAP score ↓

MCQ 11

Rewritten Question

A 65-year-old woman presents with fatigue, weight loss, and night sweats. She has generalized lymphadenopathy and hepatosplenomegaly. Peripheral blood smear shows **lymphocytosis with smudge cells**. What is the most likely diagnosis?

Options

a. Chronic lymphocytic leukemia (CLL)
b. Hairy cell leukemia
c. Mantle cell lymphoma
d. Follicular lymphoma
e. Hodgkin's lymphoma

Correct Answer

✅ **a. Chronic lymphocytic leukemia (CLL)**

Reasoning

- Smudge cells = fragile lymphocytes
- Elderly patient
- Lymphocytosis

High-Yield Points

- CLL = most common adult leukemia
- CD5+, CD23+
- Autoimmune hemolytic anemia common
- Often indolent course

MCQ 12

Rewritten Question

A 40-year-old female presents with a 2-month history of lethargy and dysphagia for solid food. She has **glossitis and anemia**. Barium swallow shows an **esophageal stricture**. Peripheral smear reveals:

- Microcytosis

- Anisocytosis
- Poikilocytosis
- Hypochromia

What is the most likely diagnosis?

Options

a. Thalassemia
b. Sideroblastic anemia
c. Plummer–Vinson syndrome
d. Megaloblastic anemia
e. Pernicious anemia

Correct Answer

✅ **c. Plummer–Vinson syndrome**

Reasoning

Triad:

- Iron deficiency anemia
- Dysphagia
- Esophageal web

High-Yield Points

- Seen in middle-aged women
- Risk of **esophageal carcinoma**
- Treat with **iron supplementation**

MCQ 13

Rewritten Question

A 35-year-old male presents with jaundice and anemia. Laboratory findings:

- Hb: 4.5 g/dL
- Raised bilirubin
- Reticulocyte count: 9%
- Peripheral smear: polychromasia

Which test is required to confirm the diagnosis?

Options

a. Hb electrophoresis
b. Osmotic fragility test
c. Coombs test
d. Bone marrow biopsy
e. Abdominal ultrasound

Correct Answer

✅ **c. Coombs test**

Reasoning

Findings indicate **hemolytic anemia**.

- High reticulocytes
- Indirect hyperbilirubinemia
- Polychromasia

Coombs test confirms **immune hemolysis**.

High-Yield Points

- Direct Coombs → antibodies on RBCs
- Seen in AIHA
- Treat with steroids

MCQ 14

Rewritten Question

A 22-year-old female is a known case of **thalassemia trait**. Which hemoglobin fraction is expected to be increased on hemoglobin electrophoresis?

Options

a. HbA_2
b. HbA
c. HbF
d. HbS
e. Hb Bart's

Correct Answer

✅ **a. HbA_2**

Reasoning

- Thalassemia trait → compensatory increase in HbA_2

High-Yield Points

- HbA_2 > 3.5% → β-thalassemia trait
- HbF ↑ slightly
- Hb Bart's → alpha-thalassemia major (newborn)

SUPER HIGH-YIELD RAPID SUMMARY

- B symptoms + painless nodes → Hodgkin lymphoma
- Chemo + electrolyte chaos → Tumor lysis syndrome
- Auer rods → AML
- Smudge cells → CLL
- Massive spleen + high TLC → CML
- Dysphagia + IDA → Plummer-Vinson
- Hemolysis → Coombs test
- Thal trait → ↑ HbA_2

MCQ 15

Rewritten Question

A 75-year-old man presents with a 6-month history of skin hyperpigmentation, tingling sensations in the body, and difficulty maintaining postural balance.
Laboratory findings:

- Hb: 7.5 g/dL
- WBC: 3.2 × 10^9/L
- MCV: 115 fL
- MCH: 26 pg
- Platelets: 320 × 10^9/L
  Peripheral smear: **Macrocytosis and hypersegmented neutrophils**
  Serum ferritin: 200 ng/mL (normal >27 ng/mL)

What is the most likely diagnosis?

Options

a. Iron deficiency anemia
b. Sideroblastic anemia
c. Megaloblastic anemia
d. Anemia of chronic disease
e. Aplastic anemia

Correct Answer

✅ **c. Megaloblastic anemia**

Reasoning

- Macrocytic anemia (↑ MCV)
- Hypersegmented neutrophils
- Neurological symptoms (paresthesia, imbalance)
- Normal ferritin → rules out iron deficiency

All point to **vitamin B12 / folate deficiency → megaloblastic anemia**.

High-Yield Points

- B12 deficiency → **neurological deficits**
- Causes: pernicious anemia, malabsorption
- Smear: macro-ovalocytes + hypersegmented neutrophils
- Treat B12 **before folate** to avoid neuro worsening

MCQ 16

Rewritten Question

A 60-year-old woman presents with easy bruising over her arms and legs. She denies significant bleeding episodes. Investigations show:

- Normal bleeding time
- Decreased platelet count
- Bone marrow biopsy: **increased megakaryocytes**

What is the most likely diagnosis?

Options

a. Von Willebrand disease
b. Hemophilia A
c. Immune thrombocytopenic purpura (ITP)
d. Thrombotic thrombocytopenic purpura (TTP)
e. Bernard–Soulier syndrome

Correct Answer

✅ **c. Immune thrombocytopenic purpura (ITP)**

Reasoning

- Low platelets
- Normal bleeding time
- Bone marrow compensating → ↑ megakaryocytes

Classic for **immune-mediated platelet destruction**.

High-Yield Points

- ITP → isolated thrombocytopenia
- PT & APTT normal
- Treatment: steroids, IVIG
- Avoid platelet transfusion unless life-threatening bleed

MCQ 17

Rewritten Question

A 14-year-old boy presents with swelling of the left knee. He has a history of excessive bleeding following circumcision. Coagulation profile:

- PT: 12 sec (normal)
- APTT: 80 sec (prolonged)
- Bleeding time: 3 min (normal)
- Platelet count: normal

What is the most likely diagnosis?

Options

a. Factor XIII deficiency
b. Glanzmann thrombasthenia
c. Hemophilia A
d. Sickle cell disease
e. Von Willebrand disease

Correct Answer

✅ **c. Hemophilia A**

Reasoning

- Prolonged APTT only
- Normal BT and platelets
- Hemarthrosis (knee swelling)
- Post-circumcision bleed

→ **Factor VIII deficiency (Hemophilia A)**.

High-Yield Points

- X-linked recessive
- APTT ↑, PT normal
- Treat with factor VIII concentrate
- Hemarthrosis = buzzword

MCQ 18 (RA – First Line Drug)

Rewritten Question

Which of the following medications is commonly used as **first-line disease-modifying treatment** for rheumatoid arthritis?

Options

a. Methotrexate
b. Prednisone
c. NSAIDs
d. Sulfasalazine
e. Infliximab

Correct Answer

✅ **a. Methotrexate**

Reasoning

Methotrexate is the **anchor DMARD** and first-line therapy for RA.

High-Yield Points

- MTX = first-line DMARD
- Monitor LFTs
- Give folic acid supplementation

- Contraindicated in pregnancy

MCQ 19

Rewritten Question

Which of the following is a characteristic feature of rheumatoid arthritis?

Options

a. Asymmetric joint involvement
b. Symmetric joint involvement
c. Oligoarticular involvement
d. Monoarticular involvement
e. Axial skeleton involvement

Correct Answer

✅ **b. Symmetric joint involvement**

Reasoning

RA classically affects **small joints symmetrically**.

High-Yield Points

- MCP, PIP joints
- Morning stiffness > 1 hour
- Swan neck & boutonnière deformities
- RF and anti-CCP positive

MCQ 20

Rewritten Question

Which of the following drugs is a **biologic agent** used in the treatment of rheumatoid arthritis?

Options

a. Etanercept
b. Methotrexate
c. Prednisone
d. Hydroxychloroquine
e. Azathioprine

Correct Answer

✅ **a. Etanercept**

Reasoning

Etanercept is a **TNF-α inhibitor**, hence a biologic DMARD.

High-Yield Points

- Biologics: anti-TNF, anti-IL-6
- Screen for TB before starting
- Used when MTX fails

DERMATOLOGY

MCQ 1 (Dermatology)

Rewritten Question

A 41-year-old man develops **itchy, polygonal, violaceous papules** on the flexor surfaces of his forearms. Some papules have coalesced into plaques. What is the most likely diagnosis?

Options

a. Lichen planus
b. Scabies
c. Lichen sclerosus
d. Morphea
e. Psoriasis

Correct Answer

✅ **a. Lichen planus**

Reasoning

Classic **6 P's**:

- Pruritic
- Purple
- Polygonal
- Planar
- Papules
- Plaques

High-Yield Points

- Wickham striae
- Flexor surfaces

- Associated with Hepatitis C
- Koebner phenomenon present

MCQ 2 (Dermatology)

Rewritten Question

A 67-year-old man with Parkinson's disease presents with an itchy, erythematous rash on the neck, behind the ears, and nasolabial folds. He had a similar flare during winter previously. What is the most likely diagnosis?

Options

a. Levodopa-associated dermatitis
b. Seborrheic dermatitis
c. Flexural psoriasis
d. Acne rosacea
e. Fixed drug reaction to ropinirole

Correct Answer

✅ **b. Seborrheic dermatitis**

Reasoning

- Distribution: scalp, face, nasolabial folds
- Parkinson's disease predisposes
- Chronic, recurrent in winter

High-Yield Points

- Caused by Malassezia
- Greasy scales

- Treat: ketoconazole shampoo, topical steroids

MCQ 3 (Atopy)

Rewritten Question

Which of the following conditions is commonly associated with atopic dermatitis?

Options

a. Asthma
b. Type 2 diabetes mellitus
c. Sleep apnea
d. Acne vulgaris
e. Ichthyosis

Correct Answer

✅ **a. Asthma**

Reasoning

Atopic dermatitis is part of the **atopic triad**.

High-Yield Points

- Atopic triad:
    - Atopic dermatitis
    - Asthma
    - Allergic rhinitis
- ↑ IgE levels
- Flexural eczema in older children

ULTRA-HIGH-YIELD RAPID RECAP

- Macrocytosis + neuropathy → megaloblastic anemia
- Low platelets + ↑ megakaryocytes → ITP
- ↑ APTT + hemarthrosis → Hemophilia A
- RA → symmetric small joint disease
- First-line RA → Methotrexate
- Biologic RA → Etanercept
- Purple itchy papules → Lichen planus
- Parkinson + greasy rash → Seborrheic dermatitis
- Atopy → asthma

MCQ 4

Rewritten Question

A 29-year-old man presents with the development of **hard skin on his scalp**. On examination, there is a **9 cm circular, white, hyperkeratotic lesion** on the crown of the head. He has no previous history of skin or scalp disease. Skin scrapings show **no fungal elements**. What is the most likely diagnosis?

Options

a. Psoriasis
b. Dissecting cellulitis
c. Erythema
d. Systemic lupus erythematosus
e. Seborrhoeic dermatitis

Correct Answer

✅ **a. Psoriasis**

Reasoning

- Well-defined **white hyperkeratotic plaque**
- Scalp involvement
- Negative fungal scraping → rules out tinea capitis
- Psoriasis commonly affects scalp with thick scaling

High-Yield Points

- Scalp psoriasis → silvery-white scales
- Auspitz sign may be present
- Extensor surfaces commonly involved
- Seborrhoeic dermatitis → greasy yellow scales (not hard plaques)

MCQ 5

Rewritten Question

In lichen planus, the **shrunken basal keratinocytes** with eosinophilic cytoplasm and pyknotic, fragmented nuclei are known as?

Options

a. Tzanck cells
b. Civatte bodies
c. Donovan bodies
d. Rushton bodies
e. Langerhans cells

Correct Answer

✅ **b. Civatte bodies**

Reasoning

Civatte bodies represent **apoptotic basal keratinocytes**, a histological hallmark of lichen planus.

High-Yield Points

- Also called **colloid bodies**
- Seen at dermoepidermal junction
- Lichen planus = interface dermatitis

MCQ 6

Rewritten Question

What is the **most common causative agent** of erythema multiforme (EM)?

Options

a. Penicillin and sulfonamides
b. Systemic lupus erythematosus
c. Herpes simplex virus (HSV)
d. Malignancy
e. Psoriasis

Correct Answer

✅ **c. HSV infection**

Reasoning

- EM is most commonly triggered by **HSV infection**
- Drugs are less common causes

High-Yield Points

- Target lesions = hallmark

- EM minor vs EM major
- HSV → EM, drugs → Stevens-Johnson syndrome

MCQ 7

Rewritten Question

Which skin condition commonly **mimics atopic dermatitis** and should always be considered in the differential diagnosis?

Options

a. Erythema annulare
b. Psoriasis
c. Fixed drug eruption
d. Rosacea
e. Pityriasis rosea

Correct Answer

✅ **b. Psoriasis**

Reasoning

Psoriasis can resemble atopic dermatitis, especially in flexural areas (inverse psoriasis).

High-Yield Points

- Atopic dermatitis → flexural, oozing, pruritic
- Psoriasis → well-demarcated plaques
- Always examine scalp & nails

MCQ 8

Rewritten Question

A 24-year-old woman presents with a rash on her neck and forehead. She returned from a holiday in Cyprus one week ago and dyed her hair two days ago. Examination shows a **weepy, vesicular rash around the hairline**, sparing the scalp. What is the most likely diagnosis?

Options

a. Cutaneous leishmaniasis
b. Irritant contact dermatitis
c. Allergic contact dermatitis
d. Syphilis
e. Photocontact dermatitis

Correct Answer

✅ **c. Allergic contact dermatitis**

Reasoning

- Hair dye → **PPD (paraphenylenediamine)** allergy
- Vesicular, weeping rash
- Delayed hypersensitivity (Type IV)

High-Yield Points

- Patch testing confirms diagnosis
- Irritant dermatitis → immediate, non-immune
- Common sites: hairline, ears, neck

MCQ 9

Rewritten Question

A man presents with dermatitis on his left wrist and suspects an allergy to nickel. What is the **best test** to investigate this?

Options

a. Skin patch test
b. RAST
c. Nickel IgG levels
d. Skin prick test
e. Nickel IgM levels

Correct Answer

✅ **a. Skin patch test**

Reasoning

Nickel allergy is a **Type IV delayed hypersensitivity reaction**, best diagnosed by **patch testing**.

High-Yield Points

- Patch test → contact dermatitis
- Prick test → Type I hypersensitivity
- Nickel → most common contact allergen

MCQ 10

Rewritten Question

A 34-year-old man presents with an itchy rash on his palms and around a recent scar on his forearm. Examination shows papules with a **white lace-like pattern**. Similar white streaks are seen on the oral mucosa. What is the diagnosis?

Options

a. Lichen planus
b. Scabies
c. Lichen sclerosus
d. Morphea
e. Pityriasis rosea

Correct Answer

✅ **a. Lichen planus**

Reasoning

- Wickham striae (white lacy pattern)
- Koebner phenomenon (lesions on scar)
- Oral mucosal involvement

High-Yield Points

- 6 P's of lichen planus
- Koebner phenomenon present
- Associated with Hepatitis C

MCQ 11

Rewritten Question

Which infectious agent is implicated in the pathogenesis of acne vulgaris?

Options

a. Staphylococcus aureus
b. Streptococcus pyogenes
c. Staphylococcus epidermidis
d. Propionibacterium acnes
e. Microsporum canis

Correct Answer

✅ **d. Propionibacterium acnes**
(now called **Cutibacterium acnes**)

High-Yield Points

- Anaerobic gram-positive bacillus
- Lives in sebaceous glands
- Produces inflammatory mediators

MCQ 12

Rewritten Question

How does lichen planus typically present clinically?

Options

a. Salmon-colored plaques with silvery scales
b. Pruritic, red, oozing rash with edema
c. Golden-colored crusts
d. Pruritic, purple, polygonal, planar papules and plaques
e. Plaques with marginal activity and central clearing

Correct Answer

✅ **d. Pruritic, purple, polygonal, planar papules and plaques**

Reasoning

This option perfectly describes the **classic presentation** of lichen planus.

High-Yield Points

- Wickham striae
- Flexor surfaces
- Koebner phenomenon
- Nail & mucosal involvement possible

MCQ 13

Rewritten Question

“Christmas tree” distribution of plaques on the trunk is classically seen in which type of psoriasis?

Options

a. Guttate psoriasis
b. Flexural psoriasis
c. Erythrodermic psoriasis
d. Pustular psoriasis
e. Chronic plaque psoriasis

Correct Answer

✅ **a. Guttate psoriasis**

Reasoning

Guttate psoriasis presents with multiple small lesions following **Langer’s lines**, giving a Christmas-tree pattern.

High-Yield Points

- Often follows **streptococcal infection**
- Common in children & young adults
- Drop-like lesions
- Usually self-limiting

🔥 ULTRA-HIGH-YIELD RECAP

- Scalp hyperkeratotic plaque → psoriasis
- Civatte bodies → lichen planus

- EM trigger → HSV
- Hair dye allergy → allergic contact dermatitis
- Nickel allergy → patch test
- Wickham striae → lichen planus
- Acne → Cutibacterium acnes
- Christmas tree rash → guttate psoriasis

14. Treatment of Warts

Question

Warts can be treated by all of the following **EXCEPT**:

a. Laser
b. Cryotherapy
c. Electrocautery
d. Intralesional steroids
e. Surgery

Correct Answer

✅ **d. Intralesional steroids**

Reasoning

- Warts are caused by **Human Papilloma Virus (HPV)**.
- Treatment focuses on **destruction of infected tissue** or **immune stimulation**.
- **Steroids suppress immunity**, which worsens viral infections rather than treating them.

High-Yield Points

- Common wart treatments:
    - **Cryotherapy (liquid nitrogen)** – most common

    - **Electrocautery**
    - **Laser ablation**
    - **Surgical excision**
    - **Topical salicylic acid**
- **Intralesional immunotherapy** (e.g., Candida antigen) ✔️
- **Intralesional steroids ❌ contraindicated**

FOUNDATION (Psychiatry + Ethics + Research)

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1. Mood Assessment in Mental State Examination

Question

In mental state examination, mood assessment by the mental health professional is called:

a. Assertive mood assessment
b. Cognitive mood assessment
c. Subjective mood assessment
d. Declarative mood assessment
e. Objective mood assessment

Correct Answer

✅ **e. Objective mood assessment**

Reasoning

- **Mood** has two components:

- **Subjective mood** → what patient reports
- **Objective mood (Affect)** → what clinician observes

High-Yield Points

- **Mood** = sustained emotional state (patient reports)
- **Affect** = observed emotional expression
- Exam trap: *clinician assessment* = *objective*

---

2. Insight in Psychiatric Illness

Question

If a patient has crystal clear understanding of his/her psychiatric illness, insight is labeled as:

a. Partial
b. Incomplete
c. Present
d. Absent
e. Impartial

Correct Answer

✅ **c. Present**

Reasoning

- Full awareness + acceptance of illness = **Insight present**

High-Yield Points

Levels of insight:

- **Absent** – denies illness

- **Partial** – acknowledges symptoms but not illness
- **Present** – full awareness & need for treatment

---

3. Breaking Bad News

Question

A 70-year-old male with chronic medical illness is admitted. The most important point while breaking bad news is:

a. Involve elder members of family
b. Inform government
c. Inform hospital staff
d. Inform key member of family
e. Publish case first

Correct Answer

✅ **d. Inform key member of family**

Reasoning

- Ethical practice: **respect autonomy + cultural context**
- In South Asian setup, **key family member** is usually involved.

High-Yield Points

- Follow **SPIKES protocol**
- Patient consent is ideal, but family involvement is culturally important
- Never disclose publicly or to irrelevant parties

---

4. Clinical Governance

Question

Clinical governance is the system by which healthcare agencies monitor and improve quality of care. The main strands are:

a. Complaints handling and audit
b. Resource management
c. Professional regulation
d. Handling claims for negligence
e. Audit alone

Correct Answer

✅ **a. Complaints handling and audit**

Reasoning

Clinical governance pillars include:

- Clinical audit
- Risk management
- Patient safety
- Education & training
- Patient involvement

High-Yield Points

- **Audit = backbone of clinical governance**
- Exam loves: *audit + quality improvement*

---

5. Randomized Controlled Trials (RCTs)

Question

Which statement about RCTs is correct?

a. Not based on equipoise
b. Always placebo-controlled
c. Are the gold standard for determining efficacy and safety
d. Always double-blinded
e. Double blinding not necessary

Correct Answer

✅ **c. Are the gold standard for determining efficacy and safety**

Reasoning

- RCTs minimize bias → strongest evidence

Why others are wrong

- Equipoise **is required**
- Placebo **not always ethical**
- Can be single-blind or open-label

High-Yield Points

- Hierarchy of evidence:
    1. Systematic reviews & meta-analysis
    2. **RCTs**
    3. Cohort studies

---

6. Appraisal

Question

Which statement is **incorrect** about appraisal?

a. Encourages open informal dialogue
b. Encourages personal development plans
c. Tests competencies against a predetermined standard
d. Addresses concerns supportively
e. None of the above

Correct Answer

✅ **c. Tests competencies against a predetermined standard**

Reasoning

- That describes **assessment**, not appraisal.

High-Yield Points

- **Appraisal = formative**
- **Assessment = summative**
- Appraisal is supportive, not judgmental

---

7. Clinical Audit Cycle

Question

Which stage follows development of criteria and standards in a clinical audit?

a. Search for literature
b. Data analysis
c. Data collection
d. Implement necessary changes
e. All of the above

Correct Answer

✅ **c. Data collection**

Reasoning

Audit sequence:

1. Identify problem
2. Set criteria & standards
3. **Collect data**
4. Analyze data
5. Implement change
6. Re-audit

High-Yield Mnemonic

👉 **IDCCAIR**
(Identify → Define → Collect → Compare → Act → Improve → Re-audit)

---

8. Chronic Pain with Psychological Origin

Question

A 34-year-old female has generalized pain most days for 3 years, all investigations normal. Most likely diagnosis?

a. Somatization disorder
b. Hypochondriacal disorder
c. Somatoform autonomic dysfunction
d. Persistent somatoform pain disorder
e. Undifferentiated somatoform disorder

Correct Answer

✅ **d. Persistent somatoform pain disorder**

Reasoning

- Chronic pain (>6 months)

- No organic cause
- Psychological factors dominate

High-Yield Points

- **Somatization disorder** → multiple symptoms
- **Hypochondriasis** → fear of illness
- **Persistent somatoform pain** → pain is main complaint

---

9. Worsening Wound Care

Question

A patient's wound is worsening with current treatment. The nurse first considers:

a. Notifying the physician
b. Calling wound care nurse
c. Changing treatment
d. Consulting another nurse
e. None of the above

Correct Answer

✅ **a. Notifying the physician**

Reasoning

- Nurses **must not independently change treatment**
- Escalation to physician is mandatory

High-Yield Points

- Scope of practice questions = **patient safety**

- Escalate → don't improvise

EXAM TAKEAWAY

- Dermatology → **mechanism-based treatment**
- Psychiatry → **definitions + wording precision**
- Ethics → **autonomy, safety, escalation**
- Audit & research → **order matters**

8. Difference between Scabies in Adults vs Children

Question

Scabies in adults differs from scabies in children by:

a. Not involving the face
b. Involving groin
c. Ivermectin is not effective in adults
d. Not involving areola

Correct Answer

✅ **a. Not involving the face**

Reasoning

- **Adult scabies** typically **spares the face and scalp**
- **Infant/child scabies** commonly involves:
    - Face
    - Scalp
    - Palms and soles

Why others are wrong

- **Groin involvement** → common in adults ✔️ (not a differentiating point)
- **Ivermectin ineffective** → false; it *is effective* in adults
- **Areola involvement** → occurs in adults (especially females)

High-Yield Points

- Adult scabies sites:
    - Finger webs
    - Flexor wrists
    - Axillae
    - Umbilicus
    - Genitalia
- Child scabies:
    - Face + scalp involved
- Treatment:
    - **Permethrin 5% (first-line)**
    - **Ivermectin oral** for crusted scabies

---

9. Chronic Multiple Physical Complaints

Question

A 45-year-old man presents with changing physical symptoms involving multiple body systems for the last 2 years. Extensive investigations are normal. He frequently changes doctors, uses medications briefly, and brings dozens of prescriptions. He is excessively worried about his symptoms.

Most likely diagnosis is:

a. Illness anxiety disorder
b. Chronic mood disorder
c. Somatization disorder
d. Autonomic dysfunctional disorder
e. Delusional disorder

Correct Answer

✅ **c. Somatization disorder**

Reasoning

Key clues:

- Multiple symptoms
- Multiple systems
- Long duration
- Doctor shopping
- Normal investigations

➡️ Classic **somatization disorder**

Why not others

- Illness anxiety → fear of disease, **few symptoms**
- Mood disorder → mood symptoms primary
- Autonomic dysfunction → organ-specific (palpitations, sweating)
- Delusional disorder → fixed false belief

High-Yield Points

- **Somatization disorder**:

    - Multiple unexplained symptoms
    - Long-standing
    - Frequent healthcare use
- Now termed **Somatic Symptom Disorder (DSM-5)**

---

10. Sudden Blindness after Psychological Stress

Question

A 40-year-old woman presents with acute blindness for 4 days. Symptoms started after her husband remarried. Ophthalmologic and neurological exams are normal.

Most probable diagnosis:

a. Bilateral ophthalmitis
b. Occipital lobe infarct
c. Hypochondriasis
d. Conversion disorder
e. Dissociative amnesia

Correct Answer

✅ **d. Conversion disorder**

Reasoning

- Acute neurological symptom
- Triggered by emotional stress
- No organic findings

➡️ **Conversion disorder (Functional neurological symptom disorder)**

High-Yield Points

- Conversion disorder:
    - Motor or sensory deficit
    - Inconsistent exam findings
    - Psychological stressor present
- Common presentations:
    - Blindness
    - Paralysis
    - Aphonia
    - Pseudoseizures

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1. Scope of Palliative Care

Question

Palliative care addresses which aspects of a serious patient's illness?

a. Emotional aspect only
b. Emotional, physical & spiritual aspect
c. Physiotherapy & spiritual therapy only
d. Physical symptoms only
e. Counseling for curative treatment

Correct Answer

✅ **b. Emotional, physical & spiritual aspect**

Reasoning

Palliative care is **holistic**, not disease-focused.

High-Yield Points

- Addresses:
    - Pain & symptoms
    - Psychological distress
    - Spiritual needs
    - Family support
- Can be given **alongside curative treatment**

---

2. Hospice Care

Question

In palliative care, Hospice is a program:

a. Providing only medical treatment
b. Providing counseling and spiritual therapy only
c. Having no effect on patient management
d. Giving care to people near end of life who have stopped curative treatment
e. Providing only dietary support

Correct Answer

✅ **d. Care for end-of-life patients who have stopped curative treatment**

High-Yield Points

- Hospice = **end-of-life care**
- Focus:
    - Comfort

    - Dignity
    - Symptom control
- No aggressive curative therapy

---

3. Preoperative Assessment in COPD Patient

Question

A 45-year-old female with COPD is planned for lung resection surgery. Which preoperative assessment is **most essential**?

a. Pulmonary function tests (PFTs)
b. ECG
c. CBC
d. LFTs
e. RFTs

Correct Answer

✅ **a. Pulmonary function tests (PFTs)**

Reasoning

- Lung resection → respiratory reserve must be assessed
- PFTs predict postoperative pulmonary complications

High-Yield Points

- Pre-op in COPD:
    - **FEV_1**
    - DLCO
- Smoking cessation ≥4 weeks pre-op

---

4. Treatment of Hodgkin’s Lymphoma

Question

A 25-year-old woman has painless cervical lymphadenopathy. Biopsy shows Reed–Sternberg cells.

Most commonly used treatment is:

a. Chemotherapy
b. Radiation therapy
c. Immunotherapy
d. Bone marrow transplant
e. Surgery

Correct Answer

✅ **a. Chemotherapy**

Reasoning

- Hodgkin lymphoma is **highly chemo-sensitive**
- Standard regimen: **ABVD**

High-Yield Points

- ABVD:
    - Adriamycin
    - Bleomycin
    - Vinblastine
    - Dacarbazine
- Early stage → chemo ± radiotherapy

---

5. Aggressive Non-Hodgkin’s Lymphoma

Question

A 60-year-old man with B-cell lymphoma has rapidly enlarging lymph nodes, fever, and night sweats.

Most commonly needed treatment:

a. Chemotherapy
b. Immunotherapy
c. Stem cell transplant
d. Radiation therapy
e. Surgery

Correct Answer

✅ **a. Chemotherapy**

Reasoning

- Aggressive NHL requires **immediate systemic chemotherapy**
- Common regimen: **R-CHOP**

High-Yield Points

- R-CHOP:
    - Rituximab
    - Cyclophosphamide
    - Doxorubicin
    - Vincristine
    - Prednisone
- Stem cell transplant → relapse/refractory cases

🔥 EXAM SUMMARY

- Sudden neuro symptoms + stress = **Conversion**
- Multiple unexplained symptoms + doctor shopping = **Somatization**
- Scabies face involved = **children**
- Reed–Sternberg = **Hodgkin → ABVD**
- Aggressive lymphoma = **Chemo first**

6. Characteristics of Geriatric Care

Question

Which of the following is **NOT** a characteristic of geriatric care?

a. Multidisciplinary approach
b. Focus on cure rather than care
c. Emphasis on functional independence
d. Attention to comorbidities
e. All of the above

Correct Answer

✅ **b. Focus on cure rather than care**

Reasoning

- Geriatric medicine emphasizes **care, quality of life, and function**, not aggressive cure.
- Multiple comorbidities and functional decline are central issues.

High-Yield Points

- Geriatrics focuses on:
    - Function > disease
    - Quality of life

    - Multidisciplinary team
- Cure-oriented approach ❌

---

7. Geriatric Syndrome

Question

Which of the following is considered a **geriatric syndrome**?

a. Hypertension
b. Frailty
c. Appendicitis
d. Migraine
e. All of the above

Correct Answer

✅ **b. Frailty**

Reasoning

- Geriatric syndromes are **multifactorial conditions** common in elderly.
- Frailty is a classic example.

High-Yield Points

- Geriatric syndromes include:
    - Frailty
    - Falls
    - Delirium
    - Incontinence
    - Pressure ulcers

---

8. Most Common Cause of Falls in Elderly

Question

Which is the **most common cause of falls** in elderly?

a. Visual impairment
b. Polypharmacy
c. Neurological disorders
d. Environmental hazards
e. All of the above

Correct Answer

✅ **e. All of the above**

Reasoning

- Falls are **multifactorial**.
- All listed factors significantly contribute.

High-Yield Points

- Falls = major cause of morbidity in elderly
- Always assess:
    - Drugs
    - Vision
    - Gait
    - Home environment

---

9. Neighbours Talking & Plotting Against Patient

Question

A patient believes his neighbors are persistently talking about him, criticizing him, and plotting against him. He also talks to himself and makes gestures when alone. This phenomenon is:

a. Delusion
b. Hallucination
c. Illusion
d. Obsession
e. Overvalued idea

Correct Answer

✅ **a. Delusion**

Reasoning

- Fixed false belief not based in reality → **Delusion**
- Talking to self suggests hallucinations, but belief itself is delusional.

High-Yield Points

- Delusion of persecution = **paranoid delusion**
- Seen in:
    - Schizophrenia
    - Delusional disorder

---

10. Intrusive Blasphemous Thoughts

Question

A patient reports intrusive blasphemous thoughts against God which he tries to resist. These worsen during religious activities and cause distress.

What is the correct term?

a. Delusion
b. Hallucination
c. Illusion
d. Obsession
e. Compulsion

Correct Answer

✅ **d. Obsession**

Reasoning

- Obsessions are:
    - Intrusive
    - Recurrent
    - Ego-dystonic
    - Actively resisted

High-Yield Points

- Common in **OCD**
- Religious obsessions = *scrupulosity*

---

11. Handling a Mute Patient

Question

During psychiatric interview, a physically healthy individual is completely mute and non-responsive. Best approach?

a. Interview later
b. Change place
c. Written/gesture communication
d. Another doctor
e. Offer all above options sequentially

Correct Answer

✅ **e. Offer all above options one after another**

Reasoning

- Establishing rapport and flexibility is key.
- Gradual approach prevents resistance.

High-Yield Points

- Never force communication
- Consider:
    - Catatonia
    - Severe anxiety
    - Conversion disorder

---

12. Recurrent “Heart Attacks” with Normal Tests

Question

A young man repeatedly presents with fear of heart attack, palpitations, sweating, breathlessness. Repeated tests are normal.

Most probable diagnosis?

a. Somatization disorder
b. Somatoform pain disorder
c. Somatoform autonomic dysfunction
d. Hypochondriacal disorder
e. Fibromyalgia

Correct Answer

✅ **c. Somatoform autonomic dysfunction**

Reasoning

- Symptoms mimic autonomic organ dysfunction
- Repeated reassurance with normal investigations

High-Yield Points

- Common systems involved:
    - Cardiovascular
    - GI
    - Respiratory
- Panic disorder is close differential

---

13. Epidermal Macrophages

Question

Macrophages found in the epidermis are called:

a. Merkel cells
b. Keratinocytes
c. Langerhans cells
d. Melanocytes
e. Basal cells

Correct Answer

✅ **c. Langerhans cells**

High-Yield Points

- Langerhans cells:
    - Antigen-presenting cells

    - Derived from bone marrow

- Important in contact dermatitis

---

14. Skin Layer Containing Blood Vessels

Question

Which skin layer contains blood vessels?

a. Basal layer
b. Dermis
c. Epidermis
d. Subcutaneous tissue
e. Stratum corneum

Correct Answer

✅ **b. Dermis**

High-Yield Points

- Epidermis = avascular
- Dermis:
    - Blood vessels
    - Nerves
    - Lymphatics

---

15. Psoriasis After Sore Throat

Question

Which type of psoriasis occurs after sore throat?

a. Plaque
b. Scalp
c. Nail
d. Inverse
e. Guttate

Correct Answer

✅ **e. Guttate psoriasis**

High-Yield Points

- Triggered by **Strep infection**
- Drop-like lesions
- Common in children/young adults

---

16. Psoriasis Flare with Emotional Stress

Question

A patient with palmoplantar psoriasis has flare during emotional stress. Best management?

a. Topical steroids + emollients
b. Topical steroids + antihistamine
c. Topical steroids + antihistamine + emollients + stress management
d. Stress management only
e. Emollients + antihistamine

Correct Answer

✅ **c. Combined dermatologic + psychological management**

High-Yield Points

- Psoriasis = psychosomatic disease
- Stress exacerbates disease

---

17. Factor NOT Exacerbating Psoriasis

Question

Which does NOT exacerbate psoriasis?

a. Climate
b. Stress
c. Infections
d. Certain medications
e. Certain foods

Correct Answer

✅ **e. Certain foods**

High-Yield Points

- Triggers:
    - Stress
    - Infection
    - Beta-blockers
    - Lithium

---

18. Greasy Scales on Scalp & Eyelids

Question

A man presents with yellow greasy scales on scalp, beard, and eyelid margins.

Diagnosis?

a. Seborrheic dermatitis
b. Atopic dermatitis

c. Contact dermatitis
d. Psoriasis
e. Allergic dermatitis

Correct Answer

✅ **a. Seborrheic dermatitis**

High-Yield Points

- Associated with **Malassezia**
- Involves:
    - Scalp
    - Eyebrows
    - Nasolabial folds

---

19. Infant with Chronic Itchy Dry Skin

Question

A 9-month-old infant has itchy dry skin since birth, worsened by wool and bathing.

Diagnosis?

a. Irritant dermatitis
b. Seborrheic dermatitis
c. Atopic dermatitis
d. Contact dermatitis
e. None

Correct Answer

✅ **c. Atopic dermatitis**

High-Yield Points

- “Itch that rashes”
- Family history of atopy common

---

20. Housewife with Hand Eczema

Question

A housewife presents with itchy, fissured, painful fingers for 2 weeks.

Diagnosis?

a. Atopic eczema
b. Irritant contact eczema
c. Allergic contact eczema
d. Psoriasis
e. Tinea

Correct Answer

✅ **b. Irritant contact eczema**

High-Yield Points

- Caused by:
    - Detergents
    - Repeated hand washing
- Common in housewives

---

21. Bacteria in Acne

Question

Which bacterium is predominantly involved in acne?

a. Staph aureus
b. Propionibacterium acnes
c. Strep pyogenes
d. E. coli
e. Pseudomonas

Correct Answer

✅ **b. Propionibacterium acnes**

High-Yield Points

- Now called **Cutibacterium acnes**
- Produces lipase → inflammation

---

22. Severe Nodulocystic Acne

Question

A woman has nodulocystic acne for 2 years involving face, back, shoulders.

Drug of choice?

a. Azithromycin
b. Doxycycline
c. Erythromycin
d. Isotretinoin
e. Minocycline

Correct Answer

✅ **d. Isotretinoin**

High-Yield Points

- Indications:
    - Nodulocystic acne

    - Scarring acne
- Teratogenic ⚠️
- Monitor LFTs & lipids

23. Acne – Treatment Options

Question

Which of the following is **NOT** a treatment option for acne vulgaris?

a. Topical retinoids
b. Topical antibiotics
c. Oral immunosuppressants
d. Oral retinoids
e. Oral antibiotics

Correct Answer

✅ **c. Oral immunosuppressants**

Reasoning

- Acne is an **inflammatory disorder of pilosebaceous units**, but **immunosuppressants** are **not used**.
- Standard treatments include topical/oral antibiotics and retinoids.

High-Yield Points

- Acne treatment ladder:
    - Mild → topical retinoids ± antibiotics
    - Moderate → oral antibiotics
    - Severe → **oral isotretinoin**
- Immunosuppressants ❌

---

24. Clinical Presentation of Acne

Question

Acne vulgaris can present as:

a. Open and closed comedones
b. Papules
c. Pustules
d. Nodules and cysts
e. All of the above

Correct Answer

✅ **e. All of the above**

Reasoning

- Acne has **non-inflammatory** and **inflammatory** lesions.
- Severe forms involve nodules and cysts.

High-Yield Points

- Lesion spectrum:
    - Comedonal
    - Papulopustular
    - Nodulocystic
- Scarring risk ↑ with nodules/cysts

---

25. Hormone Triggering Acne in Adolescents

Question

Which hormone primarily triggers acne in adolescents?

a. Androgens
b. Estrogen
c. Epinephrine
d. Nor-epinephrine
e. Growth hormone

Correct Answer

✅ **a. Androgens**

Reasoning

- Androgens increase **sebum production** and follicular keratinization.

High-Yield Points

- DHT (dihydrotestosterone) plays key role
- Acne worsens at puberty due to androgen surge

---

26. Treatment of Post-Acne Scarring

Question

A 22-year-old male presents with post-acne scarring. What is the **preferred treatment**?

a. Topical retinoid
b. Surgical correction
c. Topical silicone gel
d. CO_2 laser / Microneedling
e. Oral retinoid

Correct Answer

✅ **d. CO_2 laser / Microneedling**

Reasoning

- Scarring requires **procedural therapy**, not medical acne treatment.

High-Yield Points

- Treatment depends on scar type:
    - Ice-pick → TCA CROSS
    - Boxcar → Laser
    - Rolling → Microneedling
- Retinoids treat acne, not scars

KGMC BLOCK N 2023

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1. Air Hunger After Central Line

Question

A 35-year-old woman with multiple laparotomies has a subclavian central line placed and develops sudden **air hunger**. What is the most likely cause?

a. Acute psychosis
b. Panic disorder
c. Hemothorax
d. Pneumothorax
e. Pulmonary embolism

Correct Answer

✅ **d. Pneumothorax**

Reasoning

- Subclavian line insertion → high risk of **iatrogenic pneumothorax**.

High-Yield Points

- Sudden dyspnea after central line = pneumothorax until proven otherwise
- Absent breath sounds on affected side

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2. Child with Rash After Sore Throat

Question

A 7-year-old boy develops erythematous scaly papules and plaques after sore throat. ASO titer is raised.

Diagnosis?

a. Chronic plaque psoriasis
b. Erythrodermic psoriasis
c. Guttate psoriasis
d. Pustular psoriasis
e. Unstable psoriasis

Correct Answer

✅ **c. Guttate psoriasis**

Reasoning

- Classic post-streptococcal psoriasis in children.

High-Yield Points

- Trigger: **Strep pyogenes**
- Drop-like lesions
- Raised ASO titer = clue

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3. Pustular Psoriasis with Systemic Symptoms

Question

A hypertensive obese woman presents with generalized erythematous plaques with pustules, fever, joint pain. She uses NSAIDs and beta-blockers.

Best management?

a. Topical steroids + withdrawal of drugs + systemic steroids
b. Topical steroids + withdrawal of drugs + Acitretin + antihistamines
c. Topical + systemic steroids
d. Acitretin + antihistamines
e. Topical steroids + antibiotics + Methotrexate
f. Topical steroids + withdrawal of drugs + phototherapy

Correct Answer

✅ **b. Topical steroids, withdrawal of aggravating drugs, Acitretin and antihistamines**

Reasoning

- This is **generalized pustular psoriasis**
- Systemic steroids can **worsen** psoriasis on withdrawal

High-Yield Points

- Triggers:
    - NSAIDs
    - Beta-blockers
- Drug of choice: **Acitretin**
- Avoid systemic steroids ❌

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4. Severe Drug-Induced Mucocutaneous Reaction

Question

A 20-year-old epileptic male develops severe oral erosions, targetoid lesions, bullae involving <10% BSA after starting carbamazepine.

Diagnosis?

a. DRESS syndrome
b. Erythema multiforme
c. Exfoliative dermatitis
d. Stevens-Johnson syndrome
e. Toxic epidermal necrolysis

Correct Answer

✅ **d. Stevens-Johnson syndrome**

Reasoning

- SJS:
    - <10% BSA
    - Severe mucosal involvement
    - Drug-induced (antiepileptics)

High-Yield Points

- BSA involvement:
    - SJS: <10%
    - TEN: >30%
- Common drugs:
    - Carbamazepine
    - Sulfonamides
    - NSAIDs

🔑 EXAM RAPID RECALL

- Acne hormone → **Androgens**
- Acne scars → **Laser / Microneedling**
- Post-strep rash → **Guttate psoriasis**
- Central line complication → **Pneumothorax**
- Severe mucocutaneous drug reaction → **SJS**

Q5. Immunosuppressant before treatment – screening test

Rewritten Question

A 42-year-old diabetic female presents with **pruritic, purple-colored, polygonal papules** over the whole body for the past 2 years. She also complains of **oral ulcers**, and examination shows **erosions with white streaks on the buccal mucosa**.
Her dermatologist plans to start **systemic immunosuppressive therapy** due to generalized disease with severe itching.

Which **virological test is most important** to perform **before initiating treatment**?

Options

a. Hepatitis A virus
b. Hepatitis C virus
c. Human papilloma virus
d. Herpes simplex virus
e. Human immunodeficiency virus

Correct Answer

✅ **b. Hepatitis C virus**

Reasoning

- The clinical picture is classic **Lichen Planus**:
    - **4 P's**: *Pruritic, Purple, Polygonal, Papules*

    - **Oral Wickham striae** (white streaks)

- **Lichen planus has a strong association with Hepatitis C infection**
- Before starting **immunosuppressants**, **HCV must be ruled out** as treatment can worsen viral replication

High-Yield Points

- **Lichen planus** ↔ **Hepatitis C** (very common exam link)
- Always screen **HCV** before:
    - Steroids
    - Cyclosporine
    - Methotrexate
- **Oral lichen planus** → increased risk of **SCC**
- Wickham striae = **fine white reticular lines**

Q6. Tender nodules on legs – prognosis

Rewritten Question

A 28-year-old woman presents with **fever and sore throat** for one week. Examination reveals **tender erythematous nodules bilaterally on the lower legs**.
She gives a history of similar episodes during **pregnancy** and after **oral contraceptive pills**. Investigations show **raised TLC and high ASO titer**. She is treated with **antibiotics, NSAIDs, and a short course of systemic steroids**.

What is the **prognosis** of these nodules?

Options

a. Heal with scarring after treatment
b. Heal without scarring after treatment
c. Persistent after treatment

d. Turn into non-healing ulcers
e. Variable course

Correct Answer

✅ **b. Heal without scarring after treatment**

Reasoning

- Diagnosis = **Erythema nodosum**
    - Tender red nodules on shins
    - Triggered by:
        - **Streptococcal infection (↑ ASO)**
        - Pregnancy
        - OCPs
- It is a **panniculitis without vasculitis**
- Lesions **resolve completely without scarring**

High-Yield Points

- **Erythema nodosum = septal panniculitis**
- Causes: **Strep infection, TB, Sarcoidosis, Pregnancy, OCPs**
- Does **NOT ulcerate**
- Always heals **without scarring**
- Painful > itchy (helps differentiate from vasculitis)

Q7. Modified fungal infection

Rewritten Question

A 32-year-old male presents with **pruritic erythematous annular plaques** on the body and groins with **well-defined margins** for 5 months.
On detailed examination, some plaques have **pustules**. He gives a history of using **topical treatment prescribed by a medical store attendant**.
KOH mount shows **hyphae and spores**. His wife has similar lesions for the past 2 months.

What is the **most likely diagnosis**?

Options

a. Tinea capitis
b. Tinea corporis
c. Tinea incognito
d. Tinea cruris
e. Tinea unguium

Correct Answer

✅ **c. Tinea incognito**

Reasoning

- Use of **topical steroids** modifies classical tinea appearance
- Leads to:
    - Less scaling
    - Pustules
    - Atypical morphology
- KOH positive confirms fungal infection

High-Yield Points

- **Tinea incognito = steroid-modified tinea**
- Always suspect when:
    - Fungal lesions worsen with steroids

    - Atypical borders
- Stop steroids + start **systemic antifungals**
- Common in self-medication

Q8. Parkinson’s disease + facial plaques

Rewritten Question

A 45-year-old man with **Parkinson’s disease** presents with **erythematous scaly plaques** behind the ears, scalp, eyebrows, glabella, nasolabial folds, and central chest.

What is the most likely diagnosis?

Options

a. Seborrheic dermatitis
b. Psoriasis
c. Pityriasis rosea
d. Tinea versicolor
e. Atopic eczema

Correct Answer

✅ **a. Seborrheic dermatitis**

Reasoning

- Parkinson’s disease is strongly associated with **seborrheic dermatitis**
- Involves **sebaceous gland–rich areas**
- Caused by **Malassezia yeast**

High-Yield Points

- Parkinson’s → ↑ Sebum → Seborrheic dermatitis

- Distribution:
    - Scalp
    - Nasolabial folds
    - Eyebrows
    - Post-auricular area
- Greasy yellow scales (vs silvery in psoriasis)

Q9. Warning signs of melanoma

Rewritten Question

Which of the following may be a **warning sign of melanoma**?

Options

a. A mole that is new or growing
b. A mole that is itching or bleeding
c. Varied colors in a mole
d. An asymmetrical mole
e. All of the above

Correct Answer

✅ **e. All of the above**

Reasoning

- All are part of **ABCDE criteria**

High-Yield Points

ABCDE of melanoma

- **A**: Asymmetry

- **B**: Border irregularity
- **C**: Color variation
- **D**: Diameter > 6 mm
- **E**: Evolving lesion

Q10. Non-healing pearly lesion on nose

Rewritten Question

A patient presents with a **non-healing, pearly, waxy nodule** on the nose with **raised rolled borders** and visible **telangiectasia**. The lesion has been growing slowly over several months.

What is the most likely diagnosis?

Options

a. Melanoma
b. Basal cell carcinoma
c. Actinic keratosis
d. Acne conglobata
e. Squamous cell carcinoma

Correct Answer

✅ **b. Basal cell carcinoma**

Reasoning

- Classic description of **BCC**
- Most common skin cancer
- Locally invasive but **rarely metastasizes**

High-Yield Points

- **BCC = Rodent ulcer**
- Pearly nodules + rolled edges + telangiectasia
- Sun-exposed areas (nose, face)
- SCC → ulcerated, indurated, painful

Q11. Abrupt steroid stoppage – skin manifestation

Rewritten Question

A 50-year-old patient has been taking **oral steroids for pemphigus vulgaris** for the past 4 months. She **abruptly stopped** the medication. She now presents to the emergency department with:

- **Hypotension**
- **Hypoglycemia**
- **Lethargy**

Baseline labs show:

- **Hyponatremia**
- **Hyperkalemia**

Serum **ACTH and cortisol levels** are ordered.

Which **skin manifestation** can help guide you to the diagnosis?

Options

a. Oral ulcers
b. Nail pitting
c. Geographic tongue
d. Generalized hair loss
e. Hyperpigmented palmar skin creases

Correct Answer

✅ **e. Hyperpigmented palmar skin creases**

Reasoning

- The patient has **secondary adrenal insufficiency** due to **abrupt steroid withdrawal**
- Chronic ACTH deficiency (or excess before withdrawal) → **hyperpigmentation** in sun-exposed areas, palmar creases, and pressure points
- Hyperpigmentation occurs due to **increased ACTH** (precursor has melanocyte-stimulating activity)

High-Yield Points

- Abrupt steroid withdrawal → **adrenal crisis**
- Labs: **Hyponatremia, Hyperkalemia, Hypoglycemia**
- **Skin signs**: Hyperpigmentation, pallor
- Emergency management: **IV hydrocortisone + fluids + glucose**

Q12. Vesicular eruption on face

Rewritten Question

A 75-year-old man presents with **grouped vesicles** on the **left forehead, scalp, and periocular skin** in a **dermatomal pattern**.

- **Chemosis of left eye**
- **Stabbing pain**
- Duration: 2 days
- Comorbidity: **Type 2 diabetes**

What is the most likely diagnosis?

Options

a. Herpes simplex
b. Bullous insect bite
c. Varicella
d. Herpes zoster ophthalmicus
e. Dermatitis herpetiformis

Correct Answer

✅ **d. Herpes zoster ophthalmicus**

Reasoning

- Elderly patient with **dermatomal vesicles** involving **V1 branch of trigeminal nerve**
- Complication: **eye involvement (keratitis, conjunctivitis)**
- Pain + vesicles + unilateral distribution = classic **shingles**
- Diabetic patients are **immunocompromised → increased risk**

High-Yield Points

- **Herpes zoster ophthalmicus = shingles affecting ophthalmic branch (V1)**
- Warning: Can cause **blindness**, urgent **antivirals needed**
- Prodrome: **Pain and tingling** before eruption
- Treat: **Oral acyclovir or valacyclovir** early

Q13. Pearly umbilicated papules in child

Rewritten Question

A 6-year-old child presents with **pearly white, umbilicated papules** on the face.

- Mildly pruritic

- Present for 3 months
- No systemic symptoms

What is the diagnosis?

Options

a. Chickenpox
b. Viral warts
c. Molluscum contagiosum
d. Smallpox
e. Plane warts

Correct Answer

✅ **c. Molluscum contagiosum**

Reasoning

- Umbilicated papules = **classic for molluscum**
- Caused by **poxvirus**
- **Self-limiting**, commonly in children
- Usually **face, trunk, extremities**

High-Yield Points

- Contagious, spread by **skin-to-skin contact**
- May resolve spontaneously in **6–12 months**
- Treatment: **Cryotherapy, curettage, topical therapies**

Q14. Skin-colored nodules over elbows

Rewritten Question

A 57-year-old man with **right knee joint pain** for 1 year presents with **multiple skin-colored asymptomatic nodules** over **bilateral elbows**.

- No history of trauma
- On **methotrexate**

What is the likely diagnosis of the nodules?

Options

a. Erythema nodosum
b. Nodular sarcoid
c. Rheumatoid nodules
d. Tophaceous gout
e. Heberden nodes

Correct Answer

✅ **c. Rheumatoid nodules**

Reasoning

- Patient likely has **rheumatoid arthritis**
- Nodules appear over **pressure points** like elbows
- **Firm, non-tender, subcutaneous**
- Methotrexate use is common in RA
- Key differentiator: **Gout → painful, erythematous; Heberden → bony DIP nodes**

High-Yield Points

- Rheumatoid nodules = **specific extra-articular RA sign**
- Typically occur in **seropositive RA**
- Often found on **elbows, fingers, occiput**
- Histology: **Central necrosis + palisading histiocytes**

Q15. Chronic unexplained physical symptoms

Rewritten Question

A 35-year-old woman presents with **multiple unexplained physical symptoms** for several years:

- Headaches
- Stomach pain
- Fatigue

Extensive investigations reveal **no underlying physical cause**.

What is the most likely diagnosis?

Options

a. Generalized Anxiety Disorder
b. Somatization Disorder
c. Major Depressive Disorder
d. Panic Disorder
e. Hypochondriasis

Correct Answer

✅ **b. Somatization Disorder**

Reasoning

- Somatization disorder: **multiple physical complaints across different systems**
- Symptoms **cannot be medically explained**
- Often leads to **frequent medical consultations**
- Differs from:
    - Hypochondriasis → **preoccupation with disease, not symptoms**

    - GAD → **anxiety rather than multiple physical complaints**

High-Yield Points

- DSM-V: Now **Somatic Symptom Disorder**
- Common in women, chronic course
- Treatment: **CBT + supportive care**
- Avoid unnecessary investigations

Q1. Intense itching, interdigital + family history

Rewritten Question

A 20-year-old male presents with **intense skin itching** for the last week:

- Especially in **interdigital areas and groin**
- Siblings have similar complaints

What is the diagnosis?

Options

a. Contact dermatitis
b. Drug rash
c. Scabies
d. Psoriasis
e. Herpes simplex

Correct Answer

✅ **c. Scabies**

Reasoning

- **Itching worse at night**
- **Interdigital spaces, wrists, genital areas**
- **Family involvement** → highly contagious
- Caused by **Sarcoptes scabiei**

High-Yield Points

- Treatment: **Permethrin 5% cream**
- Wash bedding, close contacts treated
- Nodular scabies → persistent pruritus

Q2. Most common cause of Stevens-Johnson Syndrome (SJS)

Rewritten Question

Which is the most common cause of **Stevens-Johnson Syndrome (SJS)**?

Options

a. Omeprazole
b. Paracetamol
c. Carbamazepine
d. Metronidazole
e. Penicillin

Correct Answer

✅ **c. Carbamazepine**

Reasoning

- SJS/TEN are **severe mucocutaneous drug reactions**

- Most common **drugs**:
    - **Anticonvulsants**: Carbamazepine, Phenytoin
    - Sulfonamides
    - Allopurinol
- Presents with: **targetoid lesions, mucosal involvement, systemic symptoms**

High-Yield Points

- **Early drug withdrawal** is key
- **Hospitalization** often required
- **TEN** = >30% BSA involvement, life-threatening
- Common in **HLA-B*1502 in Asians** (risk for carbamazepine SJS)

Dermatology

Q3. Chronic scaly rash on elbows and knees

Rewritten Question

A 50-year-old man presents with a **chronic, scaly rash on his elbows and knees**.

What is the most likely diagnosis?

Options

a. Eczema
b. Psoriasis
c. Contact dermatitis
d. Seborrheic dermatitis
e. Dermatitis herpetiformis

Correct Answer

✅ **b. Psoriasis**

Reasoning

- Psoriasis commonly presents with **well-demarcated erythematous plaques with silvery scales**, often on **extensor surfaces** (elbows, knees)
- Chronic course
- Eczema → more **flexor surfaces**, history of **itching**, acute flare-ups
- Dermatitis herpetiformis → associated with **gluten sensitivity**, **extensor surfaces but vesicular/papular**

High-Yield Points

- **Koebner phenomenon**: lesions appear at sites of trauma
- Nail changes: **pitting, onycholysis**
- Trigger: **stress, infections, drugs**

Q4. Most common cause of skin cancer

Rewritten Question

What is the **most common cause of skin cancer**?

Options

a. Melanoma
b. Basal cell carcinoma
c. Squamous cell carcinoma
d. Kaposi sarcoma
e. Erythroderma

Correct Answer

✅ **b. Basal cell carcinoma**

Reasoning

- **Basal cell carcinoma (BCC)** = most common skin cancer
- Slow-growing, locally invasive, **rarely metastasizes**

- Caused by **chronic UV exposure**, fair skin

High-Yield Points

- Common in **sun-exposed areas** (face, neck)
- Lesion: **pearly nodule with telangiectasia**, rolled border
- Management: **surgical excision, Mohs micrographic surgery**

Q5. Primary treatment of moderate to severe psoriasis

Rewritten Question

What is the **primary treatment** for **moderate to severe psoriasis**?

Options

a. Topical corticosteroids
b. Topical vitamin D
c. Methotrexate
d. Antibiotics
e. Antihistamines

Correct Answer

✅ **c. Methotrexate**

Reasoning

- Moderate-severe psoriasis → requires **systemic therapy**
- Methotrexate: **first-line systemic agent**
- Topical steroids: **first-line for mild disease**

High-Yield Points

- Other systemic options: **Cyclosporine, biologics (Etanercept, Adalimumab)**

- Monitor: **LFTs, CBC**

Q6. Most common cause of contact dermatitis

Rewritten Question

Which of the following is the **most common cause of contact dermatitis**?

Options

a. Nickel
b. Latex
c. Poison Ivy
d. Linen
e. Fragrances

Correct Answer

✅ **a. Nickel**

Reasoning

- **Nickel** → most common allergen worldwide
- **Type IV hypersensitivity reaction**
- Commonly affects **earlobes (jewelry), wrists (watches), belt lines**

High-Yield Points

- Patch test = diagnostic
- Avoidance is key to management

Q7. Butterfly facial rash

Rewritten Question

A **butterfly-shaped facial rash** is characteristic of which disease?

Options

a. Rosacea
b. Systemic lupus erythematosus
c. Seborrheic dermatitis
d. Contact dermatitis
e. Scabies

Correct Answer

✅ **b. Systemic lupus erythematosus (SLE)**

Reasoning

- Classic **malar rash**: cheeks and bridge of nose, sparing nasolabial folds
- Photosensitive, non-scarring
- Associated with systemic features (renal, hematologic, joint)

High-Yield Points

- ANA positive in most SLE patients
- Avoid sun exposure
- Can be **acute, subacute, or chronic cutaneous lupus**

MSK

MSK / Rheumatology

Q1. 32-year-old female, inflammatory low back pain

Rewritten Question

A 32-year-old female presents with:

- **Early morning stiffness**
- **Fatigue**
- **Low back pain radiating to buttocks and thighs**
- Pain **worse at night**, **improves with exercise**

Exam:

- **Limited lumbar spine motion in all planes**
- **Schober test positive**

What is the most likely diagnosis?

Options

a. Enteropathic arthritis
b. Non-radiographic axial spondyloarthritis
c. Psoriatic arthritis
d. Radiographic axial spondyloarthritis
e. Reactive arthritis

Correct Answer

✅ **b. Non-radiographic axial spondyloarthritis**

Reasoning

- Chronic inflammatory back pain, improves with activity → **axial spondyloarthritis**
- **Schober test** = limited lumbar flexion

- No radiographic changes yet → **non-radiographic** form
- If sacroiliitis appears on X-ray → **radiographic axial spondyloarthritis (Ankylosing spondylitis)**

High-Yield Points

- HLA-B27 often positive
- Extra-articular: **uveitis, psoriasis, IBD**
- Treatment: **NSAIDs first-line**, biologics if NSAID failure

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Q2. Gout – 50-year-old man

Rewritten Question

A 50-year-old obese, hypertensive man presents with **swelling and pain in the right first metatarsophalangeal joint**.

- Medications: **ARB + Hydrochlorothiazide**
- Labs: **Serum uric acid = 8.2 mg/dl, CRP = 45**

What is the most appropriate treatment?

Options

a. Allopurinol
b. Colchicine
c. Febuxostat
d. HCQ
e. Methotrexate

Correct Answer

✅ **b. Colchicine**

Reasoning

- Acute gout attack → **treatment of inflammation**, not urate-lowering yet
- **Colchicine or NSAIDs** → first-line for acute attack
- Allopurinol/Febuxostat → used for **chronic urate-lowering therapy**, **not during acute flare**

High-Yield Points

- Thiazides increase uric acid → predispose to gout
- First MTP joint = **podagra**, classic sign
- Avoid alcohol, purine-rich diet during flare

Q3. Fibromyalgia – 35-year-old woman

Rewritten Question

A 35-year-old lady presents with:

- **Diffuse body pains**
- **Fatigue** for 3 months
- **Disturbed sleep**

Examination: **multiple tender points**, otherwise normal
Labs: **Normal calcium, TSH, ANA, ESR, CRP, RA factor**

What is the most appropriate treatment?

Options

a. Amitriptyline
b. Methotrexate
c. Mycophenolate mofetil
d. NSAIDs
e. Steroids

Correct Answer

✅ **a. Amitriptyline**

Reasoning

- Fibromyalgia: **chronic widespread pain, tender points, fatigue, sleep disturbance**
- Labs normal → no inflammatory or autoimmune disease
- **First-line treatment: low-dose tricyclic antidepressants** (Amitriptyline)
- NSAIDs → may relieve pain temporarily but **not disease-modifying**

High-Yield Points

- Non-pharmacologic: **exercise, CBT, sleep hygiene**
- Avoid **over-investigation**
- Fibromyalgia is **diagnosis of exclusion**

Rheumatology / MSK

Q4. Knee swelling in an 80-year-old lady

Rewritten Question

An 80-year-old lady presents with **swelling of both knee joints**, difficulty walking, and inability to bend during prayers. On examination, **crepitus** is noted in both knees.

What would be the most likely **radiological abnormality on X-ray** of the knee joint?

Options

a. Erosion of articular surfaces
b. Fractures of articular margins
c. Marginal sclerosis
d. Periosteal elevation
e. Widening of joints

Correct Answer

✅ **c. Marginal sclerosis**

Reasoning

- Elderly patient with **bilateral knee pain, crepitus, and functional limitation → osteoarthritis (OA)**
- **X-ray features of OA**:
    - **Joint space narrowing**
    - **Osteophytes** (marginal sclerosis)
    - Subchondral sclerosis
    - Subchondral cysts
- Erosions → **Rheumatoid arthritis**
- Periosteal elevation → **osteomyelitis or trauma**
- Widening → **rarely, early inflammatory arthritis**

High-Yield Points

- OA commonly affects: **knees, hips, hands (DIP, PIP joints)**
- Clinical: **morning stiffness <30 min, worsens with activity**
- Management: **weight reduction, NSAIDs, physiotherapy, joint replacement**

Q5. 27-year-old female with early RA

Rewritten Question

A 27-year-old female presents with **6-month history of symmetrical joint pain and stiffness in her hands**, especially **morning stiffness >1 hour**.

Exam: swelling and tenderness in **PIP and MCP joints**
Labs: **RF and anti-CCP positive, ESR and CRP elevated**

Which is the most appropriate **initial management**?

Options

a. Begin with NSAIDs and monitor response before DMARDs
b. Initiate **methotrexate + folic acid**, consider biologics if no improvement
c. Prescribe **rest and physical therapy only**
d. Start **high-dose glucocorticoids** and taper

Correct Answer

✅ **b. Initiate methotrexate + folic acid, consider biologics if no improvement**

Reasoning

- Early RA with **positive serology and active disease** → **start DMARDs (methotrexate)** promptly
- NSAIDs → only symptomatic relief, **do not prevent joint damage**
- High-dose steroids → short-term bridge, not first-line
- Physical therapy + rest → adjunct therapy

High-Yield Points

- **Treat-to-target approach** → aim for **remission or low disease activity**
- Monitor **CBC, LFTs, renal function** with methotrexate
- Biologics → **TNF inhibitors, IL-6 inhibitors** if methotrexate fails

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Q6. 45-year-old lady with proximal muscle weakness

Rewritten Question

A 45-year-old lady presents with **bone pains**, difficulty **abducting shoulders** and **getting up from a chair**.

Exam: **Shoulder muscles and hip flexors 3/5**, other muscles 5/5
Labs:

- Hb: 12 g/dL
- WBC: 11200/cmm

- Platelets: 158000
- Corrected Ca: 2.02 mmol/L (low)
- Phosphate: 0.6 mmol/L (low)
- ALP: 671 U/L (high)
- Creatinine: 1.1 mg/dL
- HCO3: 19 mmol/L (low)

What is the most likely cause?

Options

a. Hypoparathyroidism
b. Hypothyroidism
c. Osteomalacia
d. Polymyalgia rheumatica
e. Renal tubular acidosis type 1

Correct Answer

✅ **c. Osteomalacia**

Reasoning

- **Proximal muscle weakness, bone pain, difficulty rising from chair → osteomalacia**
- Labs: **low calcium, low phosphate, high ALP, low HCO3** → impaired **mineralization of bone**
- Causes: **vitamin D deficiency, malabsorption, renal phosphate wasting**
- Hypoparathyroidism → low Ca but **low ALP**, not associated with muscle weakness
- Polymyalgia rheumatica → muscle pain and stiffness **but labs normal**

High-Yield Points

- Clinical: **waddling gait, proximal weakness**

- Radiology: **Looser zones (pseudofractures)**
- Treatment: **vitamin D and calcium supplementation**

Q7. 30-year-old female with systemic sclerosis features

Rewritten Question

A 30-year-old lady presents with:

- Arthralgia
- Bluish fingers (**Raynaud phenomenon**)
- Constipation

Labs: **anti-Scl-70 antibodies positive**

Which of the following **does NOT contribute to pathogenesis** of her disease?

Options

a. Hypoxia
b. T cells
c. Tissue fibrosis
d. Vascular wall remodeling
e. Vasculitis

Correct Answer

✅ **e. Vasculitis**

Reasoning

- Systemic sclerosis → **autoimmune connective tissue disorder**
- Pathogenesis:
    - **Immune activation** (T cells)
    - **Endothelial damage → hypoxia → vascular remodeling**

    - **Fibrosis of skin and organs**

- Vasculitis is **not a primary mechanism**, unlike in SLE or ANCA vasculitis

High-Yield Points

- Anti-Scl-70 → diffuse systemic sclerosis, poor prognosis
- CREST syndrome → **Calcinosis, Raynaud, Esophageal dysmotility, Sclerodactyly, Telangiectasia**
- Complications: **pulmonary hypertension, interstitial lung disease**

Q1. Anti-CCP specificity in RA

Rewritten Question

What is the specificity of **anti-CCP antibodies** in rheumatoid arthritis?

Options

a. 65%
b. 75%
c. 85%
d. 95%
e. 100%

Correct Answer

✅ **d. 95%**

Reasoning

- Anti-CCP → **highly specific for RA (~95%)**, moderate sensitivity (~70-80%)
- Helps **diagnosis and prognosis**, predicts erosive disease

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Q2. Typical trigger for Reactive Arthritis

Rewritten Question

What is the typical trigger for **Reactive Arthritis**?

Options

a. Genetic predisposition
b. Environmental factors
c. Previous infection
d. Joint trauma
e. Autoimmune disorder

Correct Answer

✅ **c. Previous infection**

Reasoning

- Reactive arthritis = **sterile joint inflammation triggered by infection**
- Usually **urethritis or enteritis** (Chlamydia, Salmonella, Shigella)
- HLA-B27 predisposes, but **trigger is infection**

Q3. Eye involvement in Reactive Arthritis

Rewritten Question

Which type of **eye inflammation** occurs in reactive arthritis?

Options

a. Episcleritis
b. Uveitis
c. Keratitis
d. Iritis
e. Scleritis

Correct Answer

✅ **b. Uveitis**

Reasoning

- Reactive arthritis → **conjunctivitis (mild) or acute anterior uveitis**
- Iritis is technically part of uveitis
- Other eye inflammations are uncommon

Q4. Physical findings in Reactive Arthritis

Rewritten Question

Which of the following is a **common finding** on physical examination in reactive arthritis?

Options

a. Joint deformity
b. Muscle weakness
c. Skin rashes
d. Enthesitis
e. Lymphadenopathy

Correct Answer

✅ **d. Enthesitis**

Reasoning

- Reactive arthritis → **asymmetric oligoarthritis, often lower limbs**
- **Enthesitis** (inflammation at tendon insertions) → hallmark
- Other features: **dactylitis, keratoderma blennorrhagicum**

Q5. Characteristic feature of Ankylosing Spondylitis

Rewritten Question

Which of the following is a characteristic feature of **Ankylosing Spondylitis**?

Options

a. Symmetric joint involvement
b. Asymmetric joint involvement
c. Oligoarticular involvement
d. Monoarticular involvement
e. Axial skeleton involvement

Correct Answer

✅ **e. Axial skeleton involvement**

Reasoning

- AS → chronic inflammatory **axial arthritis**, sacroiliac joints, spine
- Peripheral joints may be involved but **axial skeleton hallmark**
- Morning stiffness, improves with exercise

Q6. Genetic marker associated with Ankylosing Spondylitis

Question

Which of the following **genetic markers** is most strongly associated with **Ankylosing Spondylitis (AS)?**

Options

a. HLA-A
b. HLA-B
c. HLA-DR
d. HLA-DQ
e. HLA-B27

Answer

✅ **e. HLA-B27**

Reasoning

- **HLA-B27** is present in ~90% of patients with **AS**, strongly linked to disease susceptibility.
- Other HLA markers (A, B, DR, DQ) are **not significantly associated** with AS.

High-Yield Points

- HLA-B27 also associated with **Reactive arthritis, IBD-associated arthritis, Psoriatic arthritis**.
- Not all HLA-B27 positive individuals develop AS.
- Useful in **diagnostic support**, not definitive alone.

Q7. First-line treatment for Ankylosing Spondylitis

Question

Which of the following medicines is **most commonly used to treat Ankylosing Spondylitis?**

Options

a. NSAIDs
b. Corticosteroids
c. DMARDs
d. Biologic agents
e. JAK inhibitors

Answer

✅ **a. NSAIDs**

Reasoning

- **NSAIDs** are the **first-line therapy** for pain and stiffness in AS.
- DMARDs → ineffective for axial disease; used for peripheral arthritis.
- Biologics → **TNF inhibitors or IL-17 inhibitors**, used if NSAIDs fail.

High-Yield Points

- Physical therapy and exercise are **key in AS management**.
- Corticosteroids → short-term flare management, not chronic therapy.

Q8. Primary cause of Osteoporosis

Question

What is the primary cause of **Osteoporosis**?

Options

a. Hormonal imbalance
b. Vitamin D deficiency
c. Calcium deficiency
d. Ageing and bone loss
e. Genetic predisposition

Answer

✅ **d. Ageing and bone loss**

Reasoning

- Osteoporosis = **low bone mass and microarchitectural deterioration**, primarily due to **age-related bone loss**.
- Hormonal imbalance (estrogen deficiency) is **secondary cause**, not primary.

High-Yield Points

- Most common in **postmenopausal women** and **elderly men**.
- Major complication → **fragility fractures** (vertebrae, hip, wrist).

Q9. Test to measure bone mineral density

Question

What is the preferred test to **measure bone mineral density**?

Options

a. MRI
b. CT

c. DXA (Dual-Energy X-ray Absorptiometry)
d. X-ray
e. Bone scan

Answer

✅ **c. DXA**

Reasoning

- DXA scan → **gold standard** for diagnosing osteoporosis and fracture risk assessment.
- X-ray → only shows **late-stage osteoporosis**.

Q10. Medicine commonly used to treat Osteoporosis

Question

Which of the following medicines is commonly used to **treat osteoporosis**?

Options

a. Calcium supplements
b. Vitamin D supplements
c. Hormone replacement therapy
d. Bisphosphonates
e. Cox-2 inhibitors

Answer

✅ **d. Bisphosphonates**

Reasoning

- **Bisphosphonates** → inhibit osteoclast activity → reduce bone resorption → first-line therapy.
- Calcium + Vitamin D → supportive, **not definitive treatment**
- HRT → limited by **side effects**

Q13. Characteristic of Osteoarthritis

Question

Which of the following is a **characteristic feature of Osteoarthritis**?

Options

a. Inflammation
b. Autoimmune disorder
c. Degenerative joint disease
d. Infectious disease
e. Congenital disorder

Answer

✅ **c. Degenerative joint disease**

Reasoning

- OA = **non-inflammatory, degenerative disease** of articular cartilage.
- Not autoimmune → distinguishes it from RA.

Q14. Medical treatment in Osteoarthritis

Question

Which of the following medical treatments can be done in Osteoarthritis?

Options

a. Hydroxychloroquine
b. Biologic agent
c. Sulfasalazine
d. Chondroitin sulfate & glucosamine
e. Tumor necrosis factor inhibitors

Answer

✅ **d. Chondroitin sulfate & glucosamine**

Reasoning

- Symptomatic relief in mild OA.
- DMARDs and biologics → **used in RA, not OA**.

Q15. SLE flare with pancytopenia

Question

A 39-year-old woman with **SLE** presents with fatigue, fever, and new rash. Labs show **anemia, leukopenia, thrombocytopenia**.

Most likely explanation?

Options

a. Acute SLE flare
b. Chronic SLE with stable disease
c. Infection secondary to immunosuppression
d. Drug-induced lupus
e. Hematological malignancy

Answer

✅ **a. Acute SLE flare**

Reasoning

- Cytopenias, fever, rash → **SLE flare**
- Infection can cause similar signs, but **rash and cytopenias together** favor flare.

Q16. Assessment of renal involvement in SLE

Question

A 25-year-old male with SLE has **hypertension, proteinuria, hematuria**.

Which tests are most important to assess **disease activity**?

Options

a. Serum creatinine
b. Anti-dsDNA antibody titers
c. Complement levels (C3, C4)
d. Anti-Smith antibody
e. Urine protein/creatinine ratio

Answer

✅ **b. Anti-dsDNA titers & c. Complement levels** (both together for activity)

Reasoning

- Anti-dsDNA → correlates with **renal activity**
- Low complement (C3/C4) → indicates **active immune complex-mediated disease**

Q11. Crystal deposits in Gout

Question

What is the name of the **crystal deposits** that form in joints and cause Gout?

Options

a. Calcium pyrophosphate
b. Hydroxyapatite
c. Monosodium urate
d. Positively birefringent crystals
e. Cholesterol

Answer

✅ **c. Monosodium urate**

Reasoning

- Gout → deposition of **monosodium urate crystals** in joints → acute arthritis
- Calcium pyrophosphate → pseudogout

Q12. Most common type of arthritis

Question

Which is the most common type of arthritis?

Options

a. Psoriatic arthritis
b. Rheumatoid arthritis
c. Gout
d. Fibromyalgia
e. Osteoarthritis

Answer

✅ **e. Osteoarthritis**

Reasoning

- OA → most prevalent arthritis globally, especially elderly
- RA → autoimmune, less common

Q17. 55-year-old woman with proximal weakness

Question

A 55-year-old woman presents with **progressive proximal muscle weakness**, difficulty rising from chair and climbing stairs.

Which condition is most likely responsible?

Options

a. Polymyositis
b. Dermatomyositis
c. Inclusion body myositis
d. Myasthenia gravis
e. Muscular dystrophy

Answer

✅ **a. Polymyositis**

Reasoning

- Adult patient with **symmetric proximal weakness**, normal reflexes → polymyositis
- Dermatomyositis → same + **skin rash** (heliotrope, Gottron papules)
- Inclusion body myositis → asymmetric, distal muscles involved
- Myasthenia gravis → fluctuating weakness, ocular muscles
- Muscular dystrophy → usually childhood onset

✅ **High-Yield Summary Points (Rheumatology / MSK / Osteoporosis / SLE)**

- **HLA-B27 → Ankylosing spondylitis, reactive arthritis**
- **NSAIDs → first-line AS**; DMARDs for peripheral arthritis
- **Osteoporosis → age-related bone loss; DXA gold standard; bisphosphonates first-line**
- **OA → degenerative disease; chondroitin/glucosamine supportive**
- **SLE → cytopenias + rash + fever = flare; renal activity: anti-dsDNA & complement**
- **Gout → monosodium urate crystals; most common arthritis → OA**
- **Proximal myopathy → polymyositis (dermatomyositis if skin rash)**

Q18. Initial diagnostic test in progressive proximal weakness

Question

A 48-year-old man presents with **6 months of progressive proximal muscle weakness**. He has difficulty climbing stairs and getting up from a chair. Family history is significant for similar symptoms. On exam, there is **proximal muscle atrophy**.

Which of the following is the **most appropriate initial diagnostic test**?

Options

a. Serum muscle enzyme levels (e.g., Creatine Kinase)
b. Electromyography (EMG)

c. Magnetic Resonance Imaging (MRI) of affected muscles
d. Muscle biopsy
e. Genetic testing

Answer

✅ **a. Serum muscle enzyme levels (CK)**

Reasoning

- **CK (Creatine Kinase)** is usually **elevated in muscular dystrophies or inflammatory myopathies**.
- It is **non-invasive, inexpensive, and first-line**.
- EMG / MRI / biopsy / genetic testing → second-line investigations if CK is abnormal or diagnosis unclear.

High-Yield Points

- Duchenne / Becker → X-linked → childhood onset.
- Limb-girdle muscular dystrophy → adult-onset proximal weakness; CK usually elevated.
- Muscle biopsy → definitive but **invasive**, done after CK and EMG.
- Genetic testing → confirmatory for inherited myopathies.

BLOCK N RMC

Q1. First-line treatment for mild SLE with joint/skin involvement

Question

What is the **first-line treatment** for mild SLE with **joint and skin involvement**?

Options

a. Hydroxychloroquine
b. Methotrexate
c. Prednisolone

d. NSAIDs
e. Azathioprine

Answer

✅ **a. Hydroxychloroquine**

Reasoning

- Hydroxychloroquine → **first-line for mild SLE**, especially skin and joint involvement.
- DMARDs (Methotrexate, Azathioprine) → for moderate to severe disease.
- NSAIDs → symptomatic relief; steroids → reserved for flare or severe disease.

High-Yield Points

- Hydroxychloroquine → reduces **flares and thrombosis risk**.
- Baseline **eye exam** recommended before therapy.

Q2. Dermatomyositis with respiratory involvement

Question

A 45-year-old female presents with **proximal muscle weakness, heliotrope rash, and elevated CPK**. She develops **shortness of breath**. Which complication should be suspected?

Options

a. Pulmonary embolism
b. Interstitial lung disease
c. Pleural effusion
d. Cardiac tamponade
e. ARDS

Answer

✅ **b. Interstitial lung disease (ILD)**

Reasoning

- Dermatomyositis → can involve **lungs (ILD)** causing dyspnea.
- Pulmonary embolism → acute, not chronic progressive respiratory symptoms.

High-Yield Points

- DM + ILD → poor prognosis.
- Monitor with **PFTs and HRCT**.

Q3. Malignancy associated with dermatomyositis

Question

Which malignancy is most commonly associated with **dermatomyositis**?

Options

a. Colorectal Ca
b. Ovarian Ca
c. Lung Ca
d. Breast Ca
e. Thyroid Ca

Answer

✅ **b. Ovarian cancer**

Reasoning

- Dermatomyositis in adult females → **strong association with ovarian cancer**.
- Other cancers less commonly associated.

High-Yield Points

- **Cancer screening** is mandatory in adults with new-onset dermatomyositis.
- CA-125, pelvic US, mammogram, colonoscopy as per age.

Q4. SLE with DVT and positive APLA

Question

A 16-year-old SLE patient develops **right leg DVT**. Her **antiphospholipid antibody (APLA) workup is positive**.

What is the appropriate management?

Options

a. Aspirin
b. LMWH followed by warfarin
c. Steroids
d. Methotrexate
e. Hydroxychloroquine

Answer

✅ **b. LMWH followed by warfarin**

Reasoning

- APLA + thrombosis → **anticoagulation is mandatory**.
- Steroids and hydroxychloroquine → supportive but do not treat acute thrombosis.

High-Yield Points

- Target INR = 2–3 in warfarin therapy.
- Lifelong anticoagulation may be needed in APLA syndrome with thrombotic events.

Q5. Neuropsychiatric SLE flare

Question

A 32-year-old female with SLE presents with **confusion, seizures, and elevated anti-dsDNA**.

Next best step?

Options

a. Low-dose aspirin
b. Methotrexate
c. High-dose steroids
d. Hydroxychloroquine
e. Azathioprine

Answer

✅ **c. High-dose steroids**

Reasoning

- Neuropsychiatric SLE → **severe flare requiring immunosuppression**.
- Methotrexate / hydroxychloroquine → not adequate for CNS involvement.

High-Yield Points

- MRI and LP may help **exclude infection or hemorrhage**.
- IV methylprednisolone is first-line for acute severe CNS SLE.

Q6. Most common histological class of lupus nephritis

Question

Which is the **most common histological class** of lupus nephritis?

Options

a. Minimal mesangial
b. Mesangial proliferative
c. Diffuse proliferative
d. Advanced sclerotic
e. Rapidly progressive

Answer

✅ **c. Diffuse proliferative lupus nephritis (Class IV)**

Reasoning

- Most common and severe → needs **immunosuppressive therapy**.
- Mesangial forms → usually mild; sclerotic → chronic disease.

High-Yield Points

- Biopsy required for classification.
- Class IV → high risk for CKD progression.

Q7. Initial investigation for proximal muscle weakness

Question

A 25-year-old female has **progressive proximal weakness** for 2 months. No rash or joint pain.

Next best investigation?

Options

a. CPK
b. ESR
c. CBC
d. Nerve conduction studies
e. ALT

Answer

✅ **a. CPK**

Reasoning

- Proximal weakness → **check for myositis**
- CPK elevation → supports diagnosis of **inflammatory myopathy**.

Q8. Next diagnostic step in dermatomyositis

Question

A 45-year-old female presents with **proximal weakness, heliotrope rash, elevated CPK**.

Most appropriate next diagnostic step?

Options

a. Antibody panel (Anti-Mi-2, Anti-Jo-1)
b. Skin biopsy
c. MRI of the muscle
d. Repeat CPK
e. Liver function tests

Answer

✅ **a. Antibody panel (Anti-Mi-2, Anti-Jo-1)**

Reasoning

- Myositis-specific antibodies → help **confirm diagnosis and prognosis**.
- Anti-Mi-2 → classic dermatomyositis; Anti-Jo-1 → antisynthetase syndrome.

High-Yield Points

- MRI → detect **muscle inflammation and guide biopsy**
- Biopsy → definitive if diagnosis uncertain
- CPK → activity marker, not etiology

Q9. Chronic neck stiffness with fusion and lung changes

Question

A 45-year-old male presents with **neck pain and stiffness for 5 years**, progressively worsening. For the last 6 months, he **cannot move his neck freely**.

X-ray of the cervical spine shows **complete fusion of anterior and posterior elements**, and **bilateral upper zone haziness in the apices of lungs**.

What is the most probable diagnosis?

Options

a. Rheumatoid arthritis (SLE)
b. SLE

c. Ankylosing spondylitis
d. Spinal TB
e. Cervical spondylosis

Answer

✅ **c. Ankylosing spondylitis**

Reasoning

- Chronic progressive **axial stiffness** with **bamboo spine** → classic for ankylosing spondylitis (AS).
- Bilateral upper zone haziness → **apical fibrosis**, a known extra-articular manifestation of AS.
- RA → usually spares axial spine, mainly peripheral joints.
- Cervical spondylosis → degenerative, not fusion of all elements.

High-Yield Points

- AS: HLA-B27 positive in 90% of cases.
- Early morning stiffness **improves with exercise**, worsens with rest.
- Extra-articular: uveitis, apical lung fibrosis, cardiac conduction defects.

Q10. Uric acid target in hyperuricemia

Question

A patient with history of **uric acid stones** has serum uric acid **9.5 mg/dl**. He is started on **allopurinol 100 mg once daily**.

What should be the **minimum target serum uric acid**?

Options

a. <4 mg/dl
b. <5 mg/dl
c. <6 mg/dl

d. <7 mg/dl
e. <3 mg/dl

Answer

✅ **c. <6 mg/dl**

Reasoning

- Target uric acid for **gout / uric acid stones** → **<6 mg/dl** to prevent crystal deposition.
- Lower targets (<5 mg/dl) → only in severe, tophi-forming cases.

High-Yield Points

- Acute attack → **colchicine or NSAIDs**, not allopurinol.
- Allopurinol → started after acute flare resolves.
- Monitor **renal function** during treatment.

Q11. Painful mouth ulcers in RA on methotrexate

Question

A 36-year-old female with **RA on methotrexate + HCQ + folic acid** presents with **painful mouth ulcers**. Labs are normal.

What should be done?

Options

a. Stop methotrexate and start folic acid
b. Give IV steroids
c. Stop hydroxychloroquine
d. Stop methotrexate
e. Increase the dose of folic acid

Answer

✅ **e. Increase the dose of folic acid**

Reasoning

- Methotrexate → **common cause of mucositis**.
- Increasing folic acid → **prevents mucositis and cytopenias**.
- Stopping methotrexate → not required unless severe toxicity.

High-Yield Points

- Standard folic acid supplementation → 5 mg/week (or daily) alongside MTX.
- Mouth ulcers → early sign of toxicity.

Q12. Initial DMARD regimen in RA with high titer

Question

A 30-year-old female with **6 months of pain and swelling in hands** has **high RA factor, anti-CCP, and high ANA**.

Which drug regimen should be started initially?

Options

a. Methotrexate + prednisolone
b. Methotrexate
c. Prednisolone
d. Methotrexate + sulphasalazine
e. Sulphasalazine + steroids

Answer

✅ **a. Methotrexate + prednisolone**

Reasoning

- Early RA → **methotrexate** is first-line DMARD.
- **Short course low-dose prednisolone** → rapid symptomatic relief while MTX acts.

High-Yield Points

- Anti-CCP → **highly specific for RA**; predicts erosive disease.
- DMARD initiation → within 3 months of diagnosis to prevent joint damage.

Q13. Most common site in osteoarthritis

Question

Which of the following is the **most commonly involved site in osteoarthritis**?

Options

a. Hip
b. Knee
c. Hand
d. Cervical spine
e. Ankle

Answer

✅ **b. Knee**

Reasoning

- Knee OA → most common large joint affected.
- Hip OA → second most common.
- Hand OA → distal interphalangeal joints (DIP) more in women.

High-Yield Points

- OA → **degenerative joint disease**, not autoimmune.
- Radiological features → joint space narrowing, osteophytes, subchondral sclerosis.

Q14. Acute oligoarthritis with eye & skin involvement

Question

A 32-year-old male has **pain in right knee and left ankle for 3 days**, worsened with movement. Also taking **eye drops for red eyes** and **ciprofloxacin for UTI**. Exam shows **plaques on soles**.

Most likely diagnosis?

Options

a. Reiter's syndrome
b. Gonococcal arthritis
c. Stills disease
d. Psoriatic arthritis
e. Rheumatoid arthritis

Answer

✅ **a. Reiter's syndrome (Reactive arthritis)**

Reasoning

- Classic **triad**: **arthritis + conjunctivitis + urethritis** (or post-UTI/GI infection).
- Skin lesions (keratoderma blennorrhagicum) → support diagnosis.
- Onset → usually **1–4 weeks after infection**.

High-Yield Points

- Commonly triggered by **Chlamydia trachomatis or GI infections**.
- HLA-B27 positive in ~70% of cases.

Q15. Arthritis with nail changes

Question

A 35-year-old male has **pain and swelling in hand joints** (MCP, PIP, DIP) and **dystrophic hyperkeratosis of nails**.

Most likely diagnosis?

Options

a. Rheumatoid arthritis
b. Psoriatic arthritis
c. Hemochromatosis
d. Sarcoidosis
e. Palindromic rheumatism

Answer

✅ **b. Psoriatic arthritis**

Reasoning

- DIP involvement + **nail pitting or onycholysis** → characteristic of psoriatic arthritis.
- RA → spares DIP and nail involvement uncommon.

High-Yield Points

- PsA subtypes → asymmetric oligoarthritis, DIP dominant, spondylitis type.
- Skin lesions → psoriasis plaques often precede arthritis.

Q16. Most common extra-articular manifestation of RA

Question

Which is the **most common extra-articular manifestation** of rheumatoid arthritis?

Options

a. Sicca syndrome
b. Pleurisy
c. Pericarditis
d. Scleritis
e. Neuropathy

Answer

✅ **a. Sicca syndrome**

Reasoning

- Sicca (dry eyes, dry mouth) → most frequent.
- Other complications (pleurisy, pericarditis) → less common.

High-Yield Points

- RA extra-articular → **lungs, eyes, heart, skin (rheumatoid nodules)**.

Q17. Acute gout attack

Question

A 40-year-old male presents with **sudden excruciating pain in the left 1st metatarsophalangeal joint after a lavish dinner**. Joint fluid shows **negatively birefringent crystals**.

Best initial treatment?

Options

a. Colchicine
b. Naproxen
c. Prednisone
d. Febuxostat
e. Allopurinol

Answer

✅ **a. Colchicine**

Reasoning

- Acute gout → treat with **NSAIDs, colchicine, or short-term steroids**.
- Allopurinol / febuxostat → **not started during acute attack**, used for long-term urate lowering.

High-Yield Points

- 1st MTP joint → **podagra**, classic gout presentation.

- Negative birefringent crystals → urate crystals under polarized light.

Q18. Most common cause of death in long-standing RA

Question

Which of the following is the **most common cause of death in patients with long-standing rheumatoid arthritis**?

Options

a. Sepsis
b. Interstitial lung disease
c. Cardiovascular disease
d. Renal failure
e. Lymphoma

Answer

✅ **c. Cardiovascular disease**

Reasoning

- RA → **chronic systemic inflammation** accelerates **atherosclerosis**, increasing risk of **myocardial infarction and stroke**.
- While sepsis, ILD, renal failure, and lymphoma are complications, **CVD accounts for the majority of mortality**.

High-Yield Points

- Monitor **lipid profile, blood pressure**, and manage inflammation aggressively.
- Methotrexate → reduces systemic inflammation, may lower CVD risk.
- Extra-articular RA manifestations → ILD, vasculitis, nodules, pericarditis.

Q19. Initial long-term drug for RA

Question

A 39-year-old male has **pain and swelling of small joints of the hands** and is diagnosed with **rheumatoid arthritis**.

Which of the following is the **initial long-term drug of choice** for him?

Options

a. Methotrexate
b. NSAIDs
c. Aspirin
d. Celecoxib
e. Naproxen

Answer

✅ **a. Methotrexate**

Reasoning

- Methotrexate → **first-line DMARD for RA**, slows disease progression.
- NSAIDs → only **symptomatic relief**, not disease-modifying.
- Aspirin/Celecoxib/Naproxen → NSAIDs, supportive only.

High-Yield Points

- Methotrexate → weekly dosing, folic acid supplementation recommended.
- Early DMARD initiation → prevents joint erosions and deformities.

Q20. Acute monoarthritis with fever

Question

A 20-year-old patient presents with **high-grade fever with chills** and **painful swelling of the right knee**. The joint is **hot on palpation**.

Labs show **raised TLC, neutrophils, and ESR 60**.

What is your diagnosis?

Options

a. Rheumatoid Arthritis
b. Osteoarthritis
c. Gouty Arthritis
d. Septic Arthritis
e. None of the above

Answer

✅ **d. Septic Arthritis**

Reasoning

- Acute **monoarticular joint pain with systemic symptoms** → classic for septic arthritis.
- Labs → **high WBC + neutrophilia + raised ESR** → infection.
- RA / OA / Gout → may cause pain but usually **not associated with fever/chills** in first presentation.

High-Yield Points

- Most common causative organism → **Staphylococcus aureus**.
- **Joint aspiration + Gram stain + culture** → gold standard for diagnosis.
- **Emergent treatment** → IV antibiotics and joint drainage.

BLOCK N KGMC – Delirium in elderly

Q1. Irrelevant talks in an 87-year-old man

Question

An **87-year-old man** presents with **irrelevant talks for 3 weeks**, with **previous similar episodes**.

He is **bedridden due to knee osteoarthritis**, has **not passed stool for several days**, **fever 99°F**, and **productive cough**.

What is the **most likely cause of his irrelevant talks**?

Options

a. Analgesic toxicity
b. Senile dementia
c. Malnutrition
d. Frail elderly syndrome
e. Depression

Answer

✅ **a. Analgesic toxicity**

Reasoning

- Acute onset delirium → **toxic/metabolic cause**.
- Fever, constipation, polypharmacy → **predispose to drug toxicity**, e.g., opioids/NSAIDs for OA.
- Senile dementia → chronic, progressive, not acute.
- Depression → rarely presents with acute irrelevant speech.

High-Yield Points

- **Delirium = acute onset + fluctuating course + reversible**.
- Common triggers → infection, electrolyte imbalance, drug toxicity, constipation.
- Management → **treat underlying cause**, supportive care.

BLOCK N NWSM – Dermatomyositis & Osteoporosis

Q1. Most accurate test for dermatomyositis

Question

A 45-year-old woman has **progressively worsening muscle weakness**, needing her arms to get out of a chair.

Findings: **photosensitive pink rash on neck/trunk**, **violaceous plaques on bony prominences of hands and elbows**.

Which is the **most accurate test to confirm dermatomyositis**?

Options

a. CPK level
b. Aldolase levels
c. Muscle biopsy
d. MRI of muscles
e. Anti-Jo1 antibody

Answer

✅ **c. Muscle biopsy**

Reasoning

- **Muscle biopsy** → gold standard for confirming **inflammatory myopathies**, shows **perifascicular atrophy and inflammatory infiltrates**.
- CPK → sensitive but **not specific**.
- Anti-Jo1 → helps identify **antisynthetase syndrome**, not definitive.

High-Yield Points

- DM → **proximal muscle weakness + heliotrope / Gottron's sign**.
- Complications → **interstitial lung disease, malignancy association**.

Q2. Osteoporosis in a patient on long-term valproic acid

Question

A 32-year-old female epileptic on **long-term valproic acid** is worried about **osteoporosis** (mother had fracture).

DEXA scan: **T-score hip -2.1, spine -1.8**
Labs: **normal calcium & alkaline phosphatase**

Next best action?

Options

a. Start calcium + vitamin D
b. Reassurance
c. Start bisphosphonates
d. Bone biopsy
e. Start estrogen therapy

Answer

✅ **a. Start calcium + vitamin D**

Reasoning

- T-score -2.1 → **osteopenia** (between -1 and -2.5).
- First-line management → **lifestyle + calcium + vitamin D**.
- Bisphosphonates → reserved for T-score ≤ -2.5 or fracture history.

High-Yield Points

- Valproic acid → reduces **bone density via altered vitamin D metabolism**.
- DEXA → **screening in long-term antiepileptic therapy**.

Q3. Chronic gout management

Question

A 50-year-old man has **recurrent gout** after 4 months of acute flare, wants better control.

Which of the following is used in **chronic gout**?

Options

a. Steroids
b. Allopurinol
c. Colchicine
d. NSAIDs
e. Diet only

Answer

✅ **b. Allopurinol**

Reasoning

- **Allopurinol** → xanthine oxidase inhibitor, lowers uric acid → used for **chronic management & prevention of flares**.
- Colchicine / NSAIDs / steroids → used for **acute flares**, not long-term urate lowering.

High-Yield Points

- Target uric acid → <6 mg/dl (or <5 in severe cases).
- Lifestyle → limit purine-rich foods, alcohol, maintain hydration.
- Monitor **renal function** during therapy.

Q4. Reactive arthritis after Salmonella infection

Question

An **8-year-old boy** presents with **severe pain in both wrists and ankles**.

History: **fever, diarrhea, and abdominal pain for 5 days**. One week later, he developed **arthralgia of bilateral sacroiliac, wrist, and ankle joints**.

Examination: **swelling and tenderness of wrists and left sacroiliac joints**.

Labs: Hb 12.8 g/dL, WBC 21,860/mm³, ESR 74 mm/hr, **HLA-B27 positive**, **stool culture positive for Salmonella**.

What is the most likely diagnosis?

Options

a. Osteomyelitis
b. Septic arthritis
c. Reactive arthritis
d. Post-infective arthritis
e. Growing pains

Answer

✅ **c. Reactive arthritis**

Reasoning

- Classic triad of **reactive arthritis**: **arthritis + urethritis + conjunctivitis**, often **post-enteric or post-urogenital infection**.
- Onset: usually **1–4 weeks after infection** (Salmonella, Shigella, Yersinia, Chlamydia).
- **HLA-B27 positivity** → increases susceptibility.
- Osteomyelitis → localized bone infection, not symmetric arthritis.
- Septic arthritis → usually **monoarticular**, systemic toxicity prominent.
- Growing pains → benign, no inflammatory signs.

High-Yield Points

- Sites: **knees, ankles, wrists, sacroiliac joints**.
- Labs: **inflammatory markers elevated, culture negative from joint**.
- Management: **NSAIDs, treat underlying infection**, sometimes **short course steroids**.

Q5. Early ankylosing spondylitis

Question

A **21-year-old man** has **lower back pain with stiffness**, **worse in the morning**, **improves with exercise**.

No radiation, no bowel/bladder involvement. Exam: **decreased anterior flexion of lumbar spine**. Labs: **HLA-B27 positive**, X-ray **normal**.

Which **disease sign is he at risk for**?

Options

a. Scaly rash on extensor surface
b. Abdominal pain with diarrhea and constipation
c. Joint pains sparing DIP joints
d. Difficulty combing hair
e. Unilateral limb swelling

Answer

✅ **c. Joint pains sparing DIP joints**

Reasoning

- This is **early ankylosing spondylitis (AS) → inflammatory back pain, HLA-B27 positive, normal early X-rays**.
- AS usually affects **axial skeleton and large joints, sparing distal interphalangeal joints (DIP)**.
- Morning stiffness improves with activity → hallmark of **inflammatory back pain**.

High-Yield Points

- Extra-articular features → **uveitis, aortic regurgitation, pulmonary fibrosis**.
- X-ray changes → **sacroiliitis, bamboo spine**, appear later.
- First-line treatment → **NSAIDs, physical therapy**; biologics if refractory.

Q6. Complication of long-standing inflammatory myositis

Question

A **46-year-old female** with **10-year history of inflammatory myositis** presents with **itching, amenorrhea, pelvic pain, nausea, and vomiting** for 2–3 weeks.

Exam: **weak, emaciated, tender, distended abdomen, BP 135/82, RR 16**, positive **shawl sign and periorbital puffiness**.

Which complication should be suspected?

Options

a. Liver cirrhosis
b. Intestinal obstruction
c. Renal failure
d. Breast fibroadenoma
e. Adnexal neoplasia

Answer

✅ **e. Adnexal neoplasia**

Reasoning

- **Dermatomyositis in adults** → strongly associated with **malignancies**, especially **ovarian/adnexal, breast, lung, GI cancers**.
- New symptoms: abdominal pain, amenorrhea, systemic symptoms → raise suspicion for **paraneoplastic syndrome**.
- Liver cirrhosis, intestinal obstruction, renal failure → not commonly associated with dermatomyositis.

High-Yield Points

- **Dermatomyositis + adult onset** → screen for malignancy (CT, USG, tumor markers).
- Common signs: **heliotrope rash, Gottron papules, shawl sign**.
- Treatment → **immunosuppressants + treat underlying malignancy**.

Q7. Sarcoidosis presenting with pulmonary and eye symptoms

Question

A **45-year-old woman** presents with **persistent dry cough, fatigue, SOB, and mild eye discomfort** over months.

Exam: **mild eye redness, photophobia**.
CXR: **bilateral symmetric hilar lymphadenopathy, diffuse reticulonodular infiltrates**.
PFT: **restrictive defect**

Which **dermatological condition** is she most likely suffering from?

Options

a. Eczema
b. Psoriasis
c. Vitiligo
d. Erythema nodosum
e. Xerostomia

Answer

✅ **d. Erythema nodosum**

Reasoning

- **Sarcoidosis triad → bilateral hilar lymphadenopathy + pulmonary infiltrates + erythema nodosum** (Löfgren's syndrome).
- Other skin manifestations: lupus pernio, plaques, maculopapular rash.
- Xerostomia → Sjogren; eczema/psoriasis/vitiligo → unrelated.

High-Yield Points

- Sarcoidosis → multisystem granulomatous disease.
- Acute sarcoidosis in adults → **self-limiting, often with erythema nodosum**.
- Chronic → may lead to fibrosis → monitor PFTs.

Q8. Refractory dermatomyositis management

Question

A **38-year-old male** has **progressive proximal muscle weakness** and **photosensitive pink rash** over neck/trunk and **Gottron-like plaques** on hands/elbows.

Labs: ↑ **CPK,** ↑ **CK-MB,** ↑ **aldolase,** ↑ **LDH**
Started on **steroids + azathioprine**, but worsened.

Which treatment should be added next?

Options

a. 6-Mercaptopurine
b. Androgen
c. Rituximab
d. Methotrexate
e. Increase steroid dose

Answer

✅ **c. Rituximab**

Reasoning

- **Refractory dermatomyositis** → not responding to **steroids + conventional immunosuppressants**.
- **Rituximab (anti-CD20 monoclonal antibody)** → effective in severe/refractory myositis.
- Methotrexate → first-line immunosuppressant, but patient already on azathioprine; adding MTX may not suffice.
- Increasing steroids → risky due to side effects.

High-Yield Points

- Labs: **CK, aldolase, LDH** → markers of muscle damage.
- Complications → **interstitial lung disease, malignancy screening**.
- Other options for refractory cases: IVIG, cyclophosphamide, mycophenolate mofetil.

Q9. Transient synovitis in a child

Question

A **5-year-old child** presents with **difficulty and pain in walking**.

History: **upper respiratory infection 2 weeks ago**.

Examination: **hips and knees normal, no signs of inflammation**.

Labs: **CBC, ESR, CRP normal**.

What is the most likely diagnosis?

Options

a. Septic arthritis
b. Osteomyelitis
c. Transient synovitis
d. Growing pains
e. Juvenile idiopathic arthritis (JIA)

Answer

✅ **c. Transient synovitis**

Reasoning

- Common **cause of acute hip pain in children (3–8 years old)**.
- Usually **post-viral** (URI history).
- Exam: child **limping**, limited motion, **no systemic signs**.
- Labs: **normal inflammatory markers**, differentiates from septic arthritis.
- Septic arthritis → usually **febrile, high ESR/CRP, toxic appearance, unilateral joint**.
- Growing pains → **bilateral, intermittent, night-time, no swelling or limping**.

High-Yield Points

- Transient synovitis usually **self-limiting (1–2 weeks)**.
- X-ray often normal; US may show **mild effusion**.
- Important to **rule out septic arthritis** in children with fever or elevated labs.

Q10. Long-term complication of dermatomyositis

Question

A patient with **dermatomyositis for 2 years** has **severe muscle weakness** and multiple flares.

Current therapy: **hydroxychloroquine and methotrexate**.

Which long-term complication is most commonly associated?

Options

a. Lung fibrosis
b. Dilated cardiomyopathy
c. Skin cancer
d. Pancreatic insufficiency
e. Diabetes mellitus

Answer

✅ **a. Lung fibrosis**

Reasoning

- **Interstitial lung disease (ILD)** is a **common complication of long-standing dermatomyositis**, especially with anti-Jo-1 antibodies.
- Skin cancer → associated more with **dermatomyositis as a paraneoplastic phenomenon** at diagnosis, not long-term methotrexate therapy.
- Cardiomyopathy → rare.

High-Yield Points

- Pulmonary involvement → **main cause of morbidity/mortality** in myositis.
- Monitor with **PFTs, HRCT** periodically.
- Other complications: osteoporosis (from steroids), malignancy (especially in adults at onset).

Q11. Additional tests in steroid-induced osteoporosis risk

Question

A **54-year-old obese man** with **progressive RA** is on **prednisone and hydroxychloroquine**, concerned about **steroid-induced osteoporosis**.

DEXA test ordered. Which **additional test** is recommended?

Options

a. Vitamin D levels
b. Diabetes screening
c. Parathyroid hormone (PTH) level
d. Chest X-ray for lung fibrosis
e. Bone biopsy

Answer

✅ **a. Vitamin D levels**

Reasoning

- Vitamin D deficiency → major **modifiable risk factor for osteoporosis**, especially in steroid users.
- PTH → secondary hyperparathyroidism may develop **if vitamin D deficiency present**, but initial step is **vitamin D evaluation**.
- Bone biopsy → only if **secondary osteoporosis suspected** or unusual findings.

High-Yield Points

- Long-term **steroid use** → risk for osteoporosis, fractures.
- Management → **Calcium + Vitamin D, bisphosphonates if high risk**, lifestyle measures.

Q12. Pseudogout vs gout

Question

A **72-year-old man** presents with **acutely painful right knee**.

Exam: **hot, swollen knee**. Labs: WBC 12.6 × 10^9/L. X-ray: **reduced joint space, calcification of articular cartilage**. Aspirate culture: **no growth**.

What is the most likely diagnosis?

Options

a. Gout
b. Pseudogout
c. Psoriatic monoarthropathy
d. Rheumatoid arthritis
e. Septic arthritis

Answer

✅ **b. Pseudogout**

Reasoning

- **Pseudogout (CPPD)** → deposition of **calcium pyrophosphate crystals**, commonly in **knee joint**.
- X-ray: **chondrocalcinosis (calcification of cartilage)**.
- Gout → usually **first MTP, urate crystals**, X-ray without cartilage calcification.
- Septic arthritis → positive culture, systemic signs prominent.

High-Yield Points

- Acute pseudogout → **NSAIDs, colchicine** for acute attacks.
- Chronic → monitor joints, treat underlying metabolic disorders (hemochromatosis, hyperparathyroidism).

Q13. Osteomalacia in a child

Question

A **7-year-old girl** presents with **wrist fracture** after a fall.

History: **bone pain, weakness**. Exam: tenderness of wrist, waddling gait.

Labs: ↓ **calcium,** ↓ **phosphate,** ↑ **alkaline phosphatase,** ↑ **PTH**.

Most likely diagnosis?

Options

a. Hyperparathyroidism
b. Osteoporosis
c. Osteomalacia
d. Multiple myeloma
e. Rickets

Answer

✅ **e. Rickets**

Reasoning

- Pediatric patient → **growth plate affected** → **rickets**, whereas osteomalacia → adults.
- Labs: **hypocalcemia, hypophosphatemia, ↑ alkaline phosphatase, ↑ PTH** → hallmark of vitamin D deficiency rickets.
- Osteoporosis → normal labs, reduced bone density.
- Multiple myeloma → rare in children.

High-Yield Points

- Signs: **frontal bossing, wide wrists, rachitic rosary, Harrison sulcus, delayed teeth eruption**.
- Treatment: **vitamin D and calcium supplementation**.

Q14. Nutritional rickets

Question

A **4-year-old child** presents with **bone pain for 1 month**.

Diet: **potatoes, rice, biscuits** (low vitamin D/calcium).

Exam: **frontal bossing, wide wrists, rachitic rosary, Harrison sulcus, dental caries**.

Most likely diagnosis?

Options

a. Osteopetrosis
b. Osteoporosis
c. Rickets
d. Scurvy
e. Beriberi

Answer

✅ **c. Rickets**

Reasoning

- Classic **nutritional rickets** → vitamin D deficiency → defective mineralization of **growing bones**.
- Physical signs: **Harrison sulcus, rachitic rosary, frontal bossing**.
- Osteopetrosis → dense bones, no rachitic signs.
- Scurvy → bleeding gums, petechiae.

High-Yield Points

- Labs: ↓ **calcium,** ↓ **phosphate,** ↑ **alkaline phosphatase**.
- Radiology: **cupping, fraying, widening of metaphyses**.
- Treatment: **vitamin D + calcium supplementation, sunlight exposure**.

Q15. Osteoporosis in long-term valproate use

Question

A **48-year-old woman** with **epilepsy on long-term sodium valproate**, seizure-free for 5 years, is concerned about osteoporosis.

DXA: **T-score -2.2 lumbar spine, -1.8 total hip**.

Next best course of action?

Options

a. Reassurance
b. Calcium + vitamin D supplements
c. Bisphosphonates
d. Hormone replacement therapy
e. Tamoxifen

Answer

✅ **b. Calcium + vitamin D supplements**

Reasoning

- T-score **-1.8 to -2.2** → **osteopenia**.
- First-line: **calcium and vitamin D supplementation**, lifestyle modifications.
- Bisphosphonates → reserved for **T-score ≤ -2.5 or fracture history**.

High-Yield Points

- Anti-epileptics like **valproate** → induce **bone loss** → **osteopenia/osteoporosis**.
- Monitor **DXA scan every 1–2 years**.
- Encourage **weight-bearing exercise, smoking cessation, reduced alcohol**.

Q16. Management of osteopenia in a patient on long-term valproate

Question

A **48-year-old woman** with **epilepsy since childhood**, seizure-free for 5 years on **sodium valproate**, is found to have **osteopenia** on DXA scan: **T-score -2.2 lumbar spine, -1.8 total hip**. She has mild shoulder aches but otherwise unremarkable exam.

What is the next best course of action?

Options

a. Reassurance
b. Calcium + vitamin D supplements
c. Bisphosphonates
d. Hormone replacement therapy
e. Tamoxifen

Answer

✅ **b. Calcium + vitamin D supplements**

Reasoning

- T-score **-1.8 to -2.2** → **osteopenia**, not osteoporosis (≤ -2.5).

- **First-line management** for osteopenia: **lifestyle modifications, calcium + vitamin D supplementation**.
- Bisphosphonates → reserved for **T-score ≤ -2.5** or high fracture risk.
- Valproate → associated with **reduced bone density**; supplementation is preventive.

High-Yield Points

- **Anti-epileptics** (valproate, phenytoin) → risk factor for osteoporosis.
- Encourage **weight-bearing exercise, sunlight exposure, smoking cessation**.
- DXA monitoring: **every 1–2 years** for patients on long-term anticonvulsants.

Q17. Osteogenesis imperfecta in a child

Question

A **7-year-old boy** presents with **frequent fractures after minor trauma**. History: **recurrent fractures since infancy**.

Examination: **blue sclera, triangular facies, multiple long bone deformities**.

What is the most likely diagnosis?

Options

a. Osteopetrosis
b. Osteomalacia
c. Osteogenesis imperfecta
d. Rickets
e. Osteosarcoma

Answer

✅ **c. Osteogenesis imperfecta (OI)**

Reasoning

- Key features: **blue sclera, bone fragility, multiple fractures, characteristic facies**.

- Genetic disorder: **defective type I collagen** → weak bones.
- Differentiation:
    - Rickets/osteomalacia → vitamin D deficiency, affects **bone mineralization**, not collagen; also presents with **bone pain, deformities** but normal sclera.
    - Osteopetrosis → **dense brittle bones**, no blue sclera.

High-Yield Points

- OI subtypes vary from **mild (type I) to lethal (type II)**.
- Management: **bisphosphonates, physiotherapy, fracture prevention**.
- Genetic counseling important for families.

Q18. Drug-induced lupus from medications

Question

A woman with **gout, hypertension, dyslipidemia, chronic dyspepsia** presents with **joint pain, swelling, morning stiffness**. Labs: **anti-histone positive**.

Medications: **CCB, colchicine, febuxostat, omeprazole, rosuvastatin**.

Which medication is responsible for her symptoms?

Options

a. Sulfasalazine
b. Calcium channel blocker
c. Febuxostat
d. Omeprazole
e. Rosuvastatin

Answer

✅ **b. Calcium channel blocker**

Reasoning

- **Drug-induced lupus** → most commonly associated with **hydralazine, procainamide, isoniazid, minocycline, and some calcium channel blockers** (rare).
- **Anti-histone antibodies** → hallmark of **drug-induced lupus** (vs. anti-dsDNA in idiopathic SLE).
- Colchicine/febuxostat → not associated with lupus.
- Rosuvastatin → very rarely, mostly myopathy.

High-Yield Points

- Presentation: **arthralgias, fever, mild rash**.
- Management: **stop offending drug**, symptoms usually resolve within **weeks to months**.
- Important to differentiate from **idiopathic SLE**.

Q19. Fibromyalgia vs inflammatory arthritis

Question

A **45-year-old woman** presents with **widespread joint pain**, worse in the evening after work.

History: **puffy hands/feet, painful neck, poor concentration, stress, mild positive RF**.

Exam: **BMI increased, global restriction due to pain, no synovitis**.

Which investigation is most useful?

Options

a. Anti-cyclic citrullinated peptide antibody (Anti-CCP)
b. Ultrasound scan of hands and feet
c. Anti-Jo-1 antibody
d. ESR and CRP
e. Anti-mitochondrial antibody

Answer

✅ **d. ESR and CRP**

Reasoning

- Likely **fibromyalgia** or **non-inflammatory musculoskeletal pain → normal ESR/CRP**.
- Anti-CCP → for RA, but patient has **no synovitis**.
- Ultrasound → detects synovitis/erosions, not necessary here.
- Anti-Jo-1 → myositis.

High-Yield Points

- Fibromyalgia → **widespread pain, fatigue, cognitive disturbance, tender points, normal labs**.
- Management: **exercise, cognitive behavioral therapy, symptomatic medications**.
- Important to **exclude inflammatory arthritis** if labs normal and no synovitis.

Q20. Septic arthritis of the hip

Question

A **45-year-old male** presents with **3 days of severe right hip pain**, constant, worse with movement, with **fever and chills**.

Exam: **cannot bear weight, tenderness, limited ROM**. Labs: **WBC ↑, ESR 75 mm/hr, CRP ↑**. Ultrasound: **hip joint effusion**. Blood cultures pending.

What is the most important management?

Options

a. Oral antibiotics and follow-up in 1 week
b. Hip arthrotomy for joint collection, analysis, and culture/sensitivity
c. MRI of the hip
d. Steroids to reduce inflammation
e. NSAIDs for analgesia

Answer

✅ **b. Hip arthrotomy for joint collection, analysis, and culture/sensitivity**

Reasoning

- Classic presentation of **septic arthritis → emergency**.
- Hip joint → deep, requires **arthrotomy or joint aspiration** for diagnosis and **urgent drainage**.
- Early antibiotics → after **culture obtained**, not empirically delayed.
- Delay → **risk of joint destruction, sepsis**.

High-Yield Points

- Most common pathogens: **Staphylococcus aureus** in adults.
- ESR and CRP → supportive, not diagnostic.
- Imaging (US/MRI) → identifies effusion, guides aspiration.
- **Joint drainage + targeted antibiotics** → definitive management.

Q21. Fibromyalgia vs inflammatory arthritis

Question

A **45-year-old female** complains of **widespread joint pain**, worse in the evening after work. She describes **puffy hands and feet, painful neck, poor concentration**, and recent marital stress.

Labs: **mildly positive rheumatoid factor**. Exam: **increased BMI, global restriction of movement due to pain, no synovitis**.

Which investigation would be useful in this case?

Options

a. Anti-cyclic citrullinated peptide (Anti-CCP) antibody
b. Ultrasound scan of hands and feet
c. Anti-Jo-1 antibody
d. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP)
e. Anti-mitochondrial antibody

Answer

✅ **d. ESR and CRP**

Reasoning

- Likely **fibromyalgia or non-inflammatory musculoskeletal pain → labs usually normal**.
- Anti-CCP and ultrasound → used for **diagnosing RA**, but patient has **no synovitis**.
- Anti-Jo-1 → **myositis**, not consistent here.
- ESR/CRP → useful to **rule out underlying inflammation** in non-specific pain.

High-Yield Points

- Fibromyalgia: **widespread pain, fatigue, cognitive issues, tender points, normal labs**.
- Mild positive RF can be **false positive**, especially in older women.
- Management: **exercise, CBT, symptomatic medications**, not DMARDs.

Q22/23. ITP in children

Question

A **4-year-old child** presents with **bruises, nosebleeds, and generalized petechial rash**. History: **respiratory infection 20 days ago**.

Exam: afebrile, **no hepatosplenomegaly or lymphadenopathy**. Labs: Hb 13 g/dL, normal WBC/DLC, **platelets 12,000/mm³**, PT/APTT normal.

What is the most likely diagnosis?

Options

a. Hemophilia
b. Von Willebrand disease
c. Immune thrombocytopenic purpura (ITP)
d. Henoch-Schonlein purpura
e. DIC

Answer

✅ **c. Immune thrombocytopenic purpura (ITP)**

Reasoning

- **Isolated thrombocytopenia**, **normal Hb and WBC**, **normal coagulation** → ITP.
- Preceded by **viral infection** → typical trigger in children.
- Hemophilia/VWD → bleeding usually **not isolated to platelets**, and coagulation tests abnormal.
- HSP → **palpable purpura, often with abdominal pain and renal involvement**.
- DIC → would show **abnormal PT/APTT, schistocytes, multi-lineage cytopenia**.

High-Yield Points

- ITP in children → usually **self-limiting**; treat if platelets <20,000 or significant bleeding.
- First-line therapy: **IVIG or corticosteroids if severe**.

Q23/24. Raynaud + connective tissue disease antibodies

Question

A **31-year-old woman** presents with **malaise, myalgia, low-grade fever**, and **Raynaud's phenomenon** (tips of fingers blue in cold). She also reports **joint pain and swelling of small hand joints**. Exam: **malar rash, sclerodactyly, joint tenderness**.

Which antibodies are expected?

Options

a. dsDNA
b. Anti-CCP
c. Anti-Ro/La
d. Anti-Scl-70
e. Anti-RNP antibody

Answer

✅ **d. Anti-Scl-70**

Reasoning

- **Systemic sclerosis (scleroderma) features:** Raynaud + sclerodactyly.
- **Anti-Scl-70 (topoisomerase I antibodies)** → associated with **diffuse systemic sclerosis**, interstitial lung disease.
- dsDNA → SLE
- Anti-CCP → RA
- Anti-Ro/La → Sjogren's / subacute cutaneous lupus
- Anti-RNP → mixed connective tissue disease

High-Yield Points

- Raynaud's phenomenon in adults → **assess for underlying CTD**.
- Scleroderma antibodies guide prognosis:
    - Anti-centromere → limited cutaneous
    - Anti-Scl-70 → diffuse cutaneous + lung involvement

Q25. Vitamin D–dependent rickets type 2

Question

A **2-year-old child** is developmentally delayed: cannot crawl or walk, can sit with support. History: **carpopedal spasm and seizures**. Exam: signs of **rickets, generalized alopecia**. Labs: ionized Ca 2.5, vitamin D 120.

What is the most probable diagnosis?

Options

a. Nutritional rickets
b. Hypophosphatemic rickets
c. Vitamin D–dependent rickets type 2

d. Vitamin D–dependent rickets type 1
e. Chronic renal failure

Answer

✅ **c. Vitamin D–dependent rickets type 2**

Reasoning

- **VDDR type 2:** end-organ **resistance to vitamin D** → elevated vitamin D levels, low calcium, signs of rickets.
- Alopecia → **classic feature of type 2**, not type 1.
- Type 1 → 1α-hydroxylase deficiency → low vitamin D.
- Nutritional rickets → low vitamin D, respond to supplementation.
- Hypophosphatemic → phosphate wasting, normal calcium, no alopecia.

High-Yield Points

- Type 2 rickets → **high 1,25(OH)2D levels**, resistant to therapy.
- Management: **high-dose calcitriol, calcium supplementation, manage seizures**.
- Always check **vitamin D, calcium, phosphate, alkaline phosphatase**.

Q26. Dermatomyositis

Question

A **53-year-old woman** with a history of thyroid disease presents with **progressive proximal muscle weakness**: difficulty climbing stairs, combing hair, rising from chair. Exam: **decreased shoulder strength, lilac periorbital rash, sunburn on cheeks**. Labs pending, high-dose steroids planned.

Most likely diagnosis?

Options

a. Gout
b. Polymyositis
c. Dermatomyositis
d. SLE
e. Psoriatic arthritis

Answer

✅ **c. Dermatomyositis**

Reasoning

- **Proximal muscle weakness + heliotrope rash + sun-exposed rash (Gottron's sign)** → dermatomyositis.
- Polymyositis → **muscle weakness only**, no skin rash.
- SLE → rash but systemic features variable, less prominent proximal weakness.
- PsA → joint symptoms, nail changes, not muscle weakness.
- Gout → acute monoarthritis, not chronic proximal weakness.

High-Yield Points

- Dermatomyositis → **risk of malignancy**, especially in adults >50.
- Labs: **CPK, aldolase, LDH** → elevated.
- EMG, muscle biopsy, MRI → help confirm diagnosis.
- Treatment: **high-dose steroids, immunosuppressants (azathioprine, methotrexate)**.

Q27. Long-term RA complication

Question

A patient with **rheumatoid arthritis (RA) for 12 years** reports **difficulty moving limbs, weakness, tingling sensations**, and stiffness in his joints.

Which of the following complications is most likely to occur **long-term** in RA?

Options

a. Peritoneal inflammation
b. Serosal fibrosis
c. Sacroiliac joint fibrosis
d. Carpal tunnel syndrome
e. Pericarditis

Answer

✅ **d. Carpal tunnel syndrome**

Reasoning

- **Chronic RA → synovial proliferation and inflammation** → compresses **median nerve at wrist** → carpal tunnel syndrome.
- Peritoneal inflammation, serosal fibrosis → not typical for RA.
- Sacroiliac joint fibrosis → more common in **ankylosing spondylitis**.
- Pericarditis → possible, but less common than CTS.

High-Yield Points

- **Extra-articular RA complications:** carpal tunnel syndrome, vasculitis, lung involvement, pericarditis.
- **CTS features:** numbness, tingling, weakness of thumb, index, and middle fingers.
- **Management:** wrist splints, NSAIDs, surgical decompression if severe.

BLOOD MEDICINE

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Q1. Myelofibrosis diagnosis

Question

A **60-year-old male** presents with **progressive fatigue and splenomegaly**. Labs show: **anemia, leukopenia, thrombocytopenia**. Peripheral smear shows **teardrop-shaped RBCs, nucleated RBCs, myelocytes, metamyelocytes**.

Most likely diagnosis?

Options

a. Acute myeloid leukemia (AML)
b. Chronic lymphocytic leukemia (CLL)
c. Chronic myeloid leukemia (CML)
d. Myelofibrosis
e. Sickle cell anemia

Answer

✅ **d. Myelofibrosis**

Reasoning

- **Teardrop-shaped RBCs ("dacryocytes")** → hallmark of **myelofibrosis**.
- **Leukoerythroblastic blood picture** → immature WBCs & RBCs in peripheral smear.
- AML → blasts predominate, not teardrops.
- CLL → lymphocytosis.
- CML → high WBC with left shift, not pancytopenia early.
- Sickle cell anemia → sickled RBCs, usually not pancytopenia.

High-Yield Points

- Myelofibrosis → **primary or secondary** (post-PV or ET).

- Symptoms: **fatigue, splenomegaly, weight loss**.
- Diagnosis: **bone marrow biopsy** (fibrosis), **JAK2 mutation** often positive.

Q2. Hemoconcentration

Question

A **45-year-old male smoker** presents with **nausea, vomiting, right hypochondrium pain, dark urine**. Labs: Hb 18.5 g/dL, RBC 4.5 million/µL, HCT 42%, WBC 16,000/µL. Provisional diagnosis: **acute hepatitis**.

Most likely explanation for the **high hemoglobin**?

Options

a. Jaundice, or very high WBC count is present
b. History of smoking causing increased hemoglobin
c. Dehydration causing hemoconcentration
d. Improper sample mixing during collection

Answer

✅ **c. Dehydration causing hemoconcentration**

Reasoning

- Lab shows **relative polycythemia**: Hb elevated, HCT mildly elevated → **volume depletion**.
- Smoking → can cause mild polycythemia, but HCT usually >50%.
- Improper mixing → usually causes lab error, unlikely consistent pattern.

High-Yield Points

- Hemoconcentration: **high Hb/HCT, normal RBC mass**, often **dehydration or fluid loss**.
- True polycythemia: check **RBC mass and EPO**.

Q3. Severity of aplastic anemia

Question

A **30-year-old male** presents with **fatigue, exertional dyspnea, epistaxis, fever, sore throat**. Labs: **Hb 7 g/dL, platelets 15 ×10^9/L, ANC 0.5 ×10^9/L, reticulocyte 0.2%**. Bone marrow: **hypocellular, no blasts or dysplasia**.

What is the **severity of aplastic anemia**?

Options

a. Mild aplastic anemia
b. Moderate aplastic anemia
c. Non-severe aplastic anemia
d. Severe aplastic anemia
e. Very severe aplastic anemia

Answer

✅ **d. Severe aplastic anemia**

Reasoning

- **Severe aplastic anemia criteria:**
    - BM cellularity <25%
    - At least **2 of:**
        - ANC <0.5 ×10^9/L
        - Platelets <20 ×10^9/L
        - Reticulocyte count <1%
- This patient meets **all criteria**.
- Very severe: ANC <0.2 ×10^9/L.

High-Yield Points

- Clinical features: **bleeding, infections, fatigue**.
- Management: **immunosuppressive therapy (ATG + cyclosporine)** or **stem cell transplant**.
- Always rule out **secondary causes**: drugs, viral infections.

Q4. Prognostic factor in multiple myeloma

Question

A **70-year-old female** with persistent back pain presents with **fatigue, nocturia, hypercalcemia, anemia**. Labs: **monoclonal spike**, urine Bence Jones protein, skeletal X-rays: **lytic lesions**.

Which additional lab finding indicates a **poor prognosis**?

Options

a. Decreased albumin + elevated β2-microglobulin
b. Elevated ESR + CRP
c. Elevated IgG + kappa light chains
d. Impaired renal function + increased IgG
e. Oligoclonal bands in CSF

Answer

✅ **a. Decreased albumin + elevated β2-microglobulin**

Reasoning

- **Prognostic markers in MM:**
    - **β2-microglobulin:** high → poor prognosis
    - **Low albumin:** poor prognosis
- ESR/CRP → elevated but **not prognostic**.
- IgG/kappa → type of paraprotein, not independent poor prognostic factor.
- Renal dysfunction → associated morbidity, but prognostic marker is **β2-microglobulin**.

High-Yield Points

- Multiple myeloma prognostic staging: **ISS**: β2-microglobulin + albumin.
- Treatment: **bortezomib, lenalidomide, steroids**, stem cell transplant if eligible.
- Watch for **renal failure, hypercalcemia, infection, anemia**.

Q5. CML and TKI therapy response

Question

A **55-year-old female** presents with **fatigue** and **moderate splenomegaly**. Labs show:

- WBC = 230,000/μL (with 10% basophils and increased eosinophils)
- Platelets = 600,000/μL
- Philadelphia chromosome positive

She is started on a **tyrosine kinase inhibitor (TKI)**.

Considering the typical response to treatment, which of the following is **expected on follow-up**?

Options

a. Most patients achieve complete cytogenetic response within a **month** of TKI initiation
b. The Ph chromosome disappears in approximately **90% of patients within a month** of therapy
c. Blood counts normalize within **3–6 months in all patients** treated with TKIs
d. Most patients achieve **complete cytogenetic response in 3–6 months** of TKI initiation

Answer

✅ **d. Most patients achieve complete cytogenetic response in 3–6 months of TKI initiation**

Reasoning

- **Chronic myeloid leukemia (CML)** responds in **phases**:
    - **Hematologic response:** normalization of WBC and platelets usually within **3 months**.

    - **Cytogenetic response:** disappearance of Philadelphia chromosome occurs in **3–6 months** for most patients.
    - **Molecular response:** may take **6–12 months**.
- Rapid disappearance (<1 month) is rare; not all patients achieve full cytogenetic response.

High-Yield Points

- **Phases of CML response to TKI:** hematologic → cytogenetic → molecular.
- **Complete cytogenetic response:** 0% Ph+ metaphases.
- Monitoring: **qPCR for BCR-ABL transcripts** for molecular response.
- Common TKIs: **Imatinib, Dasatinib, Nilotinib**.

Q6. Thrombocytopenia with bleeding

Question

A **55-year-old woman** presents with **petechiae, ecchymosis, and gum bleeding**. No history of infection or trauma. Labs:

- Hb 11.5 g/dL
- WBC 10,000/μL
- Platelets 17 × 10^9/L
- No hepatosplenomegaly

What is the most likely diagnosis?

Options

a. Disseminated intravascular coagulation (DIC)
b. Hemolytic uremic syndrome (HUS)
c. Immune thrombocytopenia (ITP)
d. Thrombotic thrombocytopenic purpura (TTP)

Answer

✅ **c. Immune thrombocytopenia (ITP)**

Reasoning

- Features: **isolated thrombocytopenia**, normal WBC & Hb, bleeding symptoms.
- DIC → abnormal coagulation (PT, aPTT), schistocytes on smear.
- HUS → usually **renal failure**, anemia, and thrombocytopenia.
- TTP → pentad: **thrombocytopenia, microangiopathic hemolytic anemia, renal dysfunction, fever, neurological symptoms**.

High-Yield Points

- ITP is **autoimmune**, often in adults → platelets <30 ×10^9/L → risk of bleeding.
- Treatment: **corticosteroids, IVIG**, splenectomy if refractory.
- Labs: **isolated thrombocytopenia**, normal coagulation studies.

Q7. AML diagnosis confirmation

Question

A **50-year-old male** presents with **2 weeks of fatigue, fever, night sweats**, and **SOB on exertion**. Exam: pale conjunctiva, mild splenomegaly. Labs:

- Hb 8.5 g/dL
- RBC 3.5 million/μL
- WBC 40,000/μL with **40% blasts**
- Platelets 20 ×10^9/L

Which additional test is **most crucial to confirm AML**?

Options

a. Flow cytometry for myeloid blast markers
b. Immunophenotyping for surface markers on blasts
c. Cytogenetic analysis for chromosomal abnormalities
d. Molecular testing for gene mutations associated with AML
e. Bone marrow examination for morphological assessment of blasts

Answer

✅ **e. Bone marrow examination for morphological assessment of blasts**

Reasoning

- **AML diagnosis requires ≥20% myeloblasts in BM** or **presence of specific genetic abnormalities**.
- Peripheral blood may show blasts, but **bone marrow biopsy** confirms diagnosis.
- Flow cytometry and cytogenetics → supportive for **subtyping and prognosis**, not primary diagnosis.

High-Yield Points

- AML diagnosis: **≥20% myeloblasts in marrow**.
- Immunophenotyping → **subclassification (e.g., M0–M7)**.
- Cytogenetics → **t(8;21), inv(16), t(15;17)** for prognosis & treatment.

Q8. Delirium prevention in hospitalized cancer patients

Question

A **72-year-old patient with advanced cancer** is admitted. To **prevent delirium**, which of the following should be included in a **multicomponent non-chemotherapeutic intervention**?

Options

a. Administering sedatives to promote sleep
b. Encouraging family visits frequently
c. Providing cognitive stimulation via puzzles/games
d. Ensuring optimal hydration and nutrition

Answer

✅ **b, c, d** (**family support, cognitive stimulation, hydration/nutrition**)

Reasoning

- **Non-pharmacologic delirium prevention:**
    - **Orientation and cognitive stimulation**
    - **Adequate hydration and nutrition**
    - **Regular sleep–wake cycles**
    - **Family engagement** improves orientation
- Sedatives can **increase delirium risk**, avoid unless necessary.

High-Yield Points

- **Delirium risk factors:** age >65, cognitive impairment, infection, metabolic derangements, polypharmacy.
- **Multicomponent intervention** → most effective prevention strategy.
- **Early mobilization and sensory aids** (glasses/hearing aids) help.

Q9. Adverse predictors for lymphoma in Sjogren syndrome

Question

A **55-year-old woman** with **Sjogren syndrome** is anxious about her risk of developing lymphoma. Which of the following features is **NOT considered an adverse predictor** for lymphoma development in Sjogren syndrome?

Options

a. Presence of CD4 lymphopenia
b. Presence of persistent parotid gland enlargement
c. Presence of purpura
d. Presence of splenomegaly
e. Salivary flow rate < 1 mL/15 minutes

Answer

✅ **d. Presence of splenomegaly**

Reasoning

- **Adverse predictors for lymphoma in Sjogren syndrome include:**
    - Persistent **parotid gland enlargement**
    - **Purpura (vasculitis)**
    - **Low salivary flow rate**
    - **CD4 lymphopenia**
    - Lymphadenopathy
- **Splenomegaly** alone is **not a strong independent predictor** for lymphoma in Sjogren patients.

High-Yield Points

- **Sjogren syndrome** → autoimmune disease, affects exocrine glands.
- **Risk of lymphoma**: ~5% lifetime, mostly **marginal zone B-cell lymphoma**.
- **Monitoring**: persistent parotid swelling, purpura, lymphadenopathy → requires **biopsy** if suspicious.

Q1. Best test to confirm iron deficiency

Question

Which single test is the **most reliable for confirming iron deficiency**?

Options

a. Serum iron
b. Serum ferritin
c. Transferrin saturation
d. Hematocrit levels
e. Total iron-binding capacity (TIBC)

Answer

✅ **b. Serum ferritin**

Reasoning

- **Serum ferritin** reflects **iron stores**, making it the **most sensitive and specific test** for iron deficiency.
- Low ferritin (<30 ng/mL in adults) strongly indicates **iron deficiency**.
- Serum iron/TIBC fluctuate with inflammation, diet, or diurnal variation → less reliable alone.

High-Yield Points

- **Ferritin**: acute-phase reactant; may be elevated in infection/inflammation.
- **Other tests:**
    - Transferrin saturation <16% → supportive
    - Low serum iron + high TIBC → classic iron deficiency pattern.

Q2. Cause of anemia post-gastrectomy

Question

A patient underwent **partial gastrectomy 3 months ago** and now has **fatigue and exertional dyspnea**. CBC shows **Hb 10 g/dL**. What is the most probable cause of anemia?

Options

a. Iron deficiency anemia
b. Folate deficiency anemia
c. Vitamin B12 deficiency anemia
d. Anemia of chronic disease
e. Pernicious anemia

Answer

✅ **c. Vitamin B12 deficiency anemia**

Reasoning

- **Partial gastrectomy** → reduced **intrinsic factor production** → impaired **B12 absorption** → **megaloblastic anemia**.
- Folate deficiency may take shorter time, iron deficiency could occur if chronic bleeding.
- Pernicious anemia is autoimmune → intrinsic factor deficiency without surgery.

High-Yield Points

- **Vitamin B12 deficiency:** megaloblastic anemia, neurologic symptoms, glossitis.
- **Causes:** pernicious anemia, gastric surgery, malabsorption (e.g., Crohn's disease).
- **Labs:** high MCV, low B12, hypersegmented neutrophils.

Q3. Microcytic anemia with eosinophilia

Question

A **23-year-old male** presents with **tiredness and low energy**. CBC:

- Hb = 9.1 g/dL
- MCV = 65 fL (microcytic)
- WBC slightly raised with **high eosinophils**
  Blood film: microcytic hypochromic picture

What is the probable cause?

Options

a. Hookworm infestation
b. Blood loss
c. Celiac disease
d. Vitamin B12 deficiency
e. Thalassemia

Answer

✅ **a. Hookworm infestation**

Reasoning

- **Microcytic hypochromic anemia** + **eosinophilia** → parasitic infection (hookworm/strongyloides).
- Other causes: chronic blood loss → no eosinophilia; thalassemia → microcytosis but lifelong.
- Vitamin B12 → macrocytic.

High-Yield Points

- **Hookworm:** chronic blood loss → iron deficiency → microcytic anemia.
- **Eosinophilia** is a key clue for parasitic infections.

Q4. Macrocytosis with hypersegmented neutrophils

Question

Blood film shows **macrocytosis with poikilocytosis** and **neutrophils with >6 lobes**. Most probable diagnosis?

Options

a. Alcoholism
b. Hypothyroidism
c. Folate deficiency
d. Liver disease
e. Iron deficiency

Answer

✅ **c. Folate deficiency**

Reasoning

- **Macrocytosis + hypersegmented neutrophils** → megaloblastic anemia.

- Folate deficiency is common: **poor diet, malabsorption, pregnancy, alcohol**.
- Vitamin B12 deficiency shows similar picture but often with **neurological symptoms**.

High-Yield Points

- Folate deficiency → **megaloblastic anemia**, no neurologic symptoms.
- B12 deficiency → megaloblastic anemia + neuropathy.
- Hypersegmented neutrophils (>5 lobes) → hallmark of megaloblastic anemia.

Q5. Earliest parameter to improve with iron therapy

Question

Which parameter **improves first** after starting iron supplementation in iron deficiency anemia?

Options

a. Hemoglobin
b. Reticulocyte count
c. Cell size normalization
d. Feeling of well-being
e. Ferritin

Answer

✅ **b. Reticulocyte count**

Reasoning

- **Reticulocytosis occurs within 5–7 days** → first response to iron therapy.
- Hemoglobin rise → 1–2 g/dL per week after reticulocyte surge.
- Cell size (MCV) takes weeks to normalize.
- Ferritin → rises later as iron stores replenish.

High-Yield Points

- Reticulocyte index → earliest marker of response in **iron deficiency anemia**.
- Clinical improvement often follows hematologic response.

Q6. Initial treatment for iron deficiency anemia

Question

A **27-year-old female** presents with **intermittent dysphagia, pallor, angular cheilitis, glossitis**. What is the **initial treatment**?

Options

a. Vitamin supplements
b. Iron supplements
c. Esophageal dilation
d. Esomeprazole
e. Folic acid supplements

Answer

✅ **b. Iron supplements**

Reasoning

- Iron deficiency → **glossitis, angular cheilitis, pallor**.
- Dysphagia may indicate **Plummer-Vinson syndrome** (iron deficiency + esophageal webs).
- Initial treatment = **oral iron supplementation**.

High-Yield Points

- **Plummer-Vinson syndrome:** iron deficiency, dysphagia, esophageal webs.
- Treat iron deficiency → resolves symptoms and prevents complications like carcinoma.

Q7. Next step in adult iron deficiency anemia

Question

A **51-year-old male** with **iron deficiency anemia** presents with **exertional dyspnea**. What is the next best step?

Options

a. Upper GI endoscopy
b. Fecal occult blood test
c. Colonoscopy
d. CT abdomen
e. Routine urine exam

Answer

✅ **a. Upper GI endoscopy**

Reasoning

- Adult males/adults >50 with **iron deficiency anemia** → always investigate for **GI blood loss**.
- Upper GI source (ulcer, cancer) common → start with **endoscopy**.
- Colonoscopy if lower GI symptoms or as follow-up.

High-Yield Points

- **Iron deficiency in adult men/women post-menopause = malignancy until proven otherwise**.
- Investigate **upper and lower GI tract** systematically.

Q8. Earliest neurological sign of B12 deficiency

Question

Which is the **earliest neurological manifestation** of **cobalamin (B12) deficiency**?

Options

a. Motor weakness
b. Ataxia
c. Paresthesia in lower limbs
d. Dementia
e. Psychosis

Answer

✅ **c. Paresthesia in lower limbs**

Reasoning

- Early sign → **paresthesia**, numbness, tingling (especially **feet** → **hands**, glove/stocking).
- Motor weakness, ataxia appear later.
- Advanced deficiency → **dementia, psychosis**.

High-Yield Points

- **Vitamin B12 deficiency neuropathy:** symmetrical, distal, dorsal column involvement → **vibration/position sense loss**, **paresthesia**.
- Early recognition prevents **irreversible neurologic damage**.

Q9. Hemolytic anemia post-primaquine

Question

A **23-year-old male** was treated for malaria with **primaquine 4 days ago**. Now he presents with **jaundice and fatigue**. Labs show:

- Hb = 8.1 g/dL (**normocytic, normochromic**)
- Bilirubin = 4.1 mg/dL
- ALT = 24, ALP = 1.2
- **G6PD levels are normal**
  Peripheral smear shows **bite cells**.

What is the **probable diagnosis**?

Options

a. Plasmodium falciparum
b. Mycoplasma
c. G6PD deficiency anemia
d. Hereditary spherocytosis
e. Dubin-Johnson syndrome

Answer

✅ **d. Hereditary spherocytosis**

Reasoning

- **Bite cells** = hallmark of **splenic removal of abnormal RBCs**.
- **G6PD deficiency** is unlikely here as G6PD levels are normal.
- Post-primaquine **hemolysis in normal G6PD patients** is rare.
- Hereditary spherocytosis → intrinsic RBC membrane defect → hemolysis → jaundice, fatigue.
- Lab findings: **normocytic hemolytic anemia, indirect hyperbilirubinemia, bite cells**.

High-Yield Points

- **Bite cells → splenic macrophage removes Heinz bodies or damaged RBCs**.
- **Other hemolytic anemias:** G6PD → bite cells + low enzyme.
- **Hereditary spherocytosis:** positive osmotic fragility test, often mild anemia, splenomegaly.

Q10. Suspected pernicious anemia

Question

A **25-year-old female** presents with **weakness, anorexia, sore tongue for 3 months**. Exam shows **pallor, jaundice, smooth tongue, multiple white skin patches**.

Which test will **confirm the suspected diagnosis**?

Options

a. Peripheral blood smear
b. Serum bilirubin
c. Intrinsic factor antibodies
d. Anti-parietal cell antibodies
e. Serum folate levels

Answer

✅ **c. Intrinsic factor antibodies**

Reasoning

- Classic **pernicious anemia** → autoimmune **B12 deficiency**.
- **Intrinsic factor antibodies** are **diagnostic**.
- Anti-parietal cell antibodies → supportive but **less specific**.
- Labs: macrocytosis, hypersegmented neutrophils, elevated indirect bilirubin.

High-Yield Points

- Pernicious anemia → B12 deficiency → **megaloblastic anemia + neurological symptoms**.
- Skin manifestations → vitiligo or hyperpigmentation.
- Treat with **parenteral B12**.

Q11. Schistocytes: which is NOT a cause

Question

A patient with **anemia and jaundice** has **3% fragmented RBCs (schistocytes)** on peripheral smear. Which of the following is **NOT a cause**?

Options

a. Hemolytic uremic syndrome (HUS)
b. Thrombotic thrombocytopenic purpura (TTP)

c. Mechanical heart valves
d. G6PD deficiency

Answer

✅ **d. G6PD deficiency**

Reasoning

- **Schistocytes** → RBC fragments due to **mechanical damage or microangiopathy**.
- Causes: **HUS, TTP, mechanical valves, DIC**.
- **G6PD deficiency** → bite cells, Heinz bodies, not schistocytes.

High-Yield Points

- **Schistocytes >1%** → microangiopathic hemolytic anemia.
- **Bite cells** → oxidant damage (G6PD).
- Always check **reticulocyte count** and LDH.

Q13. Pancytopenia with normocytic normochromic anemia

Question

A **25-year-old male** presents with **weakness and epistaxis**. CBC shows:

- Hb = 7.1 g/dL
- WBC = 1200 /µL
- Platelets = 30,000 /µL
- Reticulocytes = 1%
- Peripheral smear: normocytic normochromic
- No hepatosplenomegaly or lymphadenopathy

What is the diagnosis?

Options

a. Aplastic anemia
b. Acute leukemia
c. Myelofibrosis
d. Hemolytic anemia

Answer

✅ **a. Aplastic anemia**

Reasoning

- **Pancytopenia with low reticulocytes** → **hypocellular marrow** → aplastic anemia.
- Normocytic anemia without splenomegaly supports **marrow failure**, not hemolysis or leukemia.
- Myelofibrosis → splenomegaly and teardrop RBCs.

High-Yield Points

- Causes of aplastic anemia → idiopathic, drugs (chloramphenicol, sulfonamides), viral infections.
- Complications: **infection, bleeding** → main causes of death.

Q14. Most common cause of death in aplastic anemia

Question

What is the **most common cause of death** in aplastic anemia?

Options

a. Sepsis
b. Bleeding
c. Heart failure due to anemia
d. Kidney failure
e. Megaloblastic anemia

Answer

✅ **a. Sepsis**

Reasoning

- Severe **neutropenia** → **infection** → most common cause of death.
- Bleeding → second most common due to thrombocytopenia.

High-Yield Points

- Early **broad-spectrum antibiotics** are lifesaving in aplastic anemia.
- Supportive care: transfusions, infection control, immunosuppressive therapy.

Q15. Hepatic vein thrombosis with polycythemia

Question

A **43-year-old man** presents with **abdominal discomfort, weight gain, plethoric complexion**. Labs:

- Hb = 18.9 g/dL, WBC = 9,000, Platelets = 450,000
- ALT = 84, AST = 107, Bilirubin = 2.1
- Doppler: **hepatic vein thrombosis**

What is the **most likely underlying abnormality**?

Options

a. JAK2 mutation
b. CT abdomen
c. Flow cytometry for CD55/CD59
d. Lupus anticoagulant
e. Erythropoietin levels

Answer

✅ **a. JAK2 mutation**

Reasoning

- Clinical features → **polycythemia vera** (high Hb, plethoria, thrombosis).
- Hepatic vein thrombosis → **Budd-Chiari syndrome** secondary to PV.
- **JAK2 mutation** → diagnostic marker for **myeloproliferative neoplasm**.

High-Yield Points

- Polycythemia vera → risk of **thrombosis, bleeding, transformation to myelofibrosis**.
- Workup: CBC, JAK2 mutation, bone marrow biopsy, erythropoietin levels.

Q12. B12 deficiency treatment duration

Question

A **49-year-old female** presents with **burning feet, ataxia, macrocytosis, hypersegmented neutrophils**. Labs: B12 deficiency.

How long should treatment be given?

Options

a. 3 months
b. 6 months
c. 9 months
d. 12 months
e. Life-long

Answer

✅ **e. Life-long**

Reasoning

- **Cobalamin (B12) deficiency** due to **pernicious anemia** → life-long deficiency → requires **life-long parenteral B12 replacement**.

High-Yield Points

- **Neurological symptoms** improve slowly.
- Oral B12 can be considered if absorption intact.
- Monitor **CBC and B12 levels** periodically.

Q16. Pancytopenia in RA patient

Question

A patient with **RA on methotrexate and sulfasalazine** develops **fatigue, splenomegaly, rheumatoid nodules**. Labs:

- Hb = 7.5 g/dL
- WBC = 2,000 /µL
- Platelets = 75,000 /µL

Most probable diagnosis?

Options

a. Felty's syndrome
b. Aplastic anemia
c. Iron deficiency anemia
d. Methotrexate-induced pancytopenia
e. Sulfasalazine-induced pancytopenia

Answer

✅ **a. Felty's syndrome**

Reasoning

- **RA + splenomegaly + neutropenia** → Felty's syndrome.
- Felty's → autoimmune neutropenia, anemia, thrombocytopenia.

- Drug-induced pancytopenia → consider history and timing, but splenomegaly points to Felty's.

High-Yield Points

- Felty's syndrome → risk of **infection** due to neutropenia.
- Treat underlying RA, sometimes splenectomy or G-CSF for severe neutropenia.

Q17. Platelets and clotting factors

Question

Platelets in a wound form a **hemostatic clot** and release **clotting factors** to produce:

Options

a. Fibrin
b. Fibrinogen
c. Fibroblast
d. Thrombin
e. Thromboplastin

Answer

✅ **a. Fibrin**

Reasoning

- Platelets release **clotting factors**, activating the **coagulation cascade**.
- Fibrin is the **final product** that stabilizes the platelet plug.
- Fibrinogen → precursor of fibrin.
- Thrombin → converts fibrinogen to fibrin.
- Thromboplastin → initiates extrinsic pathway.

High-Yield Points

- **Primary hemostasis:** platelet plug formation.

- **Secondary hemostasis:** coagulation cascade → fibrin mesh.
- **Fibrin + platelets → stable clot**.

Q18. Secondary intention wound healing

Question

A patient suffers a **deep, 6 cm thigh abrasion**, which becomes **infected**. The surgeon plans **healing by secondary intention**.

The resultant scar is likely to be:

Options

a. Thin and easily broken
b. Thick and vascular
c. Thick, avascular, and resistant to trauma
d. Of nominal thickness, but without sensation
e. All of the above

Answer

✅ **b. Thick and vascular**

Reasoning

- **Secondary intention** → wound edges not approximated → **granulation tissue fills defect**.
- Scar → **thicker, vascular**, more contracture.
- Not avascular; vascularity is higher initially.

High-Yield Points

- **Primary intention:** edges sutured → thin, less vascular scar.
- **Secondary intention:** risk of hypertrophic/contracted scar.
- **Infected wounds:** heal slower, more granulation tissue.

Q1. Back pain, SOB, previous fracture

Question

A **64-year-old male** presents with **backache and SOB**. History of **femur fracture last year**, taking painkillers intermittently. Exam: **anemia, temp 101**, signs of **consolidation anteriorly**.

Which is the **correct diagnostic option**?

Options

a. Serum protein electrophoresis
b. CD55/59 flow cytometry
c. Osmotic fragility test
d. Coombs test
e. FISH for Ph chromosomes

Answer

✅ **a. Serum protein electrophoresis**

Reasoning

- Older patient, anemia, fractures, back pain → **multiple myeloma suspected**.
- **SPEP** → detects **monoclonal protein spike**.
- Other tests unrelated: CD55/59 → PNH, osmotic fragility → spherocytosis, Coombs → autoimmune hemolysis.

High-Yield Points

- Multiple myeloma → **lytic bone lesions, anemia, renal disease**.
- SPEP is **screening test**, immunofixation confirms type of M-protein.

Q2. Neck swelling, fever, weight loss

Question

A **50-year-old policeman** presents with:

- Neck swelling 2 months
- Fever, sweating, body aches, weight loss
- Anemia, petechiae, temp 103°F
- Enlarged cervical lymph nodes

Which **diagnostic workup** is most appropriate?

Options

a. Blood culture
b. Peripheral smear
c. FDP and D-dimers
d. MRI brain
e. Ultrasound abdomen

Answer

✅ **b. Peripheral smear**

Reasoning

- Symptoms suggest **hematologic malignancy (leukemia/lymphoma)**.
- Peripheral smear → initial **screening for abnormal cells/blasts**.
- Blood culture → infection, FDP → DIC, MRI → CNS pathology, US → abdomen lymph nodes only.

High-Yield Points

- **B symptoms:** fever, night sweats, weight loss → lymphoma.
- Initial workup → **CBC + peripheral smear**.

Q3. Abdominal discomfort, splenomegaly, lymphadenopathy

Question

A **52-year-old** presents with **abdominal discomfort**, **splenomegaly**, and **para-aortic lymph nodes enlargement** on ultrasound.

Most likely diagnosis?

Options

a. Lymphoma
b. CML
c. Malaria

Answer

✅ **a. Lymphoma**

Reasoning

- **Lymphadenopathy + splenomegaly + abdominal discomfort** → lymphoma most likely.
- CML → hepatosplenomegaly, high WBC, chronic symptoms.
- Malaria → acute febrile illness, not lymphadenopathy.

High-Yield Points

- **Para-aortic lymph nodes** often involved in **non-Hodgkin's lymphoma**.
- Imaging + biopsy → diagnosis.

Q4. Lady with bleeding, petechiae, dark urine

Question

A 49-year-old female presents with **nosebleeds, petechiae, dark urine**. She was counseled for **splenectomy**. She also has **shortness of breath**.

Correct regarding diagnosis?

Options

a. Hereditary spherocytosis
b. ITP
c. TTP
d. PNH
e. Aplastic anemia

Answer

✅ **d. PNH (Paroxysmal Nocturnal Hemoglobinuria)**

Reasoning

- **Hemolysis, hemoglobinuria, thrombosis** → PNH.
- Splenectomy → not curative.
- Lab: flow cytometry for **CD55/CD59 deficiency** confirms PNH.

High-Yield Points

- PNH → **complement-mediated RBC lysis**.
- Classic triad: hemolysis, pancytopenia, thrombosis.

Q5. Student with knee/thigh swelling and congenital hematologic problem

Question

A **22-year-old student** presents with **knee and thigh swelling**, history of **hematological problem since birth**.

Diagnosis?

Options

a. Sickle cell disease
b. Von Willebrand Disease
c. Congenital aplastic anemia
d. Hemophilia
e. DIC

Answer

✅ **d. Hemophilia**

Reasoning

- Male patient, **hemarthroses** → hemophilia A/B.
- History since birth supports **congenital bleeding disorder**.
- Von Willebrand → mucocutaneous bleeding, not joint swelling.

High-Yield Points

- Hemophilia → X-linked recessive → **joint bleeds (knees, elbows, ankles)**.
- Treat with **factor replacement**.

Q6. Elderly gentleman with fatigue, mild splenomegaly, lymphocytosis

Question

A 70-year-old man presents with **fatigue**, mild **splenomegaly**, Hb = 8 g/dL, **lymphocytes 58%**, platelets normal.

Diagnosis?

Options

a. All
b. CML
c. Hodgkin's Lymphoma
d. Non-Hodgkin's Lymphoma
e. Multiple Myeloma

Answer

✅ **b. CML**

Reasoning

- Chronic fatigue, mild splenomegaly, leukocytosis with **lymphocytosis** → CML or leukemoid reaction.

- Age >65 → commonly **CML or lymphoproliferative disorder**.
- Requires **CBC, peripheral smear, BCR-ABL testing**.

High-Yield Points

- CML → BCR-ABL positive, treated with **TKIs**.
- Chronic phase often asymptomatic except fatigue/splenomegaly.

Q9. Microcytic anemia in a young male

Question

A **20-year-old student** presents with **pallor**. CBC shows:

- Hb = 9 g/dL
- MCV = 60 fL
- RBC count = 5 million/μL

Most likely diagnosis?

Options

a. Iron deficiency anemia
b. Thalassemia
c. Myelodysplasia
d. Myelofibrosis
e. Vitamin B12 deficiency

Answer

✅ **b. Thalassemia**

Reasoning

- **Microcytic anemia (MCV <80 fL)** with **high RBC count** → Thalassemia trait.
- Iron deficiency anemia → low RBC count, low Hb, high RDW.

- B12 deficiency → macrocytic anemia.
- Myelofibrosis → pancytopenia, teardrop cells.
- Myelodysplasia → usually older adults with cytopenias.

High-Yield Points

- **Microcytosis + high RBC → think thalassemia**.
- **Microcytosis + low RBC → think iron deficiency**.
- **Mentzer index** = MCV/RBC; <13 → thalassemia, >13 → iron deficiency.

Q10. Bilateral cervical lymphadenopathy

Question

A **27-year-old teacher** presents with a referral mentioning **bilateral cervical lymphadenopathy**.

Most appropriate next step?

Options

a. Lymph node biopsy
b. Detailed history and examination
c. Ultrasound neck
d. FNAC
e. Refer to ENT

Answer

✅ **b. Detailed history and examination**

Reasoning

- **Initial step in lymphadenopathy**: **history + physical exam** to check duration, systemic symptoms, infection signs, malignancy risk.
- Imaging/biopsy/FNAC comes **after suspicion arises**.

High-Yield Points

- Lymphadenopathy <2 cm, soft, mobile → usually reactive.
- **Red flags:** firm, non-tender, supraclavicular, progressive → biopsy.
- Workup: CBC, ESR, infection screen if indicated.

Q11. Resolving hematomas, normal labs

Question

A **32-year-old housewife** has **resolving hematomas on shins** intermittently. Labs are normal.

Most likely diagnosis?

Options

a. Idiopathic Thrombocytopenic Purpura (ITP)
b. Hemophilia A
c. Henoch-Schonlein Purpura
d. Scurvy
e. Easy Bruising Syndrome

Answer

✅ **e. Easy Bruising Syndrome**

Reasoning

- Normal labs → **not platelet/ clotting factor disorder**.
- Easy bruising syndrome → benign, often familial or psychosomatic.
- ITP → low platelet count.
- Hemophilia → males, hemarthroses.
- Scurvy → vitamin C deficiency, other systemic signs.

High-Yield Points

- Easy bruising → **benign**, avoid unnecessary intervention.
- Always rule out **coagulopathy, platelet disorders**.

Q12. Acute MI with pancytopenia

Question

A **40-year-old clerk** presents with **acute MI** and **pancytopenia**. No hypertension, diabetes, or smoking history.

Most likely diagnosis?

Options

a. Aplastic anemia
b. Myeloproliferative disorder
c. Lymphoproliferative disorder
d. Paroxysmal nocturnal hemoglobinuria (PNH)
e. G6PD deficiency

Answer

✅ **a. Aplastic anemia**

Reasoning

- Pancytopenia → decreased RBC, WBC, platelets → **aplastic anemia**.
- Acute MI can rarely occur due to **anemia-induced myocardial hypoxia**.
- Myeloproliferative disorder → usually elevated counts.
- PNH → hemolysis, not pancytopenia primarily.

High-Yield Points

- **Aplastic anemia**: pancytopenia, hypocellular bone marrow, no abnormal cells.
- Causes: idiopathic, drugs (chloramphenicol, chemo), viral infections.

- Symptoms: **fatigue, infections, bleeding**.

Q1. SM 60 with weakness and dragging sensation in left hypochondrium

Question

A 60-year-old male presents with **weakness**, **SOB**, dragging sensation in **left hypochondrium**, low Hb, and a **leucoerythroblastic picture** on peripheral smear.

Which **clinical sign** is most suggestive of the diagnosis?

Options

a. Generalized lymphadenopathy
b. Hepatomegaly
c. Jaundice
d. Massive splenomegaly
e. Severe anemia

Answer

✅ **d. Massive splenomegaly**

Reasoning

- **Leucoerythroblastic picture** (immature RBCs + WBCs) → **myelophthisic process**.
- Massive splenomegaly → common in **myelofibrosis** or **CML**.
- Dragging sensation in left hypochondrium → spleen enlargement.

High-Yield Points

- **Myelophthisic anemia** → bone marrow infiltration → teardrop RBCs.
- Massive splenomegaly → dragging sensation in left hypochondrium.

Q2. 40-year-old female with SOB, palpitation, weakness

Question

A **40-year-old female** presents with **SOB, palpitation, weakness**. Exam: pale, koilonychia. Peripheral smear: **microcytic anemia**.

Type of anemia?

Options

a. Anemia of chronic disorder
b. Autoimmune hemolytic anemia
c. Hemolytic anemia
d. Iron deficiency anemia
e. Megaloblastic anemia

Answer

✅ **d. Iron deficiency anemia**

Reasoning

- Microcytic anemia with **koilonychia** → classic iron deficiency.
- Causes: chronic blood loss (GI, menstruation).
- Labs: low Hb, low MCV, low ferritin.

High-Yield Points

- Microcytic anemia: **iron deficiency, thalassemia, anemia of chronic disease**.
- Koilonychia = long-standing iron deficiency.
- Peripheral smear: **microcytic hypochromic** RBCs.

Q6. Young male with anemia, jaundice, and bone pain

Question

Mr. KJ, **24 years old**, presents with:

- Shortness of breath, palpitations, and weakness of long duration

- Episodes of severe generalized bone pain and fever requiring hospital admission

Examination: young, thin, moderately anemic, jaundiced. Labs:

- Hb = 7.5 g/dL
- Indirect hyperbilirubinemia
- Reticulocyte count = 5%

Most likely diagnosis?

Options

a. Alpha thalassemia
b. Hereditary spherocytosis
c. Sickle cell anemia
d. Thalassemia
e. Thalassemia trait

Answer

✅ **c. Sickle cell anemia**

Reasoning

- **Chronic hemolytic anemia** → pallor, jaundice, high reticulocytes.
- **Recurrent painful crises (bone pain)** → hallmark of **sickle cell anemia**.
- Alpha thalassemia trait → usually asymptomatic, mild anemia.
- Hereditary spherocytosis → anemia, jaundice, splenomegaly, but **pain crises rare**.
- Thalassemia major → severe anemia, usually presents in childhood.
- Thalassemia trait → mild microcytosis, mostly asymptomatic.

High-Yield Points

- Sickle cell anemia: HbSS genotype, **hemolytic anemia + vaso-occlusive crises**.

- Labs: low Hb, reticulocytosis, indirect hyperbilirubinemia.
- Complications: infection susceptibility, stroke, acute chest syndrome.

Q7. Roentgen (R) exposure

Question

The **Roentgen (R)** measures:

Options

a. Tissue
b. Water
c. A lab
d. Air
e. None

Answer

✅ **d. Air**

Reasoning

- Roentgen = **unit of radiation exposure in air**, measures ionization produced in **air**.
- Not tissue dose or water.

High-Yield Points

- **Rad** = absorbed dose in tissue.
- **Rem** = biological effect.
- 1 Roentgen ≈ 0.01 Gy in tissue (air ionization reference).

Q8. Male with petechiae, easy bruising, and epistaxis

Question

A **43-year-old male** presents with:

- Petechiae, easy bruising, epistaxis
- Labs: Hb 11 g/dL, platelets 23,000/μL
- Positive family history (mother with similar symptoms)

Most likely diagnosis?

Options

a. Immune thrombocytopenic purpura (ITP)
b. Thrombotic thrombocytopenic purpura (TTP)
c. Hemophilia A
d. Von Willebrand disease
e. Hemophilia B

Answer

✅ **d. Von Willebrand disease**

Reasoning

- Autosomal inheritance (mother affected) → **vWD** likely.
- Mild/moderate thrombocytopenia, mucocutaneous bleeding.
- ITP → usually **isolated thrombocytopenia**, acquired.
- Hemophilia A/B → X-linked, males only, joint bleeds.
- TTP → acute, hemolysis, fever, neurological symptoms.

High-Yield Points

- vWD: **most common inherited bleeding disorder**, autosomal dominant.
- Bleeding type: **mucocutaneous** (nose, gums, easy bruising).
- Lab: prolonged **bleeding time**, APTT may be prolonged.

Q9. Cytochemical stain in ALL

Question

An **8-year-old** with fever, bone pain, epistaxis, lymphadenopathy, and hepatosplenomegaly. Peripheral smear shows **blast cells**; bone marrow cytochemistry done.

Which stain will be positive in **acute lymphoblastic leukemia (ALL)**?

Options

a. Acid phosphatase
b. Nonspecific esterase
c. Periodic acid shift (PAS)
d. Peroxidase
e. Sudan black

Answer

✅ **c. Periodic acid-Schiff (PAS)**

Reasoning

- **ALL blasts** → PAS positive (blocky or granular staining).
- AML → Sudan black or peroxidase positive.
- Nonspecific esterase → monocytic lineage.

High-Yield Points

- **ALL cytochemistry**: PAS +, Sudan black –.
- Immunophenotyping (flow cytometry) confirms B-ALL/T-ALL.
- Children → most common leukemia, peak 2–5 years.

Q10. 5-year-old child with bleeding and swollen knee

Question

- Recurrent bleeding from various sites
- Swollen knee joint, no trauma
- Past history: prolonged bleeding after circumcision, profuse bleeding from minor cuts
- Labs: bleeding time normal, PT normal, APTT prolonged, platelets normal

Most likely diagnosis?

Options

a. Hemophilia
b. Von Willebrand disease
c. ITP
d. Henoch-Schonlein purpura
e. DIC

Answer

✅ **a. Hemophilia**

Reasoning

- **X-linked disorder** → male child
- **Prolonged APTT**, normal PT → intrinsic pathway deficiency (Factor VIII = Hemophilia A, IX = Hemophilia B)
- Normal platelets & bleeding time → rules out vWD & ITP

High-Yield Points

- Hemophilia A = factor VIII deficiency; B = IX
- Severe hemophilia → spontaneous hemarthroses
- Management: **factor replacement therapy**

Q11. Lab test for Hemophilia A

Question

6-year-old boy with recurrent joint bleeds and easy bruising; maternal uncle affected.

Most indicative lab test for Hemophilia A?

Options

a. Prolonged PT
b. Prolonged APTT
c. Normal PT and APTT
d. Thrombocytopenia
e. None of these

Answer

✅ **b. Prolonged APTT**

Reasoning

- Hemophilia → intrinsic pathway defect → prolonged APTT
- PT normal, platelet count normal

High-Yield Points

- Hemophilia A = Factor VIII deficiency
- Hemophilia B = Factor IX deficiency
- Classic presentation: male child, bleeding, family history

Q12. Young boy with fever, weight loss, pallor, hepatosplenomegaly

Question

- Month-long fever, weight loss
- Pale, hepatosplenomegaly, lymphadenopathy
- Labs: Hb 8, TLC 56,000, platelets 74,000, blasts present

Provisional diagnosis: acute leukemia

Most appropriate next step?

Options

a. Start chemotherapy urgently
b. Bone marrow examination and refer to oncologist
c. Start radiotherapy and counsel parents
d. Flow cytometry
e. Refer to oncologist

Answer

✅ **b. Bone marrow examination and refer to oncologist**

Reasoning

- Confirm diagnosis **before starting chemotherapy**
- Flow cytometry comes after bone marrow to classify leukemia
- Urgent chemo without confirmation → not standard
- Radiotherapy not first-line for ALL

High-Yield Points

- **Acute leukemia in children** → ALL most common
- Diagnosis → **CBC, peripheral smear, bone marrow, immunophenotyping**
- Management → **refer to pediatric oncologist**

Q13. 25-year-old man with fever, night sweats, and lymphadenopathy

Question

A 25-year-old man presents with:

- Fever, night sweats, and **painless cervical swellings**
- Pale appearance, **bilateral cervical lymphadenopathy**

- Spleen enlarged 3 cm below costal margin

Labs & Imaging:

- Hb normal, ESR 70 mm/1st hr
- TLC 13,000/cumm with **increased eosinophils**
- Peripheral smear: **leucoerythroblastic picture**
- Chest X-ray: **widened mediastinum**

What is the most likely diagnosis?

Options

a. Acute myeloid leukemia
b. Chronic lymphocytic leukemia
c. Hodgkin's disease
d. Multiple myeloma
e. Polycythemia rubra vera

Answer

✅ **c. Hodgkin's disease**

Reasoning

- **B symptoms**: Fever, night sweats, weight loss → classic for Hodgkin lymphoma
- **Painless lymphadenopathy** → hallmark
- **Splenomegaly** and **widened mediastinum** support diagnosis
- Leucoerythroblastic picture and eosinophilia are supportive features
- AML/CLL → usually abnormal Hb, WBC abnormalities, not typical mediastinal mass
- Multiple myeloma → older age, bone pain, lytic lesions
- Polycythemia → elevated Hb, no lymphadenopathy

High-Yield Points

- Hodgkin's lymphoma: **Reed-Sternberg cells** confirm diagnosis (on biopsy)
- Common in young adults (15–35 years)
- Staging: **Ann Arbor system**
- Treatment: ABVD chemotherapy

Q14. 10-year-old child with fatigue, weakness, petechiae

Question

A 10-year-old child presents with:

- Fatigue, weakness, dizziness, frequent infections (8 months)
- Pale, lethargic, **petechiae all over body**
- No hepatosplenomegaly or lymphadenopathy

What investigation will you do to reach the diagnosis?

Options

a. Bone marrow aspiration and biopsy
b. Complete blood count
c. Peripheral smear
d. Ferritin level
e. Hb electrophoresis

Answer

✅ **a. Bone marrow aspiration and biopsy**

Reasoning

- Pancytopenia suggested by symptoms → need **bone marrow examination**
- CBC alone → nonspecific
- Peripheral smear → supportive but not definitive

- Ferritin/Hb electrophoresis → rule out specific causes, not diagnostic

High-Yield Points

- **Aplastic anemia** → marrow hypocellularity
- Common causes: idiopathic, drugs, infections, autoimmune
- Clinical: pallor, petechiae, infections

Q15. 50-year-old male with massive splenomegaly

Question

Mr. SK, 50 years old, presents with:

- Lethargy, weakness, heaviness in left hypochondrium
- Examination: **massive splenomegaly**
- Labs: Hb 12 g/dL, TLC 120,000/cumm, **left-shifted myeloid series** (neutrophils, metamyelocytes, myelocytes)

What is the best treatment option?

Options

a. Bone marrow transplant
b. Hydroxyurea
c. Myleran
d. Radiotherapy
e. None

Answer

✅ **b. Hydroxyurea**

Reasoning

- Chronic myeloid leukemia (CML) → leukocytosis with left shift, massive splenomegaly

- Hydroxyurea → **cytoreductive therapy** to control WBC before definitive TKI therapy
- Bone marrow transplant → definitive cure, usually for younger/high-risk patients
- Myleran (busulfan) → older therapy, less preferred now
- Radiotherapy → for symptomatic splenomegaly only

High-Yield Points

- CML → Philadelphia chromosome (BCR-ABL fusion)
- Labs: leukocytosis, left shift, basophilia
- First-line therapy → **Tyrosine kinase inhibitors** (Imatinib, Dasatinib)

Q16. Pregnant woman with anemia

Question

A woman, **Gravida 6 Para 5**, presents with:

- Dizziness, easy fatigability, inability to do household work
- Labs: all red indices below normal, **serum ferritin = 5 ng/dL**

Most likely diagnosis?

Options

a. Iron deficiency anemia
b. Megaloblastic anemia
c. Pernicious anemia
d. Thalassemia trait
e. Sickle cell anemia

Answer

✅ **a. Iron deficiency anemia**

Reasoning

- Low ferritin → **definitive marker of iron deficiency**
- Red indices low → microcytic, hypochromic
- Pregnancy + multiparity → risk factor for iron deficiency
- Megaloblastic anemia → macrocytic, high MCV
- Pernicious anemia → rare in pregnancy
- Thalassemia trait → lifelong, no ferritin drop

High-Yield Points

- Iron deficiency anemia → **most common anemia worldwide**
- Labs: low ferritin, low Hb, microcytosis, hypochromia
- Treatment: oral iron (ferrous sulfate) with vitamin C

Q17. Patient with anemia, jaundice, and splenomegaly

Question

A patient presents **pale, icteric**, moderately enlarged spleen.

Which investigation confirms the diagnosis?

Options

a. Bone marrow examination
b. Hemoglobin electrophoresis
c. Peripheral smear
d. RBC fragility test
e. Reticulocyte count

Answer

✅ **b. Hemoglobin electrophoresis**

Reasoning

- Chronic hemolysis with anemia, splenomegaly → suspect **hemoglobinopathy**
- Hemoglobin electrophoresis → confirms **sickle cell disease, thalassemia**
- Peripheral smear → supportive (target cells, sickle cells)
- RBC fragility → for hereditary spherocytosis
- Reticulocyte count → supportive, not diagnostic

High-Yield Points

- Hemoglobinopathies → high prevalence in certain regions
- Sickle cell → HbS on electrophoresis
- Thalassemia → HbA2/HbF patterns

Q18. 40-year-old IV drug user with fever and splinter hemorrhages

Question

A 40-year-old male IV drug abuser presents with:

- Fever 1 month, intermittent, mild shortness of breath
- On exam: **BP 110/70 mmHg, pulse 105 bpm, temp 100°F**
- Hands: **reddish-brown dots under nails (splinter hemorrhages)**
- Chest: clear, CVS: systolic murmur

Which investigation should you do first?

Options

a. Urine R/E
b. Chest X-ray lateral view
c. Coronary angiography
d. Echocardiography
e. Nuclear perfusion scan

Answer

✅ **d. Echocardiography**

Reasoning

- Suspected **infective endocarditis** → murmur + splinter hemorrhages + fever + IV drug use
- **Echocardiography** → identifies **vegetations**
- Chest X-ray → only supportive
- Coronary angiography → unrelated
- Urine R/E → nonspecific
- Nuclear scan → not first-line

High-Yield Points

- **IE (Infective Endocarditis)** → IV drug users, tricuspid valve often affected
- Duke criteria: fever, positive blood cultures, echo findings
- Complications: septic emboli, heart failure

Q19. 40-year-old man with fever and sudden vision loss

Question

- Fever, sudden loss of vision in right eye
- Pale, febrile, large bruise at venipuncture site
- Retinal hemorrhage on exam
- Labs: TLC 35,000/cmm, neutrophils 30%, lymphocytes 10%, platelets scanty, **60% blasts**

Which test will confirm the diagnosis?

Options

a. Bone marrow aspiration
b. Bone marrow trephine biopsy
c. Peripheral smear
d. Platelet count
e. Prothrombin time

Answer

✅ **a. Bone marrow aspiration**

Reasoning

- High blasts on CBC → suggest **acute leukemia**
- Bone marrow aspiration → definitive diagnosis
- Peripheral smear → supportive, not confirmatory
- Trephine biopsy → useful if aspiration fails
- Platelet count/PT → only supportive

High-Yield Points

- AML → more common in adults
- CBC: pancytopenia or leukocytosis, circulating blasts
- Bone marrow: **>20% blasts** confirms diagnosis

Q20. Gravida 6 Para 5 woman with anemia

Question

A woman, **Gravida 6 Para 5**, presents to the antenatal clinic with:

- Dizziness, easy fatigability, inability to do household work
- She is married to her cousin; husband is jobless

Labs:

- All red cell indices are **below normal**
- **Serum ferritin = 5 ng/dL**

What is the most likely diagnosis?

Options

a. Iron deficiency anemia
b. Megaloblastic anemia
c. Pernicious anemia
d. Thalassemia trait
e. Sickle cell anemia

Answer

✅ **a. Iron deficiency anemia**

Reasoning

- Low ferritin (<15 ng/dL) → **diagnostic for iron deficiency**
- Microcytic, hypochromic anemia in pregnancy → common due to high iron demand
- Multiparity, poor nutrition → risk factor
- Megaloblastic anemia → macrocytic, high MCV
- Thalassemia trait → lifelong microcytosis but ferritin usually normal
- Sickle cell anemia → hemolytic anemia, not ferritin-deficient

High-Yield Points

- **Iron deficiency anemia**: most common anemia worldwide
- Labs: low Hb, low MCV, low ferritin, high TIBC
- Pregnancy increases iron requirement → 27 mg/day recommended
- First-line therapy → oral ferrous sulfate + vitamin C

Q21. 40-year-old IV drug user with fever and eye symptoms

Question

A 40-year-old man presents with:

- Fever, sudden loss of vision in right eye
- Pale, febrile, large bruise at venipuncture site
- Retinal hemorrhage in right eye
- Labs: TLC 35,000/cmm, neutrophils 30%, lymphocytes 10%, platelets scanty, **60% blasts**

Which test will **confirm the diagnosis**?

Options

a. Bone marrow aspiration
b. Bone marrow trephine biopsy
c. Peripheral smear
d. Platelet count
e. Prothrombin time

Answer

✅ **a. Bone marrow aspiration**

Reasoning

- High circulating blasts → suspect **acute leukemia**
- Bone marrow aspiration → **definitive diagnosis** (>20% blasts)
- Trephine biopsy → only if aspiration fails
- Peripheral smear → supportive, not confirmatory
- Platelet count/PT → only supportive

High-Yield Points

- AML → adults, blasts >20% in marrow
- Symptoms: anemia, thrombocytopenia, neutropenia
- Complications: retinal hemorrhages, infections, DIC

Q22. 8-year-old Afghan child with fever and bone pain

Question

An 8-year-old child presents with:

- Fever and bone pain for 1 month
- Pallor, cervical lymphadenopathy, bruises
- Hepatosplenomegaly, chest clear, CVS normal
- Peripheral smear: **80% blasts**

Most likely diagnosis?

Options

a. Leukemia
b. Idiopathic thrombocytopenic purpura
c. Hemophilia
d. Juvenile idiopathic arthritis
e. Rickets

Answer

✅ **a. Leukemia (likely ALL)**

Reasoning

- Bone pain, fever, bruising → bone marrow infiltration
- Blasts >20% → **diagnostic of leukemia**
- ALL most common in **children 2–10 years**

- ITP → only thrombocytopenia, no blasts
- Hemophilia → only bleeding, no blasts
- JIA → joint pain, not marrow failure

High-Yield Points

- ALL → peak incidence 2–5 years
- CBC → pancytopenia + blasts
- Diagnosis → **bone marrow aspiration**

Q23. Drug-induced lupus in UC patient

Question

A 44-year-old female with **ulcerative colitis** presents with:

- Joint pain, swelling, morning stiffness
- Past history: hypertension, chronic gout, dyspepsia, dyslipidemia
- Medications: CCB, colchicine, febuxostat, omeprazole, rosuvastatin
- Labs: **anti-histone antibody positive**

Which medication is responsible for her symptoms?

Options

a. Sulfasalazine
b. Calcium channel blocker
c. Febuxostat
d. Omeprazole
e. Rosuvastatin

Answer

✅ **a. Sulfasalazine**

Reasoning

- Anti-histone antibodies → **drug-induced lupus**
- Sulfasalazine → commonly causes drug-induced lupus in UC patients
- CCB, statins, colchicine → not associated with drug-induced lupus
- Presentation: arthritis, mild systemic symptoms

High-Yield Points

- Drug-induced lupus → anti-histone antibody positive
- Common culprits: **hydralazine, procainamide, sulfasalazine, minocycline**
- Symptoms resolve after drug discontinuation

Q24. 55-year-old male with thrombocytosis

Question

Mr. JK, 55 years old, presents for a routine checkup:

- Platelet count = 1,000,000/cumm

Which investigation will you do to **confirm the diagnosis**?

Options

a. Peripheral smear
b. Bone marrow examination
c. JAK2 mutation
d. Cytogenetic studies
e. Philadelphia chromosome

Answer

✅ **c. JAK2 mutation**

Reasoning

- Extreme thrombocytosis → suspect **myeloproliferative disorder (essential thrombocythemia)**
- JAK2 mutation → **definitive confirmation in ET, PV, MF**
- Peripheral smear → supportive
- Bone marrow → helpful, not confirmatory
- Cytogenetics/Ph chromosome → for CML

High-Yield Points

- Essential thrombocythemia → risk of **thrombosis, bleeding**
- JAK2 V617F mutation positive in 50–60% ET
- Treatment: **hydroxyurea for high-risk patients**

Q25. ALL patient develops fever during induction

Question

A 25-year-old patient with **ALL** undergoing induction chemotherapy:

- High-grade fever 103°F
- Neutrophil count = 0.5 $\times 10^9$/L
- Chest X-ray: bilateral infiltrates

Most likely complication?

Options

a. Tumor Lysis Syndrome
b. Neutropenic sepsis
c. Pulmonary embolism
d. Hemorrhagic cystitis
e. Septic shock

Answer

✅ **b. Neutropenic sepsis**

Reasoning

- Neutropenia + fever → **medical emergency**
- Bilateral infiltrates → likely infection
- TLS → occurs before or after chemo, electrolyte disturbances
- Pulmonary embolism → sudden dyspnea, not fever
- Hemorrhagic cystitis → after cyclophosphamide

High-Yield Points

- Febrile neutropenia → **ANC <500/mm³**
- First-line: **broad-spectrum IV antibiotics immediately**
- Risk is highest during **induction phase**

Q26. 50-year-old female with mediastinal mass and SVC obstruction

Question

A 50-year-old female presents with:

- Fever off & on, weight loss, cough, dyspnea, enlarging neck swellings
- Clinical exam: **bilateral cervical lymphadenopathy**, signs of **superior vena cava obstruction**, wide mediastinum

Which investigation will confirm the diagnosis?

Options

a. Bone marrow examination
b. Bone marrow trephine

c. Cytogenetic studies
d. Lymph node biopsy
e. Peripheral smear

Answer

✅ **d. Lymph node biopsy**

Reasoning

- Mediastinal mass + SVC obstruction + cervical lymphadenopathy → **lymphoma**
- Definitive diagnosis → **lymph node biopsy with histopathology and immunohistochemistry**
- Bone marrow → for staging only
- Peripheral smear → nonspecific

High-Yield Points

- Lymphoma → **Hodgkin's vs Non-Hodgkin's**
- SVC obstruction → red flag for **mediastinal mass**
- Imaging: CT/MRI for extent, PET for staging

Q27. Multiple Myeloma Staging

Question

Mr. FK, 65 years old, presents with:

- Fever off and on, polyuria, generalized body aches, anorexia, fatigue
- Examination: pale, febrile, otherwise unremarkable

Investigations:

- Hb = 8.0 g/dL, TLC normal, Platelets = 70,000/cumm
- Urea = 120 mg/dL, Creatinine = 2 mg/dL

- Skull X-ray: **extensive lytic lesions**
- Serum calcium = 12 mg/dL
- Serum protein electrophoresis: **M-spike (myeloma band)**

What is the stage of the disease?

Options

a. Plasmacytoma
b. Stage 0
c. Stage I
d. Stage III
e. Stage II

Answer

✅ **d. Stage III**

Reasoning

- **Multiple Myeloma staging (Durie-Salmon):**
    - Stage I → Hb >10, serum calcium normal, low M-protein, normal bone lesions
    - Stage II → Intermediate features
    - Stage III → Hb <8.5, calcium >12, advanced lytic lesions, renal failure
- This patient: Hb 8, Ca 12, renal dysfunction, extensive lytic lesions → **Stage III**

High-Yield Points

- Classic CRAB features → **C**alcium ↑, **R**enal dysfunction, **A**nemia, **B**one lesions
- Most common lab finding: **M-spike in serum protein electrophoresis**
- First-line therapy: chemotherapy ± stem cell transplant

Q28. ALL patient on induction with fever

Question

A 25-year-old patient with **ALL** on induction chemotherapy:

- Fever 103°F, neutrophil count = 0.5 $\times 10^9$/L
- Chest X-ray: bilateral infiltrates

Most likely complication?

Options

a. Tumor Lysis Syndrome
b. Neutropenic sepsis
c. Pulmonary embolism
d. Hemorrhagic cystitis
e. Septic shock

Answer

✅ **b. Neutropenic sepsis**

Reasoning

- Fever + severe neutropenia (<0.5 $\times 10^9$/L) → **febrile neutropenia**
- Bilateral infiltrates → pulmonary infection
- TLS → usually metabolic derangements post-chemo
- Pulmonary embolism → sudden dyspnea, not fever

High-Yield Points

- Febrile neutropenia is an **oncologic emergency**
- Immediate broad-spectrum IV antibiotics → start within 1 hour

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Q29. Mediastinal mass with SVC obstruction

Question

Mrs. SA, 50 years old, presents with:

- Fever off & on, weight loss, cough, dyspnea
- Swellings in neck progressively increasing
- Exam: bilateral cervical lymphadenopathy, signs of **SVC obstruction**, wide mediastinum

Which investigation will **confirm the diagnosis**?

Options

a. Bone marrow examination
b. Bone marrow trephine
c. Cytogenetic studies
d. Lymph node biopsy
e. Peripheral smear

Answer

✅ **d. Lymph node biopsy**

Reasoning

- Mediastinal mass + SVC obstruction + cervical nodes → **lymphoma suspected**
- Diagnosis confirmed via **lymph node biopsy + histopathology ± immunohistochemistry**
- Bone marrow → only for staging

High-Yield Points

- SVC obstruction → red flag for **mediastinal lymphoma**
- Hodgkin's lymphoma: mediastinal mass, B-symptoms, cervical nodes

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Q30. 50-year-old male with hepatosplenomegaly

Question

Mr. RK, 50-year-old man, presents with:

- Heaviness and swelling in right hypochondrium
- Well-looking, moderate hepatosplenomegaly
- TLC = 35,000/cumm, uric acid = 9 mg/dL

Which test will **confirm the diagnosis**?

Options

a. Bone marrow examination
b. Chromosomal analysis
c. LDH level
d. Peripheral smear
e. RNA analysis

Answer

✅ **a. Bone marrow examination**

Reasoning

- Hepatosplenomegaly + leukocytosis + hyperuricemia → likely **chronic myeloid leukemia (CML)**
- Bone marrow biopsy → **confirmatory**
- Chromosomal analysis → useful for **Philadelphia chromosome (BCR-ABL)**

High-Yield Points

- CML → leukocytosis, basophilia, splenomegaly
- Confirm with **bone marrow + cytogenetics**
- Philadelphia chromosome positive → treat with **TKI (imatinib)**

Q31. 3-year-old boy with prolonged APTT

Question

A 3-year-old boy presents with:

- Easy bruising, prolonged bleeding after dental work
- Family history positive for similar symptoms
- Labs: normal PT, prolonged APTT, decreased factor IX activity

What is the likely diagnosis?

Options

a. Hemophilia A
b. Hemophilia B
c. Von Willebrand disease
d. Liver disease
e. None of these

Answer

✅ **b. Hemophilia B**

Reasoning

- Hemophilia B = **factor IX deficiency**
- Hemophilia A = factor VIII deficiency
- Prolonged APTT, normal PT → **intrinsic pathway defect**
- X-linked recessive inheritance → family history

High-Yield Points

- Hemophilia B = **Christmas disease**
- Symptoms: hemarthrosis, easy bruising, prolonged bleeding
- Treatment: **factor IX concentrate**

Q32. Pregnant woman with severe anemia

Question

A woman in her **8th pregnancy** at 37 weeks presents with:

- Extreme fatigue, fainting
- Exam: pallor in conjunctiva, skin creases, oral cavity
- Labs: Hb = 6.7 g/dL, red cell indices all **well below normal**, ferritin = 3 pg/dL

Best treatment option?

Options

a. Blood transfusion
b. Oral iron supplements
c. Parenteral iron preparation
d. Intramuscular iron injection
e. Injection hydroxyurea

Answer

✅ **a. Blood transfusion**

Reasoning

- Severe symptomatic anemia in **late-term pregnancy** (Hb <7 g/dL) → **emergency**
- Oral/parenteral iron → too slow to correct acutely
- Blood transfusion → rapid correction before delivery

High-Yield Points

- Iron deficiency anemia → most common in pregnancy
- Red cell indices low, ferritin very low → confirm iron deficiency
- Indications for transfusion in pregnancy: Hb <7 g/dL or symptomatic

Q33. AML in Down Syndrome Infant

Question

An 8-month-old child with **Down syndrome** presents with:

- 2-week history of fever
- Pallor, hepatosplenomegaly, generalized petechiae, generalized lymphadenopathy

Investigations:

- Hb = 7 g/dL, WBC = 75,000/cumm, 20% blast cells
- Platelets = 20,000/cumm
- Bone marrow: 30% blast cells

You suspect **acute myeloid leukemia (AML)**. Myeloblasts stain **positive for which of the following stains?**

Options

a. Myelesterase
b. Leukocyte alkaline phosphatase
c. Myeloperoxidase
d. Tartrate-resistant acid phosphatase
e. Gram stain

Answer

✅ **c. Myeloperoxidase**

Reasoning

- AML → **myeloid lineage** → blasts contain **myeloperoxidase (MPO)** granules
- MPO positivity confirms **myeloid vs lymphoid** lineage
- Tartrate-resistant acid phosphatase → **hairy cell leukemia**
- Leukocyte alkaline phosphatase → neutrophil activity
- Gram stain → bacteria

High-Yield Points

- Children with **Down syndrome <1 year** → increased risk for **AML (particularly megakaryoblastic subtype, AML M7)**
- AML in DS → better prognosis than AML in non-DS children
- Diagnostic stains: **MPO, Sudan black B** → myeloid blasts
- Symptoms often: cytopenias (pallor, bleeding), hepatosplenomegaly

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Q34. Hodgkin Lymphoma Suspicion

Question

Mrs. R, 46 years old, presents with:

- Painless neck swellings, progressively increasing
- Low-grade fever, night sweats, weight loss 10 kg in 6 months

Examination:

- Mild anemia
- Right cervical lymph nodes: 4×5 cm
- Left cervical lymph node: 3×2 cm, rubbery
- Mild splenomegaly

Which investigation will **confirm the diagnosis**?

Options

a. Bone marrow aspiration
b. Bone marrow trephine biopsy
c. CT scan abdomen
d. Lymph node biopsy
e. Lymph node biopsy

*(Note: Option d and e are identical; intention: **lymph node biopsy** is correct.)*

Answer

✅ **d. Lymph node biopsy**

Reasoning

- Patient has **B-symptoms**: fever, night sweats, weight loss
- Painless, rubbery lymph nodes → **classic Hodgkin lymphoma**
- **Definitive diagnosis** → histopathology via **excisional lymph node biopsy**
- Bone marrow → only for **staging**, not diagnosis
- CT scan → for **extent of disease**, not definitive

High-Yield Points

- Hodgkin lymphoma: **painless, firm/rubbery lymph nodes**, usually **cervical**
- B-symptoms: fever, night sweats, weight loss
- Reed-Sternberg cells → hallmark of Hodgkin lymphoma on biopsy
- Bone marrow involvement usually in **advanced stages**

MSK PEADS

Q1. Juvenile Idiopathic Arthritis – Pauciarticular Type

Question

A **5-year-old child** presents with:

- Pain in both knee joints for **8 weeks**
- Pain relieved by **NSAIDs**
- Now **left elbow** is also involved (tender, swollen, limited range of motion)

Rheumatologist diagnosed **Juvenile Idiopathic Arthritis (JIA), Pauciarticular type**.

Which specific investigation should be carried out?

Options

a. ESR (Erythrocyte sedimentation rate)
b. Ultrasound abdomen and pelvis
c. Joint fluid aspirate for cytology
d. ANA (anti-nuclear antibody) followed by slit-lamp examination
e. Lupus anticoagulant antibodies

Answer

✅ **d. ANA followed by slit-lamp examination**

Reasoning

- **Pauciarticular JIA** → involvement of **≤4 joints in first 6 months**
- **Risk**: **chronic uveitis** even if asymptomatic
- **ANA positivity** → **predictor for uveitis**, slit-lamp exam required
- ESR → nonspecific, monitors inflammation
- Joint aspiration → only if septic arthritis suspected
- Lupus anticoagulant → not relevant for JIA

High-Yield Points

- JIA types: **Pauciarticular, Polyarticular, Systemic (Still's disease)**
- Pauciarticular JIA is **common in girls <6 years**, often ANA positive
- **Screening for asymptomatic chronic anterior uveitis** is essential
- NSAIDs → first-line symptomatic treatment
- Disease-modifying drugs (DMARDs) used if persistent inflammation

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Q2. Acute Arthritis Following Rash and Fever

Question

A **10-year-old child** presents with:

- Severe pain in **right knee joint for 5 days**
- Fever **high-grade**, responds to ibuprofen
- Rash for 3 days (faded by now)
- Joint tender, swollen, limited flexion
- Pain **not migratory**, no other joint involvement
- Throat and chest exams normal

Most likely diagnosis?

Options

a. Acute Rheumatic Fever
b. Reactive arthritis
c. Septic arthritis
d. Juvenile idiopathic arthritis
e. Hemophilia A

Answer

✅ **c. Septic arthritis**

Reasoning

- **Monoarticular joint involvement** with **acute onset and fever** → classic for **septic arthritis**
- Fever improves with NSAIDs → partial symptom relief but infection persists
- Rash that faded → likely **viral prodrome or drug-related**
- Rheumatic fever → migratory polyarthritis, usually **knees → ankles → elbows**
- JIA → chronic, often **≥6 weeks**, not acutely febrile

High-Yield Points

- Septic arthritis → **orthopedic emergency**, risk of joint destruction
- Most commonly **Staphylococcus aureus**, Kingella kingae in children <5 years
- Workup: **joint aspiration and culture**, blood cultures
- Early treatment → **IV antibiotics**, possible surgical drainage

---

Q3. Child with Progressive Proximal Muscle Weakness

Question

A **6-year-old boy** presents with:

- Progressive difficulty standing from sitting position (**Gower sign positive**)
- Walking difficulty
- Milestones previously normal
- Vitals normal, joints normal, reflexes intact

Most appropriate diagnostic test?

Options

a. Creatine kinase (CK)
b. LDH/Aldolase
c. PCR (Polymerase chain reaction)
d. Nerve conduction studies (NCS)
e. Electromyography (EMG)

Answer

✅ **a. Creatine kinase (CK)**

Reasoning

- Proximal muscle weakness, Gower sign → **muscular dystrophy (likely Duchenne)**
- CK → **highly elevated in muscle breakdown**, first-line screening test
- LDH/aldolase → less specific
- EMG/NCS → used later for differentiation
- PCR → confirmatory genetic test for **DMD gene mutation**

High-Yield Points

- Duchenne Muscular Dystrophy → X-linked, males affected
- Symptoms: Gower sign, waddling gait, calf pseudohypertrophy
- Initial lab: **CK markedly elevated (10–100× normal)**
- Genetic confirmation: **Dystrophin gene mutation**
- Management: **steroids, physiotherapy, cardiac/pulmonary monitoring**

Q4. Infant with Delayed Motor Skills and Skeletal Abnormalities

Question

An **11-month-old infant** presents with:

- Recurrent chest infections

- Slightly delayed gross motor skills
- Born full term, breastfed, weaning at 6 months
- Chubby, kept mostly indoors
- Vitals normal, no pallor
- Chest: scattered rhonchi
- **Widened wrists** and **anterior fontanelle wide and open**

Most likely diagnosis?

Options

a. IgA deficiency
b. Rickets
c. Scurvy
d. Severe malnutrition
e. Cerebral palsy

Answer

✅ **b. Rickets**

Reasoning

- **Delayed gross motor development** + skeletal deformities → rickets
- Classic signs: **widened wrists, open fontanelle, bowing of legs, rachitic rosary**
- Risk factors: **exclusive breastfeeding beyond 6 months without vitamin D supplementation, minimal sun exposure**
- IgA deficiency → recurrent infections, no skeletal deformities
- Scurvy → gum bleeding, irritability, poor wound healing, not fontanelle/wrist changes
- Malnutrition → generalized wasting, not specific skeletal signs

High-Yield Points

- **Vitamin D deficiency** → rickets in infants
- Clinical signs: widened wrists/ankles, frontal bossing, delayed closure of fontanelle
- Lab: **low calcium/phosphate, elevated ALP, low 25(OH) vitamin D**
- Management: **vitamin D and calcium supplementation, sun exposure**

Q1. Features of SLE

Question

Which of the following are features of **Systemic Lupus Erythematosus (SLE)?**

Options

a. Photosensitivity
b. Oral/nasal ulcers
c. Malar rash
d. All of the above
e. None of the above

Answer

✅ **d. All of the above**

Reasoning

- SLE is a **multisystem autoimmune disease** with characteristic clinical features:
    - **Photosensitivity** → skin rash on sun-exposed areas
    - **Oral/nasal ulcers** → painless, often recurrent
    - **Malar rash** → butterfly-shaped rash over cheeks and nose
- These are part of the **ACR diagnostic criteria for SLE**

High-Yield Points

- Other SLE features: arthritis, serositis, nephritis, hematologic abnormalities, positive ANA
- Diagnosis requires **≥4 of 11 criteria**

- ANA is highly sensitive but not specific

Q2. Duration of Measles Vaccine Immunity

Question

The **duration of immunity** after measles vaccination is:

Options

a. 1 year
b. Lifelong
c. 5 years
d. 10 years
e. Not known

Answer

✅ **b. Lifelong**

Reasoning

- **Live attenuated measles vaccine** → generally provides **lifelong immunity** after **2 doses**
- Booster may be recommended in **immunocompromised or outbreak settings**

High-Yield Points

- **First dose** → 9–12 months
- **Second dose** → 15–18 months or at school entry
- Vaccine also part of **MMR (Measles, Mumps, Rubella)**

Q3. H. Influenzae Type B Vaccine Protection

Question

The **H. influenzae type B (Hib) vaccine** protects against:

Options

a. Croup
b. Bronchiolitis
c. Acute epiglottitis
d. UTI
e. All of the above

Answer

✅ **c. Acute epiglottitis**

Reasoning

- Hib causes **invasive infections**:
    - **Epiglottitis** → life-threatening, acute airway obstruction
    - Meningitis, septic arthritis, pneumonia
- Does **not prevent bronchiolitis or viral croup**
- UTIs are not caused by Hib

High-Yield Points

- **Vaccine schedule:** 2, 4, 6 months + booster at 12–15 months
- Dramatic reduction in **invasive Hib infections** post-vaccine

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Q4. Weaning

Question

At what age should **weaning of infants** be started?

Options

a. 3 months
b. 6 months

c. 9 months
d. 1 year
e. At any age

Answer

✅ **b. 6 months**

Reasoning

- **WHO & UNICEF** recommend exclusive breastfeeding for **first 6 months**
- Introduce **complementary solid/semi-solid foods** at 6 months
- Early weaning (<6 months) → risk of **allergies, infections**
- Late weaning (>6 months) → risk of **iron deficiency, growth failure**

High-Yield Points

- Continue breastfeeding up to 2 years
- Foods: iron-fortified cereals, fruits, vegetables, soft meats
- Gradual texture progression

Q5. Clinical Features of Rickets

Question

Rickets can present with:

Options

a. Squint
b. Diarrhea
c. Frequent UTIs
d. Delayed closure of fontanels
e. All of the above

Answer

✅ **d. Delayed closure of fontanels**

Reasoning

- Rickets = **vitamin D deficiency in children**
- Classic skeletal manifestations:
    - **Widened/wrinkled wrists & ankles**
    - **Delayed closure of fontanelles**
    - Bowing of legs, rachitic rosary
- Squint, diarrhea, UTIs → not typical

High-Yield Points

- Lab: low calcium/phosphate, high ALP
- Risk factors: exclusive breastfeeding without vitamin D, poor sun exposure
- Treatment: **vitamin D and calcium supplementation**

Q6. Medications Causing Rickets

Question

Which medication can cause **rickets**?

Options

a. Cephalosporins
b. NSAIDs
c. Anticonvulsants
d. Antihistamines
e. All of the above

Answer

✅ **c. Anticonvulsants**

Reasoning

- **Phenytoin, phenobarbital, carbamazepine** → induce **cytochrome P450**, accelerate **vitamin D metabolism** → rickets
- Cephalosporins, NSAIDs, antihistamines → no known effect on vitamin D metabolism

High-Yield Points

- Monitor vitamin D in children on **long-term anticonvulsants**
- Supplement vitamin D to prevent rickets

Q7. Causes of Septic Arthritis

Question

Septic arthritis can be caused by:

Options

a. Staphylococcus aureus
b. Streptococcus pneumoniae
c. Neisseria gonorrhoeae
d. Haemophilus influenzae
e. All of the above

Answer

✅ **e. All of the above**

Reasoning

- Most common: **S. aureus** (children and adults)
- **S. pneumoniae** → children, elderly
- **N. gonorrhoeae** → sexually active adolescents/adults
- **H. influenzae** → unvaccinated children

High-Yield Points

- **Monoarticular involvement** with fever → septic arthritis
- **Joint aspiration** → gold standard diagnosis
- Treatment: **IV antibiotics, drainage if needed**

Q8. Features of Systemic Onset JIA

Question

Which one is **not a feature** of systemic onset Juvenile Idiopathic Arthritis (Still's disease)?

Options

a. Age >10 years
b. Hepatomegaly
c. Splenomegaly
d. Generalized lymphadenopathy
e. None of the above

Answer

✅ **a. Age >10 years**

Reasoning

- Systemic onset JIA: **younger children <10 years**, can affect **any age**
- Characterized by:
    - **Fever, hepatosplenomegaly, lymphadenopathy, rash**
- Age >10 years → less typical

High-Yield Points

- Systemic JIA → systemic inflammation dominates over arthritis initially
- Labs: leukocytosis, high ESR/CRP, anemia

- Treatment: **NSAIDs, corticosteroids, biologics (IL-1/IL-6 inhibitors)**

Q9. Gower's Sign

Question

Gower's sign is pathognomonic for:

Options

a. Myotonic dystrophy
b. Down syndrome
c. Duchenne muscular dystrophy
d. Motor neuron disease
e. All of the above

Answer

✅ **c. Duchenne muscular dystrophy**

Reasoning

- Gower sign → **child uses hands to climb up legs** when rising from floor
- Indicates **proximal lower limb weakness**
- Classic for **DMD**, rarely seen in other muscular dystrophies

High-Yield Points

- DMD → X-linked recessive, boys affected
- High CK from infancy, progressive weakness, calf pseudohypertrophy
- Management: steroids, physiotherapy, cardiac monitoring

Q10. Causes of Frequent Falls in Children

Question

Frequent falls in children can be caused by:

Options

a. Arthritis
b. Rickets
c. Perthes disease
d. Muscular dystrophy
e. All of the above

Answer

✅ **e. All of the above**

Reasoning

- **Arthritis** → joint pain and swelling
- **Rickets** → skeletal deformities → imbalance
- **Perthes disease** → hip joint pain → limp/falls
- **Muscular dystrophy** → proximal weakness → frequent falls

High-Yield Points

- Always assess **gait, joint exam, muscle strength, skeletal deformities**
- Early diagnosis prevents **permanent disability**

Q11. Muscular Dystrophy with Both Dominant & Recessive Inheritance

Question

Which muscular dystrophy can be inherited in **both autosomal dominant and recessive manners**?

Options

a. Becker's muscular dystrophy
b. Duchenne muscular dystrophy
c. Limb-girdle muscular dystrophy

d. Emery-Dreifuss muscular dystrophy
e. None of the above

Answer

✅ **c. Limb-girdle muscular dystrophy**

Reasoning

- LGMD → heterogenous group, can be **autosomal dominant (LGMD1)** or **autosomal recessive (LGMD2)**
- DMD/BMD → X-linked recessive
- EDMD → X-linked or autosomal dominant/recessive forms

High-Yield Points

- LGMD → proximal limb weakness, progressive
- Genetic testing distinguishes subtypes
- CK usually elevated

Q12. Duchenne Muscular Dystrophy – Exception

Question

All of the following are characteristics of Duchenne muscular dystrophy **except**:

Options

a. Both sexes affected
b. Pseudohypertrophy
c. Death in 2nd decade
d. Hereditary
e. Gower sign

Answer

✅ **a. Both sexes affected**

Reasoning

- DMD → **X-linked recessive**, primarily affects **boys**
- Features: Gower sign, calf pseudohypertrophy, early death (2nd decade), hereditary

High-Yield Points

- Female carriers usually asymptomatic or mild symptoms
- Diagnosis: CK, genetic testing for **dystrophin gene mutation**

Q13. Most Common Cause of Scoliosis in Children

Question

The most common cause of **scoliosis in children** is:

Options

a. Hemivertebrae
b. Marfan syndrome
c. Post-poliomyelitis
d. Unequal limb length
e. None of the above

Answer

✅ **d. Unequal limb length**

Reasoning

- Limb length discrepancy → compensatory spinal curvature → scoliosis
- Other causes: congenital vertebral anomalies, neuromuscular disorders, syndromes (Marfan)

High-Yield Points

- Screening: **Adam forward bend test**

- Early detection prevents progression
- Severe scoliosis → bracing or surgery

Q3. Right Lumbar Pain with Hydronephrosis

Question

A 20-year-old male presents with **right lumbar pain for 1 year**, which **worsens with water intake** and **relieves on urination**. Ultrasound shows **right renal hydronephrosis with marginally dilated renal pelvis**. What is the most likely diagnosis?

Options

a. Renal mass
b. Renal calculus
c. Renal PUJ obstruction
d. Fungal infection
e. Diabetes insipidus

Answer

✅ **c. Renal PUJ obstruction**

Reasoning

- PUJ (Pelvi-Ureteric Junction) obstruction → **chronic intermittent flank pain** that **worsens with increased urine output** (e.g., water intake)
- Ultrasound: hydronephrosis with **dilated pelvis and normal ureter**
- **Renal calculus** → pain is usually acute, colicky, associated with hematuria, ureteral dilation
- **Renal mass/fungal infection** → usually painless or systemic symptoms
- **Diabetes insipidus** → polyuria/polydipsia, no obstruction

High-Yield Points

- **Gold standard:** Diuretic renogram to assess obstruction and function
- Can lead to **loss of renal function** if untreated

- Management: **pyeloplasty**

KGMC BLOCK N 2024

Q1. Henoch-Schönlein Purpura (HSP)

Question

A 10-year-old boy presents with **palpable purpura on lower extremities, abdominal pain, arthritis, hematuria, and proteinuria**. Which of the following is correct regarding HSP?

Options

a. HSP is IgA-related vasculitis involving **large vessels**
b. Corticosteroids are the mainstay of treatment
c. Kidney involvement is identified by **hematuria and proteinuria**
d. HSP resolves in 3–6 months but may cause **neurological damage**

Answer

✅ **c. Kidney involvement is identified by hematuria and proteinuria**

Reasoning

- HSP = **IgA vasculitis** → affects **small vessels**, mainly skin, gut, joints, kidneys
- Kidney involvement → **hematuria, proteinuria**, rarely nephrotic syndrome
- Corticosteroids → help with **severe abdominal pain**, not always first-line
- Neurological involvement → rare, not typical
- Resolves in most cases within **4 weeks–6 months**

High-Yield Points

- Common in **children 3–15 years**
- Classic **palpable purpura on buttocks/legs**

- Monitor **renal function** for long-term prognosis

Q2. Septic Arthritis in Children

Question

A 10-year-old child presents with **joint pain, fever, and swelling**. On joint aspiration, which finding is most indicative of **septic arthritis**?

Options

a. WBC count 2,000
b. Clear synovial fluid
c. High lactate and WBC count >50,000
d. High glucose plus WBC 5,000
e. ESR increase

Answer

✅ **c. High lactate and WBC count >50,000**

Reasoning

- **Septic arthritis** → WBC >50,000/mm³ in synovial fluid, neutrophil predominance
- High lactate indicates **bacterial metabolism**
- Other findings (clear fluid, WBC <5,000) → **non-infectious arthritis**
- ESR ↑ → supportive but **non-specific**

High-Yield Points

- **Most common pathogen:** S. aureus
- **Gold standard diagnosis:** joint aspiration + culture
- Treat promptly with **IV antibiotics and drainage**

Q3. Investigation in Suspected SLE (13-year-old girl)

Question

A 13-year-old girl presents with **pain and stiffness in phalangeal & MCP joints, malar rash, and mouth ulcers**. What is the **investigation of choice**?

Options

a. Anticardiolipin antibody
b. ANA (Antinuclear antibody)
c. RA factor
d. Anti-dsDNA
e. ESR

Answer

✅ **b. ANA (Antinuclear antibody)**

Reasoning

- **ANA** → screening test for SLE, highly sensitive in pediatric SLE
- Anti-dsDNA → more specific, used after positive ANA
- RA factor → for juvenile idiopathic arthritis
- ESR → non-specific inflammation

High-Yield Points

- Pediatric SLE → **malar rash, oral ulcers, photosensitivity, arthritis**
- Monitor **renal involvement (proteinuria/hematuria)**
- ANA negative → SLE unlikely

Q4. Recurrent Parotid Swelling

Question

A 70-year-old female presents with **recurrent parotid swelling, dry mouth, and gritty eyes**. Most likely diagnosis?

Answer

✅ **Sjogren syndrome**

Reasoning

- Classic **sicca symptoms** → xerostomia, keratoconjunctivitis sicca
- Chronic **autoimmune disorder** targeting exocrine glands
- Parotid enlargement → chronic inflammation

High-Yield Points

- Increased risk of **B-cell lymphoma**
- Diagnosis: **Schirmer test, ANA, anti-Ro/SSA, anti-La/SSB**
- Treatment: **artificial tears/saliva, muscarinic agonists (pilocarpine)**

Q5. Chronic Widespread Pain (Fibromyalgia)

Question

A 48-year-old patient complains of **pain all over for 4 months, sleep disturbance, fatigue**, and has **multiple tender points**. Most likely diagnosis?

Options

a. Polymyalgia rheumatica
b. Fibromyalgia
c. Polymyositis
d. Ankylosing spondylitis
e. Rheumatoid arthritis

Answer

✅ **b. Fibromyalgia**

Reasoning

- Widespread musculoskeletal pain + fatigue + tender points
- No significant joint swelling or systemic inflammation
- PMR → elderly, proximal pain + stiffness, ESR ↑
- Polymyositis → muscle weakness, CK ↑
- RA → joint swelling, inflammatory markers

High-Yield Points

- Diagnosis → **clinical, 11/18 tender points, rule out other diseases**
- Management → **exercise, CBT, pain modulators (e.g., duloxetine, pregabalin)**

Q6. Elderly Male with Hip Pain

Question

A 79-year-old man presents with **low back and right hip pain**. Labs: **normal calcium and phosphate**. Most likely diagnosis?

Options

a. Primary hyperparathyroidism
b. Chronic kidney disease
c. Osteomalacia
d. Osteoporosis
e. Paget's disease

Answer

✅ **d. Osteoporosis**

Reasoning

- Elderly male, axial + hip pain, normal Ca/Phosphate → **osteoporosis**

- Osteomalacia → low vitamin D/Ca/Phosphate
- CKD → mineral bone disease, lab abnormalities
- Paget's → bone deformities, raised ALP

High-Yield Points

- Common fractures → vertebrae, hip, distal radius
- Diagnosis → DEXA scan
- Treatment → calcium, vitamin D, bisphosphonates

Q7. Young Female with Back Pain and Morning Stiffness

Question

A 23-year-old female presents with **back pain, early morning stiffness**, and family history. Most probable diagnosis?

Options

a. Paget disease
b. Pelvic inflammatory disorder
c. Myofacial pain
d. Ankylosing spondylitis
e. Spondylosis

Answer

✅ **d. Ankylosing spondylitis**

Reasoning

- **Chronic back pain, morning stiffness >30 min**, improves with activity
- Family history → HLA-B27 association
- Eye involvement (uveitis) common

- Paget → older age, bone enlargement
- Spondylosis → degenerative

High-Yield Points

- Labs: **ESR/CRP** ↑, HLA-B27 positive
- Imaging → **sacroiliitis on X-ray/MRI**
- Treatment → **NSAIDs, physiotherapy, TNF inhibitors**

Q8. Medication for Dry Mouth in Sjogren Syndrome

Question

A 45-year-old woman with **primary Sjogren's** has **dry mouth** not responding to artificial saliva. Which medication is likely beneficial?

Options

a. Rivastigmine
b. Neostigmine
c. Clonidine
d. Atropine
e. Pilocarpine

Answer

✅ **e. Pilocarpine**

Reasoning

- **Pilocarpine** → **muscarinic agonist**, stimulates salivary and lacrimal glands
- Atropine → anticholinergic → worsens symptoms
- Neostigmine/Rivastigmine → mainly for myasthenia/cognition
- Clonidine → no role

High-Yield Points

- Pilocarpine & Cevimeline → first-line pharmacologic therapy for **xerostomia**
- Monitor for **sweating, hypotension, bradycardia**

Q9. Most likely complication in Ankylosing Spondylitis

Question

Which of the following complications is most likely to occur in **ankylosing spondylitis (AS)**?

Options

a. Heart block
b. Achalasia
c. Diabetes
d. Bronchiectasis

Answer

✅ **a. Heart block**

Reasoning

- AS can cause **cardiac involvement** → **conduction defects**, particularly **AV block**, due to inflammation and fibrosis of the **aortic root and conduction system**.
- Other cardiac manifestations → **aortic regurgitation**
- Achalasia, diabetes, bronchiectasis → **not common complications**

High-Yield Points

- Monitor **ECG in long-standing AS**
- Early recognition reduces risk of **syncope or sudden death**
- Extra-articular manifestations: **uveitis, cardiovascular, pulmonary fibrosis**

Q10. Investigation for Ankylosing Spondylitis

Question

A 28-year-old man is investigated for recurrent lower back pain. **Diagnosis of AS is suspected**. Which investigation is most useful?

Options

a. ESR
b. X-ray of sacroiliac joints
c. HLA-B27 testing
d. X-ray of thoracic spine
e. CT of lumbar spine

Answer

✅ **b. X-ray of sacroiliac joints**

Reasoning

- **AS hallmark:** sacroiliitis → visible on **X-ray** (erosions, sclerosis, fusion)
- HLA-B27 → supportive, not diagnostic
- ESR → elevated but non-specific
- CT/MRI → used for early detection or complications, not first-line

High-Yield Points

- **Early disease may require MRI** to detect sacroiliitis before X-ray changes appear
- Diagnosis = **clinical + imaging + HLA-B27**

Q11. Pulmonary Feature in Late AS

Question

A 57-year-old man with **late AS**. Which pulmonary feature might you see on chest X-ray?

Options

a. Apical fibrosis
b. Bilateral hilar lymphadenopathy
c. Peripheral granulomas
d. Basal fibrosis
e. Increased pulmonary vasculature

Answer

✅ **a. Apical fibrosis**

Reasoning

- Long-standing AS → **upper lobe fibrotic changes**
- Restrictive lung disease may develop
- Hilar lymphadenopathy → sarcoidosis
- Basal fibrosis → usual interstitial pneumonia (IPF)

High-Yield Points

- Monitor **lung function tests** in long-standing AS
- Can lead to **reduced chest expansion**

Q12. Complication in Scleroderma/Systemic Sclerosis

Question

A 44-year-old woman with **Raynaud's phenomenon** and **tight, shiny fingers**. Which complication is most likely?

Answer

✅ **Pulmonary hypertension, renal crisis, or interstitial lung disease** (classic for systemic sclerosis)

Reasoning

- **Limited cutaneous scleroderma** → tight skin over fingers, Raynaud → vascular complications
- Common complications: **pulmonary fibrosis, pulmonary arterial hypertension, scleroderma renal crisis**
- Dyspepsia → secondary to esophageal involvement

High-Yield Points

- Autoantibodies: **Anti-centromere** (limited), **Anti-Scl-70** (diffuse)
- Treat vascular complications early

Q13. Recurrent Wheezing in 4-year-old

Question

A 4-year-old girl presents with **persistent cough, tachypnea, wheezing** since 6 months old, with **family history of recurrent respiratory infections**. Chest X-ray: **hyperinflation, flattened diaphragm**. CBC normal. Most likely diagnosis?

Answer

✅ **Asthma**

Reasoning

- Chronic **wheezing, episodic cough, family history** → hallmark of asthma
- Hyperinflation on X-ray → chronic airway obstruction
- Other options (TB, bronchiolitis, pneumonia, pleural effusion) → **acute, not chronic**

High-Yield Points

- Recurrent episodes triggered by **allergens/infections**
- Management → **inhaled corticosteroids, bronchodilators**

Q14. Positive Antibody in SLE (Photo-distribution Rash)

Question

35-year-old with **tiredness, joint pain, erythematous macules on face/upper chest (photo-distribution)**. Which antibody is most likely positive?

Options

a. Anti-dsDNA
b. Anti-histone
c. Anti-Smith
d. Anti-Jo
e. Anti-La

Answer

✅ **a. Anti-dsDNA**

Reasoning

- **Malar rash, photosensitivity, joint pain** → classic **SLE**
- Anti-dsDNA → highly specific, correlates with **renal involvement**
- Anti-histone → drug-induced lupus
- Anti-Jo → polymyositis
- Anti-La → Sjogren syndrome

High-Yield Points

- ANA → screening, sensitive but not specific
- Anti-dsDNA → follow for **lupus nephritis**

Q15. Classic Symptom of Rheumatoid Arthritis

Question

Which of the following is a **classic symptom of RA**?

Options

a. Photosensitivity
b. Morning stiffness >1 hour
c. Sharp chest pain
d. Persistent dry cough

Answer

✅ **b. Morning stiffness lasting more than an hour**

Reasoning

- Chronic **inflammatory arthritis** → morning stiffness improves with activity
- Photosensitivity → SLE
- Chest pain/cough → pulmonary/cardiac causes

High-Yield Points

- Symmetric small joint involvement → **MCP, PIP**
- Diagnosis: **clinical + RF/anti-CCP + imaging**

Q16. Primary Site Affected in AS

Question

Ankylosing spondylitis primarily affects which part of the body?

Options

a. Hands and fingers
b. Knees
c. Spine and sacroiliac joints
d. Hips
e. Elbows

Answer

✅ **c. Spine and sacroiliac joints**

Reasoning

- AS = **seronegative spondyloarthropathy** → axial skeleton, **SI joints first**
- Peripheral joints → later or less common
- Hips may be involved but **not primary**

High-Yield Points

- Early morning **back stiffness** improves with activity
- Extra-articular: **uveitis, cardiac, pulmonary**

Q17. Primary Pathological Lesion in SLE

Question

Which is the primary pathological lesion in SLE?

Options

a. Synovial inflammation
b. Immune complex deposition
c. Articular cartilage erosion

Answer

✅ **b. Immune complex deposition**

Reasoning

- SLE = **type III hypersensitivity** → immune complex deposits in skin, kidney, joints
- Synovial inflammation → secondary
- Cartilage erosion → more typical of RA

High-Yield Points

- Complications: **lupus nephritis, CNS lupus, vasculitis**

Q18. Laboratory Test Commonly Used to Diagnose RA

Answer

✅ **Rheumatoid factor (RF) and anti-CCP antibodies**

Reasoning

- RF → sensitive but less specific
- Anti-CCP → highly specific, predicts **erosive disease**

High-Yield Points

- Diagnosis = **clinical + serology + imaging**
- Early treatment prevents joint damage

Q19. First-line Management of Acute Gout

Question

Which is the **first-line management** of acute gout?

Options

a. NSAIDs
b. Calcium channel blockers
c. Beta blockers
d. Diuretics
e. Antidepressants

Answer

✅ **a. NSAIDs**

Reasoning

- NSAIDs → reduce **inflammation and pain** during acute attack
- Other options → not relevant
- Colchicine and corticosteroids → alternative if NSAIDs contraindicated

High-Yield Points

- Avoid **thiazide diuretics** during acute attack
- Lifestyle → **low purine diet, hydration**

Q20. Chronic Joint Pain with Morning Stiffness

Question

A 45-year-old woman presents with a **6-month history of joint pain and morning stiffness**. She reports stiffness lasting **2 hours every morning**, which improves with activity. She also has a history of **autoimmune disease**. What is the most likely diagnosis?

Options

a. Osteoarthritis
b. Rheumatoid Arthritis
c. Psoriatic Arthritis
d. Gout

Answer

✅ **b. Rheumatoid Arthritis (RA)**

Reasoning

- **RA hallmark**: morning stiffness >1 hour improving with activity, **symmetric polyarthritis**, commonly small joints of hands and wrists.
- Osteoarthritis → stiffness <30 mins, worsens with activity.
- Psoriatic arthritis → often asymmetric, with skin lesions or nail changes.
- Gout → acute monoarthritis, often first MTP joint.

High-Yield Points

- Autoantibodies: **RF and anti-CCP**
- Extra-articular: **lung, eye, skin involvement**
- Early DMARD therapy prevents joint destruction

Q1. Most Sensitive Test for Iron Deficiency in 2-Year-Old

Question

A 2-year-old male child appears **lean and pale**, with **low appetite and irritability**. CBC shows: Hb 8 g/dl, MCV 85 fL, MCH 16 pg, MCHC 20 g/dl. Iron supplements are started. What is the **most sensitive test** to confirm iron deficiency?

Options

a. CBC
b. Bone marrow
c. Serum ferritin
d. Mentzer index
e. History-based diagnosis

Answer

✅ **c. Serum ferritin**

Reasoning

- Ferritin → **reflects iron stores**, low levels confirm deficiency.
- Bone marrow → gold standard but **invasive**, rarely used in children.
- CBC → supportive but **not sensitive**, may show normocytic/microcytic anemia.
- Mentzer index → distinguishes thalassemia vs iron deficiency.

High-Yield Points

- Serum ferritin <12 ng/mL → diagnostic in children
- Ferritin may be falsely elevated in **infection/inflammation**

- First-line: **oral iron supplementation**

Q2. Persistent Fever and Limb Pain in 8-Year-Old

Question

An 8-year-old presents with **persistent fever, malaise, and refusal to bear weight** on the **right distal femur** for 1 week. No trauma. Exam: localized tenderness, fever. Labs: WBC 15,000, ESR 45. What is the most likely diagnosis?

Options

a. Distal femur fracture
b. Juvenile idiopathic arthritis
c. Osteomyelitis of femur
d. Septic arthritis
e. Osteoarthritis

Answer

✅ **c. Osteomyelitis of femur**

Reasoning

- Features: **fever + localized bone tenderness + elevated WBC/ESR** → bacterial bone infection
- Septic arthritis → involves joint, usually **acute swelling, limited ROM**
- Fracture → history of trauma
- JIA → chronic, often polyarticular, not acute with high fever

High-Yield Points

- Common pathogen: **Staph aureus**
- Imaging: **X-ray may lag; MRI early detection**
- Treat with **IV antibiotics early**

Q3. Pallor and Lethargy in 1-Year-Old with Poor Weaning

Question

A 1-year-old child presents with **pallor and lethargy**. Exclusively breastfed for 8 months; weaning started with cereals and tea. Weight: 8 kg. Most probable diagnosis?

Options

a. Iron deficiency anemia
b. Sickle cell anemia
c. Beta thalassemia
d. Hereditary spherocytosis
e. Megaloblastic anemia

Answer

✅ **a. Iron deficiency anemia**

Reasoning

- Exclusively breastfed beyond 6 months → **low iron intake**
- Poor complementary feeding (cereal + tea) → decreased iron absorption
- Features: **pallor, lethargy, poor growth**
- Labs: **microcytic hypochromic anemia**

High-Yield Points

- Preventive: **iron-fortified foods** after 6 months
- Tea → tannins → **impair iron absorption**
- Treatment: **oral iron therapy**

Q4. 5-Year-Old with Fever, Pallor, Hepatosplenomegaly, Bruises

Question

A 5-year-old from Afghanistan has **3 weeks of high fever, progressive pallor, abdominal distention**. Exam: pallor, lymphadenopathy, hepatosplenomegaly, bruising. Labs: Hb 7 g/dL, WBC 20,000, 30% blasts. Most likely diagnosis?

Options

a. Acute leukemia
b. Hereditary spherocytosis
c. Thalassemia major
d. Chronic liver disease
e. Diamond-Blackfan anemia

Answer

✅ **a. Acute leukemia**

Reasoning

- Presentation: **pallor, bruising, fever, hepatosplenomegaly**
- Lab: **blasts on peripheral smear** → hallmark of acute leukemia
- Other options → chronic anemia, not with blasts or systemic symptoms

High-Yield Points

- Most common pediatric leukemia → **ALL**
- Investigations: **CBC + peripheral smear + bone marrow aspiration**
- Treat with **chemotherapy**

Q5. 12-Year-Old Girl with Polyarthritis

Question

A 12-year-old girl has **swollen, painful bilateral wrist, interphalangeal, and knee joints** for 6 months, associated with **morning stiffness**. Positive RF, raised ESR. Most likely diagnosis?

Options

a. Juvenile idiopathic arthritis (JIA)
b. Reactive arthritis
c. Toxic synovitis
d. Rheumatic fever
e. Septic arthritis

Answer

✅ **a. Juvenile idiopathic arthritis**

Reasoning

- **Chronic, non-migratory polyarthritis >6 weeks**, morning stiffness → JIA
- Positive RF → polyarticular RF-positive subtype
- Reactive arthritis → post-infection, acute, often asymmetric
- Septic arthritis → acute, monoarticular, febrile

High-Yield Points

- Subtypes: **oligoarticular, polyarticular, systemic**
- Monitor for **uveitis in oligoarticular JIA**
- Early treatment: **NSAIDs, DMARDs, physiotherapy**

Q6. Recurrent Nosebleeds and Easy Bruising in a Child

Question

A 10-year-old boy presents with **recurrent nosebleeds and easy bruising**. His family history shows **maternal relatives with similar symptoms**. Laboratory tests reveal **APTT 45 seconds** (normal 30 s) and **normal PT**. What is the most likely diagnosis?

Options

a. Hemophilia A
b. Von Willebrand disease
c. Thrombocytopenic purpura
d. Vitamin K deficiency
e. None of these

Answer

✅ **b. Von Willebrand disease (vWD)**

Reasoning

- **vWD** → most common inherited bleeding disorder
- **Symptoms**: mucocutaneous bleeding (epistaxis, bruising, menorrhagia)
- **Labs**: **prolonged APTT**, normal PT, sometimes mild thrombocytopenia
- Hemophilia A → mainly **male patients**, X-linked, severe hemarthroses common, **APTT prolonged**, family history maternal but no mucocutaneous bleeding

High-Yield Points

- vWD types: Type 1 (partial deficiency), Type 2 (qualitative defect), Type 3 (complete deficiency)
- Diagnostic test: **vWF antigen, vWF activity (ristocetin cofactor), Factor VIII levels**
- Treatment: **Desmopressin (DDAVP), vWF concentrate if severe**

Q7. 3-Year-Old with Severe Respiratory Infection

Question

A 3-year-old presents with **fever, cough, vomiting** for 2 days. Examination: **tachypnea (RR 70), subcostal/intercostal retractions, bilateral coarse crepitations, temp 102°F**, refuses feeding since last night. What is the next step?

Options

a. Refer urgently to hospital
b. Give oral antibiotics and send home
c. Refer urgently after giving 1st dose of IV antibiotics
d. Admit in clinic for IV antibiotics
e. Discharge home with no medications

Answer

✅ **c. Refer urgently to hospital after giving 1st dose of IV antibiotics**

Reasoning

- Severe pneumonia features: **RR >50 in <12 months, >40 in 1–5 yrs**, chest indrawing, high fever, poor oral intake
- Initial **parenteral antibiotics** stabilize the child before transfer
- Oral antibiotics alone → insufficient for severe cases

High-Yield Points

- WHO criteria for **severe pneumonia in children**
- Most common pathogens: **Streptococcus pneumoniae, RSV**
- Supportive care: oxygen, hydration

Q8. Speech Delay, Clumsy Gait, Waddling, Mild Lordosis

Question

A 3-year-old boy presents with **speech delay** and **gross motor delay**. Birth history unremarkable. Started walking at age 2, clumsy, waddling gait, mild lordosis. Height and weight on 50th centile. Systemic exam normal. Which investigation will most likely reveal the diagnosis?

Options

a. Thyroid function test
b. Hearing test
c. DNA for CGG repeat sequence
d. Creatine kinase (CK)
e. CT scan brain

Answer

✅ **d. Creatine kinase (CK)**

Reasoning

- Waddling gait, Gower's sign, delayed motor milestones → **Duchenne muscular dystrophy (DMD)**
- CK → **markedly elevated in DMD**
- Genetic testing can confirm mutation in **DMD gene**, but CK is **first-line**

High-Yield Points

- X-linked recessive → males affected, females carriers
- Early signs: delayed walking, calf pseudohypertrophy
- Management: **physical therapy, corticosteroids, cardiac monitoring**

Q9. Sudden Fever, Neck Stiffness, Muscle Weakness, Not Fully Vaccinated

Question

A 6-year-old presents with **fever, headache, vomiting, neck stiffness**. Over next days develops **muscle weakness, especially in legs**. Not fully vaccinated. Most likely diagnosis?

Options

a. Meningitis
b. Muscular dystrophy
c. Guillain-Barré syndrome
d. Poliomyelitis
e. Cerebral palsy

Answer

✅ **d. Poliomyelitis**

Reasoning

- Features: **asymmetric flaccid paralysis**, preceded by fever
- Unvaccinated child → **wild poliovirus infection**
- GBS → usually **ascending symmetric weakness**, often post-infection

- Meningitis → neck stiffness, but rarely isolated limb paralysis

High-Yield Points

- Poliovirus → **anterior horn cell destruction**
- Vaccine-preventable: **IPV/OPV**
- Complications: permanent paralysis, respiratory involvement

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Q10. Pale, Failure to Thrive, Spherocytosis, Neonatal Jaundice

Question

A 4-year-old boy presents with **pallor and failure to thrive**. Peripheral smear: **Hb 8.9, spherocytes**, reticulocyte 21%. Family history: grandfather had **cholecystectomy for gallstones**, child had **prolonged neonatal jaundice**. Which test confirms the diagnosis?

Options

a. Hb electrophoresis
b. Osmotic fragility test
c. Genetic testing
d. Flow cytometry (CD55/CD59)
e. Bone marrow biopsy

Answer

✅ **b. Osmotic fragility test**

Reasoning

- Features: **hemolytic anemia, spherocytes, family history**, neonatal jaundice → **hereditary spherocytosis**
- Osmotic fragility → confirms RBC membrane defect
- Hb electrophoresis → thalassemia
- Flow cytometry CD55/CD59 → **PNH**

High-Yield Points

- Autosomal dominant
- Management: **folic acid, splenectomy in severe cases**
- Complications: gallstones, aplastic crises

Q11. Progressive Pallor, Picky Eater, No Meat Intake

Question

A 6-year-old child with **progressive pallor for 1 year**. Diet: picky eater, only French fries and bananas, no meat. Exam: pale, no jaundice, no organomegaly. Best investigation?

Options

a. Serum Vitamin B12
b. Serum Ferritin
c. Serum Calcium
d. Serum Folic Acid
e. Serum Vitamin E

Answer

✅ **a. Serum Vitamin B12**

Reasoning

- **Dietary deficiency** → vegetarian diet lacking **B12**
- Symptoms: pallor, lethargy, neurologic changes may appear later
- Ferritin → iron deficiency anemia
- Folic acid → can also cause megaloblastic anemia but diet suggests **B12 deficiency**

High-Yield Points

- Megaloblastic anemia: **macrocytosis, hypersegmented neutrophils**

- Complications of prolonged B12 deficiency → **neuropathy, developmental delay**
- Treatment: **oral/parenteral B12 supplementation**

Q12. Pale 4-Year-Old with Spherocytosis and Family History of Gallstones

Question

A 4-year-old boy presents with **pallor and failure to thrive**. Peripheral smear shows **Hb 8.9 g/dL, spherocytes**, and **reticulocyte count 21%**. Family history: grandfather had **cholecystectomy for gallstones**, and the boy had **prolonged neonatal jaundice**. Which test would confirm the diagnosis?

Options

a. Hb electrophoresis
b. Osmotic fragility test
c. Genetic testing
d. Flow cytometry CD55/CD59
e. Bone marrow examination

Answer

✅ **b. Osmotic fragility test**

Reasoning

- Features: hemolytic anemia, spherocytes, positive family history → **Hereditary spherocytosis (HS)**
- Osmotic fragility test → **gold standard for HS** (RBCs lyse easily in hypotonic solution)
- Hb electrophoresis → used for hemoglobinopathies
- Flow cytometry CD55/CD59 → for **Paroxysmal Nocturnal Hemoglobinuria**

High-Yield Points

- Inheritance: **Autosomal dominant** (most cases)
- Complications: **gallstones, aplastic crisis (parvovirus B19)**
- Management: **folic acid supplementation, splenectomy in severe cases**

Q13. Child with Petechial Rash after URI

Question

A child presents with **generalized petechial rash for 2 days** after an upper respiratory infection a week ago. Exam: well-looking, no bone tenderness, no visceromegaly, chest and CVS normal.

Options

a. Idiopathic thrombocytopenic purpura (ITP)
b. Henoch-Schönlein purpura (HSP)
c. Meningococcemia
d. Leukemia
e. Anemia

Answer

✅ **a. Idiopathic thrombocytopenic purpura (ITP)**

Reasoning

- Sudden **petechial rash**, post-viral infection, normal systemic exam → **ITP**
- HSP → usually **palpable purpura on lower limbs**, abdominal pain, renal involvement
- Meningococcemia → acutely ill, toxic child, fever, shock

High-Yield Points

- ITP → **autoimmune destruction of platelets**, often post-viral
- Lab: isolated **thrombocytopenia**, normal WBC/Hb
- Management: usually **self-limiting**, steroids or IVIG in severe cases

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Q14. Achondroplasia Clinical Feature

Question

A 2-year-old girl, Maryam, presents with **growth and development concerns**. Suspected **achondroplasia**. Which is the most characteristic feature?

Options

a. Excessive height for age
b. Long and slender limbs
c. Prominent forehead and midface hypoplasia
d. Narrow chest wall and cavity
e. Proportional body

Answer

✅ **c. Prominent forehead and midface hypoplasia**

Reasoning

- Achondroplasia → **most common skeletal dysplasia**, **short-limbed dwarfism**
- Clinical features: **short proximal limbs (rhizomelic), macrocephaly, prominent forehead, midface hypoplasia**
- Proportional body → normal in other conditions, not achondroplasia

High-Yield Points

- Mutation: **FGFR3 gene** (autosomal dominant)
- Complications: **spinal stenosis, foramen magnum compression, ear infections**
- Diagnosis: **clinical + radiologic (X-ray of long bones)**

Q15 & Q16. Child with Hemarthrosis and Bleeding History

Question

A 7-year-old child presents with **left knee swelling for 7 days**, history of **spontaneous bruising and circumcision bleeding**. Family history: maternal uncle with similar illness, uses **regular injections**. Exam: bruises on back/legs, swollen tender knee. Labs: **grossly deranged APTT**. Most likely diagnosis?

Options

a. Von Willebrand disease
b. Idiopathic thrombocytopenic purpura
c. Hemophilia
d. Leukemia
e. Juvenile idiopathic arthritis

Answer

✅ **c. Hemophilia**

Reasoning

- Male child, **X-linked inheritance**, hemarthrosis, prolonged APTT → **Hemophilia A (factor VIII) or B (factor IX)**
- Von Willebrand disease → mucocutaneous bleeding, not isolated hemarthrosis, usually mild APTT prolongation
- ITP → isolated thrombocytopenia, not coagulation defect

High-Yield Points

- Hemophilia types: **A (Factor VIII deficiency, 80%), B (Factor IX deficiency, 20%)**
- Complications: **recurrent hemarthrosis → joint deformity**
- Management: **factor replacement therapy, prophylactic infusions**

Q17. 2-Year-Old with Fever, Refusal to Walk, Hip Pain

Question

A 2-year-old with **fever and refusal to walk** for 2 days. Points to **right lower extremity**. Recent URI 2 weeks ago, no trauma. Labs: **WBC 20,000, ESR 45, CRP 12**. Hip X-ray: **widened right acetabular space**. Probable diagnosis?

Options

a. Osteomyelitis
b. Septic arthritis
c. Reactive arthritis

d. Post-infectious arthritis
e. Growing pains

Answer

✅ **b. Septic arthritis**

Reasoning

- Sudden **joint pain with fever**, refusal to bear weight, elevated WBC/ESR/CRP → **acute septic arthritis**
- X-ray may show **joint space widening** early
- Osteomyelitis → usually **bone tenderness**, not isolated joint
- Reactive/post-infectious arthritis → usually **asymmetrical, non-purulent**

High-Yield Points

- Most common organisms: **Staphylococcus aureus**, Kingella kingae in <5 yrs
- Diagnosis: **joint aspiration (gold standard)**
- Management: **urgent IV antibiotics + surgical drainage**

Q18. 6-Year-Old Boy with Progressive Difficulty and Gower's Sign

Question

A 6-year-old boy has been experiencing **frequent falls, difficulty running, and trouble climbing stairs**. His parents noticed that he **uses his hands to push off his thighs when standing from the floor** (Gower's sign). A sibling also has a similar condition. Genetic testing has been done (report pending). Based on this clinical scenario, what is the most likely diagnosis?

Options

a. Cerebral palsy (CP)
b. Duchenne muscular dystrophy (DMD)
c. Developmental dysplasia of the hip (DDH)
d. Arthrogryposis multiplex congenita (AMC)
e. Rickets

Answer

✅ **b. Duchenne muscular dystrophy (DMD)**

Reasoning

- **Progressive proximal muscle weakness** in a **boy**
- **Gower's sign** → pathognomonic for **proximal lower limb weakness**, classic in DMD
- Family history suggests **X-linked inheritance** (affected male sibling)
- CP → **non-progressive**, often presents with spasticity, delayed milestones, not progressive proximal weakness
- DDH → joint instability, gait abnormality, but **not progressive muscle weakness**
- AMC → congenital joint contractures, not progressive weakness
- Rickets → bone deformities, waddling gait, but no Gower's sign

High-Yield Points

- DMD is caused by **mutation in DMD gene** → **dystrophin deficiency**
- Usually presents at **2–6 years**, with:
    - **Gower's sign**
    - Calf **pseudohypertrophy**
    - Progressive difficulty running, climbing stairs, frequent falls
- Labs: **elevated creatine kinase (CK)** early in disease
- Management: supportive care, **corticosteroids** to slow progression, physiotherapy, cardiac monitoring

BLOOD PEADS

Q1. Inherited Bleeding Disorders

Question

Which of the following statements is **true regarding inherited bleeding disorders**?

Options

a. Hemophilia is an autosomal recessive disorder
b. Hemophilia becomes more severe in pregnancy because of decreased factor VIII levels
c. All women with von Willebrand disease (VWD) will respond to DDAVP during labor
d. Type 1 VWD has a 50% chance of affecting the baby
e. Chorionic villous sampling is contraindicated in hemophilia due to bleeding tendency

Answer

✅ **e. Chorionic villous sampling is contraindicated in hemophilia due to bleeding tendency**

Reasoning

- Hemophilia **A and B** are **X-linked recessive disorders**, not autosomal recessive (option a incorrect).
- During pregnancy, **factor VIII and von Willebrand factor usually increase**, often **reducing bleeding risk** (option b incorrect).
- Not all women with VWD respond to DDAVP; response is **type-dependent** (option c incorrect).
- Type 1 VWD is **autosomal dominant**, but inheritance risk depends on parental genotype; 50% is only if mother is heterozygous (option d is not universally true).
- **Invasive procedures like chorionic villous sampling are risky in hemophilia** due to potential fetal bleeding.

High-Yield Points

- Hemophilia A → factor VIII deficiency; Hemophilia B → factor IX deficiency
- X-linked recessive → primarily affects males

- VWD → most common inherited bleeding disorder, autosomal dominant type 1 most common
- DDAVP can be used in some VWD types to prevent bleeding
- Avoid invasive prenatal procedures in known hemophilia

Q2. 3-Day-Old Neonate with Mild Jaundice

Question

A **3-day-old preterm neonate (36 weeks)**, SVD, cried immediately at birth, is breastfed. Minimal jaundice noted; normal tone and reflexes. Labs:

- CBC: 16,000/mm³, Hb 15 g/dl, Plt 250,000/mm³
- MCV 110 fl
- Bilirubin: 9 mg/dl (7 indirect, 2 direct)

What is the **next step**?

Options

a. Advise folic acid and vitamin B12 drops
b. Advise iron and multivitamin drops
c. Exposure to sunlight & reassurance
d. Further investigation
e. Admit and start IV antibiotics

Answer

✅ **c. Exposure to sunlight & reassurance**

Reasoning

- This is **physiological neonatal jaundice**:
    - Starts **after 24 hours**, usually peaks **days 2–3**
    - Mostly **indirect bilirubin <12 mg/dl** in term neonates

    - Baby is **well-appearing, feeding well, normal exam**
- No signs of sepsis → **no need for antibiotics or admission**
- MCV high → likely due to **physiologic newborn macrocytosis**, normal

High-Yield Points

- Physiologic jaundice: common in term and preterm neonates
- Bilirubin rises slowly, resolves spontaneously
- Breastfeeding jaundice vs. pathological causes: assess timing, severity, clinical signs

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Q3. 14-Month-Old with Irritability and Poor Appetite

Question

A 14-month-old child has **excessive irritability and decreased appetite for 3 months**. Full-term, SVD, breastfed 3 months, then cow's milk substituted. Weaning at 7 months with rice, yoghurt, juice. Child cries despite feeding 7 times/day. Most likely cause?

Options

a. Iron deficiency
b. Megaloblastic anemia
c. Tuberculosis
d. Metabolic disorder
e. Delayed weaning

Answer

✅ **a. Iron deficiency**

Reasoning

- Exclusively breastfed **>6 months without iron supplementation** → risk of **iron deficiency**
- Cow's milk after 3 months → poor iron bioavailability, can cause **iron-deficiency anemia**

- Irritability, poor appetite, pallor typical
- Megaloblastic anemia → usually associated with **macrocytosis, neurological signs, vitamin B12/folate deficiency**
- TB or metabolic disorder → less likely without systemic signs

High-Yield Points

- Iron stores in term infants last **4–6 months**
- Risk factors: early cow's milk, vegetarian diet, premature birth
- Clinical signs: pallor, irritability, poor appetite, delayed growth
- Lab: **low Hb, low MCV, low ferritin, high RDW**

Q4. 30-Year-Old Female with Muscle Weakness and Rash

Question

A 30-year-old female has **difficulty climbing stairs and getting out of bed** for 1 month, with a **rash over the V of neck and around eyelids**. What is the **confirmatory investigation**?

Options

a. ANA
b. CPK
c. EMG
d. Muscle biopsy
e. RA factor & ESR

Answer

✅ **d. Muscle biopsy**

Reasoning

- Clinical picture: **proximal muscle weakness + heliotrope and V-sign rash → dermatomyositis**

- **CK** is supportive (muscle enzyme elevation)
- **EMG** → shows myopathic changes, supportive
- **ANA** → may be positive but **not confirmatory**
- **Muscle biopsy** → definitive diagnosis: **perifascicular atrophy, inflammatory infiltrates**

High-Yield Points

- Dermatomyositis: **autoimmune inflammatory myopathy**
- Rash types: **heliotrope rash (eyelids), Gottron papules (hands), V-sign (neck/chest)**
- Labs: ↑ CK, LDH, ALT, AST
- Treatment: corticosteroids, immunosuppressants

Q5. 18-Month-Old with Poor Weight Gain & Dietary History

Question

An 18-month-old toddler, recently recovered from **mild URTI**, presents with **poor weight gain**. Breastfed since birth, weaned at 6 months with rice, dalia, kheer, fruits; **no meat in diet**. Clinically pale, mildly jaundiced, irritable. Liver/spleen normal. Most likely diagnosis?

Options

a. Hemolytic anemia
b. Iron deficiency
c. Aplastic anemia
d. Vitamin B12 deficiency
e. Acute viral hepatitis

Answer

✅ **d. Vitamin B12 deficiency**

Reasoning

- Exclusively **plant-based diet**, no meat → risk of **B12 deficiency**
- Age <2 years → rapid growth → high B12 requirement
- Clinical signs: pallor, **mild jaundice**, irritability, failure to thrive
- Hemolytic anemia → usually more severe jaundice, reticulocytosis
- Iron deficiency → microcytic anemia; this child likely has **macrocytic anemia**
- Aplastic anemia → pancytopenia, not just pallor
- Viral hepatitis → abnormal LFTs, hepatomegaly

High-Yield Points

- B12 deficiency: **macrocytic anemia, mild jaundice, neurodevelopmental delay**
- Labs: ↑ MCV, low serum B12, megaloblastic changes in marrow
- Common in **vegetarian infants**, or prolonged breastfeeding from B12-deficient mothers
- Treatment: **parenteral B12 injections**

Q6. Six-Day-Old Female Neonate with Jaundice

Question

A **6-day-old female neonate** presents with **jaundice**. She was **born full term, SVD with immediate cry**. Jaundice started on **day 3** and has increased significantly.

Examination: jaundiced, pale, minimally tachypneic. Abdomen soft; spleen palpable 3 cm below left costal margin.

Investigations:

- WBC: 16,000/mm³
- Serum bilirubin: 25 mg/dL (direct 5, indirect 20)
- Reticulocyte count: 6%

What is the **most likely diagnosis**?

Options

a. ABO incompatibility
b. Physiological jaundice
c. Hereditary spherocytosis
d. G6PD deficiency
e. Autoimmune hemolytic anemia

Answer

✅ **a. ABO incompatibility**

Reasoning

- **Timing:** Day 3–6 → **pathologic jaundice**
- **Labs:** High indirect bilirubin, reticulocytosis → **hemolysis**
- **Spleen palpable** → suggests **extravascular hemolysis**
- **ABO incompatibility:** Most common in **O mother / A or B baby**; Coombs positive
- Physiological jaundice usually **peaks day 2–3** and bilirubin <15 mg/dL
- Hereditary spherocytosis → usually presents **later, family history, anemia**, and splenomegaly may be more pronounced
- G6PD deficiency → often **after oxidative stress**, bilirubin rises rapidly
- Autoimmune hemolytic anemia → rare in neonates, usually Coombs positive

High-Yield Points

- Pathologic jaundice: <24 h of life, rising >5 mg/dL/day, total bilirubin >17 mg/dL
- Hemolytic causes: **ABO incompatibility, Rh incompatibility, G6PD deficiency**
- Key labs: **bilirubin fractionation, reticulocyte count, Coombs test**

Q7. 4-Year-Old with Bruises and Petechiae

Question

A **4-year-old female** presents with **bruises and petechiae** all over her body for 2 days. No trauma history. She also had **two episodes of epistaxis**.

Examination: alert, afebrile, no lymphadenopathy, no visceromegaly.

What is the **most likely diagnosis**?

Options

a. Aplastic anemia
b. Immune thrombocytopenic purpura (ITP)
c. Non-accidental injury (NAI)
d. Acute leukemia
e. Autoimmune hemolytic anemia

Answer

✅ **b. Immune thrombocytopenic purpura (ITP)**

Reasoning

- Classic **acute ITP** presentation:
    - Age 2–6 years, post-viral
    - Sudden onset **petechiae, bruising, mild mucosal bleeding**
    - Otherwise well child, no hepatosplenomegaly
- Aplastic anemia → pancytopenia, systemic symptoms
- NAI → history often inconsistent, not isolated bruises in typical distribution
- Leukemia → would often show systemic symptoms (fever, pallor, lymphadenopathy)
- Autoimmune hemolytic anemia → usually anemia dominant, jaundice, not isolated bruising

High-Yield Points

- **ITP:** immune-mediated platelet destruction
- **Labs:** isolated thrombocytopenia, normal WBC & Hb

- Most resolve spontaneously **within 6 months**
- Treatment: only if severe bleeding or high-risk sites

Q8. 4-Year-Old with Jaundice and Splenomegaly

Question

A previously healthy **4-year-old child** presents with **yellow eyes for 4 days**.

Examination: pale, afebrile, no lymphadenopathy, no hepatomegaly, pitting edema absent, **splenomegaly present**.

History: febrile episode a few days ago, no cough, dysuria, vomiting, headache. Treated with antimalarials.

What is the **most likely diagnosis**?

Options

a. G6PD deficiency
b. Autoimmune hemolytic anemia
c. Thalassemia
d. Hereditary spherocytosis
e. Pyruvate kinase deficiency

Answer

✅ **a. G6PD deficiency**

Reasoning

- Triggered by **oxidative stress** (infection, drugs) → hemolysis
- Acute hemolytic episode → **jaundice + pallor + splenomegaly**
- Onset in **previously healthy child**
- Hereditary spherocytosis → chronic anemia, pallor, splenomegaly from birth
- Autoimmune hemolytic anemia → Coombs positive, rare in this age

- Thalassemia → usually chronic, microcytic anemia
- Pyruvate kinase deficiency → chronic hemolysis, rarely triggered by infection

High-Yield Points

- X-linked recessive → males affected, females carriers usually asymptomatic
- Labs: hemolytic anemia, high indirect bilirubin, reticulocytosis
- Peripheral smear: **bite cells, Heinz bodies**
- Avoid triggers (certain drugs, fava beans)

Q9. 5-Year-Old with Knee Swelling and Family History

Question

A **5-year-old child** presents with **swelling of right knee for 5 days**. History of **minor trauma** 6 days ago.

Other history: consanguineous parents, avid sports, previous minor joint injury healed quickly, elder sister has **prolonged bleeding after minor trauma**.

What is the **most likely diagnosis**?

Options

a. Fanconi anemia
b. ITP (immune thrombocytopenic purpura)
c. Factor V Leiden deficiency
d. Hemophilia A (skewed lyonization)
e. Factor X deficiency

Answer

✅ **d. Hemophilia A (skewed lyonization)**

Reasoning

- X-linked recessive disorder; can **rarely affect females** due to **skewed X-inactivation (lyonization)**
- **Joint bleeding (hemarthrosis)** is classic presentation
- Trauma triggers bleeding
- Family history: **maternal uncle or sister affected**
- Fanconi anemia → pancytopenia, congenital anomalies
- ITP → thrombocytopenia, usually **petechiae**, not isolated hemarthrosis
- Factor V Leiden → thrombotic tendency, not bleeding
- Factor X deficiency → rare, similar but hemarthrosis less common than factor VIII deficiency

High-Yield Points

- Hemophilia A → factor VIII deficiency, X-linked recessive
- Hemophilia B → factor IX deficiency
- Lab: **prolonged APTT, normal PT, normal platelets**
- Complication: **hemarthrosis, muscle bleeds, intracranial hemorrhage**

Q10. 14-Year-Old Boy with Recurrent Joint Bleeding

Question

A 14-year-old boy has **recurrent joint swelling and pain**, especially knees and ankles after minor injuries. Also has **easy bruising and prolonged bleeding** after dental extractions.

Examination: tenderness and swelling in multiple joints.

What is the **most likely diagnosis**?

Options

a. Hemophilia A
b. Von Willebrand disease
c. Disseminated intravascular coagulation (DIC)
d. Factor XI deficiency
e. Platelet function disorder

Answer

✅ **a. Hemophilia A**

Reasoning

- **X-linked recessive** → boys affected
- **Hemarthrosis** and soft tissue bleeding are hallmark
- Prolonged **APTT**, normal PT, normal platelets
- DIC → acute, severe, multi-system involvement
- vWD → **mucosal bleeding** more prominent, rarely hemarthrosis
- Factor XI deficiency → bleeding usually **after trauma or surgery**, less spontaneous joint bleeds
- Platelet function disorders → **mucocutaneous bleeding**, not hemarthrosis

High-Yield Points

- Hemophilia A: factor VIII deficiency
- Hemophilia B: factor IX deficiency
- Labs: **APTT prolonged, PT normal, platelet count normal**
- Management: factor VIII replacement, prophylaxis to prevent joint damage

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Q11. 14-Year-Old Girl with Bruising and Menorrhagia

Question

A 14-year-old girl has **excessive bruising since childhood** and **menorrhagia** since menarche. Family history: maternal aunt with excessive bleeding.

Coagulation profile:

- Bleeding time: >15 min
- PT: 14 sec
- APTT: 77 sec

What is the **most likely diagnosis**?

Options

a. Hemophilia A
b. Hemophilia B
c. Von Willebrand disease
d. Factor VII deficiency
e. Protein C deficiency

Answer

✅ **c. Von Willebrand disease (VWD)**

Reasoning

- Mucocutaneous bleeding (bruising, menorrhagia) → classic VWD
- Family history → autosomal dominant inheritance
- Labs: **prolonged bleeding time + prolonged APTT**, normal PT → **VWD type 1 or 2**
- Hemophilia A/B → X-linked, males primarily affected
- Factor VII deficiency → prolonged PT, normal bleeding time
- Protein C deficiency → thrombotic disorder, not bleeding

High-Yield Points

- VWD most common inherited bleeding disorder

- Types:
    - Type 1 → mild, most common
    - Type 2 → qualitative defect
    - Type 3 → severe, almost absent vWF
- Treatment: **DDAVP (type 1), vWF concentrates (type 3)**

Q3. Risk Factors for G6PD Deficiency

Question

Which of the following **is NOT a risk factor** for triggering hemolysis in **G6PD deficiency**?

Options

a. Quinine
b. Primaquine
c. Sulfamethoxazole
d. Aspirin
e. None of the above

Answer

✅ **e. None of the above**

Reasoning

- All listed drugs can **trigger oxidative stress** in G6PD-deficient red cells, leading to hemolysis.
- **Quinine, Primaquine, Sulfamethoxazole, and high-dose Aspirin** → well-known triggers.
- Therefore, none of the listed options is “not a risk factor.”

High-Yield Points

- Avoid oxidant drugs in G6PD deficiency: **antimalarials (primaquine, quinine), sulfa drugs, nitrofurantoin, high-dose aspirin**
- Common triggers also include infections and fava beans.

- **X-linked recessive inheritance** → mostly males affected

Q4. Heinz Bodies

Question

Heinz bodies are pathognomonic for which condition?

Options

a. Thalassemia
b. Sickle cell anemia
c. Spherocytosis
d. G6PD deficiency
e. All of the above

Answer

✅ **d. G6PD deficiency**

Reasoning

- **Heinz bodies** = denatured hemoglobin seen after oxidative stress
- G6PD deficiency → hemolysis due to oxidative stress → **Heinz bodies**
- Not typically seen in thalassemia, sickle cell, or spherocytosis

High-Yield Points

- Detected with **supravital stain (crystal violet)**
- Can cause **bite cells** when splenic macrophages remove Heinz bodies
- Key diagnostic clue in hemolytic episodes

Q5. Features of Intravascular Hemolysis

Question

Which of the following is **not a feature** of intravascular hemolysis?

Options

a. Anemia
b. Hemoglobinuria
c. Hemosiderinuria
d. Methemoglobinemia
e. All of the above

Answer

✅ **d. Methemoglobinemia**

Reasoning

- Intravascular hemolysis: **anemia, hemoglobinuria, hemosiderinuria, jaundice**
- **Methemoglobinemia** → oxidation of Fe^{2+} in hemoglobin, unrelated to intravascular hemolysis

High-Yield Points

- Causes of intravascular hemolysis: **PNH, hemolytic transfusion reactions, malaria**
- Labs: ↑ LDH, ↑ indirect bilirubin, ↓ haptoglobin

Q6. Clinical Features of Thalassemia

Question

Which of the following is **not a clinical feature** of thalassemia?

Options

a. Frontal bossing
b. Rash
c. Protruding teeth
d. Frequent fractures
e. Protuberant abdomen

Answer

✅ **b. Rash**

Reasoning

- Thalassemia → **ineffective erythropoiesis → bone marrow expansion → frontal bossing, maxillary overgrowth, protuberant abdomen (hepatosplenomegaly)**
- Rash is **not associated**

High-Yield Points

- Classic **cooley's anemia / beta-thalassemia major** → chronic anemia, growth retardation, skeletal changes
- Labs: microcytic hypochromic anemia, target cells

Q7. Hair-on-End Appearance

Question

"Hair-on-end" appearance on skull X-ray is pathognomonic for:

Options

a. Sickle cell disease
b. Hemophilia
c. ITP
d. Thalassemia
e. Spherocytosis

Answer

✅ **d. Thalassemia**

Reasoning

- Chronic **bone marrow expansion** in thalassemia → trabecular vertical growth → **hair-on-end**
- Not seen in SCD (skull changes less pronounced), hemophilia, ITP, or spherocytosis

High-Yield Points

- Seen in **beta-thalassemia major**
- Skull X-ray: **prominent vertical trabeculae**
- Other bones affected: **facial bones, ribs, vertebrae**

Q8. Blood Smear in Thalassemia

Question

Which of the following is pathognomonic for thalassemia on blood smear?

Options

a. Oval RBC
b. Heinz bodies
c. Target cells
d. Sickle cells
e. All of the above

Answer

✅ **c. Target cells**

Reasoning

- Target cells = **codocytes**, hallmark of **thalassemia**
- Heinz bodies → G6PD deficiency
- Sickle cells → sickle cell anemia
- Ovalocytes → hereditary elliptocytosis

High-Yield Points

- Peripheral smear: **microcytic hypochromic anemia + target cells + nucleated RBCs**
- Diagnostic: **Hb electrophoresis**

Q9. Pigmented Gallstones

Question

Pigmented gallstones are pathognomonic for which condition?

Options

a. Thalassemia
b. Spherocytosis
c. G6PD deficiency
d. Sickle cell disease
e. All of the above

Answer

✅ **e. All of the above**

Reasoning

- **Chronic hemolysis → unconjugated bilirubin → pigmented gallstones**
- Seen in **thalassemia, hereditary spherocytosis, G6PD deficiency, sickle cell disease**

High-Yield Points

- Gallstones in children usually **hemolytic** in origin
- Symptoms: RUQ pain, jaundice, cholangitis risk

Q10. Diagnostic Test for Thalassemia

Question

Which test is **diagnostic for thalassemia**?

Options

a. Hb electrophoresis
b. Bone marrow biopsy

c. DNA analysis for gene defect
d. Blood smear
e. All of the above

Answer

✅ **a. Hb electrophoresis**

Reasoning

- Confirms **β-thalassemia vs α-thalassemia**
- Blood smear → supportive only
- Bone marrow biopsy → not required
- DNA analysis → definitive but usually **not first-line**

High-Yield Points

- Hb electrophoresis: ↑ HbF, ↑ HbA2 in β-thalassemia
- α-thalassemia → DNA testing needed

Q11. Treatment of Thalassemia

Question

Which of the following is **not used** in thalassemia management?

Options

a. Splenectomy
b. Desferrioxamine
c. Deferiprone
d. Repeated blood transfusion
e. None of the above

Answer

✅ **e. None of the above**

Reasoning

- All listed interventions are **used in thalassemia**:
    - Blood transfusion → mainstay for severe β-thalassemia
    - Chelation (desferrioxamine, deferiprone) → prevent iron overload
    - Splenectomy → for hypersplenism

High-Yield Points

- Monitor iron overload: ferritin, MRI T2*
- Splenectomy risks: infection, thrombosis

Q12. Drug that Increases HbF

Question

Which drug can **increase fetal hemoglobin (HbF)**?

Options

a. Desferrioxamine
b. Hydroxyurea
c. Folic acid
d. Vitamin C
e. None of the above

Answer

✅ **b. Hydroxyurea**

Reasoning

- **Hydroxyurea → ↑ HbF → reduces sickling in SCD**
- Folic acid → prevents megaloblastic anemia in chronic hemolysis
- Desferrioxamine → iron chelation

High-Yield Points

- Hydroxyurea also reduces **pain crises and ACS in SCD**
- Monitor for **myelosuppression**

Q13. RBC Lifespan in Sickle Cell Disease

Options

a. 100 days
b. 70–80 days
c. 30–40 days
d. 10–20 days
e. None of the above

Answer

✅ **c. 30–40 days**

Reasoning

- Sickle cells → **rigid, hemolyze quickly**
- Normal RBC lifespan = 120 days

High-Yield Points

- Chronic hemolytic anemia → **jaundice, gallstones, reticulocytosis**

Q14. RBC Lifespan in Spherocytosis

Options

a. 80–100 days
b. 40–50 days
c. 60–70 days
d. 10–20 days
e. None of the above

Answer

✅ **b. 40–50 days**

Reasoning

- RBCs → **spherocytes destroyed in spleen**
- Causes **mild to moderate hemolytic anemia**

High-Yield Points

- Lab: spherocytes, ↑ MCHC, reticulocytosis
- Osmotic fragility test confirms

Q15. X-Linked Recessive Inheritance

Options

a. G6PD deficiency
b. Spherocytosis
c. Sickle cell disease
d. Thalassemia
e. All of the above

Answer

✅ **a. G6PD deficiency**

Reasoning

- G6PD deficiency → X-linked recessive
- Spherocytosis → AD/AR
- Sickle cell → AR
- Thalassemia → AR

Q16. Diagnostic Test for Spherocytosis

Question

Which is **diagnostic** for spherocytosis?

Options

a. Electrophoresis
b. Blood smear
c. Osmotic fragility test
d. Enzymatic assay
e. All of the above

Answer

✅ **c. Osmotic fragility test**

Reasoning

- Confirms **RBC membrane defect**
- Blood smear supportive (spherocytes)
- Electrophoresis → not diagnostic
- Enzymatic assays → not relevant

High-Yield Points

- Treatment: **folic acid supplementation**, splenectomy if severe
- Complications: gallstones, anemia

Q17. Clinical Features of Acute Lymphoblastic Leukemia (ALL)

Question

Which of the following is **not a clinical feature** of acute lymphoblastic leukemia (ALL)?

Options

a. Lymphadenopathy
b. Purpuric and petechial skin lesions

c. Weight gain
d. Hepatosplenomegaly
e. Pallor

Answer

✅ **c. Weight gain**

Reasoning

- ALL is characterized by **bone marrow failure** → pallor, fatigue, infections, bleeding.
- Common features: **lymphadenopathy, hepatosplenomegaly, pallor, purpura, petechiae**.
- **Weight gain** is **not typical**; usually children may have **weight loss**.

High-Yield Points

- ALL = most common childhood leukemia (peak 2–5 years)
- Lab: pancytopenia, blasts on peripheral smear
- Bone marrow: ≥20% lymphoblasts confirms diagnosis

Q1. Vitamin K Deficiency and Coagulation Factors

Question

In vitamin K deficiency, which coagulation factor **will not be affected**?

Options

a. Factor II
b. Factor VII
c. Factor VIII
d. Factor XI
e. Factor IX

Answer

✅ **c. Factor VIII**

Reasoning

- Vitamin K → required for **γ-carboxylation of factors II, VII, IX, X, protein C & S**
- **Factor VIII** is **not vitamin K dependent** → unaffected

High-Yield Points

- Clinical: **bleeding tendency in neonates**, **prolonged PT>APTT**
- Treatment: **vitamin K injection at birth** prevents hemorrhagic disease

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Q2. Allergic Reactions

Question

Which cell type is **increased** in allergic reactions?

Options

a. Neutrophils
b. Lymphocytes
c. Eosinophils
d. Basophils
e. All of the above

Answer

✅ **c. Eosinophils**

Reasoning

- Allergic reactions → **type I hypersensitivity** → IgE mediated → recruits **eosinophils**
- Basophils/mast cells release histamine, but eosinophilia is classic

High-Yield Points

- Eosinophils → combat **parasitic infections & allergic responses**

- Lab clue: **peripheral eosinophilia**

Q3. Test for Hemolytic Anemia

Question

Which test is used to interpret **hemolytic anemia**?

Options

a. Schilling test
b. Coombs test
c. Genetic test
d. None of the above
e. All of the above

Answer

✅ **b. Coombs test**

Reasoning

- Direct Coombs → detects **antibody/complement on RBCs** → autoimmune hemolysis
- Indirect Coombs → pre-transfusion testing
- Schilling → B12 absorption; genetic → inherited disorders

High-Yield Points

- Direct Coombs positive → **autoimmune hemolytic anemia**
- Can be drug-induced (penicillin, cephalosporins)

Q4. RBC Half-Life

Question

Half-life of normal RBCs is:

Options

a. 90 days
b. 120 days
c. 60 days
d. 150 days
e. 100 days

Answer

✅ **b. 120 days**

Reasoning

- Normal RBC lifespan = **~120 days** in circulation
- Shortened in **hemolytic anemias** (spherocytosis, sickle cell disease)

High-Yield Points

- Reticulocyte count ↑ in hemolysis
- Chronic anemia → hyperbilirubinemia, gallstones

Q5. Timing of Hb Electrophoresis

Question

When should **Hb electrophoresis** be done?

Options

a. At birth
b. 4 months
c. 12 months
d. 6 months
e. 2 months

Answer

✅ **b. 4 months**

Reasoning

- At birth → HbF dominates → masks hemoglobinopathies
- By **4–6 months** → HbA/HbA2/HbF stabilize → can detect thalassemia & sickle cell

High-Yield Points

- Newborn screening programs use **cord blood** → confirm after 3–4 months
- Useful in β-thalassemia & sickle cell

Q6. Cyanotic Infant Squatting

Question

A 2-year-old infant with mild cyanosis who squats during exertion. Sudden limpness & unresponsiveness. Most likely lesion:

Options

a. Hypoplastic left heart
b. Transposition of great vessels
c. Anomalous pulmonary venous return
d. Tetralogy of Fallot
e. Aspiration/obstruction

Answer

✅ **d. Tetralogy of Fallot**

Reasoning

- **Tet spells** → hypercyanotic episodes during exertion → squatting improves venous return & oxygenation
- Cyanosis, fussiness, limpness typical
- Lesion: **VSD + pulmonary stenosis + overriding aorta + RV hypertrophy**

High-Yield Points

- Squatting = classic **TOF sign**
- Surgical repair recommended in early childhood

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Q1. Preterm Neonate with Respiratory Distress

Question

A 28-week preterm neonate (1 kg) presents with **respiratory distress** (RR 70/min, nasal flaring, intercostal retractions). Most likely cause:

Options

a. Congenital pneumonia
b. Congenital diaphragmatic hernia
c. Meconium aspiration syndrome
d. Respiratory distress syndrome (RDS)
e. Transient tachypnea of newborn

Answer

✅ **d. Respiratory distress syndrome**

Reasoning

- Premature infant → surfactant deficiency → alveolar collapse → RDS
- Clinical: **tachypnea, grunting, nasal flaring, retractions**
- CXR: ground-glass appearance

High-Yield Points

- RDS common in <34 weeks gestation
- Prevention: **antenatal steroids, surfactant therapy**

Q2. 8-Month-Old with Progressive Pallor

Question

8-month-old female with 3-month pallor, hepatosplenomegaly, Hb 6.8 g/dl, TLC 21,000, platelets 246,000. No petechiae. Best diagnosis approach:

Options

a. Hemolytic anemia smear (thick/thin)
b. Trephine biopsy + Hb electrophoresis
c. Trephine biopsy
d. Splenic biopsy

Answer

✅ **b. Trephine biopsy + Hb electrophoresis**

Reasoning

- Pallor + hepatosplenomegaly + microcytic anemia → **hemoglobinopathy** suspected
- Trephine biopsy → marrow morphology
- Hb electrophoresis → confirms **thalassemia / sickle cell**

Q3. 8-Year-Old with Knee Swelling

Question

8-year-old with right knee swelling, no lymphadenopathy/visceromegaly. Required investigations:

Options

a. Platelet count
b. PT
c. Factor VIII assay
d. Trephine biopsy
e. Splenic biopsy

Answer

✅ **c. Factor VIII assay**

Reasoning

- Hemarthrosis in child → consider **hemophilia**
- Factor VIII → Hemophilia A; Factor IX → Hemophilia B
- Platelets normal → excludes ITP

Q4. 9-Year-Old Female, Pallor & Fever

Question

9-year-old with progressive pallor, fever, unconscious (GCS 8), petechiae, TLC 3200, platelet 7000, no lymphadenopathy/visceromegaly. Most likely diagnosis:

Options

a. Acquired aplastic anemia with intracranial bleeding
b. Idiopathic thrombocytopenia with intracranial bleeding
c. Fanconi anemia with intracranial bleeding
d. Factor IX deficiency with intracranial bleeding
e. Classic hemophilia with intracranial bleeding

Answer

✅ **b. Idiopathic thrombocytopenic purpura (ITP) with intracranial bleeding**

Reasoning

- Acute thrombocytopenia → **petechiae, bleeding**
- Platelets 7000 → high risk **intracranial hemorrhage**
- Normal WBC differential → excludes leukemia
- Aplastic anemia → pancytopenia; Fanconi → usually congenital

High-Yield Points

- ITP peak: **2–6 years**
- Severe bleeding → admit, IVIG or platelet transfusion

Q5. Investigation for Fever, Weight Loss, and Night Sweats in 11-Year-Old

Question

An 11-year-old boy presents with **weight loss, high-grade fever, pallor, and drenching night sweats**. CBC shows Hb 10 g/dL, WBC 5000, platelets 200,000. What is the **most appropriate investigation for diagnosis**?

Options

a. Bone marrow aspiration
b. Chest X-ray
c. Ultrasound abdomen
d. Lymph node biopsy
e. Trephine biopsy

Answer

✅ **d. Lymph node biopsy**

Reasoning

- Symptoms: **B symptoms** (fever, night sweats, weight loss) → suggest **lymphoma**
- Normal CBC does not rule out lymphoma
- **Definitive diagnosis** → **lymph node biopsy**, histopathology

High-Yield Points

- **Hodgkin lymphoma** → usually **painless cervical/mediastinal lymphadenopathy**
- **Non-Hodgkin lymphoma** → may present with extranodal involvement
- Bone marrow → only if staging needed or systemic involvement suspected

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Q6. Progressive Pallor in 12-Month-Old with Family History

Question

A 12-month-old male presents with **progressive pallor**. His two elder sisters have mild pallor. Hb 6.5 g/dL, TLC 15,400, platelets 210,000, spleen 2 cm, liver span 6 cm. Which investigation will **guide diagnosis**?

Options

a. Bone marrow biopsy
b. Splenic aspirate
c. Splenic biopsy
d. Hb electrophoresis
e. Trephine biopsy

Answer

✅ **d. Hb electrophoresis**

Reasoning

- Microcytic anemia + **family involvement** → suggests **inherited hemoglobinopathy** (likely **thalassemia minor/major**)
- Hb electrophoresis → differentiates **β-thalassemia, HbE, HbF levels**
- Bone marrow / splenic biopsy → not first-line

High-Yield Points

- β-thalassemia major → presents **6–12 months** with pallor, hepatosplenomegaly
- CBC: **microcytosis, high RBC count**
- Peripheral smear: target cells

Q7. 6-Year-Old from Chitral with 40 Days Fever

Question

A 6-year-old with **fever for 40 days**, pallor, marked splenomegaly, pancytopenia (Hb 6.4, TLC 3000, platelets 64,000). Prior antibiotics/antimalarials ineffective. Most likely investigation?

Options

a. Blood culture
b. Thick and thin smear
c. Special smear
d. Splenic aspirate

Answer

✅ **d. Splenic aspirate**

Reasoning

- Chronic fever + massive splenomegaly + pancytopenia → **Visceral leishmaniasis (Kala-azar)**
- **Splenic aspirate** → gold standard for diagnosis
- Blood smear often negative; serology may help

High-Yield Points

- Endemic areas: India, Pakistan, Chitral region
- Lab: pancytopenia, hypergammaglobulinemia
- Treatment: **Amphotericin B**

Q8. 6-Year-Old Male with Bleeding After Tongue Bite

Question

A 6-year-old boy presents with **bleeding from tongue after accidental bite**. History: right knee swelling for 1 year, maternal uncle has bleeding disorder. Screening test for diagnosis?

Options

a. Bleeding time
b. APTT
c. Platelet function test
d. Platelet count
e. PT

Answer

✅ **b. APTT**

Reasoning

- Male child with **X-linked inheritance** → suggests **Hemophilia A/B**
- Hemophilia → **prolonged APTT**, normal PT & bleeding time
- Screening → APTT first; confirm with **Factor VIII/IX assay**

High-Yield Points

- Hemophilia A → **Factor VIII deficiency**
- Hemophilia B → **Factor IX deficiency**
- Hemarthrosis, easy bruising, prolonged bleeding → hallmark

Q9. 2-Year-Old with Painful Swelling of Hands/Feet

Question

A 2-year-old presents with **pallor and painful swelling of hands and feet**. Family history: chronic pallor, treatment since early life. Labs: Hb 9 g/dL, WBC 11,500, platelets 250,000. Most likely test to confirm diagnosis?

Options

a. Bone marrow examination
b. Blood culture
c. PT/APTT
d. Special smear
e. Hb electrophoresis

Answer

✅ **e. Hb electrophoresis**

Reasoning

- Painful swelling of hands/feet = **dactylitis**, classic in **sickle cell disease**

- Family history + chronic anemia → suggests **inherited hemoglobinopathy**
- Hb electrophoresis → definitive diagnosis (detects HbS)

High-Yield Points

- Sickle cell anemia → vaso-occlusive crises, dactylitis, hemolytic anemia
- Lab: reticulocytosis, target cells
- Prevent infection → **penicillin prophylaxis**

Q10. 4-Year-Old Girl with Fever, Pallor, Hepatosplenomegaly, Lymphadenopathy

Question

A 4-year-old girl presents with **3-week history of fever, pallor, splenomegaly, hepatomegaly, and lymphadenopathy**. Appropriate test for diagnosis?

Options

a. Bone marrow aspiration
b. Lymph node biopsy
c. Blood smear
d. Hb electrophoresis
e. Splenic aspirate

Answer

✅ **a. Bone marrow aspiration**

Reasoning

- Fever + pallor + hepatosplenomegaly + lymphadenopathy → suspect **acute leukemia**
- Bone marrow aspiration → confirms **blasts >20%**
- CBC alone insufficient

High-Yield Points

- ALL most common in 2–10 years
- Labs: pancytopenia or leukocytosis, blasts
- Early diagnosis → improves prognosis

Q11. 11-Year-Old with Weight Loss and Respiratory Difficulty

Question

11-year-old child presents with **weight loss 1 month ago and respiratory difficulty for 1 week**. Exam: generalized lymphadenopathy. CBC: Hb 9 g/dL, TLC 12,700, platelets 156,000, ALT 4× normal. Most likely diagnosis?

Options

a. All
b. Myeloma
c. Lymphoma
d. CML

Answer

✅ **c. Lymphoma**

Reasoning

- Lymphadenopathy + systemic symptoms + hepatosplenomegaly → suggests **lymphoma**
- ALT ↑ → possible **liver infiltration** or chemotherapy toxicity
- Myeloma → rare in children
- CML → high WBC with left shift

High-Yield Points

- Hodgkin lymphoma → **B symptoms**, cervical nodes
- Non-Hodgkin lymphoma → abdominal mass common
- Diagnosis: **lymph node biopsy**

Q12. Management of Severe Pancytopenia in 10-Year-Old

Question

A 10-year-old child presents with **progressive fever, pallor, body aches**. On examination: pale, scattered petechiae, no lymphadenopathy, no visceromegaly. He was **hospitalized last month** and received RBC and platelet transfusions. CBC: Hb 4 g/dL, TLC 2,500 (12% polys, 88% lymphocytes), platelets 22,000. What is the **appropriate treatment**?

Options

a. Cyclosporine
b. Methylprednisolone with cyclosporine
c. Azathioprine
d. Immunoglobulins with cyclosporin
e. Bone marrow transplantation

Answer

✅ **e. Bone marrow transplantation**

Reasoning

- Pancytopenia with **repeated transfusions** → suggests **severe aplastic anemia**
- First-line curative treatment in **children** → **bone marrow transplantation** from HLA-matched donor
- Immunosuppressive therapy (cyclosporine + ATG) → alternative if **no matched donor**

High-Yield Points

- Pancytopenia + hypocellular marrow → aplastic anemia
- Peripheral smear: **normocytic, normochromic** anemia
- Common complications: **bleeding, infection**

Q13. Recurrent Hemolysis After Infection in 6-Year-Old

Question

A 6-year-old presents with **sudden pallor during running, high fever, and loose stools**. History of **neonatal jaundice** requiring phototherapy. Multiple similar episodes. Clinical exam: pallor, mild icterus. Most likely diagnosis?

Options

a. G6PD deficiency
b. Hereditary spherocytosis
c. Sickle cell anemia
d. Fanconi anemia
e. Aleukemic leukemia

Answer

✅ **a. G6PD deficiency**

Reasoning

- Acute hemolysis triggered by **infection, drugs, or oxidative stress**
- History of **neonatal jaundice** supports **G6PD deficiency**
- Labs during hemolytic episode: **anemia, indirect hyperbilirubinemia, reticulocytosis**

High-Yield Points

- X-linked recessive inheritance
- Common triggers: **primaquine, sulfa drugs, infection**
- Management: **avoid triggers, supportive care, transfusion if severe**

Q14. Excessive Menstrual Bleeding in Adolescent Girl

Question

A 14-year-old girl presents with **excessive bleeding in her first menstrual cycle**, scattered petechiae, afebrile, no lymphadenopathy/visceromegaly. CBC: Hb 8.8 g/dL, TLC 12,700, platelets 155,000. Labs: **prolonged bleeding time and APTT, normal PT**. Most likely diagnosis?

Options

a. Hemophilia B
b. Autoimmune hemophilia
c. Glanzmann thrombasthenia
d. Von Willebrand disease
e. Factor VIII deficiency

Answer

✅ **d. Von Willebrand disease**

Reasoning

- **Prolonged bleeding time + prolonged APTT, normal PT** → suggests **vWF defect**
- First menstrual bleeding (menarche) → **common presentation in females**
- Hemophilia → usually **male patients**, X-linked

High-Yield Points

- vWD Type 1 → most common; mild to moderate bleeding
- Tests: **vWF antigen, Ristocetin cofactor assay**
- Treatment: **DDAVP, vWF concentrate**

Q15. 4-Year-Old with Cafè-au-Lait Spots and Anemia

Question

A 4-year-old female presents with **fever and pallor**. Dark-skinned, multiple **café-au-lait spots**, short stature, polydactyly. Labs: Hb 7 g/dL, TLC 3800, platelets 70,000, reticulocyte count 0.5%, HbF 8%. Diagnosis?

Options

a. Malaria
b. Diamond-Blackfan anemia
c. Fanconi anemia
d. Acquired aplastic anemia
e. Bernard-Soulier syndrome

Answer

✅ **c. Fanconi anemia**

Reasoning

- **Pancytopenia**, congenital abnormalities (short stature, café-au-lait spots, polydactyly) → **Fanconi anemia**
- HbF elevated in **stress erythropoiesis**
- Diamond-Blackfan → pure red cell aplasia, not pancytopenia

High-Yield Points

- Autosomal recessive inheritance
- Risk: **AML, solid tumors**
- Diagnostic test: **chromosomal breakage study (DEB test)**
- Treatment: **bone marrow transplantation**

Q16. 9-Year-Old with Unconsciousness, Pancytopenia

Question

A 9-year-old girl presents with **progressive pallor, high-grade fever for 4 weeks**, unconscious (GCS 8/15). Exam: normal, no lymphadenopathy/visceromegaly, few petechiae. Labs: Tic 3,200, 12% polys, 88% lymphocytes, platelets 7,000. Most likely diagnosis?

Options

a. Acquired aplastic anemia with intracranial bleeding
b. Idiopathic thrombocytopenia with intracranial bleeding
c. Fanconi anemia with intracranial bleeding
d. Factor IX deficiency with intracranial bleeding
e. Classic hemophilia with intracranial bleeding

Answer

✅ **a. Acquired aplastic anemia with intracranial bleeding**

Reasoning

- **Pancytopenia (neutropenia + thrombocytopenia + anemia)** → acquired aplastic anemia
- Severe thrombocytopenia → risk of **intracranial hemorrhage**
- ITP → usually isolated thrombocytopenia
- Hemophilia → isolated coagulation defect

High-Yield Points

- Presentation: **fatigue, pallor, bleeding, infections**
- Labs: **pancytopenia with hypocellular bone marrow**
- Definitive treatment: **bone marrow transplantation or immunosuppression**

Q17. Morning Stiffness and Small Joint Pain in 8-Year-Old

Question

An 8-year-old child presents with **morning stiffness and pain in small joints**. Most likely diagnosis?

Options

a. Hepatosplenomegaly
b. Rheumatoid arthritis
c. Septic arthritis
d. Osteoporosis
e. Osteoarthritis

Answer

✅ **b. Rheumatoid arthritis**

Reasoning

- **Morning stiffness >1 hour + small joint involvement** → classic for **Juvenile Idiopathic Arthritis (JIA)**
- Osteoarthritis → rare in children
- Septic arthritis → acute, single joint, systemic symptoms

High-Yield Points

- JIA types: oligoarticular, polyarticular, systemic
- Labs: **ANA positive in oligoarticular**, ESR/CRP may be elevated
- Complications: **growth retardation, joint deformities**

FOUNDATION PEADS

Q1. Age of Pincer Grasp Development

Question

At which age will a child typically develop the **pincer grasp**?

Options

a. 6 months
b. 9 months
c. 12 months
d. 15 months
e. Both a and b

Answer

✅ **b. 9 months**

Reasoning

- **Pincer grasp**: ability to pick up small objects between thumb and index finger
- Appears around **8–10 months**
- Earlier (6 months) → **raking grasp**

High-Yield Points

- Developmental milestones:
    - **6 months** → raking grasp
    - **9 months** → pincer grasp
    - **12 months** → refined pincer grasp, can place objects in small container

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Q2. Measles Vaccination Schedule

Question

At what age is **measles vaccination** given?

Options

a. 12 and 18 months
b. 18 and 20 months
c. 9 and 15 months
d. 6 and 12 months
e. 18 months

Answer

✅ **c. 9 and 15 months**

Reasoning

- Measles vaccine is usually **live attenuated**
- **First dose** at 9 months → protects early childhood
- **Second dose** at 15 months → ensures immunity in case first dose failed

High-Yield Points

- MMR (measles-mumps-rubella) → often given **12 and 15 months** depending on national schedule
- Live vaccines should **not be given with IVIG**

Q3. Age for Weaning

Question

At what age should weaning/start of complementary feeding begin?

Options

a. 6 months
b. 7 months
c. 4 months
d. 9 months
e. 10 months

Answer

✅ **a. 6 months**

Reasoning

- Exclusive breastfeeding recommended for **first 6 months**
- Complementary feeding introduced at **6 months**
- Delayed weaning → nutritional deficiencies
- Early weaning (<4 months) → risk of allergies and infections

High-Yield Points

- Start **iron-rich foods** at 6 months
- Continue breastfeeding along with complementary foods up to **2 years**

Q4. Stance Phase Muscles

Question

Which of the following muscles are **active during the stance phase** of gait?

Options

a. Hamstring
b. Quadriceps
c. Anterior tibial
d. Peroneus longus
e. None of the above

Answer

✅ **b. Quadriceps**

Reasoning

- **Stance phase**: limb in contact with ground → weight bearing
- Quadriceps → **control knee flexion, stabilize knee**

- Hamstrings → swing phase, decelerate leg
- Anterior tibial → dorsiflexion in swing phase

High-Yield Points

- Gait phases: **stance (60%)** and **swing (40%)**
- Major stance muscles: **gluteus maximus, quadriceps, soleus**

Q5. Cause of Waddling Gait

Question

Waddling gait is due to:

Options

a. Gluteal muscle weakness
b. Paravertebral muscle weakness
c. Obturator nerve palsy
d. Adductor muscle weakness
e. Both a and c

Answer

✅ **e. Both a and c**

Reasoning

- Weak **gluteus medius/minimus** → Trendelenburg gait → waddling
- Obturator nerve palsy → adductor weakness → contributes to waddling

High-Yield Points

- Waddling gait seen in:
    - **Muscular dystrophies** (Duchenne)

- **Hip dysplasia**
- **Obturator nerve injury**

Q6. Most Common Cause of Monoarthritis in Children

Question

The most common cause of **monoarthritis in children** is:

Options

a. Tuberculosis arthritis
b. Septic arthritis
c. Osteoarthritis
d. Rheumatoid arthritis
e. Both a and c

Answer

✅ **b. Septic arthritis**

Reasoning

- Monoarthritis in children is usually **infective**
- Most common organism: **Staphylococcus aureus**
- TB arthritis is rare, chronic; osteoarthritis → adults

High-Yield Points

- Presentation: **fever, joint swelling, pain, decreased movement**
- Investigations: **joint aspiration + culture**

Q7. Subperiosteal Erosions at Middle Phalanges

Question

Subperiosteal erosions of **middle phalanges at the radial aspect** are characteristic of:

Options

a. Gluteal muscle weakness
b. Paravertebral muscle weakness
c. Obturator nerve palsy
d. Adductor muscle weakness
e. Both a and c

Answer

✅ **This is likely a typo — correct context: Rheumatoid arthritis**

Reasoning

- **Subperiosteal erosions at radial aspect of middle phalanges** → classic **RA feature**
- Seen in **juvenile idiopathic arthritis** as well

High-Yield Points

- Small joint erosions in hands → **early RA**
- X-ray: **joint space narrowing, osteopenia, subluxation**

Q8. Cause of Congenital Hip Dislocation

Question

Congenital hip dislocation is usually due to:

Options

a. Short femoral head
b. Small femoral neck
c. Displacement of capital epiphysis
d. Large acetabulum
e. Small acetabulum

Answer

✅ **e. Small acetabulum**

Reasoning

- Dysplastic acetabulum → **insufficient coverage of femoral head** → dislocation
- Risk factors: female, breech delivery, family history

High-Yield Points

- Screening: **Ortolani and Barlow maneuvers**
- Ultrasound if <6 months, X-ray after 6 months

KGMC BLOCK N 2024

Q1. Kawasaki Disease Presentation

Question

A 2-year-old presents with **6-day fever**, rash in diaper area, **irritable**, erythematous hands and feet, peeling rash, **non-purulent conjunctivitis**, and **dry, cracked lips**. Other examinations unremarkable. Likely diagnosis?

Options

a. Adenovirus
b. Hand, Foot, Mouth disease
c. Kawasaki disease
d. Measles
e. Scarlet fever

Answer

✅ **c. Kawasaki disease**

Reasoning

- **Fever ≥5 days + 4 of 5 features:**
    - Conjunctivitis

    - Oral changes (dry lips, strawberry tongue)
    - Extremity changes (peeling, erythema)
    - Rash
    - Cervical lymphadenopathy
- Diagnosis → **clinical**, treat with **IVIG + aspirin**

High-Yield Points

- Complication: **coronary artery aneurysm**
- Echocardiography → baseline and follow-up

Q2. Capillary Hemangioma Treatment

Question

A 3-month-old baby has **capillary hemangioma of lower eyelid**. What is the treatment?

Options

a. Intralesional Avastin injection
b. Intralesional steroid injection
c. Laser
d. Ocular propranolol
e. Surgery

Answer

✅ **d. Ocular propranolol**

Reasoning

- Propranolol → **first-line therapy for infantile hemangiomas**
- Mechanism: vasoconstriction, inhibits angiogenesis
- Topical/ocular forms → for periocular lesions

High-Yield Points

- Early treatment prevents **vision compromise**
- Monitor **BP, HR, glucose** during therapy

Q3. Diagnosis of Staphylococcal Scalded Skin Syndrome (SSSS)

Question

A 6-month-old infant presents with **generalized erythema and skin tenderness**, irritability, crying on handling, preceded by **sore throat 1 week ago**. Skin redness and sheeting started from flexural areas. Labs: raised TLC, neutrophilia, high ASO titer. Which investigation would **confirm the diagnosis**?

Options

a. Blood culture
b. Stool culture
c. Swab for throat culture
d. Swab for skin culture
e. Urine culture

Answer

✅ **c. Swab for throat culture**

Reasoning

- Preceded by **streptococcal pharyngitis** → high ASO titer
- Diagnosis of **Strep toxin-mediated disease** supported by throat swab
- Blood culture often **negative**

High-Yield Points

- SSSS → **exfoliative toxin from Staph aureus**
- Neonates & infants at risk
- Treat with **anti-staph antibiotics (flucloxacillin/nafcillin)**

Q15. 75-year-old Male with Macrocytic Anemia

Question

A 75-year-old male presents with **6 months history of skin pigmentation, tingling sensations, and difficulty maintaining balance**.

Investigations:

- Hb: 7.5 g/dL
- WBC: 3.2 × 10^9/L
- MCV: 115 fL
- MCH: 26 pg
- Platelets: 320 × 10^9/L
- Peripheral smear: **Macrocytosis and hypersegmented neutrophils**
- Serum ferritin: 200 ng/mL (Normal >27 ng/mL)

What is the most likely diagnosis?

Options

a. Iron deficiency anemia
b. Sideroblastic anemia
c. Megaloblastic anemia
d. Anemia of chronic disease
e. Aplastic anemia

Answer

✅ **c. Megaloblastic anemia**

Reasoning

- **Macrocytosis + hypersegmented neutrophils** → hallmark of **megaloblastic anemia**
- Elevated MCV (115) and normal/high ferritin → rules out **iron deficiency**

- Neurological symptoms (tingling, balance problems) → suggests **vitamin B12 deficiency**
- Aplastic anemia → pancytopenia without macrocytosis
- Sideroblastic anemia → usually microcytic or dimorphic

High-Yield Points

- Megaloblastic anemia → caused by **Vitamin B12 or folate deficiency**
- Neurologic manifestations are **specific to B12 deficiency**
- Peripheral smear: **macro-ovalocytes, hypersegmented neutrophils**

Q16. 60-Year-Old Female with Easy Bruising

Question

A 60-year-old female presents with **easy bruising on arms and legs**, denies significant bleeding episodes. Labs:

- Normal bleeding time
- **Decreased platelet count**
- Bone marrow: **Increased megakaryocytes**

Most likely diagnosis?

Options

a. Von Willebrand disease
b. Hemophilia A
c. Immune thrombocytopenic purpura (ITP)
d. Thrombotic thrombocytopenic purpura (TTP)
e. Bernard-Soulier syndrome

Answer

✅ **c. Immune thrombocytopenic purpura (ITP)**

Reasoning

- ITP → autoimmune destruction of platelets → **thrombocytopenia**
- Bone marrow shows **megakaryocyte hyperplasia** (compensatory)
- Normal bleeding time → platelet function preserved
- TTP → microangiopathic hemolytic anemia + schistocytes + neurologic signs
- Von Willebrand → prolonged bleeding time, not thrombocytopenia

High-Yield Points

- ITP more common in adults → **chronic, insidious bruising**
- First-line treatment: **steroids, IVIG if severe**

Q17. 14-Year-Old Boy with Post-Circumcision Bleeding

Question

A 14-year-old boy presents with **swelling of the left knee**. Past history: **post-circumcision bleeding**. Labs:

- PT: 12 sec (normal)
- APTT: 80 sec (prolonged)
- BT: 3 min (normal)
- Platelet count: normal

Most likely diagnosis?

Options

a. Factor XIII deficiency
b. Glanzmann thrombasthenia
c. Hemophilia A

d. Sickle cell disease
e. Von Willebrand disease

Answer

✅ **c. Hemophilia A**

Reasoning

- **X-linked recessive disorder** → males affected
- History of **bleeding after minor trauma or surgery**
- Prolonged **APTT**, normal PT → intrinsic pathway defect
- Normal platelet count and bleeding time → rules out platelet disorders

High-Yield Points

- Hemophilia A → **Factor VIII deficiency**
- Hemarthroses (knee, elbow) → common presentation in adolescents
- Treatment: **Factor VIII replacement therapy**

Q18. First-Line Drug for Rheumatoid Arthritis

Question

Which of the following medicines is commonly used as **first-line treatment for RA**?

Options

a. Methotrexate
b. Prednisone
c. NSAIDs
d. Sulfasalazine
e. Infliximab

Answer

✅ **a. Methotrexate**

Reasoning

- **Methotrexate** → DMARD (disease-modifying anti-rheumatic drug)
- First-line → slows disease progression
- NSAIDs → symptomatic relief only
- Biologics → second-line or refractory cases

High-Yield Points

- Monitor **liver function and CBC** on methotrexate
- Folic acid supplementation recommended

Q19. Characteristic Feature of Rheumatoid Arthritis

Question

Which of the following is a characteristic feature of RA?

Options

a. Asymmetric joint involvement
b. Symmetric joint involvement
c. Oligoarticular involvement
d. Monoarticular involvement
e. Axial skeleton involvement

Answer

✅ **b. Symmetric joint involvement**

Reasoning

- RA → chronic inflammatory arthritis
- Typically affects **small joints of hands and feet bilaterally**
- Symmetry differentiates RA from **OA or septic arthritis**

High-Yield Points

- Morning stiffness >1 hour → classic RA
- Rheumatoid factor and anti-CCP antibodies → diagnostic

Q20. Biologic Agent for RA

Question

Which of the following is a **biologic agent** used to treat RA?

Options

a. Etanercept
b. Methotrexate
c. Prednisone
d. Hydroxychloroquine
e. Azathioprine

Answer

✅ **a. Etanercept**

Reasoning

- Etanercept → **TNF-alpha inhibitor**, biologic DMARD
- Used in **moderate to severe RA** not controlled with conventional DMARDs
- Methotrexate → conventional DMARD, not biologic

High-Yield Points

- Biologics → risk of **infections (TB, opportunistic)**
- Monitor for **hepatitis B, TB** before starting

DERMATOLOGY QUESTIONS

Q1. Itchy Polygonal Violaceous Papules

Question

A 41-year-old man develops **itchy, polygonal, violaceous papules on forearms**, some coalescing into plaques. Most likely diagnosis?

Options

a. Lichen planus
b. Scabies
c. Lichen sclerosus
d. Morphea
e. Psoriasis

Answer

✅ **a. Lichen planus**

Reasoning

- Classic **5 Ps**: Pruritic, Purple, Polygonal, Planar, Papules
- Flexor surfaces of wrists and forearms commonly affected

High-Yield Points

- Oral mucosa may have **white lacy streaks (Wickham striae)**
- Can be triggered by **drugs or hepatitis C**

Q2. Pruritic Rash in Parkinson's Disease

Question

A 67-year-old man with Parkinson's develops **itchy, red rash on neck, behind ears, nasolabial folds**. History of similar flare in winter. Most likely diagnosis?

Options

a. Levodopa-associated dermatitis
b. Seborrhoeic dermatitis
c. Flexural psoriasis
d. Acne rosacea
e. Fixed drug reaction to ropinirole

Answer

✅ **b. Seborrhoeic dermatitis**

Reasoning

- **Greasy, erythematous patches** in seborrheic areas
- Parkinson's disease → higher risk due to **sebum overproduction**
- Chronic, recurrent, worse in winter

High-Yield Points

- Treatment: **topical antifungals, low-potency corticosteroids**
- Differentiates from psoriasis → psoriasis more **plaque, silvery scales**

Q3. Condition Commonly Found in Atopic Dermatitis

Question

Which condition is commonly associated with **atopic dermatitis**?

Options

a. Asthma
b. Type 2 DM
c. Sleep apnea
d. Acne vulgaris
e. Ichthyosis

Answer

✅ **a. Asthma**

Reasoning

- Atopic triad: **eczema (atopic dermatitis), allergic rhinitis, asthma**
- Atopic dermatitis → **IgE mediated**
- Other options unrelated

High-Yield Points

- Management: **moisturizers, topical steroids, antihistamines**
- Avoid triggers: irritants, allergens

Q4. 45-Year-Old Female with Dysphagia and Raynaud-Like Symptoms

Question

A 45-year-old female complains of:

- **Pain in hands precipitated by cold**
- **Breathlessness on walking**
- **Difficulty swallowing (dysphagia)**: food feels like it sticks in the **middle of the esophagus**, relieved by **drinking water**

Which is the **single most likely cause of her dysphagia**?

Options

a. Esophageal carcinoma / Systemic sclerosis
b. Pharyngeal carcinoma
c. Globus hystericus

Answer

✅ **a. Systemic sclerosis (scleroderma) affecting the esophagus)**

Reasoning

- **Pain in hands with cold → Raynaud's phenomenon**, classic for **systemic sclerosis (SSc)**

- **Esophageal dysphagia** in SSc: **middle/lower esophagus**, worse for **solids and liquids**, relieved by water

- **Breathlessness** → possible pulmonary involvement (interstitial lung disease)

- Pharyngeal carcinoma → dysphagia usually **oropharyngeal**, difficulty initiating swallow, often localized to throat

- Globus hystericus → sensation of lump in throat, **no true dysphagia or obstruction**, not relieved by water

High-Yield Points

- **Systemic sclerosis** → autoimmune connective tissue disease

    - Common features: **Raynaud's phenomenon, esophageal dysmotility, interstitial lung disease, skin tightening**

- Dysphagia in SSc → **smooth muscle atrophy and fibrosis of lower 2/3 esophagus**

- Investigations: **Barium swallow, esophageal manometry**

- Management: **acid suppression (PPIs), prokinetics (e.g., metoclopramide), dietary modifications**

GENERAL SURGERY

Q1. CDC Recommendations to Reduce Surgical Site Infection

Question

Which of the following is a recommendation endorsed by the **Centers for Disease Control and Prevention (CDC)** to reduce the risk of surgical site infection?

Options

a. Hair removal from surgical site by skin clippers just after prophylactic dose of antibiotics
b. Tight glucose control perioperatively with goal of <180 mg/dL
c. Core body temperature maintained above 35.5°C
d. Use of decreased FiO_2 during & immediately postoperatively in patients under general anesthesia
e. Induction of spinal anesthesia instead of general anesthesia

Answer

✅ **c. Core body temperature maintained above 35.5°C**

Reasoning

- **Hypothermia** increases the risk of surgical site infection (SSI) by impairing **immune function and wound healing**.
- CDC recommends maintaining **normothermia (>36°C)** during surgery.
- Hair removal should be done **with clippers before antibiotics**, not after.
- Tight glucose control is recommended, but <180 mg/dL is **acceptable**, not the main SSI measure.
- High FiO_2 rather than low FiO_2 may reduce SSI in some surgeries.

High-Yield Points

- SSI prevention: **antibiotic prophylaxis, normothermia, proper skin prep, oxygenation**.
- Clippers preferred over razors to reduce microabrasions.
- Avoid hypothermia in **major abdominal surgeries**.

Q2. Timing of Foley Catheter Removal Post-Laparotomy

Question

A 53-year-old male undergoes **emergent exploratory laparotomy** for perforated sigmoid diverticulitis. He is stable but received **>4L IV fluids** over a **5-hour procedure**. When should his **Foley catheter** be removed?

Options

a. Immediately following the procedure
b. On postoperative day 1 or as soon as it has served its purpose
c. On postoperative day 3 if no hematuria and ureteral injury ruled out
d. When patient is ambulatory
e. On postoperative day 5

Answer

✅ **b. On postoperative day 1 or as soon as it has served its purpose**

Reasoning

- Early removal of Foley **reduces risk of catheter-associated UTI**.
- Standard practice: remove **once patient is stable and able to void**, usually **POD1**.
- Prolonged catheterization increases **infection risk**.

High-Yield Points

- **CDC and SCIP guidelines** emphasize minimizing catheter days.
- Monitor urine output **first 24h**, then remove catheter if patient stable.

Q3. Responsibility for Assessing Surgical Risk

Question

Who bears final responsibility for assessing a patient's **risk of complications** after laparoscopic cholecystectomy?

Options

a. Surgeon
b. Anesthesiologist
c. Primary care physician
d. Close family members
e. Anesthesia technician

Answer

✅ **a. Surgeon**

Reasoning

- The **operating surgeon** has final responsibility for preoperative assessment and **informed consent**.
- Anesthesiologists assess perioperative risk but surgeon decides surgical candidacy.

High-Yield Points

- **Informed consent** is **legal and ethical responsibility of the surgeon**.
- Surgeon documents **risks, benefits, and alternatives**.

Q4. Total Body Surface Area Burn Calculation

Question

A 42-year-old patient has **second-degree burns** to:

- Anterior surface of **both legs**
- **Anterior torso**

What is the **total body surface area (TBSA) burned**?

Options

a. 18%
b. 36%

c. 45%
d. 54%
e. 63%

Answer

✅ **b. 36%**

Reasoning

- **Rule of Nines** for adults:
    - Each **leg (anterior + posterior)** = 18% → anterior only = 9% each → **2 legs anterior = 18%**
    - **Anterior torso** = 18%
    - Total = 18 + 18 = **36% TBSA**

High-Yield Points

- TBSA used for **fluid resuscitation** calculations.
- Rule of Nines: arms 9%, head 9%, anterior torso 18%, posterior torso 18%, legs 18% each, perineum 1%.

Q5. Parkland Formula for Fluid Resuscitation

Question

A 65-year-old man sustains a **50% TBSA burn**. Weight = 70 kg. Fluid resuscitation using **Parkland formula**. What is the **rate of LR in the first 8 hours**?

Options

a. 100 mL/h
b. 550 mL/h
c. 875 mL/h
d. 1000 mL/h
e. 1500 mL/h

Answer

✅ **c. 875 mL/h**

Reasoning

- **Parkland formula**: 4 mL × **body weight (kg)** × **%TBSA burned** = total 24h fluid requirement
    - 4 × 70 × 50 = 14,000 mL LR in 24h
    - **Half given in first 8h** → 7000 mL / 8h = **875 mL/h**
- Remaining 7000 mL over next 16h

High-Yield Points

- Start **counting 8h from time of burn**, not hospital arrival.
- Monitor **urine output 0.5–1 mL/kg/h in adults**.

Q6. Features of Third-Degree Burn

Question

A 56-year-old male has **third-degree burns** on right upper/lower extremity and anterior chest. Third-degree burn is characterized by:

Options

a. Fixed capillary staining
b. Pearly white appearance
c. Completely anesthetic & lesion extending to subcutaneous tissue
d. Erythema and bullae formation
e. Requires immediate skin grafting

Answer

✅ **c. Completely anesthetic & lesion extending to subcutaneous tissue**

Reasoning

- **Third-degree (full-thickness) burn**:

    - Destroys **epidermis, dermis, and subcutaneous tissue**
    - **No sensation** due to nerve destruction
    - May appear **white, leathery, or charred**
- Second-degree burns → blister formation, painful

High-Yield Points

- Early excision and **skin grafting** may be needed
- Fluid resuscitation according to **TBSA**
- Assess for **associated inhalation injury**

Q7. Complications of Electrical Burns

Question

A 42-year-old man sustains **electrical burns** on hands and feet. ECG shows **normal sinus rhythm**. What is he at risk for?

Options

a. Respiratory distress
b. Renal failure
c. Hyperthermia
d. Hypothermia
e. Infection

Answer

✅ **b. Renal failure**

Reasoning

- **Electrical burns → rhabdomyolysis → myoglobinuria → acute kidney injury**
- ECG may remain normal initially

- Other complications: arrhythmias, compartment syndrome, soft tissue necrosis

High-Yield Points

- **Aggressive IV fluids** to maintain urine output
- Monitor **CK, electrolytes, renal function**
- Early **escharotomy** if limb swelling threatens circulation

Q8. Oliguria After Burn Resuscitation

Question

Following initial resuscitation based on the **Parkland formula**, the patient was receiving **Ringer's lactate at 1000 mL/h**. After 7 hours, the patient develops **oliguria**. What should be the next step in management?

Options

a. Give plasma
b. Continue resuscitation with Ringer's lactate to achieve urine output of 1 mL/kg/hr
c. Give diuretics to improve urine flow
d. Colloid solution
e. Continue initial resuscitation with normal saline

Answer

✅ **b. Continue resuscitation with Ringer's lactate to achieve urine output of 1 mL/kg/hr**

Reasoning

- **Oliguria** in burns is most commonly due to **inadequate fluid resuscitation**, not kidney injury initially.
- Goal: **maintain urine output 0.5–1 mL/kg/hr (adults)**.
- Do **not give diuretics** unless fluid resuscitation is adequate.
- Colloids may be used **after 24h**, not in the first 8h.
- Normal saline is **less preferred** than LR due to hyperchloremic acidosis risk.

High-Yield Points

- Monitor **urine output hourly** in major burns.
- Adjust **Parkland formula fluid rate** based on clinical response, not rigid schedule.
- Oliguria is often first sign of **hypovolemia**.

Q9. Reducing Operative Mortality in Thyroidectomy

Question

A 42-year-old female underwent **total thyroidectomy for a large goiter**. Which of the following has been shown to **reduce operative mortality by over 40%**?

Options

a. Using bites smaller than 1 cm to close fascia after laparotomy
b. Proper following of **WHO safety checklist**
c. Reviewing the patient's imaging prior to operation
d. Routine placement of surgical drains
e. Proper dosage of antibiotics

Answer

✅ **b. Proper following of WHO safety checklist**

Reasoning

- WHO Surgical Safety Checklist reduces **postoperative mortality and complications** significantly.
- Evidence shows **>40% reduction in deaths and complications**.
- Other measures improve safety but **do not independently reduce mortality this much**.

High-Yield Points

- Checklist includes: patient ID, site marking, antibiotic timing, airway & anesthesia checks.

- **Adoption worldwide** is encouraged in all operative procedures.

Q10. Abdominal Incisions No Longer Commonly Used

Question

A 40-year-old male with **acute abdomen** is planned for **exploratory laparotomy**. Which incision is **no longer commonly used**?

Options

a. Midline
b. Paramedian
c. Subcostal
d. Pfannenstiel
e. Transverse abdominal

Answer

✅ **b. Paramedian**

Reasoning

- **Paramedian incisions** are rarely used due to:
    - Increased **risk of hernia**
    - More **pain**
    - Harder to reopen compared to midline incisions
- **Midline incision** is standard for emergencies due to rapid access.

High-Yield Points

- Pfannenstiel → gynecological/obstetric
- Subcostal → gallbladder/liver
- Transverse → pediatric or elective abdominal surgeries

Q1. Photosensitive Material in X-ray Films

Question

The photosensitive material used in **X-ray films** consists of:

Options

a. Cellulose
b. Silver bromide
c. ZnS
d. Calcium tungstate
e. None

Answer

✅ **b. Silver bromide**

Reasoning

- **Silver bromide crystals** in emulsion are **sensitive to light and X-rays**.
- Upon exposure, **latent image forms** and is developed chemically.

High-Yield Points

- Cellulose → base of film
- Calcium tungstate → screen phosphor for X-ray intensification
- Silver bromide is standard in **conventional radiography**

Q2. Small Intestine Resection

Question

How much small intestine can be safely resected or bypassed without **deleterious effects**?

Options

a. 25%
b. 50%
c. 65%
d. 75%
e. 85%

Answer

✅ **b. 50%**

Reasoning

- Up to **50% resection** of small bowel is generally tolerated without **short bowel syndrome**, assuming normal colon.
- Beyond this → malabsorption, diarrhea, nutrient deficiencies.

High-Yield Points

- **Ileum** critical for **B12 and bile salt absorption**
- **Jejunum** has more adaptive capacity

Q3. Fluids Containing Potassium

Question

Which of the following fluids contains potassium?

Options

a. Normal saline
b. Ringer lactate
c. Dextrose saline
d. Dextrose water
e. None

Answer

✅ **b. Ringer lactate**

Reasoning

- Ringer lactate contains **Na^+, K^+, Ca^{2+}, Cl^-**.
- NS → only Na^+ and Cl^-
- Dextrose solutions → no electrolytes unless added

High-Yield Points

- Use **LR cautiously in renal failure** due to K^+
- Common resuscitation fluid in burns

Q4. Healing of Deep Partial-Thickness Burn

Question

A 30-year-old female with **15% deep partial-thickness burn** on both thighs. How will the wound heal if **no intervention** is done?

Options

a. Normal healing
b. No scarring
c. Hypertrophic scarring
d. Keloid formation
e. Atrophic scar

Answer

✅ **c. Hypertrophic scarring**

Reasoning

- Deep partial-thickness burns → **dermal injury**
- Heal spontaneously in **3–4 weeks** but risk of **hypertrophic scars**
- Full-thickness → requires grafting

High-Yield Points

- Burns **>3 weeks** healing → hypertrophic scar formation
- Early **physical therapy** prevents contractures

Q5. Healing Time for Deep Partial-Thickness Burn

Question

How long will a **15% deep partial-thickness burn** heal spontaneously?

Options

a. 1–2 weeks
b. 2 weeks
c. 3–4 weeks
d. 6–8 weeks
e. >8 weeks

Answer

✅ **c. 3–4 weeks**

Reasoning

- Deep partial-thickness burns **re-epithelialize in 3–4 weeks**.
- Delayed healing → risk of **infection, scarring**

High-Yield Points

- Early intervention → reduce **infection and scarring**
- Dressing choice important (e.g., **silver sulfadiazine**).

Q6. Post-Operative Bleeding After Axillary Lymph Node Biopsy

Question

A 35-year-old male develops **bleeding 19 hours** post-incision biopsy. Likely cause?

Options

a. Primary hemorrhage
b. Secondary hemorrhage
c. Reactionary hemorrhage
d. Non-surgical hemorrhage
e. Tertiary hemorrhage

Answer

✅ **b. Secondary hemorrhage**

Reasoning

- **Secondary hemorrhage** → occurs **days after surgery**, often due to **infection or sloughing of ligature**.
- **Primary** → immediate, reactionary → within 24h (usually within few hours)

High-Yield Points

- Secondary hemorrhage requires **exploration and hemostasis**
- More common in **infected or vascular areas**

Q7. Postoperative Deterioration After Laparoscopic Cholecystectomy

Question

A 30-year-old female deteriorates 6 hours post **elective laparoscopic cholecystectomy**: pallor, weak pulse 130/min, BP 80 systolic. Next step?

Options

a. Reassure patient
b. FAST scan
c. MRI
d. ERCP
e. Blood CBC

Answer

✅ **b. FAST scan**

Reasoning

- **FAST (Focused Assessment with Sonography in Trauma)** detects **intra-abdominal bleeding** rapidly.
- Patient shows **shock signs post-op** → rule out **intra-abdominal hemorrhage** first

High-Yield Points

- FAST scan → rapid, bedside, non-invasive
- Early detection of **post-op bleeding** saves life

Q8. Informed Consent

Question

Informed consent must **always** be taken by:

Options

a. Staff nurse
b. House officer
c. Surgeon operating on patient
d. Medical officer
e. Anesthetist

Answer

✅ **c. Surgeon operating on patient**

Reasoning

- Legally and ethically, **surgeon performing the procedure** must obtain informed consent
- Includes **risks, benefits, alternatives**
- Other staff can witness or explain, but **not legally valid** without surgeon

High-Yield Points

- Document **consent in patient chart**
- Applies to **elective and emergency surgeries**

Q9. Maximum Pressure for Pneumoperitoneum During Laparoscopic Cholecystectomy

Question

The maximum pressure for pneumoperitoneum during **laparoscopic cholecystectomy** is:

Options

a. 10 mmHg
b. 15 mmHg
c. 20 mmHg
d. 25 mmHg
e. 30 mmHg

Answer

✅ **b. 15 mmHg**

Reasoning

- Pneumoperitoneum is usually created with **CO_2** at a pressure of **12–15 mmHg**.
- Pressures >15 mmHg → **cardiopulmonary compromise** (reduced venous return, hypotension).

High-Yield Points

- Maintain **lowest pressure allowing adequate visualization**.
- **CO_2** preferred for rapid absorption and safety.

Q10. Gas Used for Pneumoperitoneum

Question

During laparoscopy, which of the following gases is used to create **pneumoperitoneum**?

Options

a. Air
b. CO_2
c. Oxygen
d. Nitrous oxide
e. Halothane

Answer

✅ **b. CO_2**

Reasoning

- **CO_2** is **non-flammable, highly soluble, and easily excreted via lungs**.
- Air → risk of **embolism**, oxygen → flammable, N_2O → risk of combustion, Halothane → anesthetic, not gas for insufflation.

High-Yield Points

- **Monitor EtCO_2** during laparoscopy.
- Insufflation → may increase **intra-abdominal pressure** → **reduced venous return**.

Q11. Treatment of Common Cold and Cough (No Pneumonia)

Question

Treatment of **no pneumonia cough and cold** is:

Options

a. Susp. Amoxiclav
b. Safe home remedy
c. Intramuscular antibiotics
d. Antihistamines
e. Bronchodilators

Answer

✅ **b. Safe home remedy**

Reasoning

- **Viral upper respiratory infection** → self-limiting, supportive care only.
- Antibiotics → unnecessary and promote **resistance**.
- Home remedies: hydration, steam, rest, honey (if >1 yr).

High-Yield Points

- Avoid unnecessary antibiotics in viral infections.
- Red flags → high fever, chest indrawing → suspect pneumonia.

Q12. Tension Pneumothorax

Question

The presence of **tension pneumothorax**:

Options

a. Is a type of hemorrhagic shock
b. Will always be associated with tracheal deviation
c. Is treated definitely with needle decompression
d. Is treated definitely with chest drain
e. Shows tachycardia

Answer

✅ **c. Is treated definitely with needle decompression**

Reasoning

- Tension pneumothorax → **emergency**
- Needle decompression → immediate life-saving procedure
- Tracheal deviation may **not always be present** early

- Chest tube → definitive treatment **after decompression**

High-Yield Points

- Classic signs: **distended neck veins, hypotension, absent breath sounds**
- **Do not wait for X-ray** if patient is unstable.

Q13. Chest Drain Management

Question

A patient had a **chest drain** inserted. Which should **emergency department NOT do**?

Options

a. Monitor breathing and ventilation
b. Clamp the chest drain
c. Observe for bubbling & swinging
d. Monitor the site
e. None of the above

Answer

✅ **b. Clamp the chest drain**

Reasoning

- **Clamping a chest drain** can cause **tension pneumothorax** or accumulation of fluid/air.
- Only clamp for **short, supervised diagnostic purposes**.

High-Yield Points

- Monitor **air leaks, swinging, bubbling**
- Chest tube → life-saving; clamping can be dangerous in emergency settings

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Q14. Gunshot Chest Injury

Question

A 17-year-old male with gunshot injury **anterior right chest**, restless, breathless, pulse 120/min, RR 40/min, BP 80/40 mmHg. Percussion dull, absent breath sounds on right. Likely diagnosis:

Options

a. Hemothorax
b. Pneumothorax
c. Tension pneumothorax
d. Chylothorax
e. Cardiac tamponade

Answer

✅ **a. Hemothorax**

Reasoning

- **Dull percussion + absent breath sounds** → fluid (blood)
- Tension pneumothorax → **hyperresonant** percussion
- Shock and hypotension present → **blood loss**

High-Yield Points

- Penetrating chest injury → rule out **hemothorax, pneumothorax, cardiac tamponade**
- Immediate **chest tube placement** for hemothorax

Q15. Motor Vehicle Accident with Widened Mediastinum

Question

71-year-old male, chest pain radiating to back, BP 190/100, pulse 100, chest X-ray → widened mediastinum, dies before intervention. Autopsy: massive blood in **pericardial sac**. Most likely diagnosis:

Options

a. Pneumothorax
b. Rupture of myocardial wall
c. Hemothorax
d. Uremic pericarditis
e. Ascending aortic dissection

Answer

✅ **e. Ascending aortic dissection**

Reasoning

- Classic triad: **sudden severe chest pain radiating to back, hypertension, widened mediastinum**
- Death → **rupture into pericardial sac** → **cardiac tamponade**
- Hemothorax → usually lateral, not pericardial

High-Yield Points

- **Marfan syndrome** → risk factor
- BP control crucial in management
- Rapid diagnosis → CT angiography

Q16. Dyspneic Patient After Stab Wound

Question

Patient is **dyspneic, tachycardic, hypotensive** after stab wound left chest. Decreased breath sounds on side of wound, crepitus on chest/neck. After airway secured, next step?

Options

a. Immediate IV access
b. Orotracheal intubation
c. Left needle thoracostomy

d. Chest X-ray
e. Crystalloid infusion

Answer

✅ **c. Left needle thoracostomy**

Reasoning

- Likely **tension pneumothorax with subcutaneous emphysema**
- Immediate decompression → **life-saving**
- IV access/crystalloid can follow, but **do not delay thoracostomy**

High-Yield Points

- Tension pneumothorax → **clinical diagnosis**, do not wait for X-ray
- Needle decompression → **2nd ICS midclavicular line**

BLOCK N RMC – Neurogenic Shock

Question

Neurogenic shock is characterized by the presence of:

Options

a. Cool moist skin
b. Increased cardiac output
c. Decreased peripheral vascular resistance
d. Decreased blood volume
e. Increased pulse rate

Answer

✅ **c. Decreased peripheral vascular resistance**

Reasoning

- Neurogenic shock → **spinal cord injury**

- Loss of **sympathetic tone → hypotension, bradycardia, warm dry skin**
- Unlike hemorrhagic shock → skin **warm**, **bradycardia**, not tachycardia

High-Yield Points

- Most common after **high thoracic or cervical injuries**
- Management: **fluid resuscitation + vasopressors (e.g., norepinephrine)**

Q2. Correct Statement About Volume Resuscitation in Hemorrhagic Shock

Question

Correct statement about **volume resuscitation in hemorrhagic shock** includes:

Options

a. Administration of large volumes of lactated Ringer's solution is complicated by increasing lactic acidosis
b. Use of whole blood alone corrects hypovolemia more effectively than whole blood plus lactated Ringer's solution
c. Lactate ions are readily excreted by the normal kidney
d. Lactated Ringer's solution intravenously restores the extracellular fluid deficit-produced blood loss
e. When lactated Ringer's solution is used to correct hypovolemia, decreased intravascular oncotic pressure results

Answer

✅ **e. When lactated Ringer's solution is used to correct hypovolemia, decreased intravascular oncotic pressure results**

Reasoning

- Lactated Ringer's solution → **crystalloid** → distributes mainly to **extracellular space**, only ~25% stays intravascular
- This dilutes plasma proteins → **decreased oncotic pressure**
- Option a → partially true but minor effect; c → kidneys convert lactate to bicarbonate, not direct excretion; d → does not restore intravascular volume fully
- Whole blood → replaces oxygen-carrying capacity, not always available

High-Yield Points

- Crystalloids → first-line for initial resuscitation; monitor for **dilutional coagulopathy**
- Colloids maintain oncotic pressure better but **do not improve survival** in trauma

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Q3. Maintenance of Preload in Acute Blood Loss

Question

In the presence of **acute blood loss**, adequate preload to the heart is maintained initially by:

Options

a. Development of tachycardia
b. Hormonal effects of angiotensin
c. Hormonal effects of antidiuretic hormone
d. Hormonal effects of renin
e. Increase in systemic vascular resistance

Answer

✅ **e. Increase in systemic vascular resistance**

Reasoning

- Early response to hemorrhage → **sympathetic activation** → **vasoconstriction** → **maintain preload & perfusion**
- Tachycardia (option a) → maintains cardiac output but preload relies on venous return
- Hormonal responses (RAAS, ADH) → slower, later compensation

High-Yield Points

- **Hypotension occurs only after ~30–40% blood loss**
- Early recognition → prevent shock

Q4. Technique to Protect Lungs Against Aspiration in Emergency Surgery

Question

A trauma patient requires **immediate surgery** and has a **full stomach**. Best technique to protect lungs against aspiration:

Options

a. Rapid sequence induction (RSI)
b. Nasogastric aspiration
c. Preoperative ranitidine therapy
d. Elevation of the head end
e. None of above

Answer

✅ **a. Rapid sequence induction**

Reasoning

- **RSI** → preoxygenation, induction, cricoid pressure, **immediate intubation without mask ventilation**
- Prevents gastric content aspiration in emergency with **full stomach**
- NG tube, H2 blockers, head elevation → adjuncts, **not definitive**

High-Yield Points

- **Cricoid pressure (Sellick maneuver)** essential in RSI
- Avoid bag-mask ventilation before intubation → risk of aspiration

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Q5. Safe Dosage Limits for Local Anesthetics

Question

Safe dosage limits for local anesthetic:

Options

a. Lignocaine: 40 ml of 2%
b. Bupivacaine: 40 ml of 1%
c. Ropivacaine: 40 ml of 1%
d. Procaine: 40 ml of 1%
e. None of above

Answer

✅ **e. None of above**

Reasoning

- Max safe doses (without adrenaline):
    - Lignocaine → 4–5 mg/kg
    - Bupivacaine → 2–3 mg/kg
    - Ropivacaine → 3 mg/kg
    - Volume depends on patient weight
- Provided options exceed safe mg/kg limits in most adults

High-Yield Points

- Always **calculate max dose based on weight**
- Use **adrenaline** to increase safe limit (~1.5x)

Q6. Coagulation Function Concerned in Patients on Anti-Inflammatory/Analgesic Medications

Question

The surgeon should be particularly concerned about which coagulation function in patients receiving **inflammatory or analgesic medication**?

Options

a. APTT
b. PT

c. Reptilase time
d. Bleeding time
e. Thrombin time

Answer

✅ **d. Bleeding time**

Reasoning

- NSAIDs/analgesics → inhibit **platelet function** → **prolonged bleeding time**
- PT → extrinsic pathway (clotting factors)
- APTT → intrinsic pathway
- Thrombin/Reptilase time → fibrinogen conversion

High-Yield Points

- Check **bleeding time before surgery** in patients on NSAIDs or antiplatelets
- **Hold NSAIDs 5–7 days pre-op** for major surgery

Q7. Management of Hyponatremia Post-Cholecystectomy

Question

Five days post-cholecystectomy, serum Na = 120 mEq/L in asymptomatic woman. Proper management:

Options

a. Hypertonic saline
b. Restriction of free water
c. Plasma ultrafiltration
d. Hemodialysis
e. Aggressive diuresis with furosemide

Answer

✅ **b. Restriction of free water**

Reasoning

- Mild, asymptomatic **hyponatremia** → often **SIADH or post-op fluid overload**
- **Water restriction** → first-line
- Hypertonic saline → only if **severe symptoms (seizures, coma)**

High-Yield Points

- Monitor **Na correction rate ≤ 8–10 mEq/L per 24 hrs** to avoid **osmotic demyelination**
- Common post-op causes → **stress-induced ADH release**

Q8. Medication Counteracting Myocardial Effects of Hyperkalemia

Question

Which medication **counteracts myocardial effects of potassium** without reducing serum potassium?

Options

a. Sodium polystyrene sulfonate (Kayexalate)
b. Sodium bicarbonate
c. 50% dextrose
d. Calcium gluconate
e. Insulin

Answer

✅ **d. Calcium gluconate**

Reasoning

- **Calcium** stabilizes cardiac membrane → **prevents arrhythmias**
- Does **not lower K^+**, just protects the heart
- Insulin/dextrose → shift K^+ intracellularly

- Kayexalate → binds K^+ → delayed effect

High-Yield Points

- ECG changes in hyperkalemia → **peaked T waves, widened QRS**
- Always **protect myocardium first** if ECG changes present

Q9. Patients to Transport to Trauma Center (ACS Recommendations)

Question

According to ACS Committee on Trauma, which patients should be transported to a **trauma center**?

Options

a. 50-year-old female fell 8 feet, isolated hip fracture, normal vitals
b. 15-year-old bicyclist, closed head injury, GCS 12
c. 23-year-old male assault victim, stab wound to back, normal vitals, respiratory distress
d. 3-year-old infant passenger, abdominal wall contusion, normal vitals
e. Combinations:

- A. a,b,c
- B. a,c,d
- C. b,c,d
- D. a,b,d
- E. a,c,d

Answer

✅ **C. b, c, d**

Reasoning

- Trauma center criteria: **high-risk injuries, abnormal vitals, pediatric trauma, GCS <13**

- Isolated hip fracture, normal vitals → **does not need trauma center**
- Head injury with GCS 12 → trauma center
- Stab wound with respiratory distress → trauma center
- Pediatric blunt abdominal trauma → trauma center

High-Yield Points

- **ACS Trauma Triage Guidelines**
- Always prioritize **children, altered LOC, abnormal vitals, multiple injuries**

Q1. Critical Patient Safety Measure to Prevent Post-Operative Infection

Question

Mr. Dawood developed post-operative infection due to contaminated instruments. Which **patient safety measure** is most critical in preventing such an error?

Options

a. Timely administration of antibiotics
b. Proper surgical site marking
c. Adherence to sterilization protocol
d. Accurate patient identification
e. Comprehensive discharge planning

Answer

✅ **c. Adherence to sterilization protocol**

Reasoning

- Post-op infections often result from **contaminated instruments or aseptic breaches**.
- **Sterilization of instruments** is the **most critical step** in prevention.
- Antibiotics → adjunct, not primary prevention.
- Proper marking and patient ID → prevent **wrong-site surgery**, not infection.

High-Yield Points

- **Surgical site infection (SSI)** prevention:
    - Sterilization of instruments
    - Hand hygiene
    - Pre-op skin antisepsis
    - Timely prophylactic antibiotics

Q2. Correct Sequence of Events in Primary Survey of Trauma Patient

Question

The correct sequence of events while performing **primary survey** in a trauma patient is:

Options

a. Airway → Breathing → Circulation → Disability → Exposure (ABCDE)
b. Intubation → Blood pressure → Chest compressions → Disability → Environment
c. Oxygen → Breathing → Circulation → Distress

Answer

✅ **a. Airway → Breathing → Circulation → Disability → Exposure (ABCDE)**

Reasoning

- **Primary survey** follows **ABCDE**:
    - **A** → Airway with cervical spine protection
    - **B** → Breathing
    - **C** → Circulation (with hemorrhage control)
    - **D** → Disability (neurologic assessment, GCS)
    - **E** → Exposure & environmental control

High-Yield Points

- ABCDE is **life-saving sequence**, repeated frequently in trauma.
- Airway always first; circulation next.

Q3. Commonest Cause of Blood Transfusion Rejection

Question

Commonest cause of **blood transfusion rejection**:

Options

a. Clerical error
b. Fast and rapid transfusion of cold blood
c. White blood cells
d. Pre-existing infection in patient

Answer

✅ **a. Clerical error**

Reasoning

- Majority of transfusion reactions result from **mislabeling or wrong blood administration**.
- Immune-mediated reactions from WBCs → less common.
- Rapid transfusion → usually tolerated unless severe cardiac/renal disease.

High-Yield Points

- **Blood safety check** → verify patient ID and blood group before transfusion.
- Fatal errors are **mostly due to human/clerical mistakes**.

Q4. Consequence of Terminal Ileum Resection

Question

A patient who has **resection of terminal ileum** will result in:

Options

a. Amino acid malabsorption
b. Increase water content in stool
c. Increase enterohepatic circulation
d. Calcium malabsorption
e. Fat malabsorption

Answer

✅ **e. Fat malabsorption**

Reasoning

- Terminal ileum → **site of bile acid absorption**
- Loss → decreased bile acid recycling → **impaired micelle formation → fat malabsorption (steatorrhea)**
- Calcium absorption depends on **duodenum**; amino acids → jejunum; water → colon

High-Yield Points

- **Terminal ileum resection → vitamin B12 deficiency & bile salt diarrhea**
- Watch for **fat-soluble vitamin deficiencies (A, D, E, K)**

Q5. Best Parameter for Septic Shock Assessment

Question

Best parameter for assessing **septic shock**:

Options

a. Central venous pressure (CVP)
b. Urinary output
c. Serum lactate
d. Vasopressor assessment

Answer

✅ **c. Serum lactate**

Reasoning

- Elevated **serum lactate** → tissue hypoperfusion → early indicator of **shock severity**
- Urine output & CVP → supportive, but less sensitive
- Vasopressor requirement → late marker

High-Yield Points

- **Sepsis-3 criteria**: Serum lactate >2 mmol/L = septic shock if vasopressors required to maintain MAP ≥65 mmHg
- Early lactate-guided therapy improves survival

Q6. Standard Constituents of TPN (Total Parenteral Nutrition)

Question

Standard constituents of TPN solution in correct percentages:

Options

a. 60% carbohydrate (dextrose)
b. Proteins as amino acids 10%
c. Fats as soybean oil 20%
d. Carbohydrates 70%, proteins 10%, fats 20%
e. Dextrose 50% with potassium chloride

Answer

✅ **d. Carbohydrates 70%, proteins as amino acids 10%, fats as soybean oil 20%**

Reasoning

- TPN = **carbs (dextrose 70%), proteins (10%), fats 20%)**

- Provides energy + essential nutrients for patients unable to eat

High-Yield Points

- Monitor **blood sugar, triglycerides, electrolytes**
- Lipid emulsions → prevent essential fatty acid deficiency

Q7. Not a Component of Enhanced Recovery After Surgery (ERAS)

Question

Which of the following is **not a component of ERAS**?

Options

a. Preoperative carbohydrate
b. Laparoscopy
c. Normothermia
d. Chemotherapy
e. Radiotherapy

Answer

✅ **d. Chemotherapy**

Reasoning

- ERAS focuses on **surgical optimization, anesthesia, nutrition, early mobilization**
- Chemotherapy/radiotherapy → oncology treatment, **not part of perioperative ERAS**

High-Yield Points

- ERAS improves outcomes: **shorter stay, fewer complications, early return of bowel function**

Q8. Preoperative Measurements for ERAS

Question

Which preoperative measurement is included in **ERAS**?

Options

a. Patient should be NBM from midnight
b. 1L normal saline to replace overnight thirst
c. Carbohydrate drink can reduce thirst and post-op insulin resistance
d. High protein diet 2 hours before surgery
e. Mechanical bowel prep to decrease fecal load

Answer

✅ **c. Carbohydrate drink can reduce thirst and post-operative insulin resistance**

Reasoning

- ERAS → **pre-op carbohydrate loading** reduces catabolism, insulin resistance
- NBM for long periods → **not recommended in ERAS**
- Mechanical bowel prep → limited to bowel surgery, not general

High-Yield Points

- **Carb drinks 2–3 hours pre-op** → improve recovery
- Avoid prolonged fasting → reduces metabolic stress

Q9. GCS Scoring: No Motor Response

Question

In **GCS scoring**, no motor response to painful stimulus is scored as:

Options

a. 4
b. 3
c. 2

d. 1
e. 0

Answer

✅ **d. 1**

Reasoning

- GCS Motor scale:
    - 6 → obeys commands
    - 5 → localizes pain
    - 4 → withdraws from pain
    - 3 → abnormal flexion (decorticate)
    - 2 → abnormal extension (decerebrate)
    - 1 → no motor response

High-Yield Points

- GCS = **Eye + Verbal + Motor**
- Motor response = **most predictive of outcome**

Q10. Important Factors in Wound Healing

Question

Important factor in **wound healing**:

Options

a. Size of wound
b. Depth of wound
c. Blood supply
d. Foreign body
e. Nutritional status

Answer

✅ **c. Blood supply**

Reasoning

- **Adequate perfusion** → oxygen, nutrients, immune cells → **key for healing**
- Size, depth, nutrition → important, but **secondary to vascularity**
- Foreign body → delays healing, risk of infection

High-Yield Points

- Risk factors for poor healing: **diabetes, smoking, ischemia, infection**
- Optimize **vascularity & oxygenation** in chronic wounds

Q11. What is Missing in the Parkland Formula for Burn Fluid Replacement?

Question

What is **not included** in the Parkland formula for fluid replacement in a patient with burns?

Options

a. Total body weight
b. Total skin burned
c. Time since burn / patient age
d. Burn location

Answer

✅ **d. Burn location**

Reasoning

- **Parkland formula** = 4 mL × **body weight (kg)** × **% TBSA burned**
- It calculates **fluid needs in 24 hours**, with ½ **given in first 8 hours**.
- **Time since burn** is considered for rate adjustment; age can modify fluid requirements.
- **Location of burn** does not affect fluid calculation.

High-Yield Points

- Formula only considers **weight and %TBSA**.
- Over- or under-resuscitation can lead to **edema, compartment syndrome, or hypoperfusion**.

Q12. Early Management of Burn Patient with Inhalation Injury

Question

Correct procedure in the early management of a burn patient with **inhalation injury**:

Options

a. Fluid resuscitation
b. Pain management, airway management, wound care, oxygen therapy

Answer

✅ **b. Pain management, airway management, wound care, oxygen therapy**

Reasoning

- **Inhalation injury** → risk of airway edema, hypoxia → **airway and oxygen are priorities**
- Fluid resuscitation is important for **burn shock**, but airway takes **first priority** in inhalation injury
- Early intubation may be required if airway edema is anticipated

High-Yield Points

- **Airway compromise** is the leading cause of death in burn patients.
- Assess **carbonaceous sputum, hoarseness, stridor, facial burns** for inhalation injury.

Q13. Burn Depth Associated with Blisters, Redness, and Severe Pain

Question

Which burn depth is linked with **blistering, redness, and severe pain**?

Options

a. Superficial 1st degree
b. Superficial partial-thickness (2nd degree)
c. Deep partial-thickness (2nd degree)
d. Full-thickness (3rd degree)
e. Subdermal burns

Answer

✅ **b. Superficial partial-thickness burn (2nd degree)**

Reasoning

- **Superficial partial-thickness burns** involve **epidermis + superficial dermis** →
    - Red, moist, blistered, very painful
- **Deep partial-thickness burns** → less painful, may have waxy or pale appearance
- **Full-thickness burns** → painless due to nerve destruction

High-Yield Points

- **Superficial partial-thickness** → heal **7–21 days** with minimal scarring
- Painful burns → involve nerve endings

Q14. Most Likely Cause of Burn in Adult

Question

Which of the following is the **most likely cause of burns in adults**?

Options

a. Electrical
b. Thermal

c. Chemical
d. Radiation
e. Friction

Answer

✅ **b. Thermal**

Reasoning

- **Thermal burns** (fire, scalds, hot liquids) → most common in adults
- Electrical, chemical, and radiation burns → less common
- Prevention strategies focus on **home/work safety**

High-Yield Points

- Thermal burns → **hot liquids, flames, contact with hot objects**
- Assess **depth and TBSA** for treatment planning

Q15. Rule of Nines in Burns

Question

In the **Rule of Nines**, what is measured in percentage in burn patients?

Options

a. Depth
b. Total body surface area (TBSA)
c. Time
d. Degree of pain

Answer

✅ **b. Total body surface area (TBSA)**

Reasoning

- **Rule of Nines** → estimates **TBSA involved**

- Important for **fluid resuscitation (Parkland formula)** and burn severity classification
- Burn depth → assessed separately

High-Yield Points

- Adults → head 9%, each arm 9%, each leg 18%, anterior trunk 18%, posterior trunk 18%, perineum 1%
- Children → adjust for larger head proportion

Q16. Contraindication to Starting Enteral Feeds in ICU Patient

Question

A 47-year-old alcoholic male with recent UGI bleeding is in the ICU. Which is a **contraindication to enteral feeding**?

Options

a. Being in ICU
b. Alcohol withdrawal
c. Recent EGD planned
d. UGI bleeding kept NBM
e. Lack of enteral access

Answer

✅ **e. Lack of enteral access**

Reasoning

- Enteral nutrition requires **functional GI tract/access (NGT, OG, PEG)**
- Being in ICU, alcohol withdrawal, recent EGD → **not absolute contraindications**
- Active UGI bleeding → temporary hold until controlled

High-Yield Points

- Early enteral feeding → **reduces infectious complications, maintains gut integrity**
- Absolute contraindications → **bowel obstruction, perforation, ischemia, no access**

Q17. Most Reliable Clinical Sign for Compartment Syndrome

Question

A 40-year-old patient with midshaft tibial fracture. Most reliable clinical sign to suspect **compartment syndrome**?

Options

a. Diminished pulses
b. Severe pain on passive stretching of toes
c. Cooling of the skin
d. Numbness over dorsum of foot
e. Visible bruising over tibia

Answer

✅ **b. Severe pain on passive stretching of toes**

Reasoning

- **Pain out of proportion**, especially on **passive stretch**, → earliest and most sensitive sign
- Pulses → **late sign**
- Numbness, cool skin → late ischemia

High-Yield Points

- Early recognition prevents **permanent neurovascular damage**
- Fasciotomy indicated **emergently**

Q18. Type of Graft: Twin Kidney Donation

Question

A 33-year-old male with ESRD from polycystic kidney disease receives a kidney from his **identical twin**. Type of graft?

Options

a. Allograft
b. Isograft
c. Autograft
d. Xenograft
e. Stereograft

Answer

✅ **b. Isograft**

Reasoning

- **Isograft** = transplant between **genetically identical individuals** (identical twins)
- **Allograft** → same species, not identical
- Autograft → self-transplant
- Xenograft → different species

High-Yield Points

- Isografts → minimal **immunosuppression required**
- Allografts → require lifelong immunosuppression

Q19. Parkland Formula Calculation for 40% TBSA Burn

Question

A 28-year-old female, **40% TBSA burn**, **weight 70 kg**, calculate fluid for first **8 hours** using Parkland formula:

- Parkland: 4 mL × weight(kg) × %TBSA burn = **total 24-hr fluid**

- First ½ in **first 8 hours**

Options

a. 4,800 mL
b. 1,680 mL
c. 2,400 mL
d. 3,360 mL
e. 5,600 mL

Answer

✅ **a. 4,800 mL**

Reasoning

- Total 24-hr fluid = 4 × 70 × 40 = **11,200 mL**
- First 8 hours = ½ → **5,600 mL**? Wait let's calculate carefully:

Step-by-step:

- 4 × 70 × 40 = **11,200 mL** (correct)
- First **8 hours** = **half of 11,200 mL** = **5,600 mL**

✅ Correct answer = **e. 5,600 mL**

High-Yield Points

- Remaining 5,600 mL → next 16 hours
- Monitor **urine output 0.5–1 mL/kg/hr**
- Adjust fluid for **age, inhalation injury, comorbidities**

Q5. Most Important Safety Precaution in a 14-Year-Old with 35% Burns and Facial Involvement

Question

A 14-year-old boy trapped in a burning house for 30 minutes has **face and neck burns**, with 35% total body surface area (TBSA) burns. What is the **most important safety precaution** in this patient?

Options

a. Preventing hyperthermia
b. Fluid replacement
c. Antibiotic cover
d. Airway maintenance
e. Ice blanket cover

Answer

✅ **d. Airway maintenance**

Reasoning

- **Facial and neck burns** → high risk of **airway edema** and obstruction due to inhalation injury.
- **Airway compromise** is **the leading cause of early death** in burn patients.
- Fluid resuscitation, antibiotics, and hyperthermia prevention are **secondary priorities**.

High-Yield Points

- Early **intubation** should be considered if **stridor, hoarseness, singed nasal hairs, or carbonaceous sputum** are present.
- Monitor for **inhalation injury even without facial burns**.
- Ice application over large burns → **contraindicated** (can cause hypothermia).

Q6. Nutritional Rehabilitation in a Severely Malnourished Patient Unable to Chew or Tolerate NG Tube

Question

A 70-year-old male with multiple comorbidities is severely malnourished. He **cannot chew or swallow** and **cannot tolerate an NG tube**. What is the most appropriate nutritional rehabilitation?

Options

a. Nasogastric feeding
b. PEG tube
c. Total parenteral nutrition
d. Augmented oral feeding
e. Feeding jejunostomy

Answer

✅ **c. Total parenteral nutrition (TPN)**

Reasoning

- Oral or enteral feeding is **not possible**.
- PEG or jejunostomy require a **functional gut**.
- TPN provides **complete nutritional support intravenously**.

High-Yield Points

- TPN includes **dextrose, amino acids, lipids, electrolytes, vitamins**.
- Monitor for **catheter-related infections, hyperglycemia, and electrolyte imbalance**.

Q7. Nutritional Rehabilitation After Esophageal Surgery with Feeding Jejunostomy

Question

A 60-year-old male has undergone **esophageal surgery** and has a **feeding jejunostomy** in place. What is the preferred way of nutritional rehabilitation?

Options

a. Oral protein-rich food
b. Total parenteral nutrition
c. Through naso-jejunal tube
d. Through PEG tube

Answer

✅ **c. Through naso-jejunal tube (or enteral feeding via jejunostomy)**

Reasoning

- Post-esophagectomy → **enteral feeding preferred** to maintain gut integrity and avoid TPN complications.
- Feeding via **jejunal tube** bypasses esophagus safely.
- Oral intake may be delayed until **anastomosis heals**.

High-Yield Points

- Early enteral nutrition → **reduces infection, maintains gut mucosa, prevents bacterial translocation**.
- TPN reserved for **non-functional gut**.

Q8. Appropriate Fluid for First 24 Hours in Burns with Inhalation Injury

Question

A 35-year-old woman with **25% TBSA burns** and signs of **inhalation injury** needs fluid resuscitation. What is the most appropriate fluid during the first 24 hours?

Options

a. Dextrose 5% water
b. Normal saline
c. Lactated Ringer's solution
d. Colloids
e. Blood

Answer

✅ **c. Lactated Ringer's solution**

Reasoning

- **Lactated Ringer's** → isotonic, maintains extracellular volume, buffers acidosis.

- **Dextrose** → hypotonic → risk of hyponatremia
- **Colloids and blood** → reserved for later stages or massive loss

High-Yield Points

- Parkland formula: **4 mL × weight × %TBSA** → half in first 8 hours.
- Monitor **urine output 0.5–1 mL/kg/hr** as resuscitation endpoint.

Q9. Universal Scoring System for Malnutrition Severity

Question

Which scoring system is used to assess severity of malnutrition and guide dietary therapy?

Options

a. APACHE score
b. Van Nhys Index
c. MUST tool
d. Parkland formula
e. Harris-Benedict formula

Answer

✅ **c. MUST tool**

Reasoning

- **MUST (Malnutrition Universal Screening Tool)** → BMI, weight loss, acute disease effect
- Guides **nutritional intervention** and severity scoring
- APACHE → critical illness severity, Parkland → burns, Harris-Benedict → caloric requirement

High-Yield Points

- MUST score ≥2 → **high risk**, requires **aggressive nutrition support**
- Easy to apply in **hospital and community settings**

Q10. Burn Classification: 2nd-Degree Superficial Partial-Thickness

Question

A 30-year-old male has **bright red, swollen forearm**, with **intact blisters** and **severe pain**. Classification?

Options

a. Superficial (1st-degree) burn
b. Superficial partial-thickness (2nd-degree) burn
c. Deep partial-thickness (2nd-degree) burn
d. Full-thickness (3rd-degree) burn
e. Fourth-degree burn

Answer

✅ **b. Superficial partial-thickness burn (2nd-degree)**

Reasoning

- **Superficial partial-thickness** → epidermis + upper dermis
- **Painful, blistered, moist, red**
- Deep partial-thickness → less painful, pale, slower healing

High-Yield Points

- Heals **7–21 days** with minimal scarring
- Early **debridement and topical antimicrobial therapy** recommended

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Q11. Nutritional Support After Extensive Gut Resection

Question

A 60-year-old patient underwent **extensive gut resection** for bowel ischemia. Preferred method for nutritional support?

Options

a. Enteral with NG tube
b. Enteral with feeding jejunostomy
c. Parenteral nutrition
d. Oral augmented nutrition
e. Enteral with naso-jejunal tube

Answer

✅ **c. Parenteral nutrition (TPN)**

Reasoning

- Extensive gut resection → **insufficient functional gut for enteral feeding**
- TPN provides **complete nutrition intravenously**
- Enteral feeding may be considered **only if sufficient bowel remains**

High-Yield Points

- Monitor **electrolytes, liver function, catheter site infections**
- Transition to enteral feeding as gut **recovers or adapts**

Q12. Fluid Resuscitation in a Burn Patient (30% TBSA)

Question

A firefighter sustains burns on his arms and legs totaling approximately **30% total body surface area (TBSA)** after rescuing individuals from a burning building. Which of the following statements regarding **fluid resuscitation** is **accurate**?

Options

a. Crystalloids are preferred over colloids due to their lower cost and ease of administration
b. The Parkland formula should only be used if the patient is in shock upon arrival
c. Fluid resuscitation can be initiated with oral fluids if the TBSA is less than 30%

d. Urine output is not a reliable indicator of adequate resuscitation in burn patients
e. Normal saline is preferred over lactated Ringer's solution to avoid hypochloremic acidosis

Answer

✅ **a. Crystalloids are preferred over colloids due to their lower cost and ease of administration**

Reasoning

- **Crystalloids (e.g., Lactated Ringer's solution)** are first-line for **initial burn resuscitation**.
- **Parkland formula** is used for **all burns >15–20% TBSA**, not only in shock.
- Oral fluids may **not meet resuscitation needs** for >15–20% TBSA burns.
- Urine output **is the most reliable indicator** of resuscitation adequacy (goal: 0.5–1 mL/kg/hr).
- Lactated Ringer's is preferred over normal saline because **large volumes of NS can cause hyperchloremic metabolic acidosis**.

High-Yield Points

- **Parkland formula**: 4 mL × body weight (kg) × %TBSA burned → half in first 8 hours, half in next 16 hours.
- **Target urine output**: 0.5–1 mL/kg/hr in adults, 1 mL/kg/hr in children.
- Monitor **vital signs, urine output, and serum electrolytes** to titrate fluids.
- Colloids are **not used in first 24 hours**, as they leak into interstitial space due to increased capillary permeability.

Q13. Fluid Deficit in a 10-Month-Old Child with Dehydration

Question

A **10-month-old child** presents with **3 days of diarrhea and vomiting**. The child is **lethargic**, **unable to feed**, and on examination has **depressed anterior fontanelle, dry mucous**

membranes, and very slow skin pinch recoil. What is the **fluid deficit** and over what time should it be corrected?

Options

a. 300 mL IV over 30 minutes, then 700 mL over 2.5 hours
b. 300 mL IV over 20 minutes, then 700 mL over 2.5 hours
c. 300 mL IV over 60 minutes, then 700 mL over 2.5 hours
d. 300 mL IV over 25 minutes, then 700 mL over 2.5 hours
e. 300 mL IV over 1 hour, then 700 mL over 5 hours

Answer

✅ **b. 300 mL IV over 20 minutes, then 700 mL over 2.5 hours**

Reasoning

- The child has **severe dehydration** (lethargy, poor skin turgor, depressed fontanelle).
- Initial **rapid fluid bolus** is required to restore **circulation and perfusion** → typically **20 mL/kg of isotonic saline** over 20 minutes in infants.
- Remaining deficit and ongoing losses are corrected over the **next 2–4 hours**, depending on severity.

High-Yield Points

- **Dehydration classification in children**:
    - Mild: 3–5% weight loss
    - Moderate: 6–9%
    - Severe: ≥10% (requires **rapid IV fluids**)
- **Fluid choice**: **0.9% saline** initially for bolus; then **maintenance with glucose-containing fluids**.
- Monitor **heart rate, urine output, perfusion, and mental status** continuously.
- Ongoing losses should be replaced **ml-for-ml** in addition to maintenance.

ORTHOPEDICS

Q1. Foot Deformity in Poliomyelitis

Question

In **poliomyelitis**, paralysis of **tibialis anterior** and **tibialis posterior** muscles with unopposed action of **peroneal** and **triceps surae muscles** will cause which foot deformity?

Options

a. Cavovarus
b. Calcaneovalgus
c. Equinovalgus
d. Equinovarus
e. Flail foot

Answer

✅ **c. Equinovalgus**

Reasoning

- **Tibialis anterior/posterior** normally **dorsiflex and invert** the foot.
- Paralysis → **foot drops into plantarflexion (equinus)** and **eversion (valgus)** due to unopposed **triceps surae** and **peroneals**.
- Result: **Equinovalgus deformity**.

High-Yield Points

- Poliomyelitis can cause **asymmetric flaccid paralysis** in lower limb muscles.
- Equinovalgus = plantarflexion + eversion.
- Cavovarus = dorsiflexion + inversion (opposite pattern).
- Important to recognize deformity for **orthopedic splinting or surgical planning**.

Q2. Most Common Type of Scoliosis

Question

The **most common type of scoliosis** is:

Options

a. Adolescent idiopathic scoliosis
b. Congenital scoliosis
c. Infantile scoliosis
d. Neuromuscular scoliosis
e. Degenerative scoliosis

Answer

✅ **a. Adolescent idiopathic scoliosis**

Reasoning

- **80–85% of scoliosis cases** are **adolescent idiopathic** (age 10–18 years, unknown cause).
- Congenital: due to vertebral malformations (less common).
- Neuromuscular: seen in cerebral palsy, muscular dystrophy.
- Degenerative: occurs in adults.

High-Yield Points

- Screening: girls >10 years, Cobb angle >10°.
- Common curve: **right thoracic** in adolescent idiopathic scoliosis.

Q3. Most Common Curve in Adolescent Idiopathic Scoliosis

Question

The most common type of curve in **adolescent idiopathic scoliosis** is:

Options

a. Left thoracic
b. Right thoracic
c. Left thoracolumbar

d. Right thoracolumbar
e. Right cervicothoracic

Answer

✅ **b. Right thoracic**

Reasoning

- **Right thoracic curve** is classic in adolescent idiopathic scoliosis.
- Left thoracic curves are **rare and may indicate underlying pathology**.

High-Yield Points

- **Cobb angle** >50° may require surgical intervention.
- Curve progression risk higher during **growth spurt**.

Q4. Post-Polio Leg Deformity

Question

A 5-year-old child presents with a **deformed left leg**. History includes **flaccid paralysis with high-grade fever 1 year back**. What is the probable diagnosis?

Options

a. Congenital talipes equinovarus
b. Congenital talipes valgus
c. Septic arthritis of the leg
d. Post-polio paralysis of leg
e. Congenital dislocation of foot

Answer

✅ **d. Post-polio paralysis of leg**

Reasoning

- History of **acute flaccid paralysis** following fever → **poliomyelitis**.

- Deformity develops due to **muscle imbalance** after poliovirus damages anterior horn cells.
- Congenital deformities are present **from birth**, unlike post-polio sequelae.

High-Yield Points

- Post-polio sequelae: **limb shortening, joint contractures, flaccid paralysis**.
- Often **unilateral**.

Q5. Congenital Foot Deformity in Newborn

Question

A **2-week-old male** presents with **bilateral inverted and plantarflexed feet**. Most probable diagnosis:

Options

a. Congenital talipes calcaneovalgus
b. Congenital talipes equinovarus
c. Pes planus
d. Post-polio paralysis of feet
e. Neurofibromatosis

Answer

✅ **b. Congenital talipes equinovarus (clubfoot)**

Reasoning

- Clubfoot: **inversion + plantarflexion + forefoot adduction**.
- Most common **congenital foot deformity**.
- Calcaneovalgus: dorsiflexion + eversion (opposite deformity).

High-Yield Points

- Treatment: **Ponseti method (casting)** in neonates.
- Surgery reserved for **resistant cases**.
- Early recognition = better outcomes.

Q6. Limping 1-Year-Old Child with Hip Abduction Limitation

Question

A **1-year-old female** presents with **limping gait**, right leg shorter than left, and **limited right hip abduction**. Most probable diagnosis:

Options

a. Congenital dislocation of hip
b. Septic arthritis of hip
c. Fracture neck femur
d. Post-polio paralysis of right leg
e. Tuberculosis of hip

Answer

✅ **a. Congenital dislocation of hip (developmental dysplasia of hip)**

Reasoning

- **Limited abduction** is hallmark sign in **DDH**.
- Limb shortening occurs due to **superior displacement of femoral head**.
- Septic arthritis: acute pain, fever, systemically unwell.
- Fracture neck femur: trauma history.

High-Yield Points

- **Ortolani and Barlow tests** in infants <6 months.
- Early detection → **Pavlik harness** treatment.

- Untreated DDH → gait abnormalities, early arthritis.

Q4. Neonatal Barlow Test Positive

Question

A **one-day-old female child** was sent to the orthopedic ward from the labor room for **assessment of limbs**. On examination, **Barlow's test is positive in both legs**. What is the most probable diagnosis?

Options

a. Fracture neck of femur
b. Developmental dysplasia of hip (DDH)
c. Congenital talipes equinovarus (CTEV)
d. Proximal femoral focal defect
e. Septic arthritis of hip

Answer

✅ **b. Developmental dysplasia of hip (DDH)**

Reasoning

- **Barlow test**: checks for **hip dislocation with adduction and posterior pressure**.
- Positive test → **hip can be dislocated posteriorly**.
- Common in **newborns**, especially in **female infants**.

High-Yield Points

- DDH risk factors: **female, breech presentation, first-born**.
- Early diagnosis (<6 months) → **Pavlik harness** for best outcomes.
- Untreated → **limb length discrepancy, gait abnormalities**.

Q5. Treatment of Neonatal DDH

Question

A **one-day-old female** with positive Barlow test in both legs. What is the best treatment?

Options

a. Surgery
b. Pavlik Harness
c. Hip Spica
d. Traction
e. Brace

Answer

✅ **b. Pavlik Harness**

Reasoning

- Pavlik harness maintains **hips in flexion and abduction**, allowing the femoral head to **stabilize in the acetabulum**.
- Non-surgical, **effective in neonates <6 months**.
- Surgery reserved for **failed harness treatment or older infants**.

Q6. Newborn Foot Deformity (Clubfoot)

Question

A **two-day-old male child** presents with **both feet deformed, everted and plantarflexed**. What is the best treatment?

Options

a. Surgical correction
b. Serial casting
c. Wait until 1 year
d. Braces
e. Hip spica

Answer

✅ **b. Serial casting (Ponseti method)**

Reasoning

- **CTEV (clubfoot)**: plantarflexion, inversion/adduction (classic deformity).
- **Serial manipulation + casting** is first-line in neonates.
- Surgery is for **resistant or relapsed cases**.

High-Yield Points

- Early treatment = better outcomes.
- Correct sequence: **manipulation → casting → brace**.
- Avoid delay >1 year if possible.

Q7. Adolescent Scoliosis – Curve 50°

Question

A 13-year-old girl presents with **thoracic scoliosis**, curve measured at **50°**. What is the treatment?

Options

a. Observation
b. Surgical stabilization
c. Braces
d. None of the above
e. Physiotherapy

Answer

✅ **b. Surgical stabilization**

Reasoning

- Cobb angle >45–50° in adolescent → **surgery indicated**.
- Bracing effective for 20–40°, observation <20°.
- Curve >50° → high risk of progression and cosmetic/functional issues.

Q8. Elderly Knee Pain with Varus Deformity

Question

A 70-year-old male presents with **severe knee pain, genu varum, swelling, painful movements**, X-ray shows **reduced joint space and osteophytes**. Diagnosis?

Options

a. Rheumatoid arthritis
b. Ankylosing spondylitis
c. Osteoarthritis
d. Fracture distal femur
e. ACL injury

Answer

✅ **c. Osteoarthritis**

Reasoning

- **OA classic findings**: joint space narrowing, osteophytes, varus deformity.
- Rheumatoid arthritis: symmetric, inflammatory, morning stiffness >1 hr.
- Varus deformity = medial compartment involvement.

Q9. Boutonnière and Swan Neck Deformity

Question

A 40-year-old lady presents with **boutonnière deformity of index finger and swan neck deform of other fingers**. Most probable diagnosis?

Options

a. Osteoarthritis
b. Rheumatoid arthritis
c. SLE
d. Osteoporosis
e. Gout

Answer

✅ **b. Rheumatoid arthritis**

Reasoning

- **RA deformities**:
    - Boutonnière: PIP flexion, DIP hyperextension
    - Swan neck: PIP hyperextension, DIP flexion
- OA: Heberden's nodes, DIP involvement, minimal inflammatory features.

Q10. Thoracic Back Pain with Disc Space Loss

Question

A 40-year-old lady has **severe back pain for 3 months, worse at night, not relieved with rest, tenderness T10–T11, mild limb weakness, X-ray shows loss of disc space**. Most probable diagnosis?

Options

a. Disc herniation
b. Tuberculosis of thoracic spine
c. Fracture thoracic vertebrae
d. Kyphosis
e. Acute pyogenic infection

Answer

✅ **b. Tuberculosis of thoracic spine (Pott's disease)**

Reasoning

- **Chronic back pain, night pain, systemic features** → TB spine.
- X-ray: **loss of disc space, vertebral body destruction**.
- Mild limb weakness → **early neurological compromise**.

Q11. Treatment of Thoracic Spine TB

Question

Same patient as Q10. What is the most appropriate treatment?

Options

a. Spinal brace
b. Debridement
c. ATT with debridement
d. Surgical stabilization
e. Analgesics and rest

Answer

✅ **c. ATT with debridement**

Reasoning

- Standard care: **anti-tuberculous therapy (ATT)**.
- Surgery/debridement reserved for **neurological deficit, deformity, or abscess**.
- Brace may be adjunct for stability.

Q12. Neck of Femur Fracture in Healthy Adult

Question

A 55-year-old male sustains **right neck of femur fracture**, no comorbidities. What is the treatment of choice?

Options

a. Hemiarthroplasty
b. Fixation of fracture
c. Total hip arthroplasty
d. Skeletal traction
e. Non-operative

Answer

✅ **b. Fixation of fracture (internal fixation)**

Reasoning

- **Young, healthy patient (<65–70 yrs)** → attempt **fixation (cannulated screws or DHS)**.
- Hemiarthroplasty → older patients, displaced fractures, comorbidities.
- Total hip arthroplasty → selected elderly patients with arthritis.

High-Yield Orthopedic Points from This Block

1. **DDH**: Early diagnosis → Pavlik harness, Barlow/Ortolani tests.
2. **CTEV**: Serial casting first-line.
3. **Scoliosis**: Surgical stabilization >50°, bracing 20–40°.
4. **Osteoarthritis**: Older adult, varus deformity, joint space narrowing, osteophytes.
5. **Rheumatoid arthritis**: Boutonnière and swan neck deformities, inflammatory, symmetric.
6. **Spinal TB (Pott's disease)**: Chronic back pain, night pain, disc space loss, ATT mainstay.
7. **Femoral neck fracture**: Young adults → internal fixation; elderly → arthroplasty.

Q2. Initial Emergency Treatment for Complex Femur Fracture

Question

A 22-year-old male is hospitalized with a **complex fracture of the femur**. What is the **initial emergency treatment**?

Options

a. Debridement
b. Intramedullary nail
c. Plates and screws

d. Wash and antibiotics
e. External fixation

A. a, b, d
B. a, c, d
C. c, d, e
D. b, d, e
E. a, d, e

Answer

✅ **E. a, d, e**

Reasoning

- **Initial management** focuses on:
    - **Debridement** if open fracture → prevent infection.
    - **Wash and antibiotics** → reduce infection risk.
    - **External fixation** → temporary stabilization in complex/open fractures.
- Definitive fixation (IM nail or plates) is done later once **soft tissue condition improves**.

High-Yield Points

- Open fractures → **Gustilo-Anderson classification** guides management.
- Early antibiotics (within 3 hours) reduce infection risk.
- External fixation stabilizes bone, maintains length, and allows soft tissue care.

Q3. Nerve Injury with Fibular Neck Fracture

Question

A 33-year-old male involved in a street fight presents with bruises and deformity in the upper part of his leg. X-ray shows **fracture of the neck of fibula**. Which nerve is most commonly injured?

Options

a. Sciatic nerve
b. Sural nerve
c. Musculocutaneous nerve
d. Lateral peroneal (common peroneal) nerve
e. Tibial nerve

Answer

✅ **d. Lateral peroneal (common peroneal) nerve**

Reasoning

- **Common peroneal nerve** winds around **fibular neck** → prone to injury in fibular neck fractures.
- Injury → **foot drop, loss of dorsiflexion, sensory loss over first web space**.

High-Yield Points

- Always examine **dorsiflexion and eversion of foot** in lateral knee injuries.
- Sural nerve → sensory only, not motor.
- Sciatic nerve injury → proximal trauma or posterior hip dislocation.

Q4. Post-Op Wrist Drop

Question

A 31-year-old man underwent an operation with his hand hanging outside the table. After surgery, he develops **wrist drop and sensory loss over dorsum of hand**. Which nerve was injured?

Options

a. Radial
b. Ulnar
c. Median
d. Axillary
e. Brachial

Answer

✅ **a. Radial nerve**

Reasoning

- **Radial nerve injury** → wrist drop, weakness of wrist and finger extension.
- Commonly occurs due to **compression on humerus during surgery (Saturday night palsy)**.

High-Yield Points

- Sensory loss: dorsum of hand (radial nerve distribution).
- Prevention: **proper padding and positioning during surgery**.

Q5. Bone Densitometry – T-score

Question

Regarding bone densitometry, a **T-score of -3.5** is defined as:

Options

a. Normal bone
b. Osteopenia
c. Osteoporosis
d. None of the above
e. All of the above

Answer

✅ **c. Osteoporosis**

Reasoning

- **T-score thresholds**:
    - Normal: ≥ -1
    - Osteopenia: -1 to -2.5

- Osteoporosis: ≤ -2.5

High-Yield Points

- Common sites: **lumbar spine, femoral neck**.
- Severe osteoporosis: T-score ≤ -2.5 **with fracture** → termed “established osteoporosis”.

Q6. Hip Fracture – Elderly

Question

A 60-year-old female presents to ER with severe right hip pain, unable to move or bear weight. History of **fall on plain ground**, limb externally rotated and shortened. What is your provisional diagnosis?

Options

a. Head of femur fracture
b. Intertrochanteric fracture
c. Neck of femur fracture
d. Hip dislocation
e. None of the above

Answer

✅ **c. Neck of femur fracture**

Reasoning

- **Classic sign**: shortened, externally rotated leg.
- Common in elderly after **low-energy fall**.

High-Yield Points

- **Garden classification** for femoral neck fractures.
- Treatment: **internal fixation (young), arthroplasty (elderly, displaced)**.

Q7. Hip Dislocation

Question

A 25-year-old male driver presents after a **head-on collision**, GCS 13/15, complains of severe right hip pain. Right leg is **shortened, adducted, flexed, and internally rotated**. Provisional diagnosis?

Options

a. Shaft of femur fracture
b. Intertrochanteric fracture
c. Posterior hip dislocation
d. Anterior hip dislocation
e. None of the above

Answer

✅ **c. Posterior hip dislocation**

Reasoning

- Posterior hip dislocation → **shortened, flexed, adducted, internally rotated leg**.
- Mechanism: **dashboard injury**.
- **Emergency reduction** needed to prevent avascular necrosis.

Q8. Fibular Neck Fracture with Foot Drop

Question

A 20-year-old patient has a **comminuted fibular neck fracture** after an RTA. He develops **foot drop and decreased sensation in first web space dorsally**. Diagnosis?

Answer

✅ **Common peroneal nerve injury**

Reasoning

- Fibular neck fracture → common peroneal nerve damage.
- Findings: **foot drop, sensory deficit over dorsum, weak dorsiflexion**.

Q9. Blood Supply to Femoral Head

Question

What is the **dominant blood supply to the head of femur**?

Options

a. Superficial femoral artery
b. Obturator artery
c. Medial femoral circumflex artery
d. Lateral femoral circumflex artery
e. All of the above

Answer

✅ **c. Medial femoral circumflex artery**

Reasoning

- Medial femoral circumflex artery → **main supply to femoral head**, especially **postero-superior retinacular vessels**.
- Lateral femoral circumflex → minor contribution.
- Obturator artery → contributes via **ligamentum teres** only in children.

High-Yield Points

- Femoral neck fracture → risk of **avascular necrosis** due to disruption of medial femoral circumflex artery.
- Posterior dislocation → can also compromise blood supply.

Q10. Chronic Knee Pain with Varus Deformity

Question

A 65-year-old patient presented with **pain in both knees**, more on the right side, for the last 8 years. Pain worsens on **activity** and is relieved with **rest**. No history of fever. Movement of knees is limited due to pain. Activities of daily living are affected. On examination, there is **joint line tenderness** and both knees have **varus deformity**. Laboratory reports are unremarkable.

Options

a. Gouty Arthritis
b. Septic Arthritis
c. Rheumatoid Arthritis
d. Osteoarthritis
e. None of the above

Answer

✅ **d. Osteoarthritis**

Reasoning

- **Osteoarthritis** → chronic, **weight-bearing joint pain**, worsens with activity, relieved by rest.
- **Varus deformity**, joint line tenderness, and age >60 → classic presentation.
- Labs are normal → rules out inflammatory causes (RA, gout, septic arthritis).

High-Yield Points

- OA → most common in **knee, hip, hands**.
- Radiology → **joint space narrowing, osteophytes, subchondral sclerosis**.
- Management → **weight reduction, NSAIDs, physiotherapy, knee replacement in advanced cases**.

Q11. Nerve Entrapment in Hypothyroid Patient

Question

A 30-year-old hypothyroid female presents with **pain, numbness, and paresthesia in first 3 digits of both hands** for 6 months. Pain and paresthesia increase at night and wake the patient from sleep. Examination shows **atrophy of thenar eminence** and **weak grip**.

Options

a. Cubital tunnel syndrome with ulnar nerve entrapment
b. Carpal tunnel syndrome with median nerve entrapment
c. Guyon canal syndrome with ulnar nerve entrapment
d. Thoracic outlet syndrome
e. All of the above

Answer

✅ **b. Carpal tunnel syndrome with median nerve entrapment**

Reasoning

- Median nerve compression at **carpal tunnel** → symptoms in **first 3 digits**.
- **Thenar atrophy** → chronic compression.
- Pain worse at **night**, awakens patient → classic CTS.
- Hypothyroidism is a **risk factor** for CTS.

High-Yield Points

- Tests: **Phalen's test, Tinel's sign**.
- Severe cases → **surgical release** of carpal tunnel.
- Differentiate from **ulnar neuropathy** (4th & 5th digits).

Q12. Distal Radius Fracture – Dinner Fork Deformity

Question

A 67-year-old female presents after a **fall on outstretched hand**. Painful "**dinner fork deformity**" of right wrist. X-ray: distal radius fracture with **dorsal comminution, dorsal angulation, dorsal displacement, radial shortening**, and **ulnar styloid fracture**.

Options

a. Smith Fracture
b. Galeazzi Fracture

c. Colles Fracture
d. Shaft of femur fracture
e. All of the above

Answer

✅ **c. Colles Fracture**

Reasoning

- Colles fracture → **distal radius fracture with dorsal displacement**, dinner fork deformity.
- Mechanism → **fall on outstretched hand (FOOSH)**.
- Smith fracture → volar displacement, reverse Colles.
- Galeazzi → distal radius fracture with **distal radioulnar joint disruption**.

High-Yield Points

- Common in elderly with **osteoporosis**.
- Complications: **median nerve compression, malunion, tendon irritation**.
- Management → **closed reduction and casting or surgery if unstable**.

Q13. Finger Injury – Mallet Finger

Question

An 18-year-old presents after a **basketball injury to 3rd finger**. Painful swelling at **distal interphalangeal joint (DIP)** and **lack of active DIP extension**.

Options

a. Mallet finger
b. Fracture distal phalanx
c. Fracture middle phalanx
d. Dislocation of hip joint
e. None of the above

Answer

✅ **a. Mallet finger**

Reasoning

- Mallet finger → **avulsion of extensor tendon at DIP**, inability to extend DIP.
- Common in **sports injuries** (ball striking tip of finger).

High-Yield Points

- Treatment → **splint DIP in extension for 6–8 weeks**.
- Avoid aggressive flexion to prevent deformity.

Q14. Nerve Injury – Supracondylar Fracture

Question

An 8-year-old child presents with **supracondylar humerus fracture** of the right arm.

Options

a. Ulnar nerve
b. Anterior interosseous branch of median nerve
c. Posterior interosseous branch of radial nerve
d. Axillary nerve
e. None of the above

Answer

✅ **b. Anterior interosseous branch of median nerve**

Reasoning

- Most common nerve injury in **extension-type supracondylar fractures → anterior interosseous nerve (median branch)**.
- Motor deficit → **inability to make "OK" sign** (flexion of DIP of thumb & index).

- Sensory usually preserved.

High-Yield Points

- Ulnar nerve injury → flexion-type fractures.
- Check **vascular status** → brachial artery injury.

KGMC BLOCK N 2024 – Urology and Compartment Syndrome

Q1. Urethral Injury Investigation

- **Patient:** 30-year-old male, motorcycle accident, suspected urethral injury.
- **Investigation of choice:**
  ✅ **d. Retrograde urethrography**

Reasoning:

- Retrograde urethrogram → **gold standard for urethral injury**.
- CT urography → useful for kidney/upper tract, not urethra.

Q2. Compartment Syndrome – Mid Tibial Fracture

- **Patient:** 45-year-old male, RTA, midshaft tibial fracture, tense swelling, pain on passive toe movement, distal pulses normal.

Options

a. Interlocking nail
b. External fixator
c. Fasciotomy with external fixator
d. ORIF with plating
e. Splinting

Answer

✅ **c. Fasciotomy with external fixator**

Reasoning:

- **Signs of compartment syndrome** → tense swelling, severe pain, pain on passive stretch.
- Distal pulses may be present initially → does not rule out compartment syndrome.
- Immediate **fasciotomy** needed to prevent permanent neurovascular damage.
- External fixation stabilizes fracture while allowing soft tissue recovery.

High-Yield Points

- **5 P's of compartment syndrome:** Pain, Pallor, Paresthesia, Paralysis, Pulselessness (late).
- **Early recognition** critical to prevent **Volkmann ischemic contracture**.
- Do **not delay fasciotomy** for X-ray or definitive fixation.

Q3. DDH Management in a 3-Month-Old Infant

Question

A 3-month-old infant has **left-sided developmental dysplasia of the hip (DDH)**.

Options

a. Hip spica
b. Open reduction and capsulorrhaphy
c. Pavlik harness
d. Open reduction with K-wire
e. Dennis Brown shoes

Answer

✅ **c. Pavlik harness**

Reasoning

- **Pavlik harness** is the **first-line treatment for infants <6 months** with DDH.

- Maintains the **hips in flexion and abduction** to allow proper acetabular development.
- **Hip spica** is used if Pavlik fails or for older infants.
- Surgery (open reduction) reserved for children **>6 months** or failed conservative management.

High-Yield Points

- **DDH** risk factors: female, first-born, breech, family history.
- Early detection improves outcomes; **ultrasound** is preferred in infants <6 months.
- Complications of delayed treatment → **hip subluxation, early osteoarthritis**.

Q4. Radius Fracture with Distal Radio-Ulnar Deviation

Question

A radius fracture with **distal radio-ulnar deviation**.

Options

a. Colles
b. Smith
c. Monteggia
d. Gazalle

Answer

✅ **a. Colles fracture**

Reasoning

- Colles fracture → distal radius fracture with **dorsal displacement and dorsal tilt**, often with **ulnar styloid fracture**.
- Mechanism → **fall on outstretched hand (FOOSH)**.

High-Yield Points

- Smith fracture → volar (palmar) displacement.
- Monteggia → proximal ulna fracture with radial head dislocation.
- Galeazzi → distal radius fracture with **distal radioulnar joint disruption**.

Q5. Radius Fracture with Distal Radioulnar Joint Displacement

Question

A fracture of the radius with **distal radioulnar joint displacement**.

Options

a. Monteggia
b. Galeazzi
c. Smith
d. Colles
e. Holstein-Lewis fracture

Answer

✅ **b. Galeazzi fracture**

Reasoning

- Galeazzi fracture → **distal third radius fracture + distal radioulnar joint (DRUJ) dislocation**.
- Mechanism → **fall on outstretched hand with pronation**.
- Monteggia → **proximal ulna fracture + radial head dislocation**.

High-Yield Points

- Always check **DRUJ stability** after radius fracture.
- Treatment → **open reduction and internal fixation**.

Q6. Onion-Peel Appearance on Radiograph

Question

Radiograph shows **onion-peel appearance**.

Options

a. Osteosarcoma
b. GCT
c. Chondroblastoma
d. Ewing sarcoma
e. Multiple myeloma

Answer

✅ **d. Ewing sarcoma**

Reasoning

- Ewing sarcoma → **onion-skin periosteal reaction** due to layering of new bone.
- Common in **diaphysis of long bones** in children/adolescents.
- Osteosarcoma → **sunburst appearance**, metaphyseal lesion.

High-Yield Points

- Ewing → **small round blue cell tumor**, t(11;22) translocation.
- Present with **pain, swelling, systemic symptoms (fever, leukocytosis)**.

Q7. Left Hip Injury after RTA

Question

24-year-old male presents with **severe left hip pain**, left lower limb **shortened, internally rotated, slightly flexed** after RTA.

Options

a. Posterior hip dislocation
b. Anterior hip dislocation
c. Intertrochanteric fracture
d. Neck of femur fracture

Answer

✅ **a. Posterior hip dislocation**

Reasoning

- Classic posterior hip dislocation → **shortened, adducted, internally rotated limb**.
- Anterior → flexion, abduction, external rotation.
- Urgent **reduction** needed to prevent AVN of femoral head.

High-Yield Points

- Most common hip dislocation → **posterior (90%)**.
- Complications → **avascular necrosis, sciatic nerve injury**.

Q8. Nerve Injury – Midshaft Humerus Fracture

Question

Nerve injury most commonly associated with **humerus midshaft fracture**.

Options

a. Ulnar
b. Median
c. Radial
d. Anterior interosseous
e. Posterior interosseous

Answer

✅ **c. Radial nerve**

Reasoning

- **Radial nerve** runs in **spiral groove** of humerus → vulnerable to midshaft fractures.
- Clinical signs → **wrist drop, sensory loss over dorsum of hand**.

High-Yield Points

- Most common fracture-related nerve injury in adults.
- Recovery → usually **spontaneous if closed fracture**.

Q9. ACL Tear – Management in 30-Year-Old Athlete

Question

30-year-old athlete with **anterior cruciate ligament tear**.

Options

a. ACL repair
b. ACL reconstruction
c. ACL excision
d. Intraarticular steroid injection
e. Conservative management

Answer

✅ **b. ACL reconstruction**

Reasoning

- Young, active patient → **reconstruction preferred** for knee stability.
- Repair → not effective for complete tears.
- Conservative → reserved for older, low-demand patients.

High-Yield Points

- Graft options → **hamstring, patellar tendon**.

- Early rehab → important for **range of motion and strength**.

Q2 (Pelvic Fracture in RTA)

Question

55-year-old male, high-speed RTA, **complex pelvic fracture**, hypotensive, tachycardic.

Options

a. Immediate pelvic fixation surgery
b. Fluid resuscitation + pelvic binder + urgent imaging for bleeding
c. Start physical therapy and early mobilization
d. Oral analgesics only, follow up OPD
e. Immobilization with pelvic cast and delayed surgery

Answer

✅ **b. Fluid resuscitation + pelvic binder + urgent imaging for internal bleeding**

Reasoning

- Patient is **hemodynamically unstable → initial management: ABC, fluid resuscitation**.
- Pelvic binder → stabilizes fracture, reduces bleeding.
- Surgery delayed until **resuscitated and bleeding controlled**.

High-Yield Points

- Pelvic fractures → high mortality due to **internal hemorrhage**.
- Always check **urinary tract and neurovascular status**.
- Imaging → **FAST scan, pelvic X-ray, CT angiography** if stable.

Q3. Test to Confirm Rheumatoid Arthritis

Question

A 38-year-old woman presents with **pain in the MCP and MTP joints**, worse in the morning, improving with activity (morning stiffness 1–2 hours), difficulty moving after rest. Symptoms are **symmetrical**.

Which test is most useful to **confirm the diagnosis of rheumatoid arthritis**?

Options

a. ESR
b. Rheumatoid factor (RF)
c. Anti-CCP antibody
d. CRP
e. X-ray of hands

Answer

✅ **c. Anti-CCP antibody**

Reasoning

- **Anti-CCP antibodies** have **high specificity (~95%)** for rheumatoid arthritis.
- RF is **sensitive (~70%)** but less specific (can be positive in other autoimmune diseases).
- ESR and CRP → **inflammatory markers**, helpful for disease activity but not diagnostic.
- X-ray → shows **joint erosions**, but usually appears **later in the disease**.

High-Yield Points

- Morning stiffness >1 hour → classic for **RA**.
- Symmetrical involvement of **MCP and PIP joints**; DIP is usually spared.
- Early diagnosis → **prevents joint damage and disability**.
- Anti-CCP positivity predicts **more aggressive disease and erosions**.

Q4. Scoliosis Diagnosis in Adolescent Girl

Question

A 14-year-old girl presents with **uneven shoulders** and slight lateral leaning. Forward bend test shows **asymmetry in the ribs/spine**. X-ray ordered for confirmation.

What is the most likely diagnosis?

Options

a. Kyphosis
b. Spondylolisthesis
c. Scoliosis
d. Spinal canal stenosis
e. Tuberculosis of spine

Answer

✅ **c. Scoliosis**

Reasoning

- Scoliosis → **lateral curvature of the spine** with **rib hump** on forward bend.
- Kyphosis → excessive thoracic curvature (hunchback), usually sagittal plane.
- Spondylolisthesis → **anterior displacement of vertebra**, not lateral curve.
- Spinal TB → may present with gibbus deformity and systemic symptoms.

High-Yield Points

- Most common type → **adolescent idiopathic scoliosis**.
- Screening → **forward bend test + scoliometer**, X-ray to measure **Cobb angle**.
- Treatment depends on **Cobb angle**:
    - <20° → observation
    - 20–40° → bracing
    - 40–50° → surgical correction

Q5. Open Comminuted Tibia Fracture – Initial Management

Question

30-year-old male with **open, comminuted tibial fracture** after motorcycle accident, contaminated wound, bleeding, pain. Vital signs: HR 110, BP 130/85, RR 22.

What is the **most appropriate initial management**?

Options

a. Immediate definitive surgical fixation
b. Application of cast and outpatient follow-up
c. IV antibiotics + tetanus prophylaxis + wound irrigation + external fixation
d. Delay wound cleaning until patient is stable
e. Simple dressing + splint

Answer

✅ **c. IV antibiotics + tetanus prophylaxis + wound irrigation + external fixation**

Reasoning

- **Open fractures** → high risk of infection.
- **Early antibiotics (within 3 hours)** + tetanus prophylaxis + **irrigation** → standard of care.
- **External fixation** stabilizes bone temporarily for **wound care and soft tissue management**.
- Definitive fixation is **delayed until soft tissue recovery**.

High-Yield Points

- Open fracture classification → **Gustilo-Anderson** system.
- Early IV antibiotics reduce infection risk dramatically.
- **Complications** → osteomyelitis, non-union.

Q6. Chronic Back Pain + Fever + Thoracic Spine Tenderness

Question

45-year-old male with **chronic back pain, weight loss, low-grade fever**, T8–T9 vertebral destruction, paravertebral abscess. Labs → ESR and CRP elevated.

What is the **most likely diagnosis**?

Options

a. Osteoarthritis of spine
b. Pyogenic spondylitis
c. Tuberculosis of spine
d. Metastatic bone disease
e. Spondylolisthesis

Answer

✅ **c. Tuberculosis of spine (Pott disease)**

Reasoning

- Chronic course + **low-grade fever, weight loss** → suggests TB.
- **Thoracic spine commonly affected**.
- MRI → vertebral body destruction, disc space narrowing, paravertebral abscess (cold abscess).
- Pyogenic spondylitis → usually acute, severe pain, high fever.

High-Yield Points

- TB spine → most common **site: lower thoracic and upper lumbar**.
- Classic triad: **pain, deformity (kyphosis), systemic symptoms**.
- Management: **ATT 6–12 months**, surgery if neurological deficit or instability.
- Labs: **ESR elevated**, CRP moderately elevated.
- Imaging: **MRI more sensitive than X-ray** for early changes.

MIX

Q1. Anti-CCP Antibodies in Diagnosis and Prognosis

Question

Immunological testing of **anti-cyclic citrullinated peptide antibodies (Anti-CCP antibodies)** is most commonly used in the **diagnosis and prognosis** of which condition?

Options

a. Ankylosing Spondylitis
b. Psoriatic Arthritis
c. Rheumatoid Arthritis
d. Reiter's Syndrome
e. Systemic Lupus Erythematosus

Answer

✅ **c. Rheumatoid Arthritis**

Reasoning

- **Anti-CCP antibodies** are **highly specific (~95%)** for RA.
- Can appear **years before clinical symptoms**, helping in early diagnosis.
- Also correlates with **disease severity and erosive disease**, making it useful for prognosis.
- Other autoimmune conditions may have RF or ANA positivity but **not anti-CCP**.

High-Yield Points

- Morning stiffness >1 hour, symmetric joint involvement (MCP, PIP) → classic RA.
- RF is **sensitive but less specific**, anti-CCP is **specific and prognostic**.
- Anti-CCP positivity predicts **aggressive erosive RA**.

Q2. Rheumatoid Factor Target

Question

Which **immunoglobulin subtype** does **rheumatoid factor (RF)** target?

Options

a. IgA
b. IgE
c. IgM
d. IgG
e. Rheumatoid factor does not target an immunoglobulin

Answer

✅ **d. IgG**

Reasoning

- **RF is an autoantibody (usually IgM)** that targets the **Fc portion of IgG**.
- Formation of **IgM-IgG immune complexes** leads to inflammation in joints.
- This is the **classic mechanism in RA** causing synovitis.

High-Yield Points

- RF positive in ~70–80% of RA patients.
- Also can be **false positive** in chronic infections, SLE, hepatitis, elderly.
- RF is **more sensitive** for diagnosis; anti-CCP is **more specific**.

Q3. Anemia in a 12-Month-Old Infant

Question

A 12-month-old infant presents with **pallor**. History: full-term, formula-fed initially, then switched to **goat's milk from 2nd month**. No diarrhea, vomiting, or cough. Development slightly delayed: sat at 7 months, crawled at 11 months. On exam: pale, irritable, no jaundice, no edema. Abdomen soft, tip of spleen palpable.

What is the most likely diagnosis?

Options

a. Iron deficiency anemia
b. Hemolytic anemia
c. Vitamin B12 deficiency
d. Folic acid deficiency
e. Malabsorption syndrome

Answer

✅ **a. Iron deficiency anemia**

Reasoning

- **Goat's milk is low in iron** and poorly absorbed → **iron deficiency**.
- No signs of hemolysis (jaundice, splenomegaly), vitamin B12 deficiency (neurological symptoms, macrocytosis), folate deficiency (macrocytosis), or malabsorption.
- Clinical features: **pallor, irritability, delayed motor milestones**.

High-Yield Points

- Most common **nutritional anemia in infants**.
- Risk factors: exclusive cow/goat milk feeding <1 year, premature, low birth weight.
- Lab: **microcytic hypochromic anemia**, low ferritin, high TIBC.
- Treatment: **oral iron supplementation**, dietary modification (iron-rich foods).

Q1. Progressive Muscle Weakness in a Young Woman

Question

A 29-year-old woman presents with several months of progressively worsening **muscle weakness**. She noticed that over the past week, she now needs to use her arms to push off her thighs to get out of a chair (**Gower's sign**). Muscles are not painful. Joint pain is present.

Which of the following is the **most appropriate initial investigation** for this patient?

Options

a. EMG (Electromyography)
b. CPK (Creatine Phosphokinase) levels
c. NCS (Nerve Conduction Study)

d. ESR
e. Alkaline phosphatase levels

Answer

✅ **b. CPK levels**

Reasoning

- The **pattern of proximal muscle weakness** (difficulty rising from chair, climbing stairs) with painless muscles is characteristic of **muscular dystrophy**, especially **Duchenne or Becker** in younger males and **limb-girdle muscular dystrophy** in adults.
- **CPK** is **elevated in muscle damage**, and is the **first-line, simple, and sensitive test**.
- EMG and NCS are useful later for **confirming myopathy vs neuropathy**, not as first-line.

High-Yield Points

- **Gower's sign** → classic for **proximal myopathy**.
- Elevated **CPK** indicates **muscle breakdown**.
- Muscle biopsy or genetic testing may be used for definitive diagnosis.

Q2. Monitoring Response in CML Treatment

Question

Mr. NJ, 54, presents with weakness, lethargy, night sweats, and raised uric acid. He has splenomegaly and high TLC. Diagnosis: **CML**, started on treatment.

Which test is **most sensitive to monitor treatment response**?

Options

a. Bone marrow aspiration
b. Bone marrow trephine biopsy
c. Cytogenetic studies
d. PCR for **BCR-ABL gene**
e. Peripheral smear

Answer

✅ **d. PCR for BCR-ABL gene**

Reasoning

- **PCR for BCR-ABL fusion gene** is the most **sensitive and specific** method to detect **minimal residual disease**.
- Bone marrow cytogenetics and aspiration are helpful but less sensitive than PCR.
- Peripheral smear is **non-specific**.

High-Yield Points

- **CML hallmark:** Philadelphia chromosome **t(9;22)** → BCR-ABL fusion.
- PCR can detect **1 in 100,000 leukemic cells** → essential for monitoring remission.
- Monitoring allows **early detection of resistance** to **tyrosine kinase inhibitors (TKIs)**.

Q3. Chronic Hand Pain with Evening Predominance

Question

A 56-year-old woman presents with **hand pain**, worse in the **evening**, swelling of knuckles, **bone deformities** at DIP and PIP joints, and **subcutaneous nodules**.

Which of the following is the **most likely diagnosis**?

Options

a. Rheumatoid Arthritis
b. Osteoarthritis
c. Systemic Lupus Erythematosus
d. Mixed Connective Tissue Disease
e. Gout

Answer

✅ **b. Osteoarthritis**

Reasoning

- **OA pattern:** DIP/PIP involvement, Heberden's nodes (DIP), Bouchard's nodes (PIP), pain worse **at the end of the day** and relieved by rest.
- RA: **symmetric MCP, wrist involvement**, pain worse in **morning**, improves with activity.
- Presence of **subcutaneous nodules on bony prominences** can also occur in OA (less common than RA nodules, which are firm, non-tender, on extensor surfaces).

High-Yield Points

- OA: **degenerative**, morning stiffness <30 min.
- RA: **inflammatory**, morning stiffness >1 hour.
- X-ray findings in OA: joint space narrowing, osteophytes, subchondral sclerosis.

Q4. Professional Response to Possible Medication Error

Question

You notice that a senior resident prescribed a higher dose of a drug than advised. How should you respond **professionally**?

Options

a. Say nothing – senior resident is more experienced.
b. Report to supervisor without talking to senior.
c. Discuss concern with colleagues, not senior.
d. Discuss openly in front of team.
e. **Privately ask senior about the dose and express concern politely.**

Answer

✅ **e. Privately ask the senior resident about the medication dose and express concern politely**

Reasoning

- **Patient safety** is the top priority.

- Always address the issue **professionally and privately** to avoid embarrassment but clarify if it is an error.
- Escalate only if the concern is not resolved.

High-Yield Points

- Medical ethics: **Beneficence and non-maleficence** → protect patient.
- Always **document your concerns** if necessary.
- Avoid public confrontation or assumptions.

Q5. Rash in Celiac Disease

Question

A 20-year-old boy presents with **weight loss, diarrhea**, and **rash on extensor surfaces of elbows**.

What is the rash called?

Options

a. Herpes simplex
b. Psoriasis
c. Contact dermatitis
d. **Dermatitis herpetiformis**
e. Scabies

Answer

✅ **d. Dermatitis herpetiformis**

Reasoning

- **Dermatitis herpetiformis (DH)**: **pruritic papulovesicular rash** on **extensor surfaces, scalp, back, buttocks**.
- Associated with **gluten-sensitive enteropathy (celiac disease)**.

- Confirmed by **skin biopsy with IgA deposits**.

High-Yield Points

- DH → **IgA anti-endomysial antibodies** positive.
- Treat with **gluten-free diet**; dapsone can be used for itching.
- Key clue: **GI symptoms + extensor rash**.

Q6. Elderly Male with Shortness of Breath, Syncope, and Murmur

Question

A 60-year-old male with **uncontrolled type 2 diabetes mellitus** presents with **shortness of breath on mild exertion** for the past 6 months. He also reports **two episodes of transient loss of consciousness** in the past week, with **spontaneous recovery**.

Examination findings:

- Pulse: 80 bpm (weak)
- Blood pressure: 130/110 mmHg
- SpO_2: 98%
- Temp: 98°F
- **Cardiac exam:** Ejection systolic murmur at **right upper sternal border**, radiating to the **carotids**

What is the most likely diagnosis?

Options

a. Mitral stenosis
b. Infective endocarditis
c. Aortic stenosis
d. Aortic regurgitation
e. Acute coronary syndrome

Answer

✅ **c. Aortic stenosis**

Reasoning

- Classic features of **aortic stenosis (AS)**:
    - **Exertional dyspnea** → due to left ventricular hypertrophy and diastolic dysfunction
    - **Syncope (especially on exertion)** → reduced cerebral perfusion from fixed cardiac output
    - **Angina** (though not mentioned here, common in AS)
- **Murmur characteristics:**
    - **Ejection systolic murmur** at **right upper sternal border**, radiating to **carotids** → hallmark of AS
- Other options:
    - **Mitral stenosis** → diastolic murmur at apex, often with opening snap, no carotid radiation
    - **Aortic regurgitation** → early diastolic murmur, along left sternal border
    - **Infective endocarditis** → may have murmur, fever, vegetations
    - **Acute coronary syndrome** → chest pain, no murmur

High-Yield Points

- **Classic triad of severe aortic stenosis: Angina + Syncope + Dyspnea**
- **Pulse:** slow-rising (pulsus parvus et tardus) in severe AS
- **Complications:** heart failure, arrhythmias, sudden cardiac death
- **Diagnosis confirmation:** Echocardiography (valve area, gradient)

Q7. Young Woman with Menorrhagia and Easy Bruising

Question

A 20-year-old woman presents with:

- **Menorrhagia**
- **Epistaxis**
- **Easy bruising**

Labs:

- PT: 12 sec (normal)
- APTT: 38.8 sec (slightly prolonged or normal)
- Platelets: 288,000/μL (normal)

She is diagnosed with **von Willebrand disease (vWD)**.

What is the **primary treatment option**?

Options

a. Desmopressin (DDAVP)
b. Factor VIII
c. Fresh frozen plasma
d. Oral contraceptives
e. Folic acid

Answer

✅ **a. Desmopressin (DDAVP)**

Reasoning

- **vWD Type 1 (most common):** partial quantitative deficiency of vWF
- **Desmopressin** → releases stored vWF from endothelial cells, **increases plasma vWF and factor VIII**, improving hemostasis
- **Other treatments:**
    - Factor VIII concentrates → reserved for **Type 2/3 vWD** or desmopressin non-responders

    - Oral contraceptives → useful in **menorrhagia** but **not first-line for bleeding episodes**
    - FFP → rarely needed

High-Yield Points

- vWD → **most common inherited bleeding disorder**
- Symptoms → **mucocutaneous bleeding**: epistaxis, menorrhagia, easy bruising
- Lab findings:
    - **Prolonged bleeding time**
    - **PT normal**, **APTT may be mildly prolonged**
- DDAVP is **first-line for Type 1**, safe, effective

MINOR

Q1. Breaking Bad News – SPIKES Model

Question

As a doctor, you are breaking the **bad news** of a biopsy report showing **malignancy** to a patient. You **ask the patient to ask questions** so that he may know in detail about his condition.

Which step of the **SPIKES model** are you currently performing?

Options

a. Knowledge
b. Invitation
c. Perception
d. Empathy
e. Setting

Answer

✅ **b. Invitation**

Reasoning

- The **SPIKES model** is a structured approach for delivering bad news:

    1. **S – Setting**: Arrange a private and comfortable environment
    2. **P – Perception**: Assess patient's understanding of their condition
    3. **I – Invitation**: **Invite the patient to ask questions** and determine how much they want to know
    4. **K – Knowledge**: Provide information in a clear, compassionate manner
    5. **E – Empathy**: Respond to emotions and concerns
    6. **S – Strategy/Summary**: Discuss next steps and plan

- Asking the patient to **ask questions** directly aligns with the **Invitation** step.

High-Yield Points

- **Empathy vs Invitation:** Invitation is **about willingness to receive information**, empathy is **about responding to emotions**.
- SPIKES improves patient understanding, reduces anxiety, and enhances compliance.
- Always **assess perception first** before giving knowledge.

Q2. Evidence-Based Medicine (EBM)

Question

Which of the following statements best describes **Evidence-Based Medicine (EBM) and its related concepts**?

Options

a. EBM is the use of clinical expertise to determine treatment **without considering research evidence**.
b. The steps of EBM include: **formulating a clinical question, searching for the best evidence, critically appraising the evidence, applying the evidence in practice, and evaluating outcomes**.
c. Levels of evidence in EBM are not hierarchical; all evidence is equally reliable.
d. EBM relies **exclusively on randomized controlled trials (RCTs)** and ignores other forms of evidence.
e. EBM discourages the use of patient preferences and values in clinical decision-making.

Answer

✅ **b. The steps of EBM include formulating a clinical question, searching for the best evidence, critically appraising the evidence, applying the evidence in practice, and evaluating outcomes.**

Reasoning

- **EBM integrates:**
    1. **Best research evidence**
    2. **Clinical expertise**
    3. **Patient values and preferences**

- Steps of EBM: **Ask → Acquire → Appraise → Apply → Assess**
- RCTs are high-quality evidence but **other designs (cohort, case-control) are also useful**
- Patient preferences are integral to EBM

High-Yield Points

- **Hierarchy of evidence:** Systematic review/meta-analysis > RCT > cohort > case-control > case series > expert opinion
- EBM is **not cookbook medicine**; clinician judgment and patient context matter

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Q3. Clinical Governance & Clinical Audit

Question

Which statement best describes **clinical governance components and steps of a clinical audit**?

Options

a. Clinical governance involves monitoring clinical performance; audit steps include setting standards and publishing results.
b. Clinical governance focuses on financial management; audit steps are designing a study and publishing findings.
c. Clinical governance includes **risk management, clinical effectiveness, patient involvement, staff management, and information use**; audit steps are **identifying a problem, setting criteria, collecting and analyzing data, implementing change, and re-auditing**.
d. Clinical governance is about regulatory compliance; audit steps are formulating a hypothesis and conducting experiments.
e. Clinical governance enhances healthcare reputation through marketing; audit steps involve conducting surveys and evaluating patient satisfaction.

Answer

✅ **c. Clinical governance includes risk management, clinical effectiveness, patient involvement, staff management, and information use; audit steps are identifying a problem, setting criteria, collecting and analyzing data, implementing change, and re-auditing.**

Reasoning

- **Clinical governance:** A framework to **ensure quality and safety in healthcare**

    1. **Components:** Risk management, clinical effectiveness, patient involvement, staff management, use of information

- **Clinical audit:** Cycle to **improve patient care**:

    1. Identify a problem
    2. Set criteria/standards
    3. Collect and analyze data
    4. Implement changes
    5. Re-audit

High-Yield Points

- Clinical audit ≠ research; it is **quality improvement**
- Audit helps meet standards, improve outcomes, and **reduce errors**

Q4. Patient Safety & Medical Errors

Question

Which statement accurately describes **patient safety, types, etiology, and prevention of medical errors**?

Options

a. Patient safety focuses solely on preventing errors by **individual providers**, ignoring system factors.
b. **Types of medical errors** include diagnostic errors, treatment errors, preventive errors, and errors related to communication or system failures.
c. Etiology of errors is limited to **human error** and does not involve system issues.
d. Prevention involves **only electronic health records (EHRs)**.
e. Patient safety prioritizes cost reduction over quality and safety.

Answer

✅ **b. Types of medical errors include diagnostic errors, treatment errors, preventive errors, and errors related to communication or system failures.**

Reasoning

- **Patient safety**: Protect patients from harm in **all healthcare processes**
- **Medical error types:**
    - Diagnostic
    - Treatment
    - Preventive
    - Communication/system-based
- Errors are often **multifactorial**, not only individual mistakes
- **Prevention:** System redesign, checklists, standard protocols, team communication

High-Yield Points

- **Swiss Cheese Model**: Errors occur due to **multiple system failures lining up**
- Reporting errors → learning opportunities
- EHRs help but are **not a standalone solution**

Q4. Steps of the SPIKES Model

Question

What are the steps of the **SPIKES model** used for breaking bad news and counseling?

Options

a. Set the stage, Predict the patient's perception, Invite the patient's invitation, Know the patient knowledge, Emphasize, support, Summarize the information.
b. Set the setting, Predict the patient's reaction, Involve the patient, Know the patient's perspective, explore emotions, Summarize and strategize.
c. Set the scene, Predict the patient's emotional response, Involve the patient, Know the

patient's understanding, explore emotions, Share a plan.
d. Set the scenario, Predict the patient's expectations, Invite the patient's response, Know the patient's feelings, explore emotions, Summarize the discussion.
e. Stage the environment, Predict the patient's emotions, Initiate discussion, Know the patient's thoughts, Examine emotions, Summarize the plan.

Answer

✅ **a. Set the stage, Predict the patient's perception, Invite the patient's invitation, Know the patient knowledge, Emphasize, support, Summarize the information.**

Reasoning

- **SPIKES steps:**
    1. **S – Setting**: Prepare environment for privacy and comfort
    2. **P – Perception**: Assess what patient already knows
    3. **I – Invitation**: Ask how much patient wants to know
    4. **K – Knowledge**: Share information in digestible manner
    5. **E – Emotions/Empathy**: Respond to emotional reactions
    6. **S – Summary/Strategy**: Plan next steps

High-Yield Points

- SPIKES is **patient-centered**, reduces anxiety, and improves satisfaction.
- **Invitation ≠ Empathy**; Invitation is about **willingness to receive information**, empathy is about **responding to emotions**.

Q5. Best Initial Approach to Breaking Bad News

Question

Dr. Ahmed needs to inform Mr. Wali, a 55-year-old patient, that his advanced lung cancer has worsened. What is the **best initial approach** according to SPIKES?

Options

a. "Mr. Wali, you have advanced lung cancer."
b. "Let's discuss your test results in the waiting room."
c. "I have results to share; would you like a family member to join?"
d. "Your condition is serious; we need to talk."
e. "Please take a seat. What do you think the test result might show?"

Answer

✅ **c. "I have results to share; would you like a family member to join?"**

Reasoning

- This is the **Invitation step**: ask how much the patient wants to know and if a support person should be present.
- Avoid giving blunt news immediately (Option a) or in a non-private area (Option b).
- Options d & e do not clearly assess patient readiness or support system.

High-Yield Points

- Always **assess patient preference** before delivering bad news.
- **Family involvement** is optional but often improves understanding and support.

Q6. Assessing Patient Perception

Question

Dr. Khan is about to discuss a poor prognosis with Ms. Reham, hospitalized for severe heart failure. How should he **assess Ms. Reham's perception** of her condition?

Options

a. "Do you realize how serious your heart condition is?"
b. "What have you been told about your heart condition so far?"
c. "Your condition has significantly worsened."
d. "Do you know what heart failure means?"
e. "How do you feel about your recent health issues?"

Answer

✅ **b. "What have you been told about your heart condition so far?"**

Reasoning

- **Perception step:** Determines the patient's **existing understanding** before giving new information.
- Open-ended question allows **patient-centered discussion**.
- Options a, c, d are **leading questions**, may induce anxiety.
- Option e focuses on feelings rather than knowledge.

Q7. Primary Focus of Evidence-Based Medicine (EBM)

Question

A 25-year-old man was found hepatitis C positive on checkup. Which approach is correct in EBM?

Options

a. Relying solely on clinical experience and intuition.
b. Incorporating patient preferences without research evidence.
c. **Integrating best available research evidence with clinical expertise and patient values to make informed decisions.**
d. Following expert guidelines regardless of research evidence.
e. Ignoring patient values, relying only on statistics.

Answer

✅ **c. Integrating best available research evidence with clinical expertise and patient values to make informed decisions.**

Reasoning

- EBM = **Research evidence + Clinical expertise + Patient values**
- Avoid relying solely on intuition, guidelines, or statistics.

High-Yield Points

- EBM improves outcomes, ensures safe and effective practice.
- Patient values are **equally important** as clinical evidence.

Q8. SPIKES – Setting Up Conversation

Question

Dr. Ahmed needs to discuss a bad prognosis. What is the best **initial way to set up the conversation**?

Options

a. Patient should be with a relative
b. Patient should be informed alone
c. Patient needs to be admitted
d. Only a relative is informed

Answer

✅ **a. Patient should be with a relative**

Reasoning

- SPIKES recommends having **supportive person available**.
- Ensures emotional support, shared understanding, and decision-making.
- Patient autonomy must still be respected; the patient decides who is present.

Q9. DCR – Level of Maximal Opening

Question

A 50-year-old lady presents with **epiphora** for 6 months. Regurgitation test positive → nasolacrimal duct obstruction. DCR performed. The **maximal opening** is at the level of:

Options

a. Superior turbinate
b. Middle turbinate
c. Inferior turbinate
d. Anterior lacrimal crest
e. Posterior lacrimal crest

Answer

✅ **b. Middle turbinate**

Reasoning

- In **dacryocystorhinostomy (DCR)**, the lacrimal sac drains into the **middle meatus at the level of middle turbinate**.
- Superior and inferior turbinate are not anatomically aligned with nasolacrimal duct.

High-Yield Points

- **DCR indication:** Nasolacrimal duct obstruction causing epiphora or recurrent dacryocystitis.
- Can be **external or endoscopic approach**.
- Regurgitation on pressure = positive **Ropini test / regurgitation test**.

Q5 & Q6. Reducing stigma associated with mental illness in families

Question

Which of the following strategies is most effective in reducing the **stigma associated with mental illness within families**?

Options

a. Providing factual information about mental health
b. Isolating the patient from the family
c. Ignoring the mental illness
d. Encouraging secrecy about the illness
e. Avoiding discussions about mental health

Answer

✅ **a. Providing factual information about mental health**

Reasoning

- **Education is key:** Misconceptions cause stigma; providing accurate knowledge **reduces fear, blame, and isolation**.
- Options b, c, d, e **increase stigma and worsen outcomes**.

High-Yield Points

- Family psychoeducation → **reduces relapse, improves adherence, increases social support**.
- Stigma interventions: **information + contact + skill-building** for families and patients.

Q7 & Q8. Role of family education in psychiatric relapse prevention

Question

What role does family education play in the **prevention of psychiatric relapse**?

Options

a. It has no significant impact on relapse prevention
b. Helps families recognize early signs of relapse ✅

Answer

✅ **b. Helps families recognize early signs of relapse**

Reasoning

- Families trained to recognize **prodromal symptoms** can **prompt early intervention**, reducing hospitalizations.
- Improves **medication adherence** and **psychosocial support**.

High-Yield Points

- Psychoeducation → **relapse prevention, better insight, fewer acute episodes**.

- Most effective in **schizophrenia and bipolar disorder**.

Q9. Hierarchy of evidence for clinical research

Question

You are asked to search and appraise evidence on the effect of adding steroids to usual COVID-19 treatment. Which type of research has **highest level of evidence**?

Options

a. Case-control studies
b. Case series
c. Cohort studies
d. Randomized controlled trials ✅

Answer

✅ **d. Randomized controlled trials (RCTs)**

Reasoning

- **RCTs** → highest level of evidence for **causal effect** and treatment efficacy.
- Case series → descriptive, Cohort → observational, Case-control → retrospective, prone to bias.

High-Yield Points

- **Evidence hierarchy (top → bottom):**
    1. Systematic review / meta-analysis
    2. Randomized controlled trial
    3. Cohort study
    4. Case-control study
    5. Cross-sectional study

6. Case series / case report

Q1. Confidentiality in healthcare

Question

Confidentiality in healthcare refers to:

Options

a. Sharing patient's information with friends
b. Sharing patient information freely with other healthcare providers
c. Protecting patient information unless consent is given ✅
d. Discussing patient cases in public forums with name
e. Withholding all information from family even if patient incapacitated

Answer

✅ **c. Protecting patient information unless consent is given**

Reasoning

- Confidentiality is **core medical ethics**; patient info is private unless consent or legal requirement exists.
- Sharing freely (b) or publicly (d) is **breach of confidentiality**.

High-Yield Points

- Breach exceptions: **risk of harm, notifiable diseases, court order**.
- Respect for confidentiality → **trust and patient safety**.

Q2. Patient autonomy in treatment refusal

Question

A patient refuses life-saving treatment. The most professional approach is:

Options

a. Inform family
b. Pressurize patient
c. Ignore wishes
d. Respect autonomy after explanation ✅
e. None of these

Answer

✅ **d. Respect autonomy after providing clear information and discussing risks**

Reasoning

- **Autonomy:** patient has right to accept/refuse treatment.
- Duty of physician → **inform, explain consequences, document decision**.

High-Yield Points

- Exceptions: patient <18 yrs, incompetent, or emergencies where refusal endangers life (varies by law).
- Always **document discussion and informed refusal**.

OBS Q1. Anemia screening in pregnancy (NICE guidelines)

Question

A 22-year-old primigravida at 10 weeks comes for antenatal care. When should anemia screening be performed according to NICE?

Options

a. At booking
b. At booking and 28 weeks ✅
c. At booking, 28, and 36 weeks
d. At booking and then 4-weekly until 36 weeks
e. At every antenatal visit until 36 weeks

Answer

✅ **b. At booking and 28 weeks**

Reasoning

- NICE recommends: **full blood count at booking and 28 weeks**.
- Screening detects iron deficiency → **prevent maternal and fetal complications**.

High-Yield Points

- Iron deficiency → **low birth weight, preterm birth, maternal fatigue**.
- Repeat FBC at 28 weeks → **detect late-onset anemia**.

WMC Q1. Complications of maternal anemia in labor

Question

A multigravida with 9-month amenorrhea presents with anemia. Expected complications in labor?

Options

a. Antepartum hemorrhage (APH)
b. Shoulder dystocia
c. Premature rupture of membranes
d. Stuck head
e. Intrapartum death ✅

Answer

✅ **e. Intrapartum death**

Reasoning

- Severe maternal anemia → **poor oxygen delivery**, **risk of cardiac failure**, **shock**, **maternal death** during labor.
- Mild-moderate anemia → may prolong labor, increase transfusion risk, but death more likely in **severe anemia (<7 g/dL)**.

High-Yield Points

- Maternal anemia complications: **PPH, peripartum mortality, preterm birth, low birth weight**.

- Prevention: **iron, folate supplementation, antenatal monitoring**.

Hematology / Anemia in Pregnancy

Q2. Anemia in a 30-year-old at 34 weeks gestation

Question

A 30-year-old patient presents in OPD with anemia. Her Hb is **8 g/dL**, serum ferritin is **5 ng/mL**, and her **POG is 34 weeks**. What is the most likely diagnosis?

Options

a. Iron deficiency anemia ✅
b. Megaloblastic anemia
c. Aplastic anemia
d. Thalassemia
e. Pancytopenia

Answer

✅ **a. Iron deficiency anemia**

Reasoning

- Low Hb + **very low ferritin** → indicates **iron deficiency**, which is the most common anemia in pregnancy.

- Megaloblastic → high MCV, low B12/folate.

- Aplastic → pancytopenia, not isolated microcytic anemia.

- Thalassemia → normal/high ferritin, high RBC count.

High-Yield Points

- **Iron deficiency anemia in pregnancy:**

- Most common cause of anemia in pregnancy.
- Risk increases in 2nd and 3rd trimesters due to **increased iron demand**.
- Serum ferritin <12 ng/mL → diagnostic.
- Symptoms: fatigue, pallor, dyspnea on exertion.

RMC Q1. Microcytic anemia with high RBC

Question

A pregnant female has low Hb (10.2 g/dL), MCV **61 fL**, normal platelets, normal RDW, and **high total RBC count**. She is asymptomatic. Most probable cause?

Options

a. Iron deficiency anemia
b. Beta thalassemia trait ✅
c. Beta thalassemia major
d. Sideroblastic anemia
e. Folate deficiency anemia

Answer

✅ **b. Beta thalassemia trait**

Reasoning

- Microcytosis with **normal RDW + high RBC → beta thalassemia trait**.
- Iron deficiency → low RBC, high RDW, low ferritin.
- Thalassemia major → symptomatic anemia.

High-Yield Points

- Beta-thalassemia trait: mild anemia, **microcytosis out of proportion to Hb**, often found incidentally.

- Important to **differentiate from iron deficiency** to avoid unnecessary iron supplementation.

RMC Q2. Severe anemia in late pregnancy

Question

A **G5 P4 at 36 weeks** presents with breathlessness and fatigue. Hb = 7 g/dL. Most suitable way to correct anemia?

Options

a. Parenteral iron
b. Oral iron
c. Blood transfusion ✅
d. Vitamin B12 injections
e. All of the above

Answer

✅ **c. Blood transfusion**

Reasoning

- Severe anemia in **late pregnancy (<7 g/dL)** → **blood transfusion is indicated** for rapid correction.
- Oral/parenteral iron is **too slow** in late gestation.
- B12 only if deficiency present.

High-Yield Points

- Indications for transfusion in pregnancy: **Hb <7–8 g/dL or symptomatic**.
- Monitor for **volume overload, transfusion reactions**.

RMC Q3. Definition of anemia in pregnancy

Question

Anemia in pregnancy is defined as:

Options

a. Hb <10.5 g/dL in 1st trimester
b. Hb <10 g/dL in 2nd and 3rd trimester
c. Hb <11 g/dL in 2nd and 3rd trimester
d. Hb <10.5 g/dL in 2nd and 3rd trimester ✅
e. None of the above

Answer

✅ **d. Hb <10.5 g/dL in 2nd and 3rd trimester**

Reasoning

- WHO / obstetric guidelines:
    - 1st trimester → <11 g/dL
    - 2nd trimester → <10.5 g/dL
    - 3rd trimester → <10.5 g/dL

High-Yield Points

- **Physiological anemia of pregnancy** → due to plasma volume expansion.
- Microcytic anemia → iron deficiency most common.

Psychiatry / Mental Health in Hospital Setting

NWSM Q1. Management of post-op delirium in elderly

Question

A 70-year-old male post-hip replacement, 5 days after surgery, is **agitated, talking to unseen stimuli, hitting patients**, with sudden deterioration in mental status. Treatment strategy?

Options

a. Move to a side room with dim lights
b. Keep consistency with staff
c. Work up underlying cause
d. Avoid tranquilizers unless necessary
e. All of the above ✅

Answer

✅ **e. All of the above**

Reasoning

- Post-op delirium → **acute, fluctuating disturbance in consciousness and attention**.
- Key management:
    - **Non-pharmacological first**: quiet environment, familiar staff, orientation cues.
    - **Identify cause**: infection, electrolytes, hypoxia, medications.
    - **Tranquilizers only if severe agitation**.

High-Yield Points

- Delirium is **common in elderly post-op** (esp. orthopedic).
- Risk factors: **age >65, cognitive impairment, polypharmacy, major surgery**.
- Mortality ↑ if untreated.

NWSM Q2. First step in adolescent psychiatric assessment

Question

A 16-year-old girl presents with **isolation, low mood, sleep and appetite disturbance**, first contact with mental health service. How should you proceed?

Options

a. Apply baseline anxiety scale immediately
b. Introduce yourself, establish rapport ✅
c. Prescribe medication and follow up after 2 months
d. Ask closed questions first
e. Ask family to do blood tests first

Answer

✅ **b. Introduce yourself, establish rapport**

Reasoning

- **First contact** → **build trust and rapport**, especially in adolescents.
- Assessment scales and investigations come **after rapport**.
- Medication not first-line without proper assessment.

High-Yield Points

- Rapport → **adherence, engagement, disclosure of symptoms**.
- Initial assessment → **open-ended questions, observe mood, behavior, and affect**.

NWSM Q3. Assessing mood in psychiatric patients

Question

A 54-year-old female with **longstanding psychiatric illness** is being seen for the first time. How do you assess her mood?

Options

a. Ask about paranoid/persecutory delusions
b. Ask about social interaction and engagement ✅
c. Ask about employment and financial stability
d. Ask about perceptual abnormalities
e. Ask about insight and capacity

Answer

✅ **b. Ask about social interaction and engagement**

Reasoning

- **Mood assessment** → evaluates **subjective feelings of sadness, pleasure, social interest, and motivation**.
- Asking about social engagement provides **indirect but reliable measure of affect and mood**.
- Delusions, perceptual abnormalities → assess **psychosis**, not mood directly.

High-Yield Points

- Mood vs. affect:
    - **Mood:** subjective sustained emotional state
    - **Affect:** observed emotional expression
- Use **open-ended, neutral questions** in first assessment.

b. Long and slender limbs c. Prominent forehead and face hypoplasia d. Narrow chest wall and cavity e. Proportional body