



FORENSIC PEARLS
POINTS BY
MEDICOSE FEVER

LAW

- ❑ All legal means which help to prove or disprove any matter or fact is called ad Evidence.
- ❑ when a person dies in police custody or torture, then inquest is held by Magistrate.
- ❑ for Dying declaration, oath and witness is not necessary and recorded by credible person and have no value if person didn't die .
- ❑ For Dying Deposition ,oath is an essential prerequisite, recorded in presence of magistrate and witness and have legal value if person didn't die.
- ❑ in USA : medical examiner system which is usually forensic pathologist.
- ❑ in UK : coroner's system and in Pakistan is Police inquest is common.
- ❑ cognizable offence include zina -bin -jabar , injury dangerous to life .
- ❑ Shajjah -i-Khafifah: Hurt without exposing Bone.
- ❑ Hurt mean causing of pain , harm , disease, dismembered or impairing, disabling some parts of body without causing death.

❑ Arsh : compensation not specified in law for causing hurt and payable by the offender to victim or his heir's.

❑ Diyat : compensation specified by law for causing hurt payable to the heir's of victims, by the offender.

❑ Daman : compensation not liable to Arsh and to be determined by court for causing hurt and payable by offender to victims of heir's.

❑ itlaf -i-Udw : causing dismemberment, amputation, severment of any limb or organ of body .

❑ itlaf -i-Salahiyat -Udw : Destroying or permanent impairing the function of body.

❑ Shajjah : hurt on the head or face



☒ **Jurah** : Hurt on the part of body other than head and face.

☒ **Common witness**: a person will provide the evidence as he saw by his senses.

☒ **Hostile witness**: person will hide the truth.

☒ **Expert witness**: skilled person in anything will conclude his results by his observation. like forensic expert, chemical examiner expert.

☒ **medical certificate** is simplest documentary evidence.

☒ **postmortem** is certificate not a document.

☒ **First class magistrate** can do fine up To 15000RS.

☒ **Mc Naughton's rule** : No guilty by the reason of insanity. at the time of commission of crime a person was suffering from defect of mind and he didn't know what's is going, or even he knows the nature.

☒ **in Private cases** , witness is first examined by his own counsel.

☒ **Doctor** is both common and expert witness.

☒ **Martial law courts** deal with all offences.

☒ **Euthanasia**: a special type of mercy killing of human being who is suffering from pain ful Disease.

☒ **Iqat -e- hamal** : killing of child whose organ has not been formed with out good faith .

☒ **iqat -e-janin** : killing of child whose organs has been formed after 8th week , with out good faith.

☒ **Qatal -i -amd** : killing of specific person with the intention and knowledge of causing death.



- ☒ Excusable homicide: killing of human being in excusable circumstances i-e(death in self defense.
- ☒ Calpable homicide: killing of a human being having a blame.
- ☒ any act or commission made punishable by law is called offence.
- ☒ The offence for which police officer may arrest the offender with warrant is cognizable offence like Zina bil jabar
- ☒ written Declaration under oath is called Affidavit.
- ☒ inquiry: any investigation other than a trial conducted by a magistrate.
- ☒ oath : solemn affirmation specified by law .
- ☒ Summons: written, signed, stamped direction of a Court to a witness.
- ☒ mens -rea : a person has just intent of crime , while actus rea represent the evil action, A crime will occur when a person has both mens rea + actus rea .
- ☒ Medical report: the document signed by RMP which is communication between two colleagues.
- ☒ killing of human being by another human being is called as Homicide.
- ☒ Crime : A social harm which has been defined and made punishable by the law is called as crime .
- ☒ An announcement of the commission of a crime without naming the criminal is open verdict. ☒ victim being eye witness and can't be produced in the Court of law after his death.
- ☒ Hearsay evidence: is a evidence of something which the witness doesn't know for himself .



Important sections of PPC for Forensic Medicine

Under Section (X) of the PPC;

82: Definition of Immaturity with regards to Criminal Responsibility under the age of 7

83: Definition of Immaturity with regards to Criminal Responsibility between the ages of 7 and 12

84: Definition of Unsound Mind with regards to Criminal Res.

85: Definition of Intoxicated Mind with regards to Criminal Res

300: Qatl-e-Amd

302: Punishment for Qatl-e-Amd (FIR)

309: Self Murder (Suicide)

315: Qatl-e-Shibh-e-Amd



318: Qatl-e-Khata

321: Qatl-e-Bis Sabab

44: Definition of Injury

332: Definition of Hurt

333: Definition of Itlaf-e-Udw

335: Definition of Itlaf-e-Salahyat-e-Udw

337 1): Definition of Shajjah

337 2): a) b) c) d) e) f) Types of Shajjah

337 B): Definition Jurh

337 C): Jurh Jayfah

337 E): Jurh Ghair Jayfah



337 G): Hurt Caused by rash and negligent Driving

337 H): Hurt caused by Rash and Negligent act other than driving

337 I): Hurt Caused by Mistake

337 J): Hurt caused by Poisoning

337 L): Other Hurt

337 M): Hurt not liable to Qisas

337 N): Hurt liable to Qisas not employed

350: Definition of Battery

351: Definition of Assault

174 CrPC: Medicolegal Autopsy

176 CrPC: Exhumation



Apart from these, the less important ones related to definitions, are the Hudood Ordinance and Mental Health Ordinance. rd of it from someone body else . it is not admissible in the court of law except dying Declaration

PERSONAL IDENTITY

- ☑ Big and light Mandible is the characteristics of Old .
- ☑ Mandible of male is large , with higher symphysis and broad ramus.
- ☑ Boyd rule : method of estimation of age from incremental lines of enamel.helpful in children not for old one .
- ☑ Gustafson's rule : method of estimation of age by observing the wear, tear changes of teeth.
- ☑ Foot print expert of police are know as Khoji.
- ☑ Thick, coarse , dark black hair's belongs to Chinese.
- ☑ Left thumb impression is taken in male in case of finger printing.
- ☑ Hess rules: square of months of gestation give the length of fetus in cm up to 5month and after that No of month should be multiplied by 5 which give the length of fetus.
- ☑ Arcus senile in eyes around cornea which begins to develop after 40 years.
- ☑ Graying of pubic hair practically never occurs before fifty years.
- ☑ wrinkles about eyes and Infront of ear around 30 to 35 years.
- ☑ Appearance of fine hair in female is about one year earlier than male.
- ☑ Bertillon system : state that after 21 year length of body or size didn't increase so use length, width of head , length of middle, index finger for clue of personal identity.



- ☒ Medical practitioner have knowledge of pattern of papillary ridges.
- ☒ Dactylography: a method of finger printing to resolve unknown dispute.
- ☒ characteristics of finger tip pattern are composite, Whorl , Arch , Loop (Loop is most common).
- ☒ Iliac crest fuse 21 year
- ☒ Krogman had Six period classification.
- ☒ Xiphisternum fuse at 35 to 40 years.
- ☒ Ten deciduous teeth in each jaw, lower central incisors appear first.
- ☒ Third molar teeth fuse at 18 to 21 Year , may appear until 25 year .
- ☒ Hutchinson's teeth is temporary incisors at birth.
- ☒ In child's foramen, mental foramen is near lower margin of body
- ☒ Permanent teeth appear first in lower jaw
- ☒ Detection of sex scraping is done in scraping of mucosa.
- ☒ Determination of sex in case of mutilated bodies depends mainly upon anatomical investigation other than external appearance.
- ☒ Hair, non gravid uterus and prostate gland resist putrefaction.
- ☒ Davidson body : a drum stick shaped condensation in some percentage of female white blood cells.
- ☒ Transvestite: one who is obsessed with clothing of opposite sex having compulsion to cross dress.
- ☒ Pakistani: Caucasian type .
- ☒ Area of x ray for age determination for puberty is Elbow joint.
- ☒ For assessing age more than 60 year, X ray of skull is taken.



☑ Fair complexion, brown hairs and mesaticephalic suggest the European Body feature.

☑ Cephalic index in mesaticephalic is 75 to 79.5 and Pakistani will be included in that. ☑ Negroes has shovels shaped first incisors, small and compressed forehead. #Cris Gayle (watch Root Hollywood movie on Negroes)

☑ Depth of intercondyler fossa is greater in femur of Pakistan than European .

☑ objective method is done by agencies.

☑ Negroes have black, curly and wooly hairs.

☑ in Female uterus is last to puterfy and in male prostate is last to puterfy.

☑ Deciduous teeth appear in 6th month and replaced by permanent teeth in 8 year. ☑ Cheloscooy study of lips print.

☑ Different Body measurements and keep them in recorded is called as Anthropometry.

☑ A small notch in the incisors upper tooth indicate the profession of Electrtrician, tailor.

☑ Jet black teeth and featured posterior teeth indicates Narcotics addict's.

☑ By Galton's system, absolute identification is possible

☑ Extensive tattoos on chest and limbs in Japanese and Hindus.



AUTOPSY

- ☐ **Autopsy:** scrutiny of corpse consist of external surface, internal body cavities (3) with their contents further examination of contents by histology, toxicology and biochemistry.
- ☐ **Medical autopsy :** done for medical reasons to establish the diagnosis in medical hospital.
- ☐ **Postmortem examination:** relates to external body surface examination of corpse by inspection with out opening of body cavities.
- ☐ **Psychological Autopsy:** a special exercise is performed in case of alleged suicide. it os to know deceased mental status at the time of his death .
- ☐ **Forensic Autopsy:** is performed in pursuance of law to establish the cause and manner of death and also to rule out foul play in case of death due to criminal assault or in case of suspicious death this medicolegal autopsy is performed.
- ☐ **Disinterment of dead body** is called as Exhumations.
- ☐ **Autopsy objectives** are to determine the mode , manner and time since death of body.
- ☐ **Expected weight of Adrenal :** 6gm
- ☐ **expected weight of one kidney:** 120 -140 gm.
- ☐ **Thymus of new born** weigh 12 - 15 gm.
- ☐ **spinal cord** is examined during autopsy in Strychnine type of posioning.
- ☐ **sub endocardial hemorrhage** in left ventricle is characteristic of Acute Arsenic posioning.
- ☐ **The duramater** is grasped with a forceps.
- ☐ **A magistrate** can give the inquiry of Exhumations and there is not time limit in Pakistan about Exhumations.



☒ Autopsy whose cause of death is unknown or undetermined is called as negative autopsy.

☒ I incision or straight line incision start from chin to pubic symphysis but avoiding umbilicus

☒ Y shaped incision starts near the base of ear of both sides extending oblique and meet in mid line at supra sternal notch , from where it follow I -incisions.it has advantage for exposure of neck structure.

☒ Modified Y shaped incision has advantage to exposure of neck and Thorax structure in case of Asphyxia death.

☒ Fracture of skull in anterior cranial fossa results in black eye.

☒ Bottle three is selected for small intestine content.

☒ Bottle 1 contain stomach content

☒ Bottle 2 contain 6ounce liver , half spleen , one kidney.

☒ urine is preserved in saturated solution of common salt , rectified spirit, thymol, conc. HCl.

☒ Disposal of dead body modes are Tower silence, cremation in india , Burial in Muslims others like Jews, Parsi

☒ Thin layer chromatography -25 years old bone .

☒ New born brain weigh :350 gm .

☒ Lateral traction is applied for proper and good exposure of body openings and clefts .

☒ Abducting legs with body in supine and prone position respectively inspects Vulvar and anal openings.

☒ Detection of rigor mortis in limbs is noted by flexing them at joints.



☒ stages of body examination are 1) physical examination and collection of evidence in cloth 2) physical examination of body surface and collect the evidence.

3) opening of body cavities

4) scrutiny of internal organs

5) collection of specimen for further examination

6) closure and restoring of body.

☒ Autopsy Hazard are : 1) mechanical injury 2) Biological 3) chemical 4) Electrical 5) Radiation

☒ on Arrival -corose should be transferred first on a stainless storage tray

☒ Autopsy light (1) day light lamp 2) ice -blue fluorescent electric tubes 3) minimum 90 lumens at the table level is considered sufficient.

☒ sterilization is done by disinfectant and UV light.

TRACE EVIDENCE

☒ The biological material in the form of stains or fluids transmitted from one object to other and collected from the scene of crime to reconstruct the story of crime or accident is called as Trace evidence .

☒ Locard's principal: every contact leave its trace evidence.

☒ The best preservative in 10 cc blood collected as specimen is 1 percent Sodium fluoride.

☒ Best specimen after autopsy for DNA fingerprinting is spleen.

☒ Hemochromagen test for blood give : pink in color.

☒ polymorph nuclear leukocytes of female contain Davidson body .



☒ Test to detect the semen are : acid phosphate test , Barberio test , Florence test .

☒ Blood stain which are wet , brighter and starchy to feel are : half hour old

☒ Amidopyrine test for sorting blood stains.

☒ spectroscopic test for blood whether it is fresh or old condition.

☒ Length of human sperm is 50 to 55 micron

☒ animal hairs are coarse , thick, cortex thin and pigmentation is uniform.

☒ Rate of growth of human hair is 1/2 inch per month

THANATOLOGY

☒ Scientific study of death and changes after death is known as Thanatology.

☒ Modes of dying are : Asphyxia , Syncope, coma

☒ Manners of dying: natural, unnatural like accident, homicide, suicide.

☒ Suspended deaths : called as apparently death in living beings , when body vital process are depressed to minimum compatible with life but clinically not perceptibly.i.e saints of Indian, in case of electrocution, hypothermia, drowning can occur.

☒ Tissue viability period; 1) CNS ➡ few minutes or few seconds 2) Muscular tissue ➡6 hrs 3) cornea ➡6hrs 4) skin ➡12 hrs

☒ clinical judgement for certification of death are bilaterally fixed dilation of pupils, complete absence of reflexes, complete absence of respiration.

☒ complete and persistent cessation of function of brain, heart and lungs i-e tripod of life is called as "somatic death".



- ☒ sudden death causes: acute coronary, myocardial infarction, subarachnoid hemorrhage
- ☒ cattle trucking is seen in Radial artery.
- ☒ tachie nares are present in sclera.
- ☒ After death : increased potassium level .
- ☒ Fragmentation and stasis of blood vessels is called as cattle trucking.
- ☒ Hypostasis: purple red discoloration of skin due to pooling of blood due to gravity.it tells about time since death and posture of body.
- ☒ cataleptic rigor mortis is complete rigidity of body .
- ☒ Hypostasis is cherry red in color due CO poisoning.
- ☒ Hypostasis pink in color due to CN poisoning.
- ☒ Hypostasis red in color due to hypothermia.
- ☒ Hypostasis in chocolate brown in color in nitrates poisoning.
- ☒ Hypostasis greenish in color due to hydrogen sulfide poisoning.
- ☒ Hypostasis is absent contact flattening site .like calf muscle
- ☒ Hypostasis appear after 1/2 hour.
- ☒ Rigor mortis occur in involuntary muscle first, then voluntary muscle.
- ☒ Algor mortis is cooling of dead body .
- ☒ Average Rigor Mortis time to develop in 10 -12 hour and in summer 4-12 hour.
- ☒ sequence of Rigor mortis from face to upper limb then lower limb .
- ☒ flex at knee joint, limbs joint or neck joint to check rigor mortis.
- ☒ cadaveric spasm occur in group of voluntary muscle and very hard to break.



- ❑ in postmortem calorificity there will be high temperature.
- ❑ before Marbling stage , there be first skin discoloration which will be dark brown to green due to formation of sulphydrogen .
- ❑ putrefaction is 8 times in Air than soil.
- ❑ earliest signs of putrefaction is purple color in right iliac fossa
- ❑ trunk discolored at marbling stage.
- ❑ Ballotment occur after the death by beginning of second week.
- ❑ hair on scalp detached at the end 3rd or 4th week .
- ❑ maceration: is a physical change that occurs in dead fetus if it remains in womb for some time after death.
- ❑ Mummification occur due to dry heat and currents of air like dead body in center desert.
- ❑ c. welchii initiate the process of hydrolysis and hydrogenation of body fats.
- ❑ First to putrefy are Larynx , trachea, costal cartilage, large and small intestine then mesenteries, liver , spleen , liver and Brain.
- ❑ Late to putrefy are non gravid uterus and prostate.
- ❑ chemical changes in CSF are higher conc of Cl and Mg

SEXOLOGY

- ❑ impotence : in ability of either spouse to perform sexual intercourse because of physiological or psychological.
- ❑ 6 o clock and 12 o clock to visualize the hymen .
- ❑ if the tear on the anterior half , it indicates the manual interference.
- ❑ willfully having inter course by male or female without legally married is going to commit Zina (Section 5) .



☒ Zina Bil jabar

☒ if he or she had sexual intercourse with woman or man to whom she is not legally married, against the will of the victim or with out the consent of victim.
section 6

☒ to test the semen: fluorescence test .

☒ Three swabs must be taken in case of rape from the victim genital are or any part of body .

☒ on the cloth , to visualize the stain of sperm use UV light.

☒ Tazir : punishment other than hadd.

☒ Rape : unlawful intercourse by man with out consent from a woman or forcefully consent.

☒ Physical cause of importance , in male congenital or acquired absence of sex organ , cancer of penis , sarcoma of testis, large hernias. in female (imperforate hymen).

☒ surest sign of pregnancy is fetal heart sounds.

☒ postpartum closings of internal os begins with in about 24 hour's.

☒ Superfetation: fertilization of two ova each of liberated at different time of ovulation.

☒ Superfecundation: fertilization of two ova , both liberated at same period of ovulation, but impregnated as a result of two sperate act of coitus.

☒ incest: sexual intercourse with blood relation whom marriage is prohibited.

☒ Bestiality : sexual gratification by having sexual intercourse with animals.

☒ sadism: sexual gratification is obtained by inducing pain on sexual partner.

☒ Fetishism: sexual gratification is obtained by contact and sight of certain parts of female body or even clothing.



☒ unnatural sexual offences are punished under 377 P. P. C

☒ venous caseous is more at 8th month.

☒ catamite : child who play a passive role in sodomy.

☒ Active agent : sodomist male who perform anal intercourse actively.

☒ Exhibitionism : sexual gratification obtained by exposing genitals in public place with or without masturbate act.

☒ sodomy case can detected by laxity of anal skin and semen analysis.

☒ Masochism : sexual gratification is obtained by receiving pain stimulus from woman

☒ Necrophilia: it is the rape on the dead body , firstly pervert kill his partner and then he does rape on her dead body.

☒ Voyeurism: sexual interest in or practicing of spying on people engaged in intimate behavior.

☒ Hymen angle: 7

☒ pederasty: sodomy in which an adult perform the act on a male or female child as his passive agent.

☒ Defloration : if hymen is not intact and has sexual intercourse.

☒ False Virgin : if hymen is intact but has sexually intercourse.

☒ Breathing lung will be molted and light in color

☒ Ecobolics : ergot acting directly on uterus.

☒ Rape section 375



ASPXYIA

- ☒ **Throttling:** constrictions of neck of a person by other person with one hand or both hand.
- ☒ **diagnosis of throttling** depends upon the fracture of thyroid cartilage or hyoid bone .
- ☒ **Mugging:** is compression of neck of victims with the bend of elbow or by applying foot or knee to the neck .
- ☒ **smothering:** closing of air passage externally either by hands or using a material like soft pillow or adhesive tape .
- ☒ **gaging:** stuffing of mouth cavity with cloth and blocking entry of air into these passages.
- ☒ **Suffocation:** manually obstruction of air passage to respiratory tract caused by closing of external orifices of nose and mouth. it is the purest form of Asphyxia
- ☒ **in partial hanging,** direction of mark (imprint mark) is usually below the thyroid cartilage .
- ☒ **typical hanging,** ligature knot is at the occipital region.
- ☒ **Hanging** is constricting of neck by ligature, constricting force is applied indirectly through weight of body .
- ☒ **A condition** where several persons acting jointly to hang a person publicly to a tree by mean of rope is called Lynching.
- ☒ **cut throat** results in Air embolism.
- ☒ **strangulation:** constricting of neck by ligature and constricting force being applied directly to ligature. homicidal cases are common.
- ☒ **Garroting:** in which victim is attacked from behind to overpower some one with onset of consciousness.



☑ in case of death, due to Asphyxia, neck should be opened last

TRAUMATOLOGY

Railway spine injury

Disruption of spinal cord functions due to trauma.

Also called Concussion of Spinal cord.

Causes:

- 1.... Railway accident
 - 2.... Motor vehicle accident
 - 3.... Compression of spinal cord due to Dislocation or Fracture of vertebrae
 - 4.... Fall from height
 - 5.... Bullet injury
-

Symptoms

- 1... Temporary Paralysis of upper and lower extremity
 - 2.... headache
 - 3.... sleeplessness
 - 4.... restlessness
-

Complete recovery usually takes place

☑ phenomenon of metallization takes place in Electrical shock



- ☒ Autopsy finding in case of drowning is fine froth from nose and mouth.
- ☒ contusions may appear away from actual injury.
- ☒ in case of burn , body is charred and soot in the respiratory tract.
- ☒ Antemortem drowning: sign of struggle like weed and grass firmly grasped in hands
- ☒ Injury to superficial epithelial layers of skin by rope is called as Friction abrasion.
- ☒ thermal burns shows high level of cyanide.
- ☒ 6 inches : tattooing is present (spread)
- ☒ contact wound : shows singed hairs , tattooing, and shooting of wounds inside the wound tract.
- ☒ tattooing is due to smoke.
- ☒ Lymph node can give clue of tattooing ingredients.
- ☒ Fabricated wounds are incised wound
- ☒ Dicing injuries seen in pedestrian.
- ☒ pin wounds seen in concealed wounds
- ☒ whiplash injury due to hyperextension of neck .
- ☒ Deep stab wound on chest amount to jurah jaifa.
- ☒ Bird claw injury in bomb blast injury.
- ☒ tangential impact is seen in stretch laceration.
- ☒ pugilistic attitude seen in burns
- ☒ Muzzle velocity of pistol is : 600 to 900 /sec.
- ☒ Tandem bullet: one bullet after another



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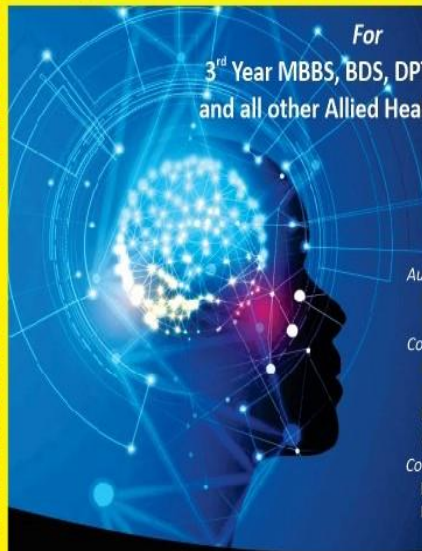
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For
3rd Year MBBS, BDS, DPT, Pharm-D,
and all other Allied Health Students



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