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STAHLER.

# *Low Back Pain*



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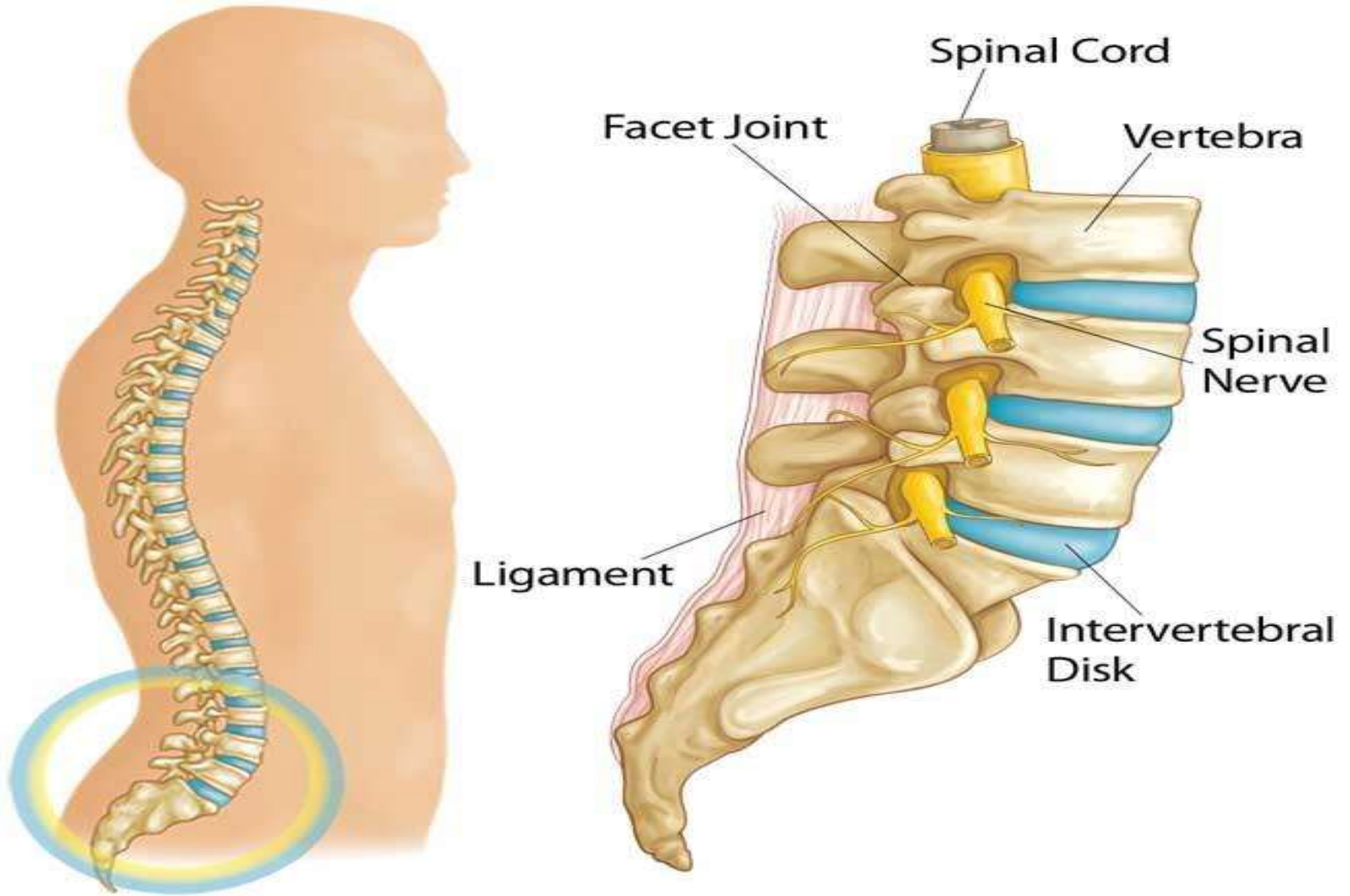
# *Lesson Plan*

- Domain Learning: Cognitive
- Allotted time in hours: 1 hour
- Teaching Faculty: Dr Noreen Shah
- Learning Sites: KGMC, Lecture Theatre
- Learning Strategies: Didactics/lectures, assignments with presentations
- Recommended Books and Websites:
- Assessment Tools: MCQs, SAQ, OSPE

## *Learning outcomes*

- At the end of this lecture the students shall be able to:
- Describe the risk factors and causes of low back pain.
- Describe the prevention of low back pain
- Describe the causes and prevention of MSK related to child labor

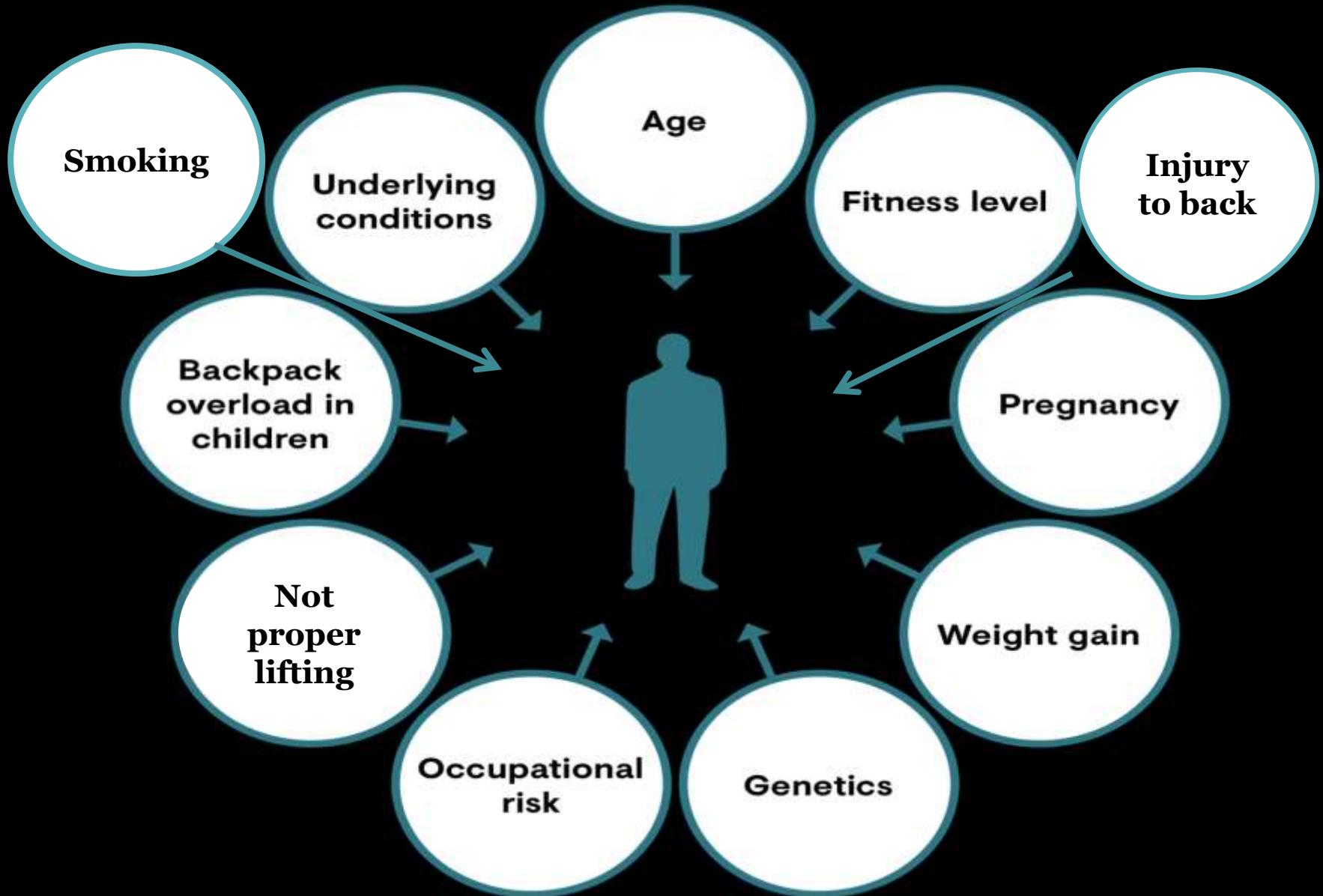
# *Anatomy of lower back*



## ***Definition of low back pain***

- It is the is pain, muscle tension, or stiffness localized below the costal margin and above the inferior gluteal folds, with or without sciatica, It is usually categorized in 3 subtypes:
  - 1. *Acute low back pain:*** is an episode of low back pain for less than 6 weeks
  - 2. *Sub-acute low back pain:*** is between 6 to 12 weeks
  - 3. *Chronic low back pain:*** is for 12 weeks or more

# *Risk factors of low back pain*



## ***Risk factors:***

- 1. Age.** Anyone can develop back pain, even children and teens. More common as age advances i.e. above 40 years.





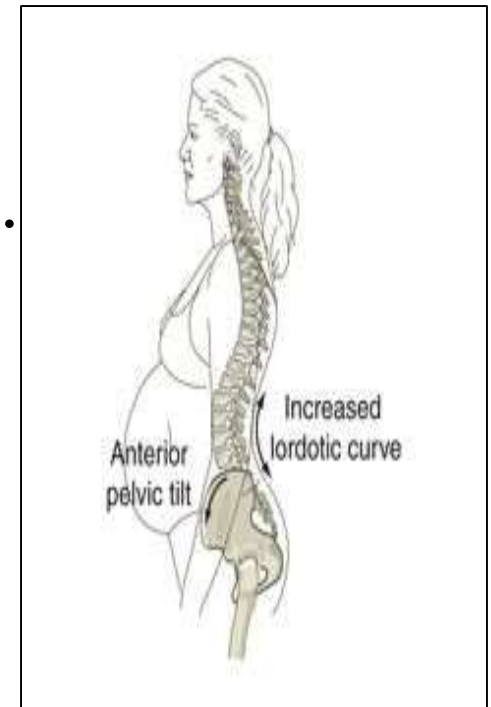
## 2. *Fitness level.*

3. Weak of unused muscles of back and abdomen might lead to lower back pain.



### **3. *Pregnancy and low back pain***

- It is very common to get back pain during pregnancy. As we know during pregnancy, the ligaments in the body naturally become softer and stretch to prepare for labour. This can put a strain on the joints of lower back and pelvis, which can cause back pain.



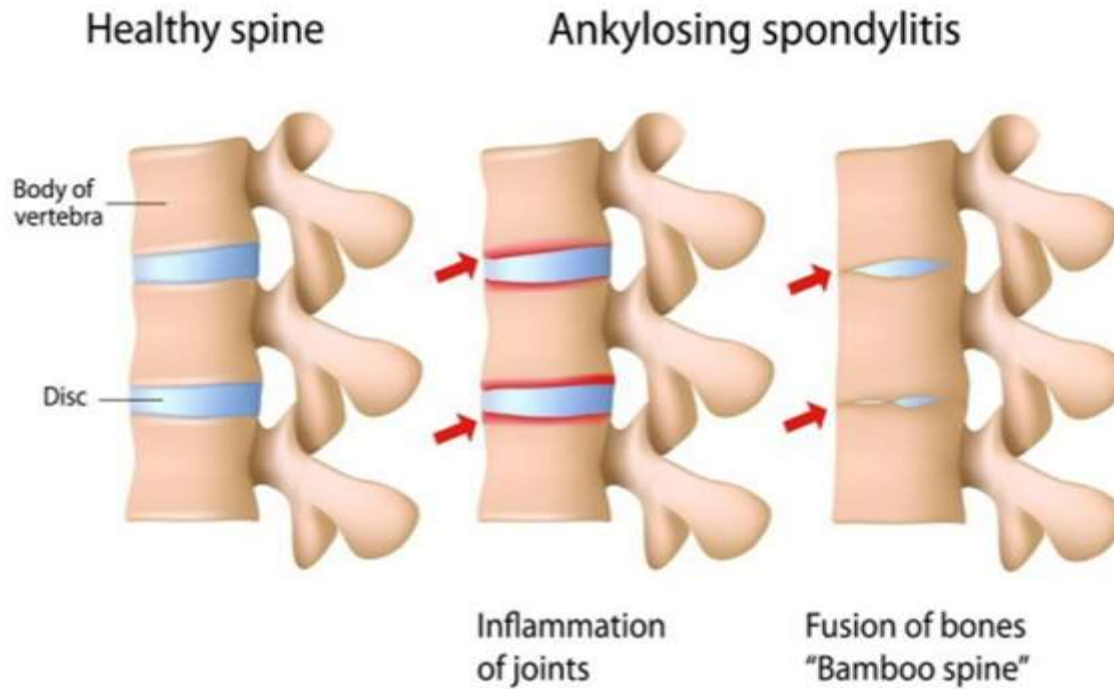
## **4. *Excess weight.***

- Excess body weight puts extra stress on back.



## 5. Genetics.

Such as ankylosing spondylitis



## **6. Occupational factors.**

- i. Lack of supporting staffs
- ii. Overtime working hours and work over load
- iii. Age
- iv. Musculoskeletal disorders
- v. Improper lifting
- vi. Twisting
- vii. Bending
- viii. Prolonged sitting



## 7. *Not proper lifting.*

- Using back instead of legs can lead pain.





8am



11am



1pm



3pm



6pm

## **8. *Low back pain in children due to heavy load:***

- A backpack overloaded with schoolbooks and supplies can strain the back and cause muscle fatigue.





## 9. Diseases.

Some types of arthritis /cancer contribute to back pain



# *Inter vertebral disc degeneration*

It is one of the most common mechanical causes of low back pain, and it occurs when the usually rubbery discs lose integrity as a normal process of aging.



10

# Stop Smoking!

Smoking impairs blood flow, resulting in oxygen and nutrient deprivation to *spinal tissues*.



Visit [www.forcetherapeutics.com](http://www.forcetherapeutics.com) for more back pain solutions

## ***11. Injury to lower back***

- Injury can damage the tendons and muscles in the lower back.
- Pushing and pulling sports, such as weight lifting or football, can lead to a lumbar strain.
- Also sports that require sudden twisting of the lower back, such as in tennis, basketball, baseball, and golf, can lead to this injury.

# *Prevention*

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## ***1. Exercise.***

- Regular low-impact aerobic exercises — that does not strain or jolt back — can increase strength in back.
- Always stretch before exercise/strenuous physical work.
- Walking, swimming, stationary bike riding and yoga can increase muscle strength and flexibility.
- At home or work, make sure work surfaces are at a comfortable height.
- Wear comfortable, low-heeled shoes.

# 6 Stretches for **BACK PAIN RELIEF**



Back Flexion Stretch



Towel Hamstring Stretch



Piriformis Muscle Stretch



Lateral Flexion Stretch



Chair Hamstring Stretch



Kneeling Lunge Stretch

## ***2. Yoga***

- Yoga is an effective tools for helping soothe low back pain.
- The practice helps to stretch and strengthen muscles that support the back and spine.



# 6 BEGINNER YOGA POSES TO EASE YOUR BACK PAIN

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SEE THE POSES >

### ***3. Maintain a healthy weight.***



## ***4. Stand smart.***

- Don't slouch. Maintain a neutral pelvic position. If you must stand for long periods, place one foot on a low footstool to take some of the load off your lower back. Alternate feet.



## 5. Sit smart



## 6 Lifestyle factors that affect lower back pain:



Smoking



Weight



Physical Activity

## 7. *Lift smart.*

- Avoid heavy lifting, but if you must lift something heavy, let your legs do the work. Keep your back straight — no twisting — and bend only at the knees. Hold the load close to your body



## ***8. Avoiding back pain in pregnancy***

- Bend knees and keep back straight when lifting
- Avoid lifting heavy objects
- Move feet when turn to avoid twisting of spine
- Wear flat shoes to evenly distribute weight
- Try to balance weight between 2 bags while shopping
- Keep back straight and well supported when sitting
- Get enough rest, particularly in later pregnancy
- Have a massage or a warm bath
- Use a mattress that supports you
- Take paracetamol to ease back pain

## ***8. Sleep sideways.***

- The best position for sleeping is on side. Have a supportive mattress and pillow for head are vital as well.





## ***9. Chiropractic “adjustment”***

- Chiropractic adjustment is a procedure in which trained specialists (chiropractors) use their hands or a small instrument to apply a controlled, sudden force to a spinal joint.
- The goal of this procedure, also known as spinal manipulation, is to improve spinal motion and improve body's physical function.



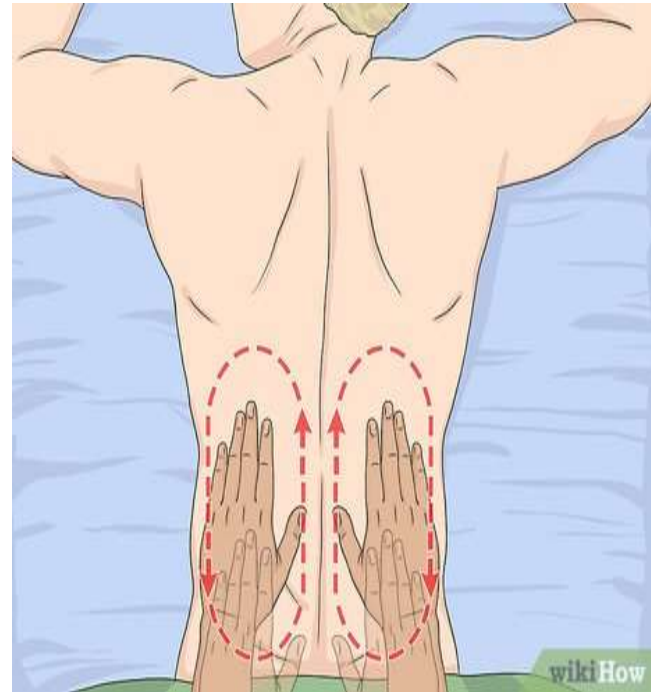
## ***10. Osteopathic Manipulative Treatment***

- Osteopathic Manipulative Treatment, or OMT, is a set of hands-on techniques used by osteopathic physicians (DOs) to diagnose, treat, and prevent illness or injury.
- Using OMT, a DO moves a patient's muscles and joints using techniques that include stretching, gentle pressure and resistance.



## ***11. Massage***

- Massage is a popular way to relieve muscle tension, spasm, aches, stiffness, and pain.
- Other benefits include improved circulation, flexibility and greater range of motion, and tissue elasticity.
- Massage therapists use their hands or special tools to knead, rub etc.
- Sometimes lotion or oil is applied to the skin to reduce friction.



## ***11. Spa Therapy***

- Bathing in thermal water for therapeutic purposes has several descriptions:
- ***Balneotherapy***: involves bathing in mineral-rich waters that may offer a myriad of health benefits.
- ***Hydrotherapy***: Hot tubs are ideal for back pain because: The warm, soothing water promotes optimal blood circulation, which aids the healing effort. Hydrotherapy also diminishes the pain sensory signals sent from back to the brain.)









## ***12. Herbs for back pain***

- Many home remedies exist to help relieve bothersome back pain.
  - i. Lavender essential oil
  - ii. Rosemary essential oil
  - iii. Peppermint essential oil
  - iv. Eucalyptus essential oil
  - v. Cloves
  - vi. Capsaicin
  - vii. Ginger



## ***13. Acupuncture***

- Acupuncture can be a successful go-to therapy for chronic back pain. It can apply to either lower or upper back pain.



*Causes and prevention  
of MSK related to child  
labour*

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## ***Definition of child labor***

- The term “child labor” is defined as work that is mentally, physically, socially or morally dangerous and harmful to children and that deprives children of their childhood, their potential and their dignity.
- According to the ***International Labor Organization, ILO - child labor*** refers to work that is performed by anyone under the age of 17.

- ***The worst forms of child labour*** involves children being enslaved, separated from their families, exposed to serious hazards and illnesses and/or left to fend for themselves on the streets of large cities.
- ***Hazardous child work*** is the work which likely to harm the health, safety or morals of children.



# *Factors of child Labour*

- Child labour and its exploitation are the result factors like:
  - i. Poverty
  - ii. Social norms
  - iii. Lack of decent work opportunities for adults
  - iv. Migrations
  - v. Emergencies
  - vi. Consequence of social inequities reinforced by discrimination.

## ***Risk factors;***

1. Sprains and strains
2. Low and mid back pain injuries
3. Injuries to ligaments
4. Growing bone deformities
5. Accidents
6. Injuries
7. Overtime
8. Falls
9. Burns



## ***The two ILO Conventions on child labour***

- These are “fundamental” Conventions which rectifies that all ILO member States have an obligation to respect, promote and realize the abolition of child labour.
  - i. Convention No.138 on Minimum Age
  - ii. Convention No. 182 on the Worst Forms of Child Labour.

## ***1. The aim of ILO Convention No.138 is to:***

- i.** Establish a minimum age for entry into work or employment
- ii.** National policies for the elimination of child labour.

### **• *Recommendations for Convention No. 138:***

- i.** Poverty alleviation and the promotion of decent jobs for adults
- ii.** Free, compulsory education and provision of vocational training
- iii.** Extension of social security and systems for birth registration
- iv.** Appropriate facilities for the protection of children, and adolescents who work.

## ***2. The aim of Convention No. 182 is to***

- Requires countries to take immediate, effective and time-bound measures to eliminate the worst forms of child labour
- ***Recommendations for Convention No. 182 is to:***
  - i. Stop exposure of children to physical, psychological or sexual abuse
  - ii. Stop work in underground/underwater/at heights or in confined spaces
  - iii. Stop work with dangerous machinery, equipment and tools
  - iv. Stop carrying heavy loads
  - v. Stop exposure to hazardous substances, chemicals etc.
  - vi. Stop exposure to extreme temperatures, noise levels or vibrations
  - vii. Stop work for long hours, night work etc.

## *In Pakistan*

- In the last few decades a lot of work has been carried out – both by the government as well as non-governmental organizations to curb the spread of child labor in Pakistan.
- However, it is disturbing to observe that despite various laws and awareness raising drives, child labor continues to plague every nook and corner of the country.

• ***3 important things that every citizen should do to help wipe out child labor from Pakistan.***

1. Do not employ a child
2. Raise awareness in community
3. Sponsor a child



## ***Exercise:***

- Low back pain is generally understood to become ‘chronic’ after a period of how long?
  - A. 3 weeks
  - B. 6 weeks
  - C. 9 weeks
  - D. 12 weeks

- If the pain in your back is fast, immediate and intense with an identifiable cause and lasts less than 2 to 3 months, you are most likely to be suffering from –
  - A. Acute back pain
  - B. Chronic back pain
  - C. Neuropathic pain

3. Dorsal Roots are:

A. Sensory

B. Motor

C. Mixed

***Thank you***