

# **BASIC ANATOMY FOR THE CA**



# CHIROPRACTIC ANGEL



# Greek Goddesses



aphrodite



artemis



athena



aura



eos



HERA



hestia



persephone



demeter



selene



styx



medusa

CHIROPRACTIC  
GODDESSES



# ADMIT IT



get cape.

wear cape.

fly.

*at some point in your life  
you've tried to see if you have  
Super Powers.*



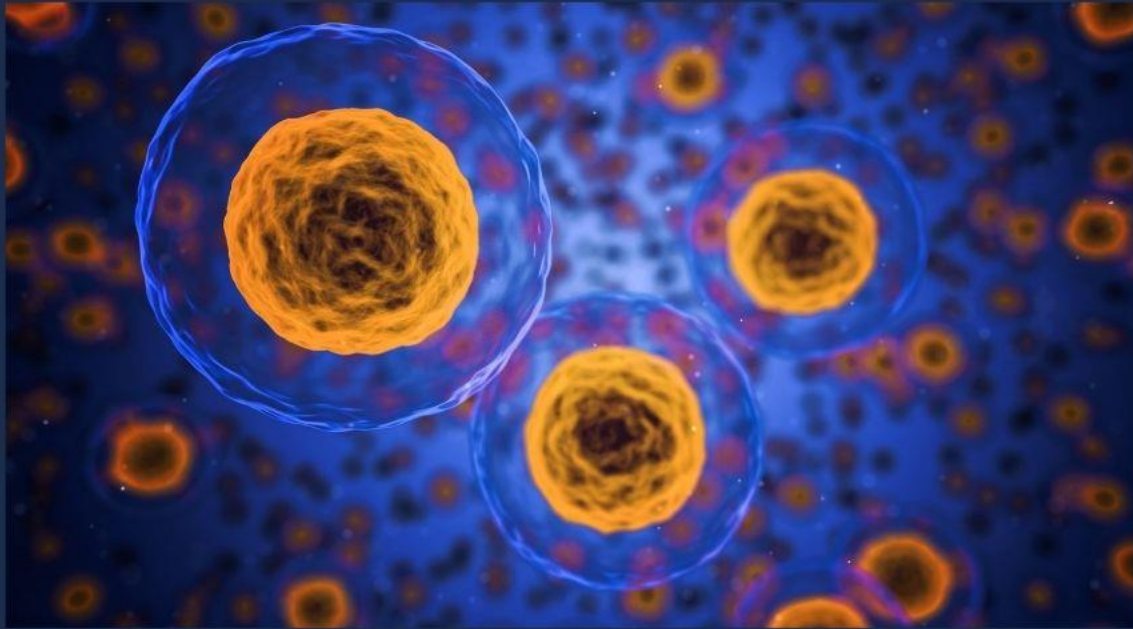
- ▶ Private Practice SC, VA 1989-20??
- ▶ Past President UVCA 2011-2015
- ▶ Vice-President ECA-IPN
- ▶ Immediate Past President ChiroCongress
- ▶ Board member ChiroCongress Cares
- ▶ Vice-Chair Chiropractic Future Strategic Plan
- ▶ Member Chiropractic Summit

**THOMAS J WETZEN, DC, CCSP, FICA**

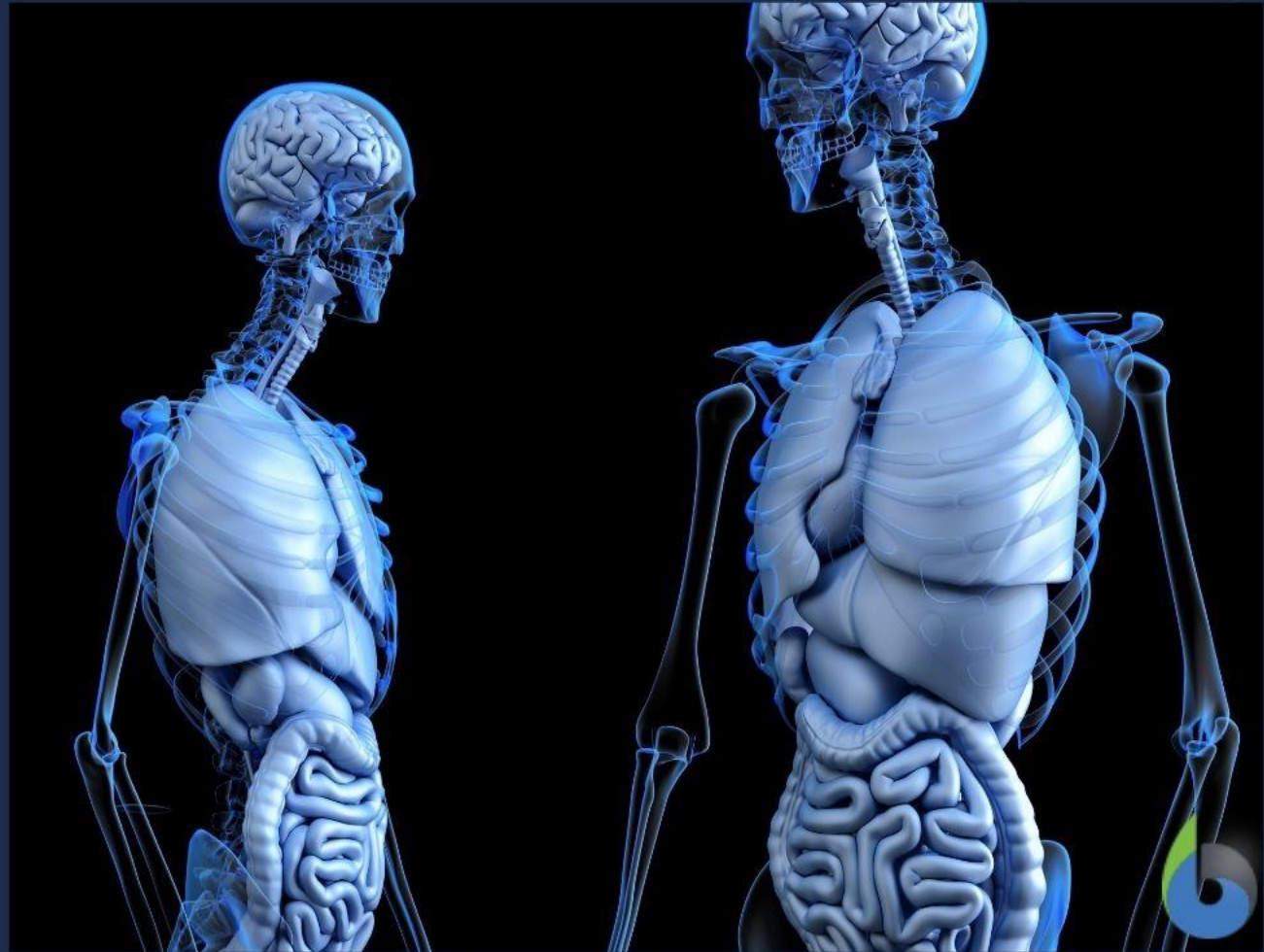


# Anatomy

Anatomy refers to the study of the structure of a living thing from the microscopic ... ↘

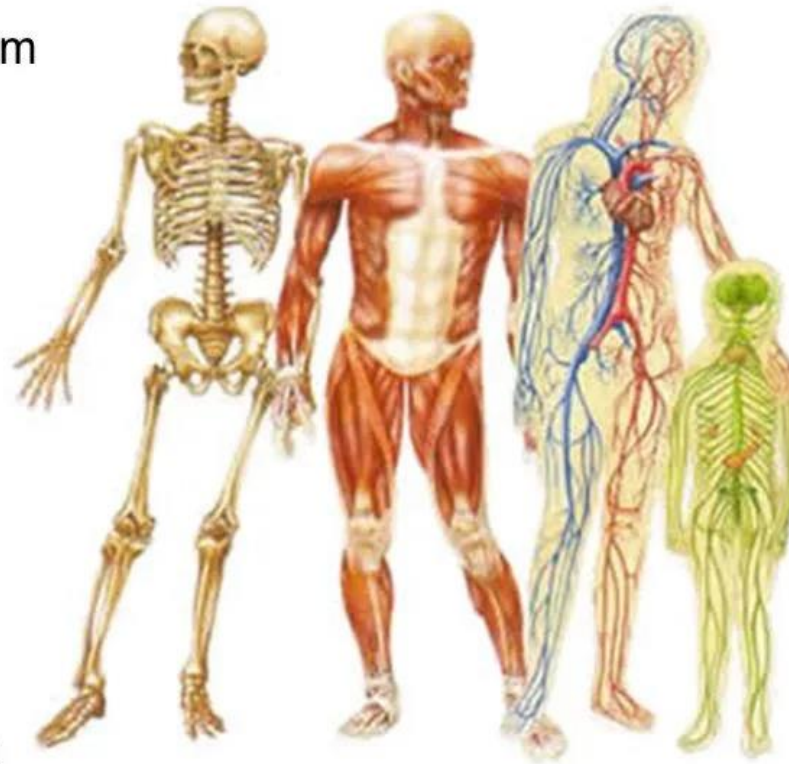


... to the macroscopic →

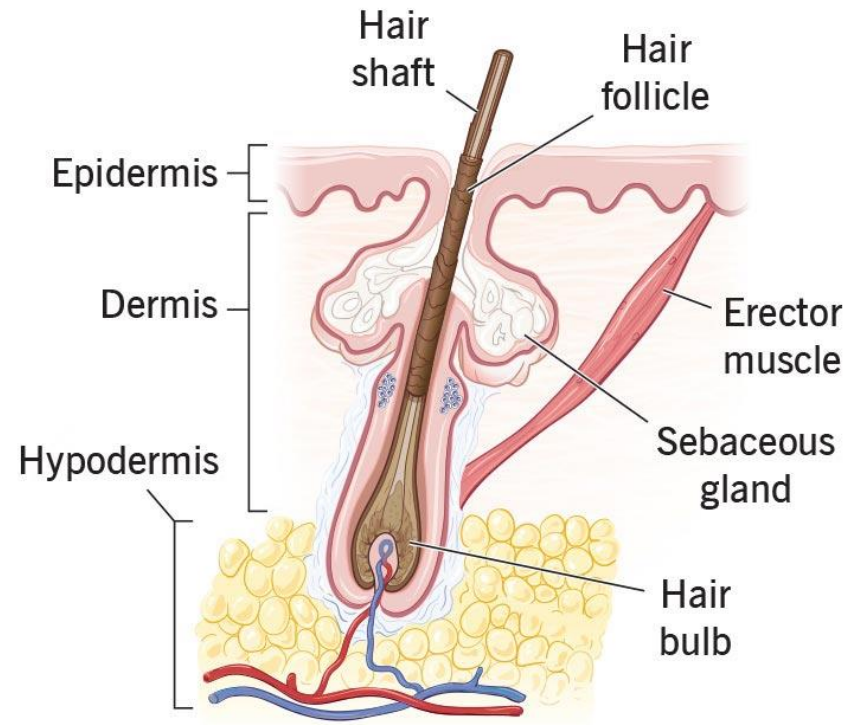


# The 11 Human Body Systems

- nervous system
- integumentary system
- respiratory system
- digestive system
- excretory system
- skeletal system
- muscular system
- circulatory system
- endocrine system
- reproductive system
- lymphatic (immune) system

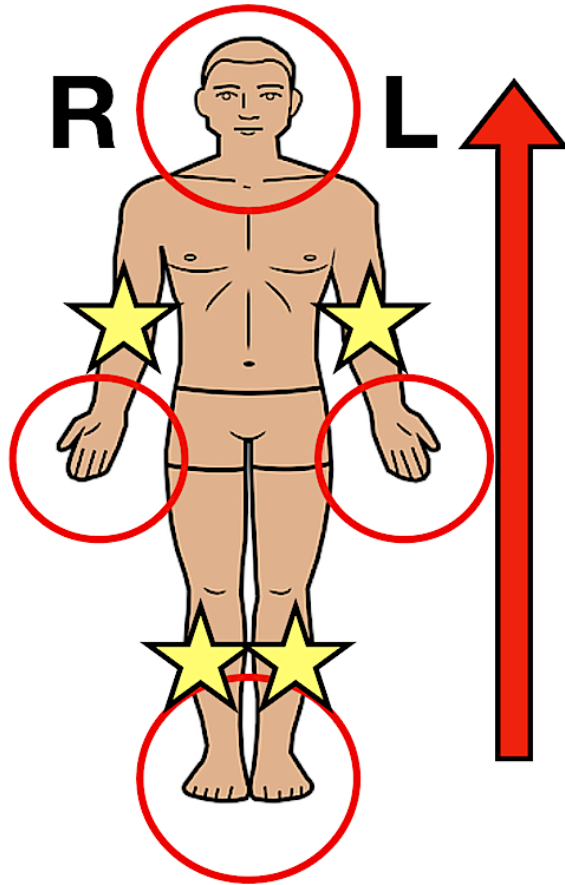


## Integumentary System





# Anatomical Position



- Standing upright
- Head and eyes directed straight ahead
- Upper limbs at the sides
- Upper limbs slightly away from trunk
- Palms facing forward
- Thumbs pointing away from body
- Lower limbs parallel
- Feet flat on the ground and facing forward

# Anatomical Position – Supine vs. Prone

- Supine –
  - Lying with the front or face and hands facing upward
- Prone –
  - Lying with the front or face and hands facing downward

Supine

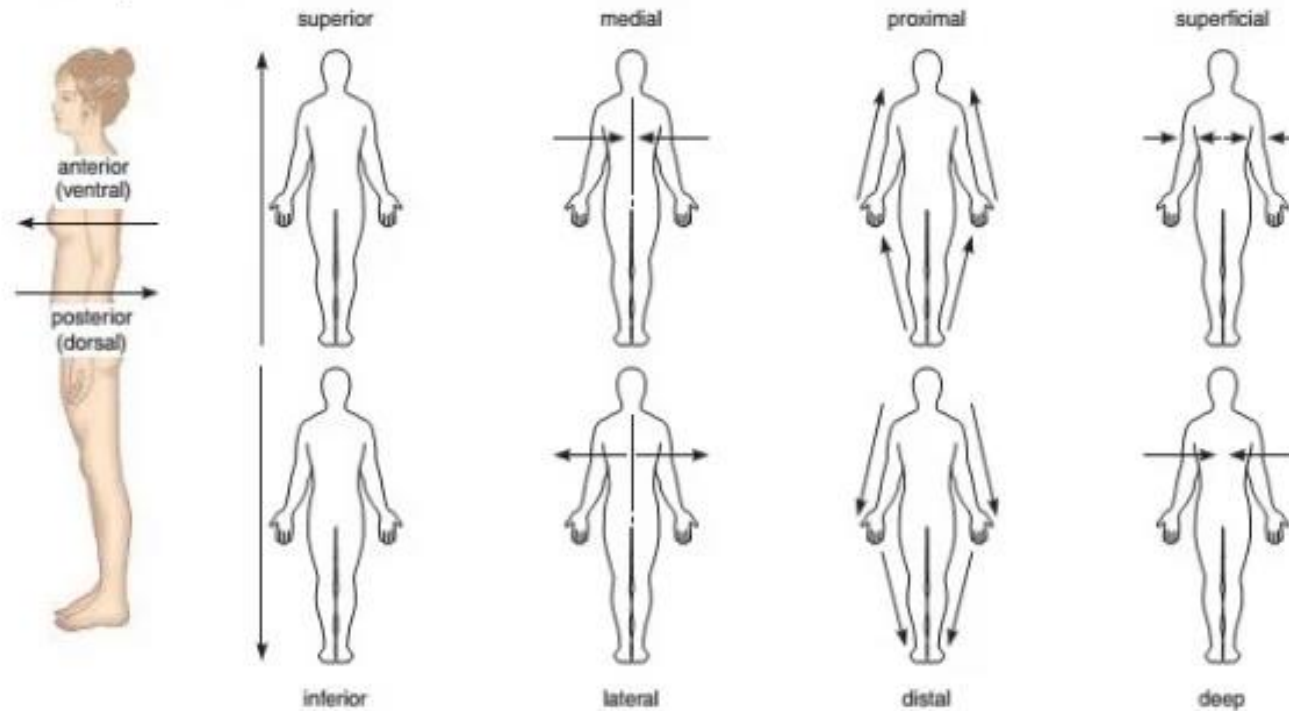


Prone



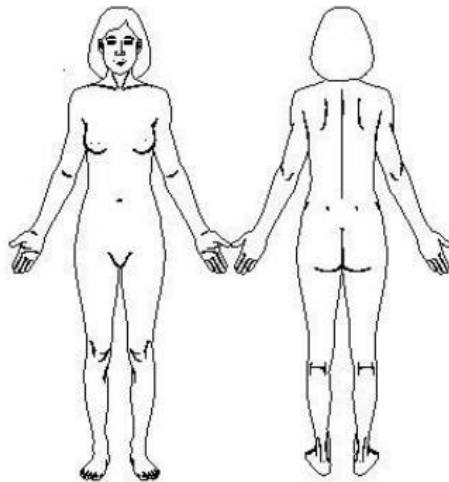
# Directional terms.

Directional terms tell us where body parts are located with reference to the body in anatomical position.





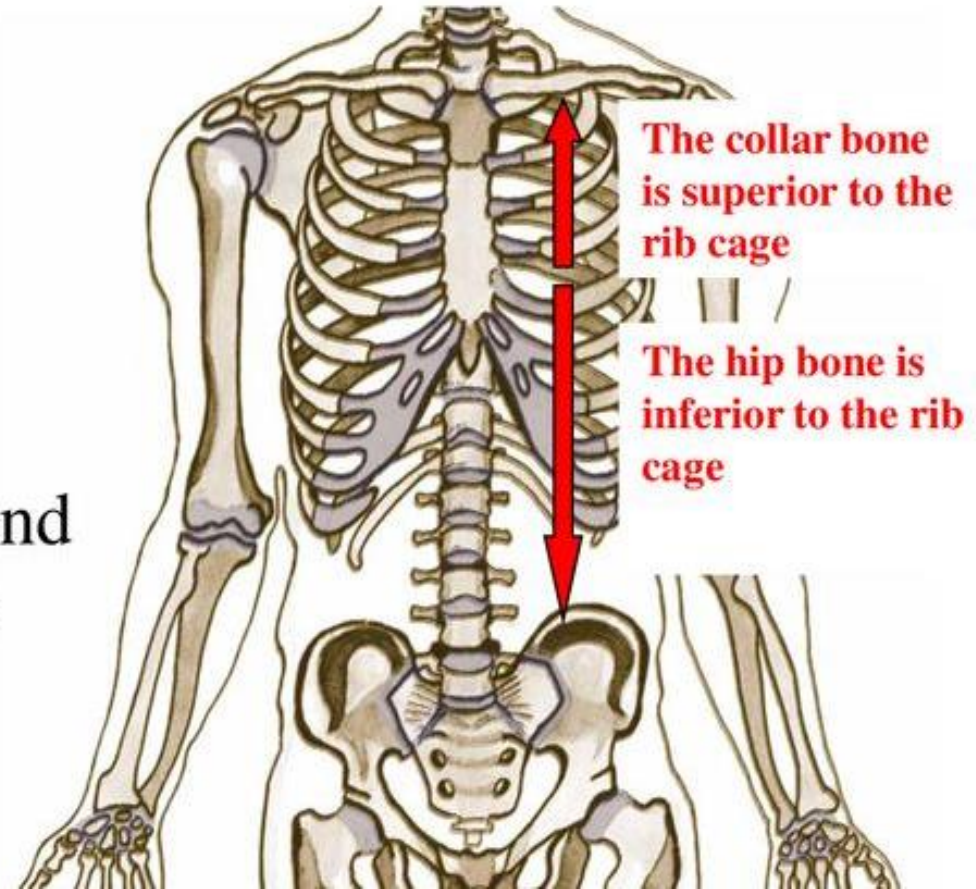
# Anterior/Posterior

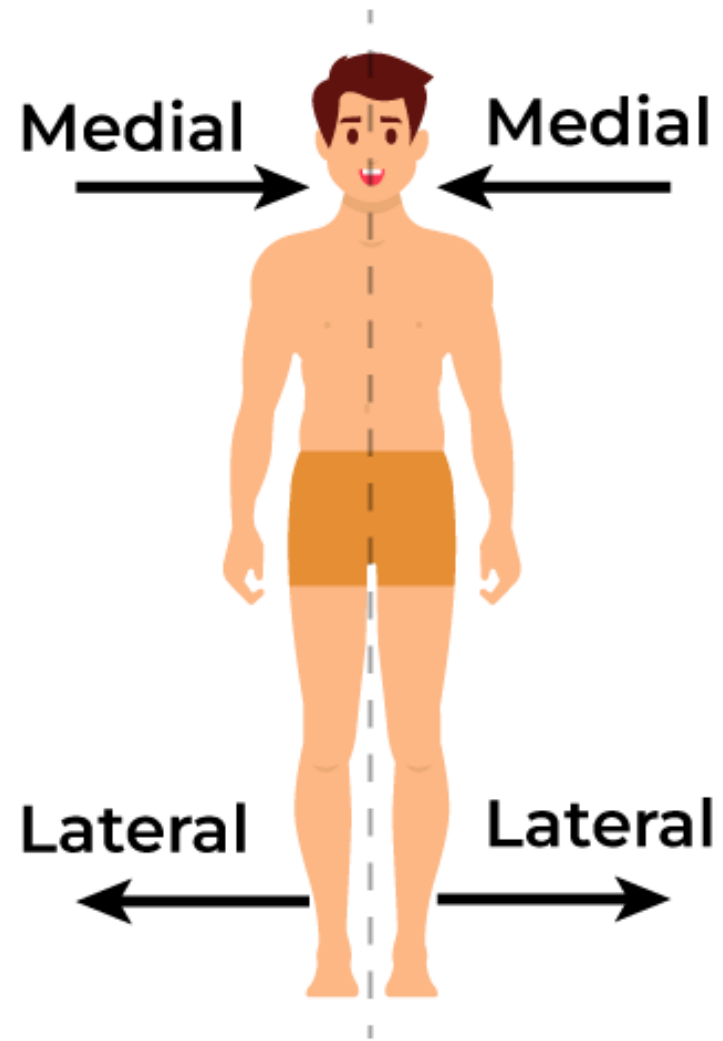


- Anterior—to be situated near or toward the front of the body
- Posterior--to be situated toward the back of the body

## ○ Superior-Inferior

- **Superior** – Above
  - **Inferior** – Below
  - E.g., Your lips are superior to your chin and your chin is inferior to your lips







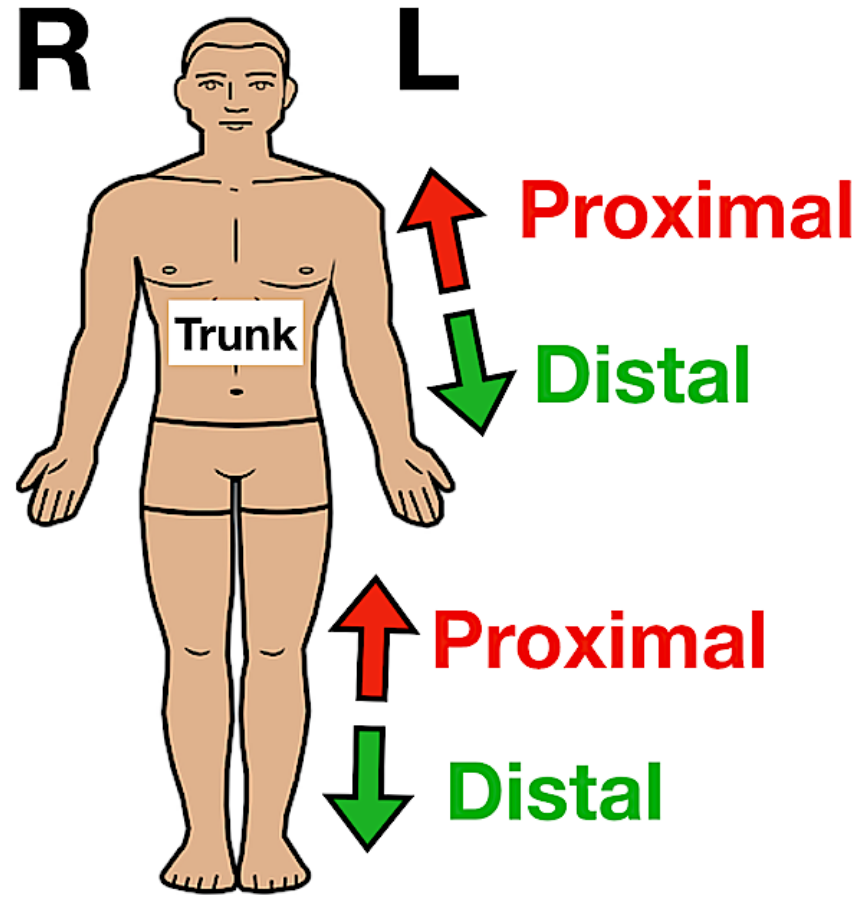
# Proximal and Distal

**Proximal** = Toward the trunk; Near the origin

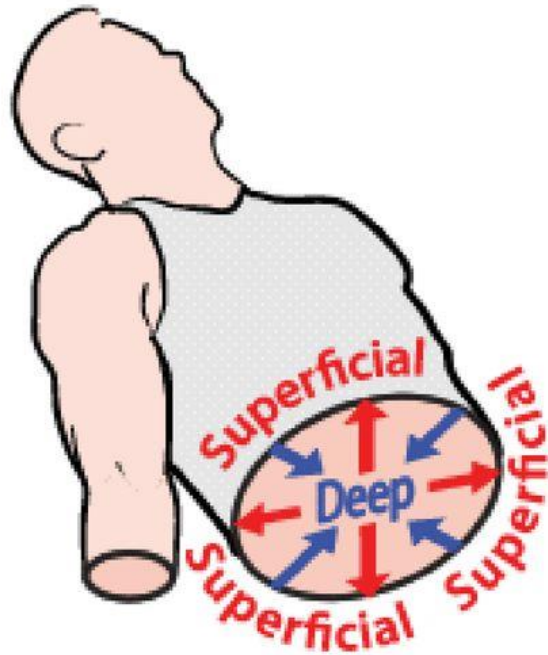
Proximal = Proximity

**Distal** = Away from the trunk; Far from the origin

Distal = Distant



## Directional Terms



- *Superficial*
  - Toward or at the body surface
- *Deep*
  - Away from the body surface
  - More internal





All things are difficult  
before they are easy.

Thomas Fuller

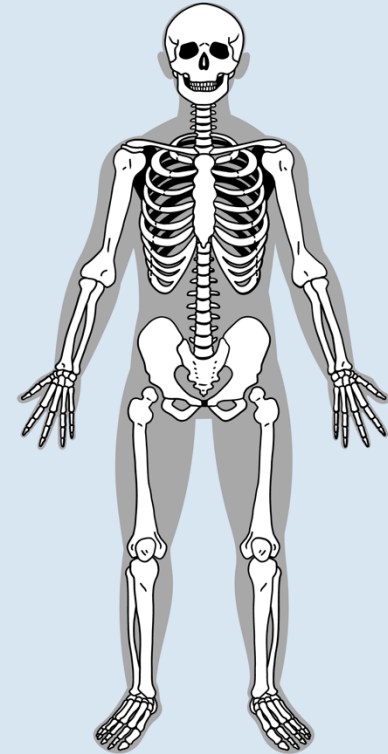


**“When in doubt,  
look intelligent.”**

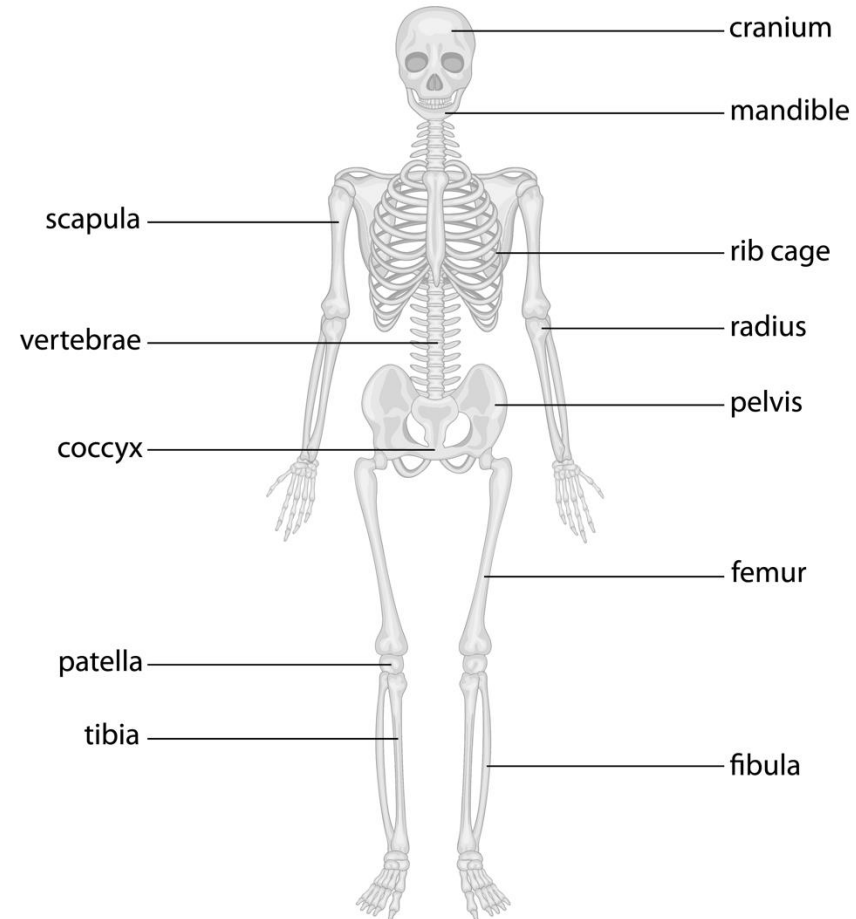
**GARRISON KEILLOR**

# The Skeletal System Has Five Major Functions

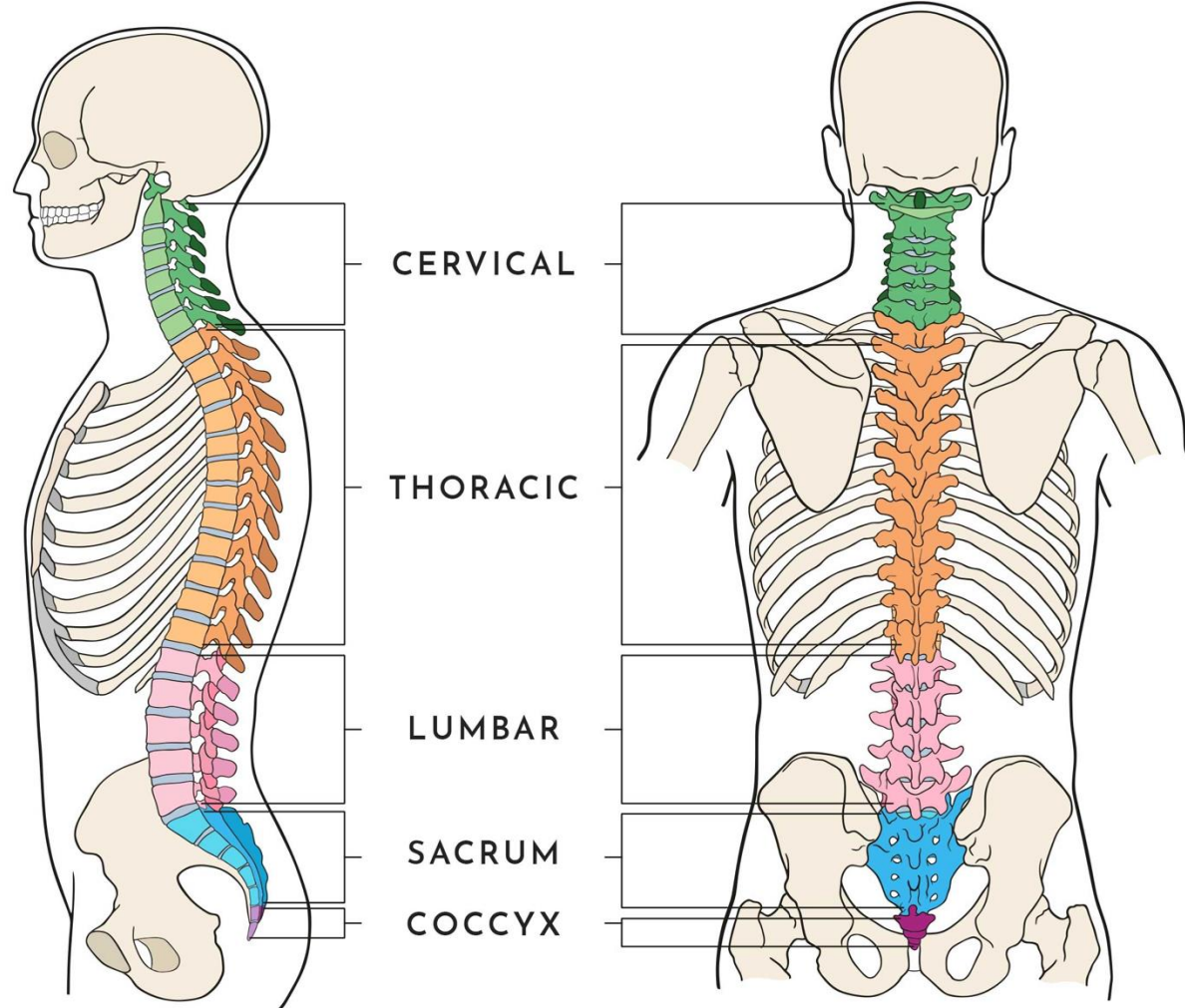
- Provides us with a basic structure/shape
- Allows movement
- Protects vital organs
- Produces blood cells
- Storage of fats and minerals



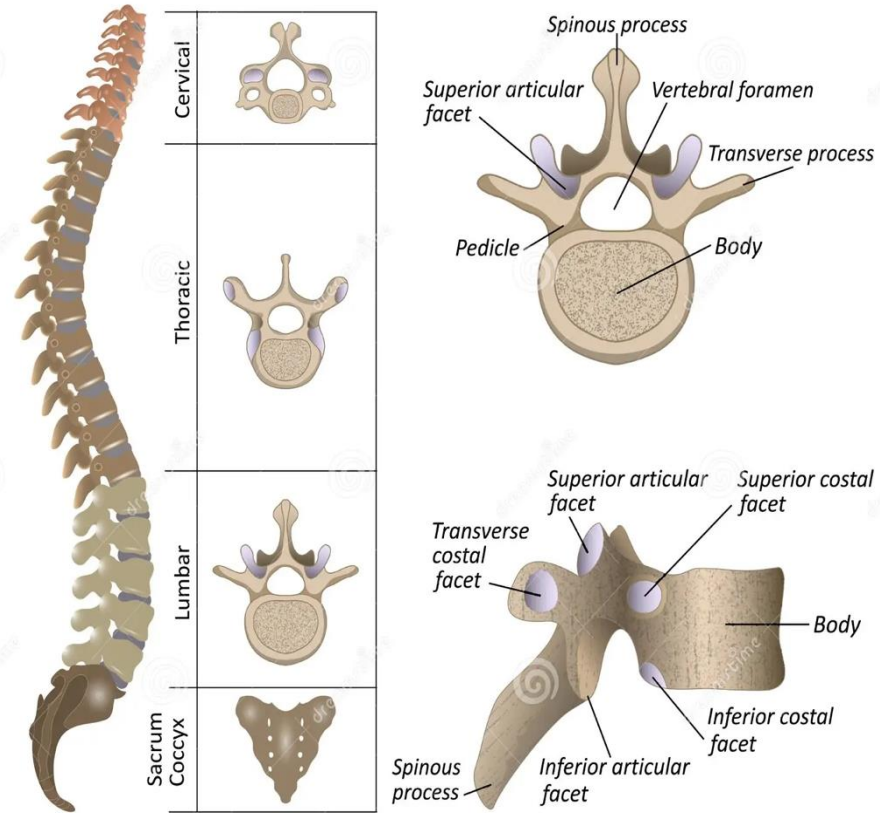
# Human Skeletal System

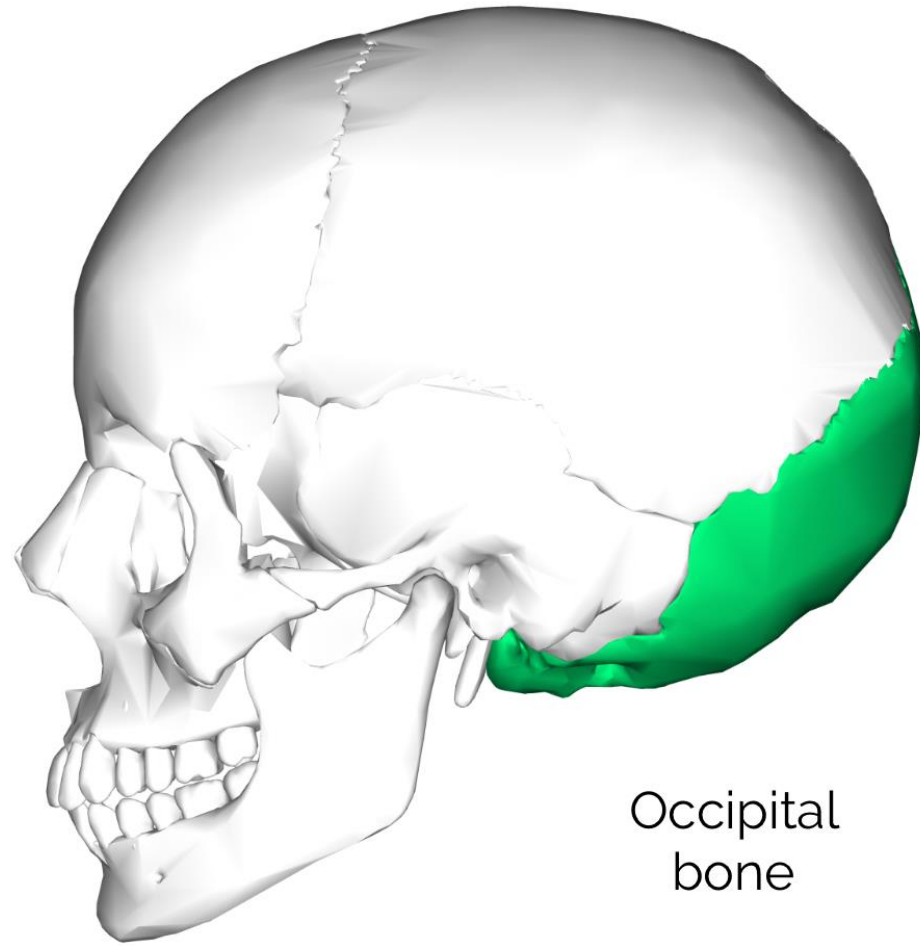






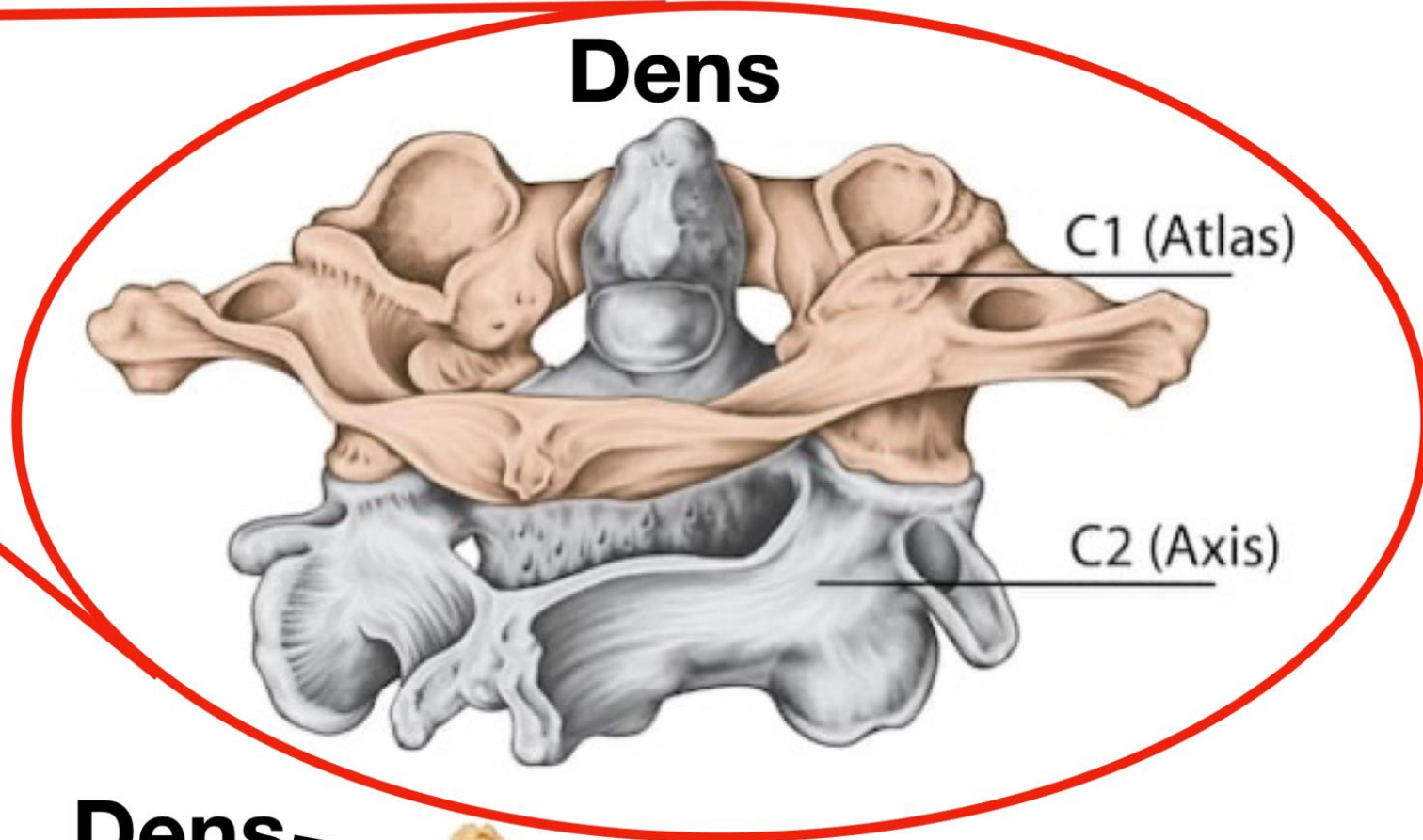
## Spine and structure of segments





Occipital  
bone





**Dens**

C1 (Atlas)

C2 (Axis)

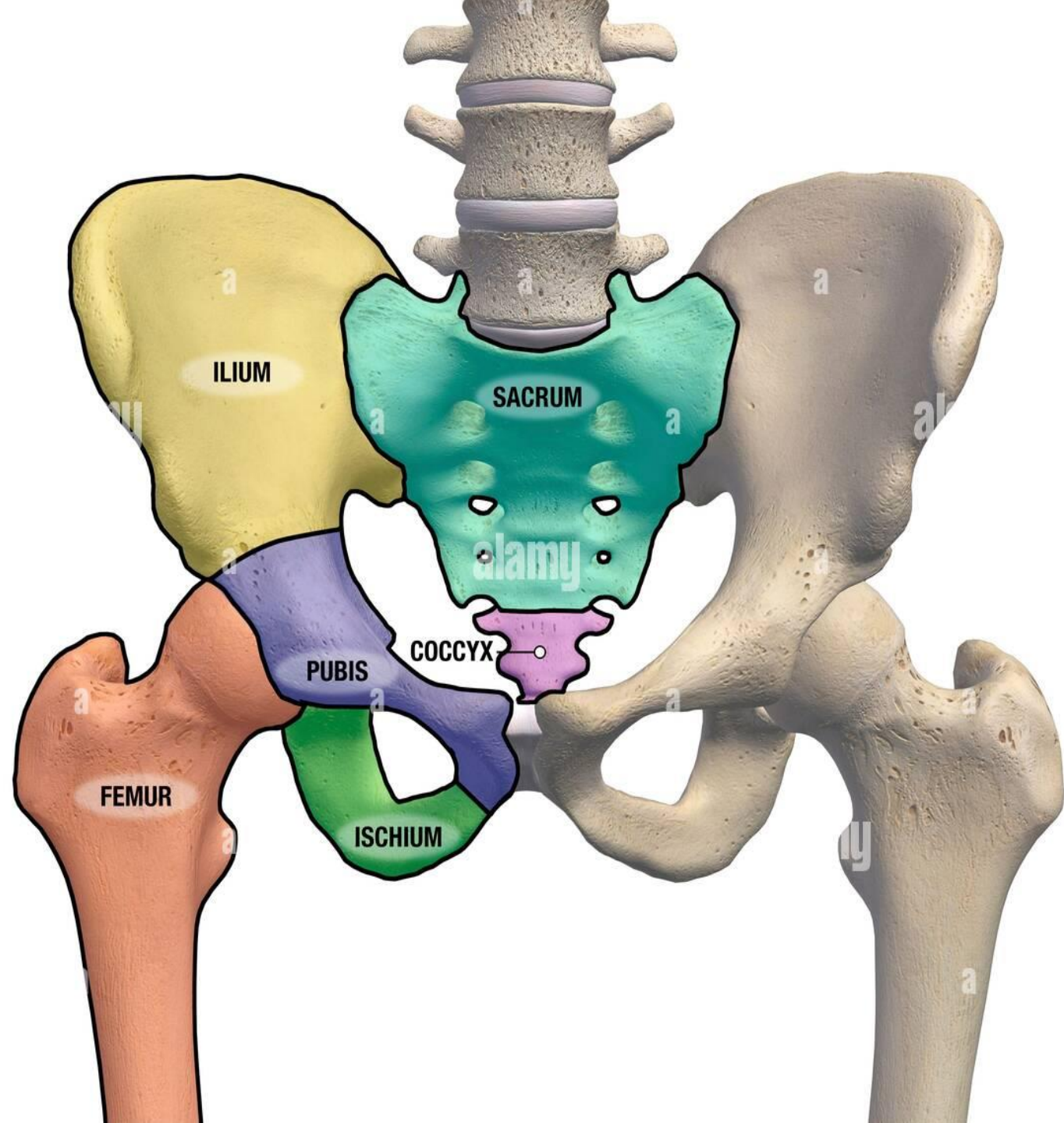
**Dens**



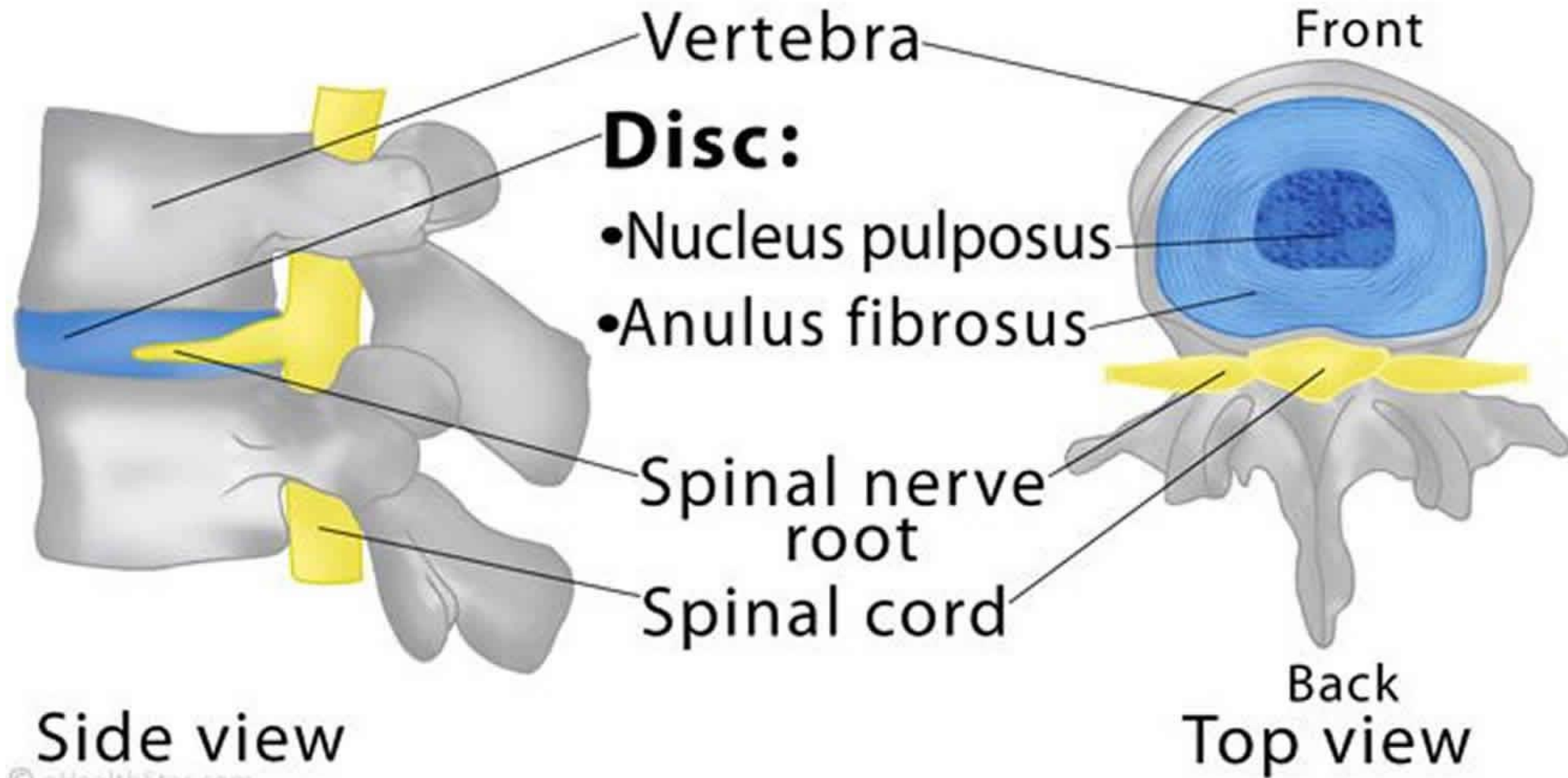
**C2 (Axis)**



**C1 (Atlas)**



# Intervertebral Disc

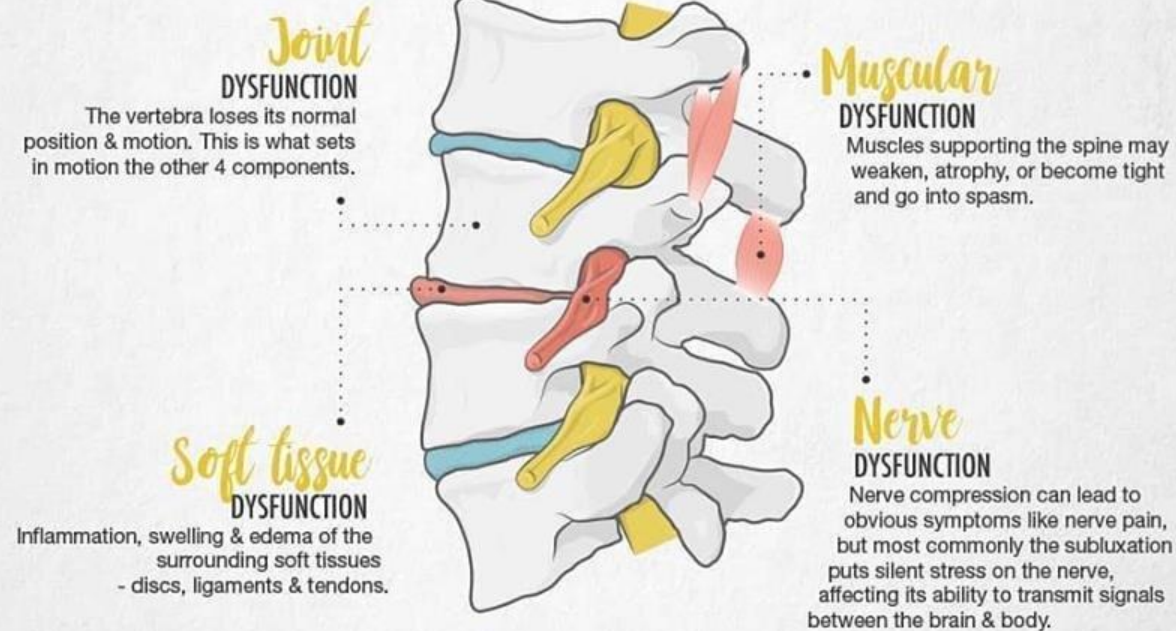




# VERTEBRAL SUBLUXATION COMPLEX

by kirografiks

## 5 Components



## Pathophysiology

Loss of the body's homeostasis. Spinal degeneration, scar tissue, and long-term nerve dysfunction can cause other systems of the body to malfunction.

#### TEXTBOOK NORMAL

- Graceful forward curve
- Equal disc spacing
- Normal turning and bending



Neck

#### SPINAL DYSFUNCTION CAN LEAD TO...

- Loss of curve
- Narrowing of disc spacing
- Impaired turning and bending



Phase 1

#### IF IGNORED CAN DETERIORATE TO...

- Roughening joint surfaces
- Bone spurs
- Reduced mobility



Phase 2

#### IF NEGLECTED CAN DEGENERATE TO...

- Severe bone remodeling
- Irreversible joint fusion
- Permanent loss of motion



Phase 3





## Disc Abnormalities

**Bulging**



**Herniated**



**Ruptured**

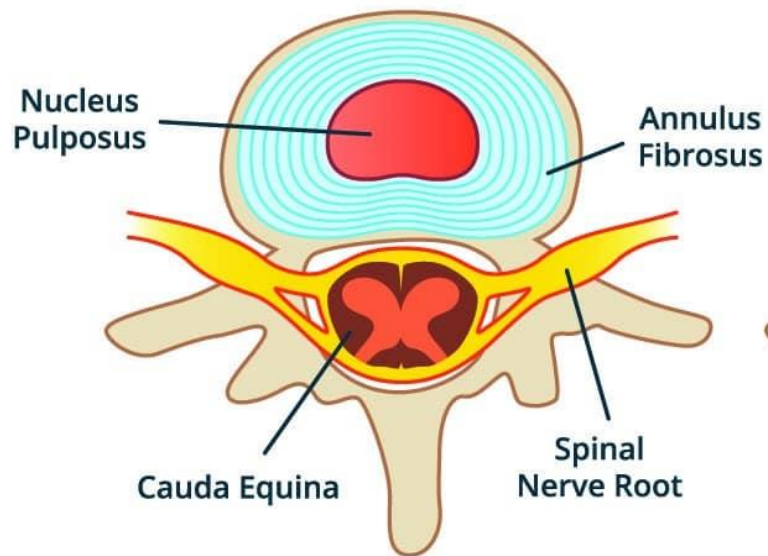


**Sequestered  
or  
Fragmented**

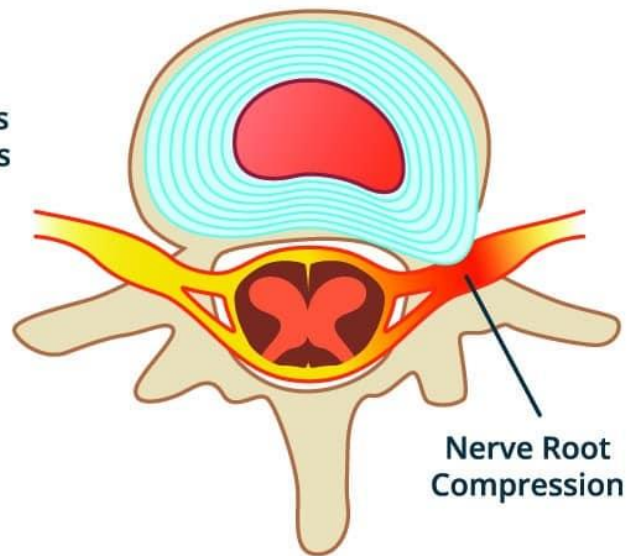


# Stages of Disc Herniation

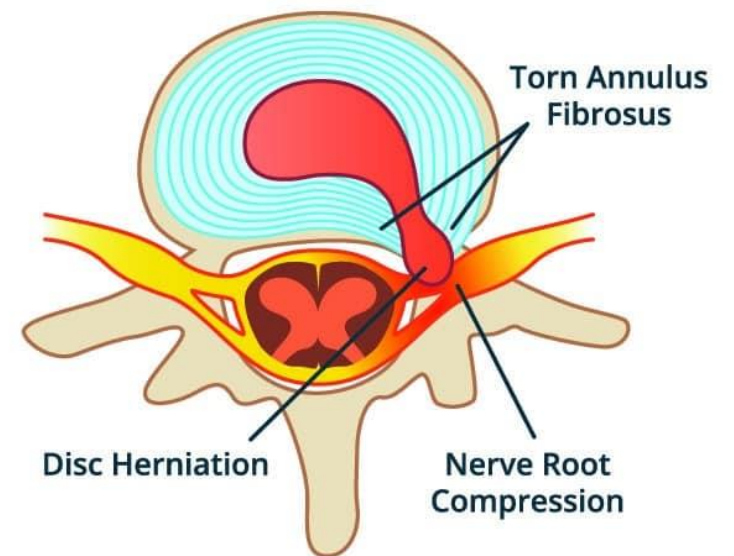
## NORMAL DISC

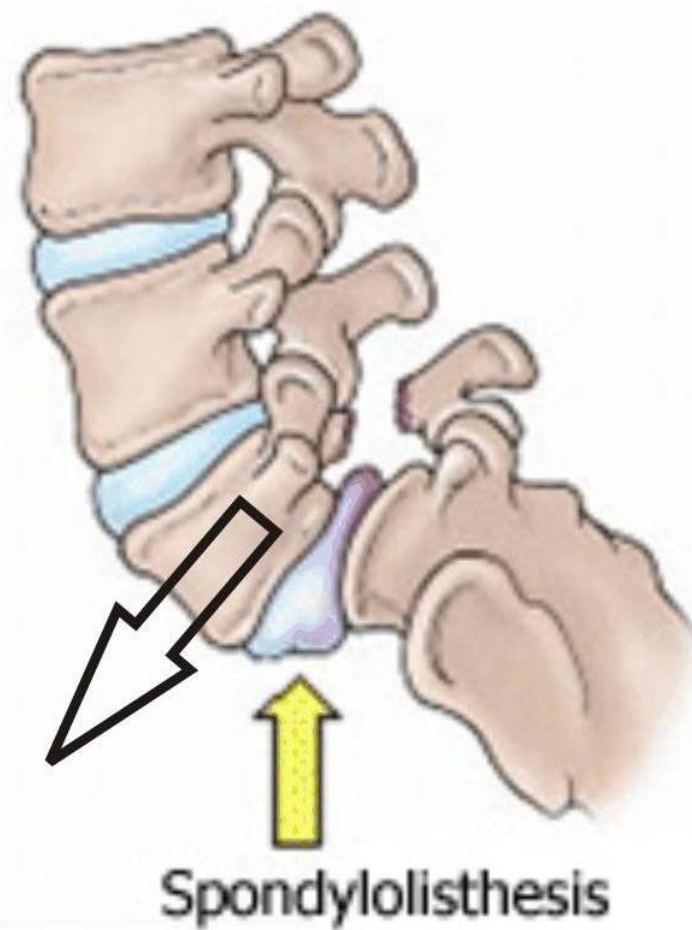
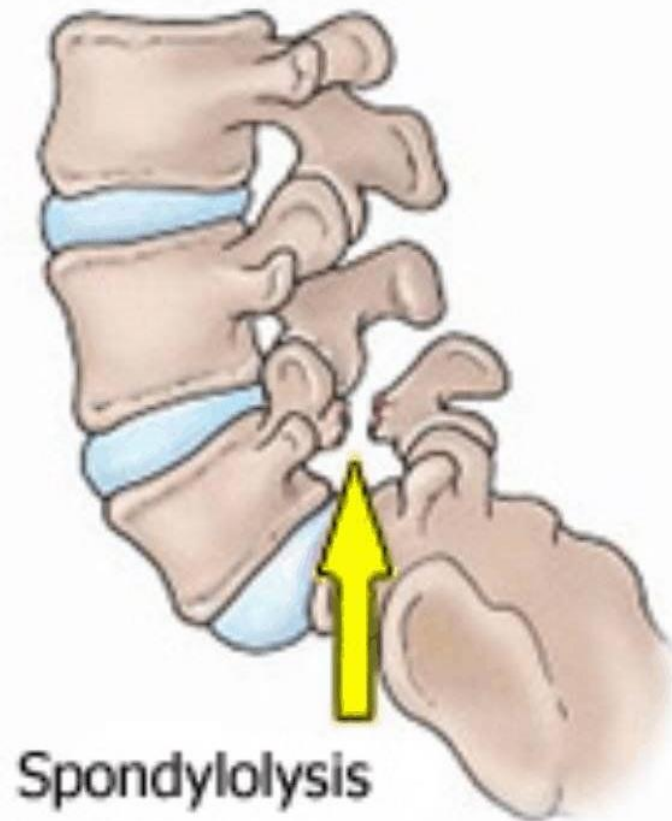
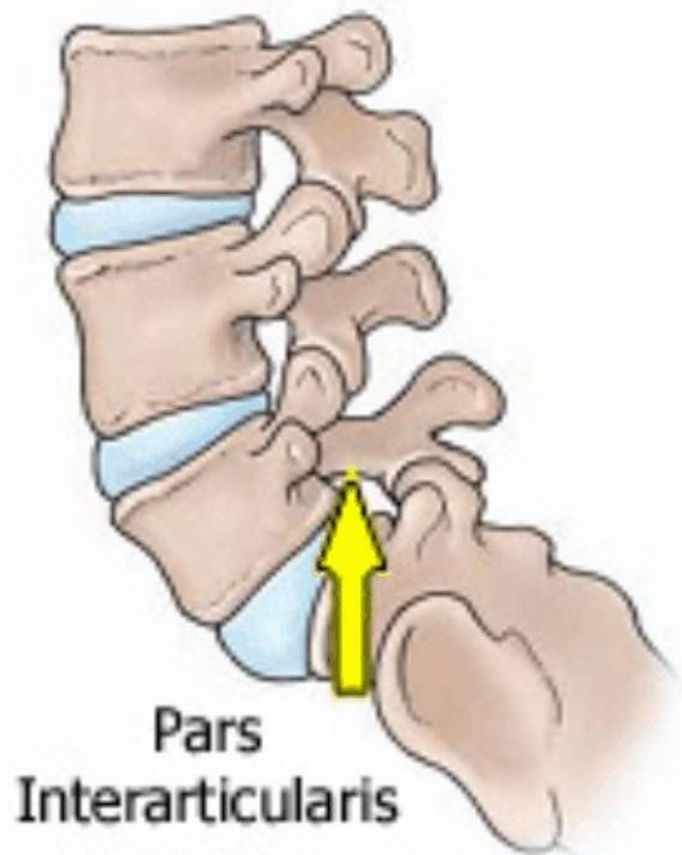


## PROTRUSION



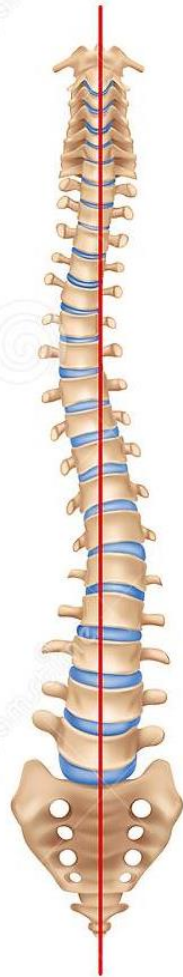
## PROLAPSE



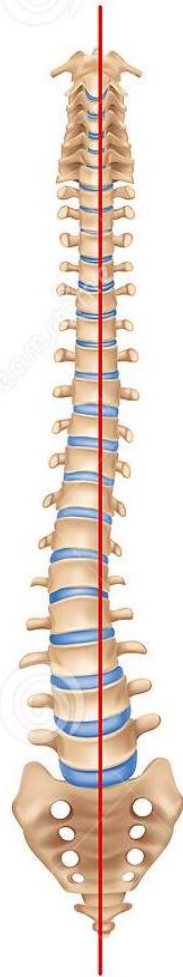




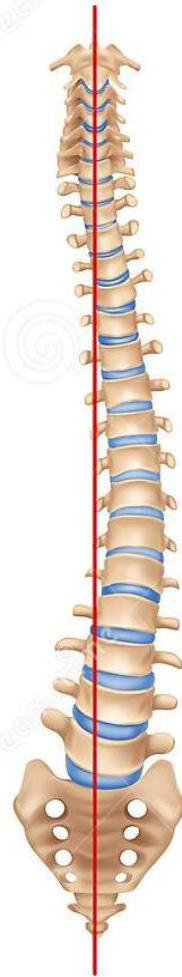
# TYPES OF SCOLIOSIS



THORACIC  
SCOLIOSIS



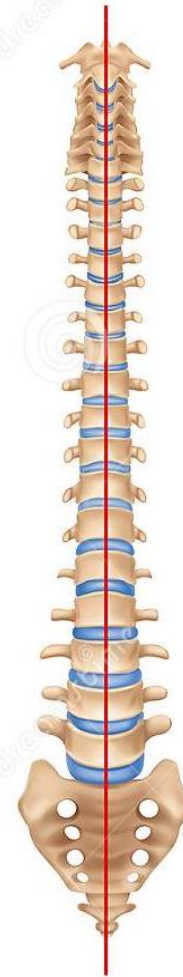
LUMBAR



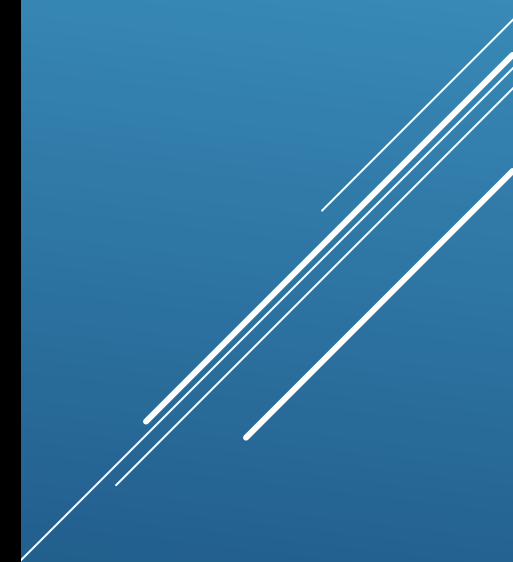
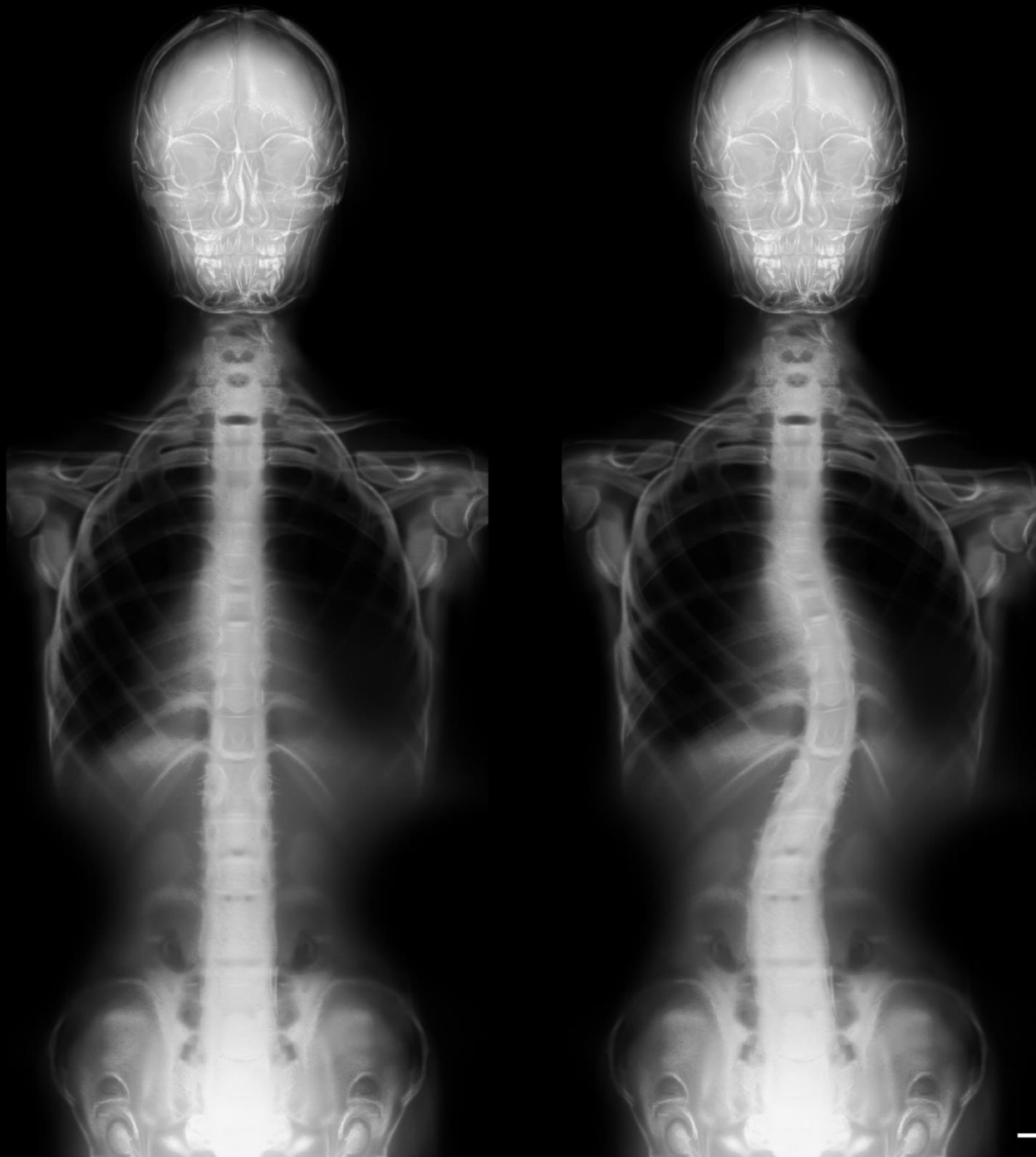
THORACOLUMBAR



DOUBLE  
CURVE

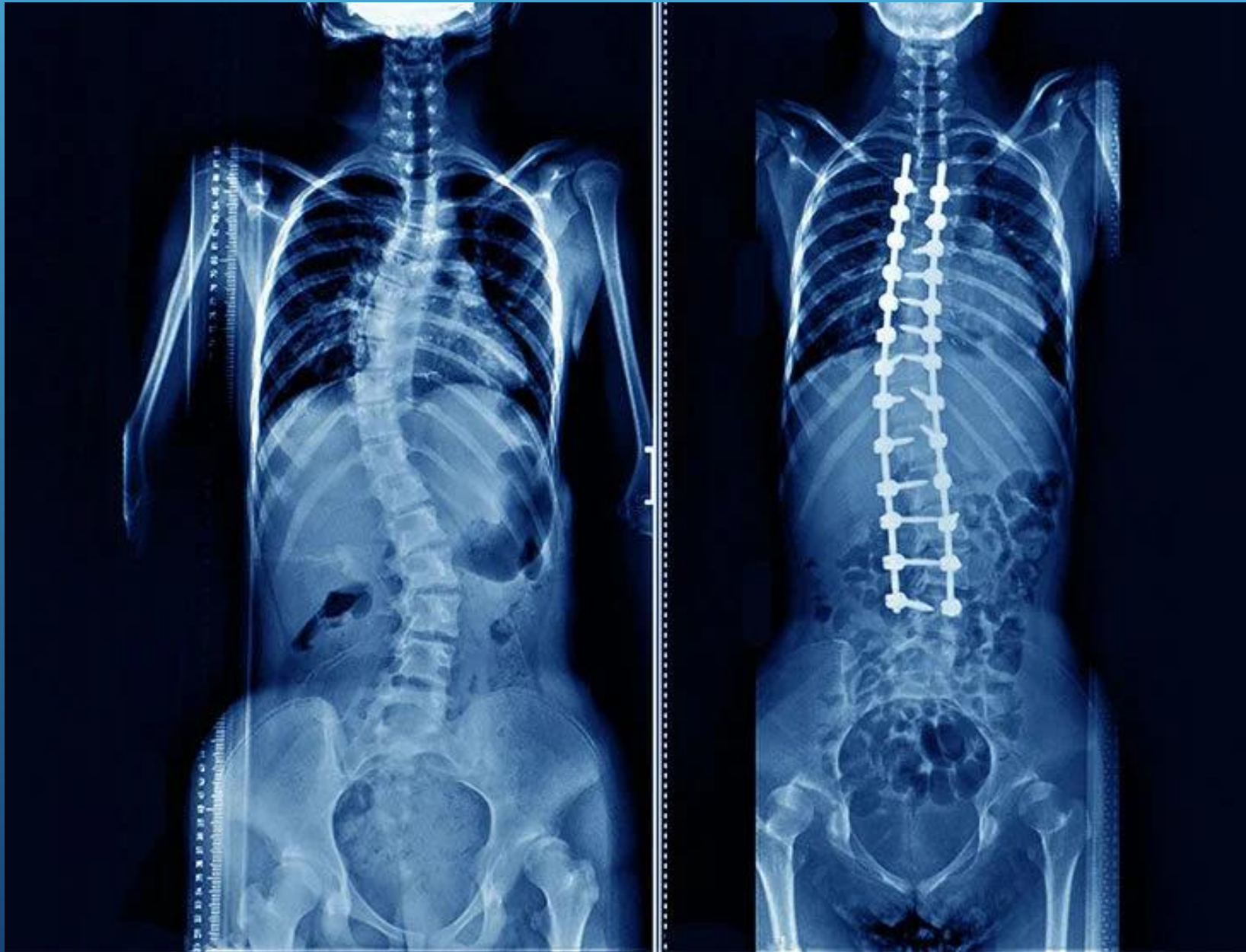


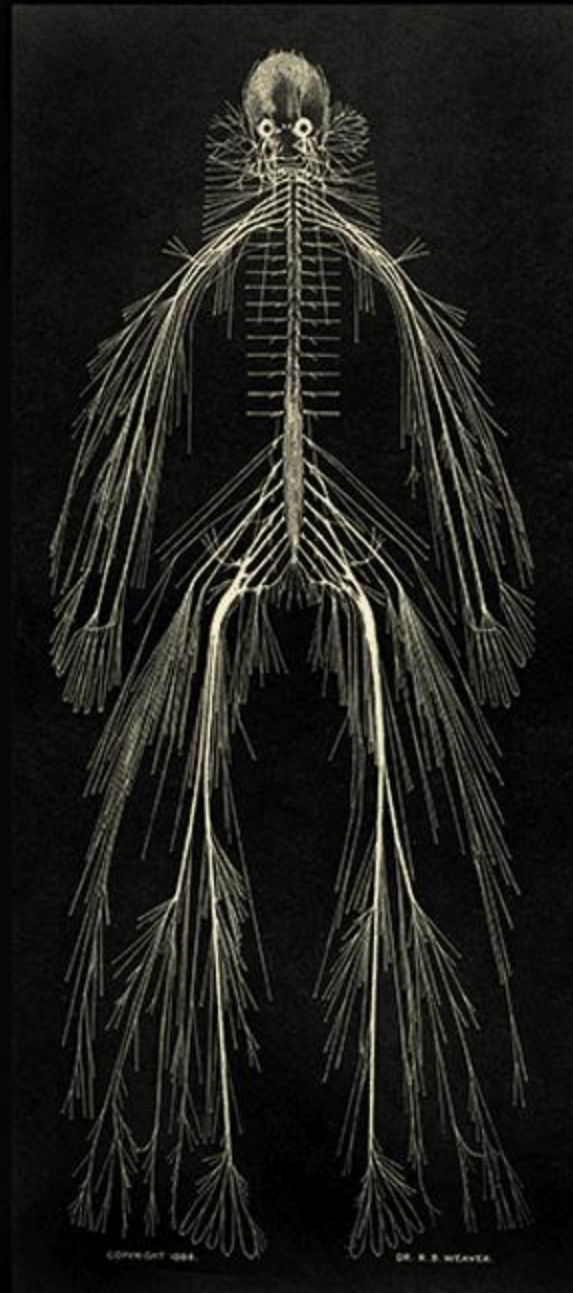
NORMAL

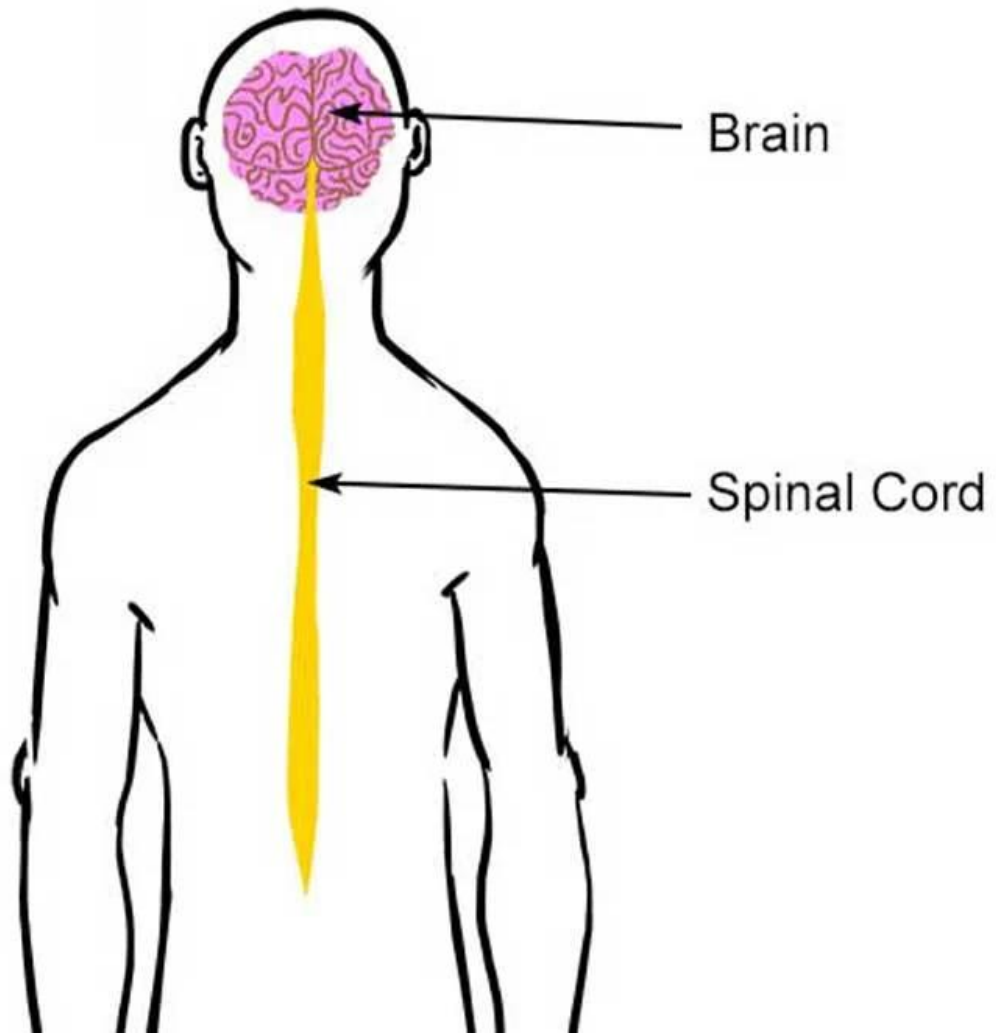






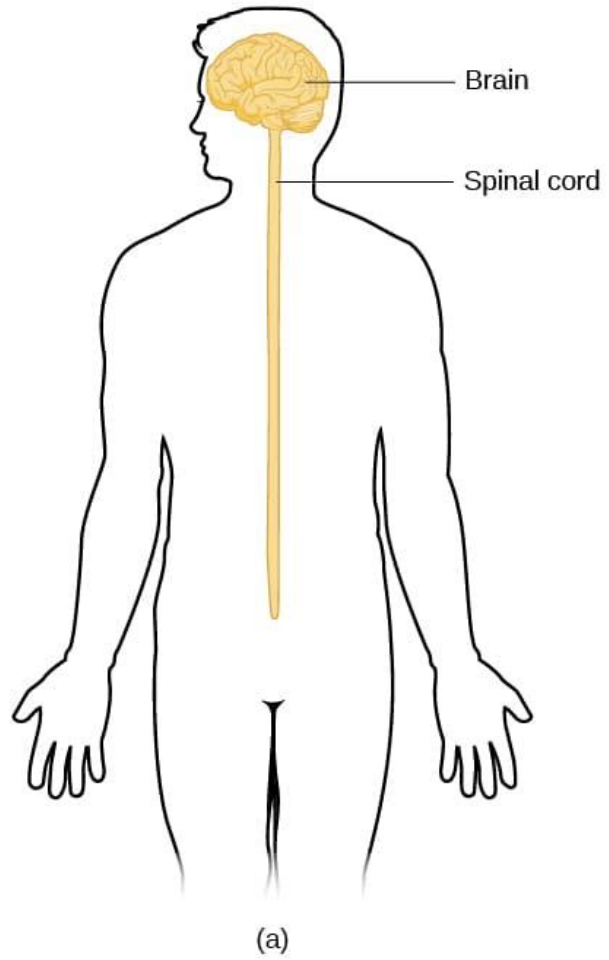




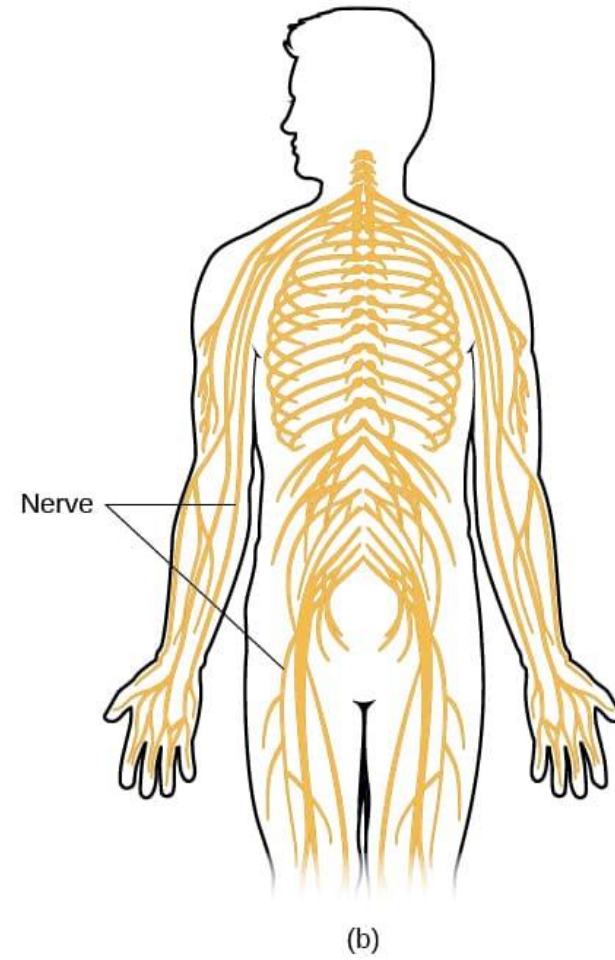


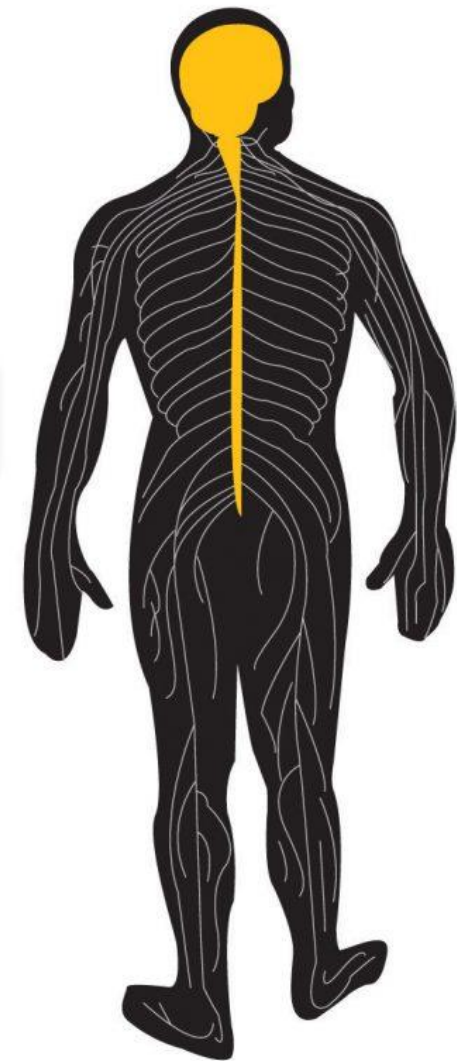
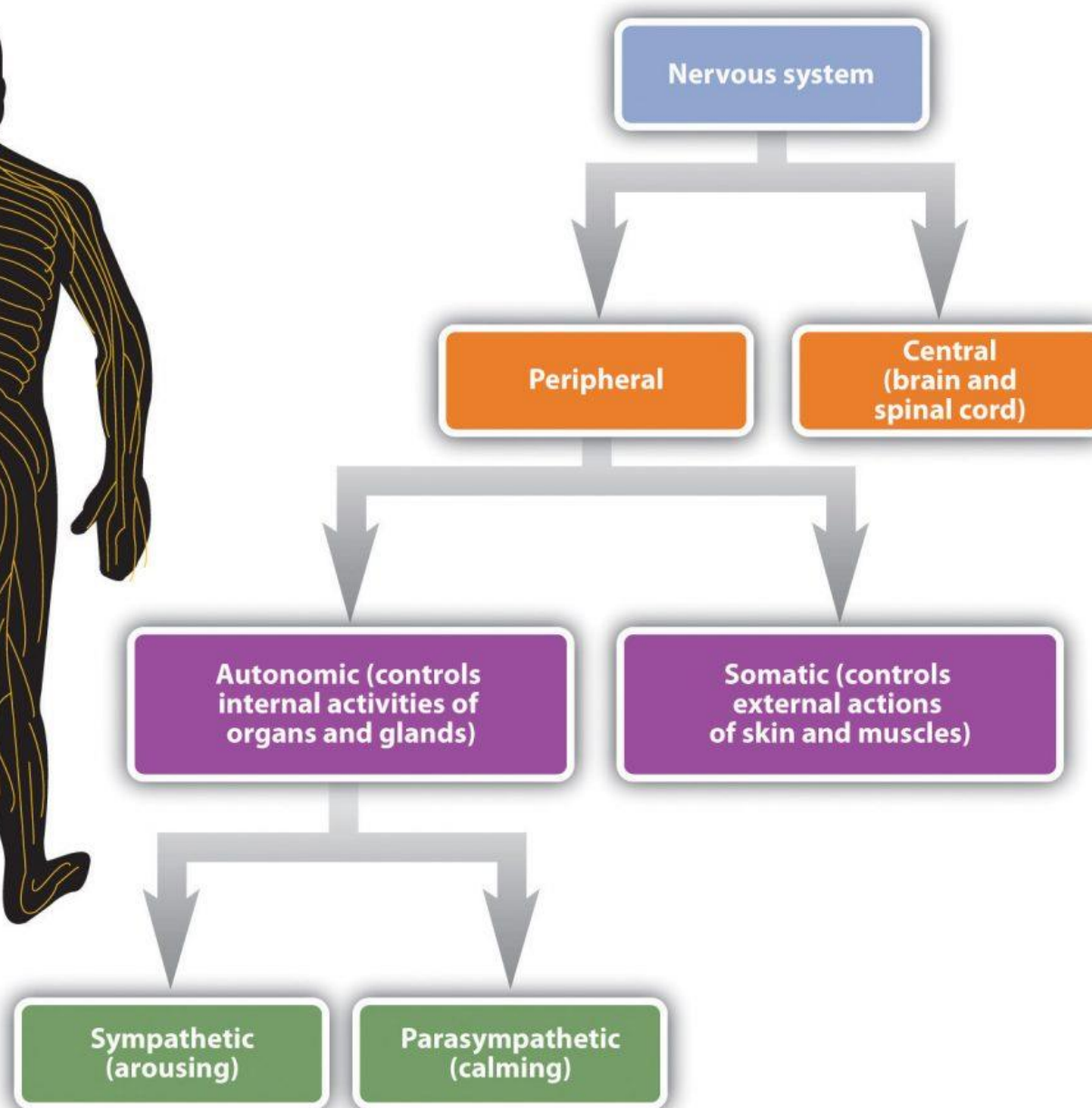


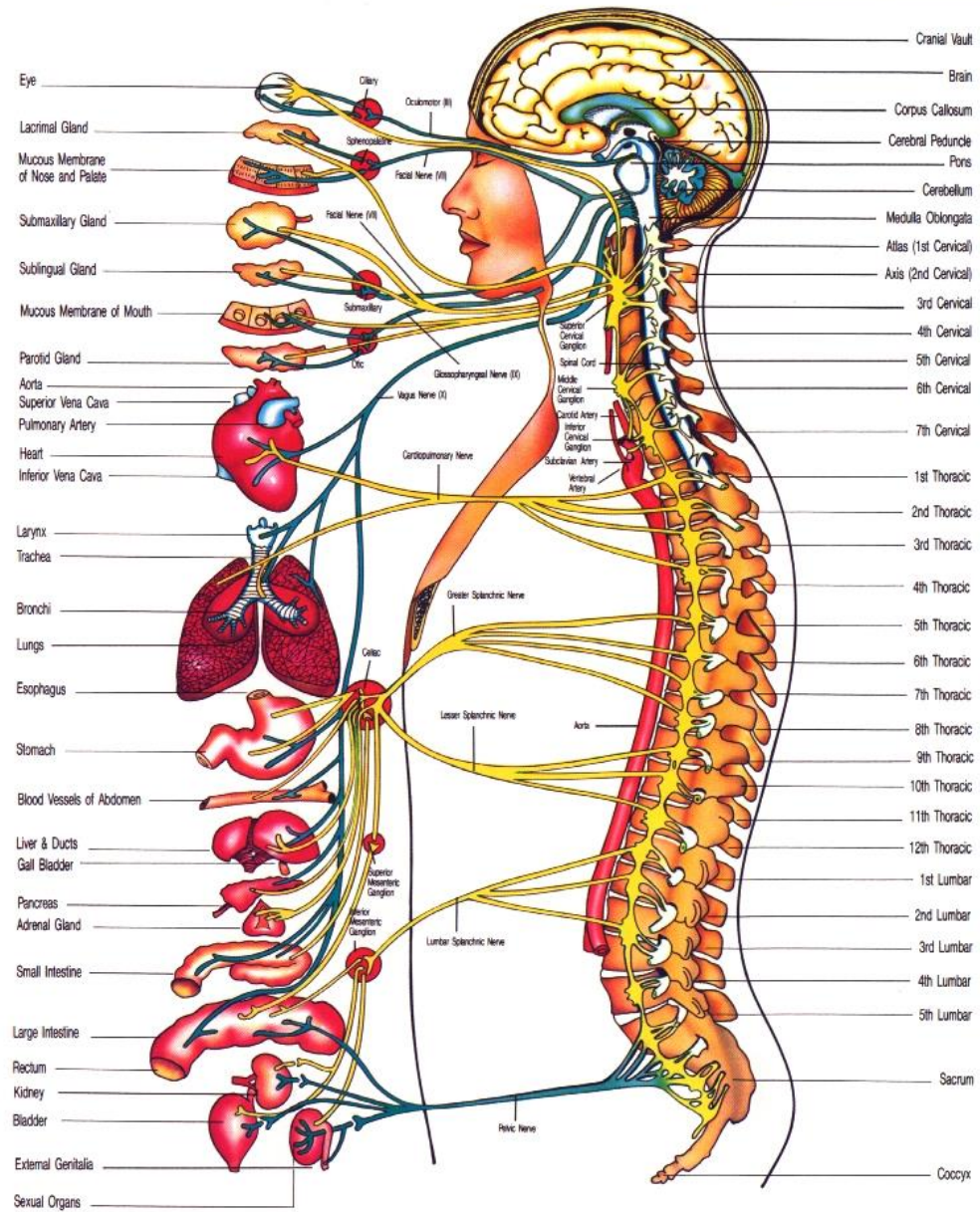
Central Nervous System



Peripheral Nervous System







## AUTONOMIC NERVOUS SYSTEM

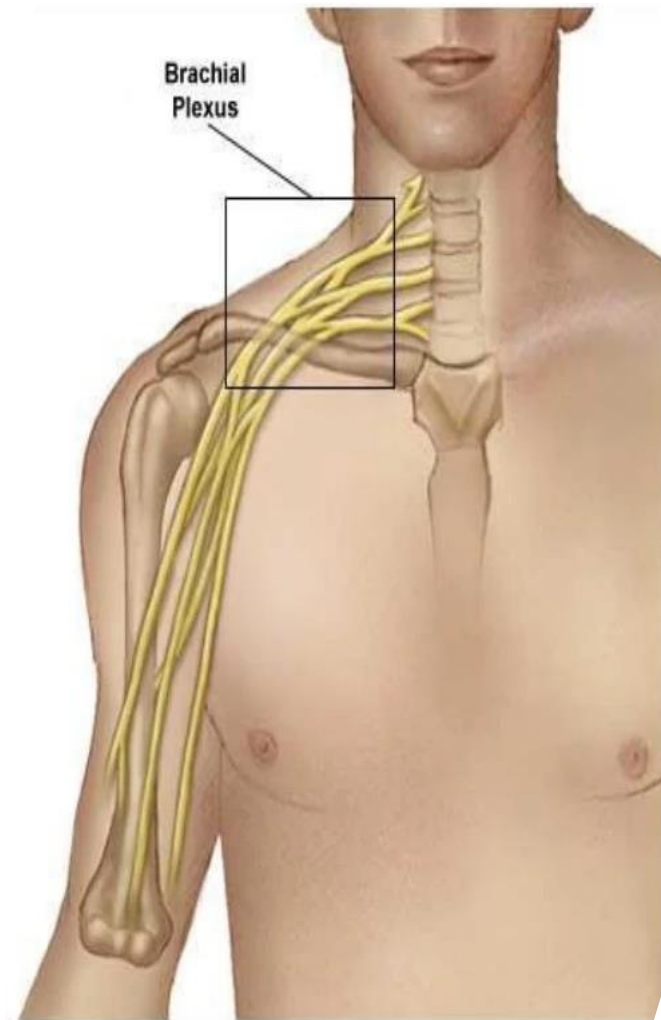
Sympathetic — Yellow Parasympathetic — Green

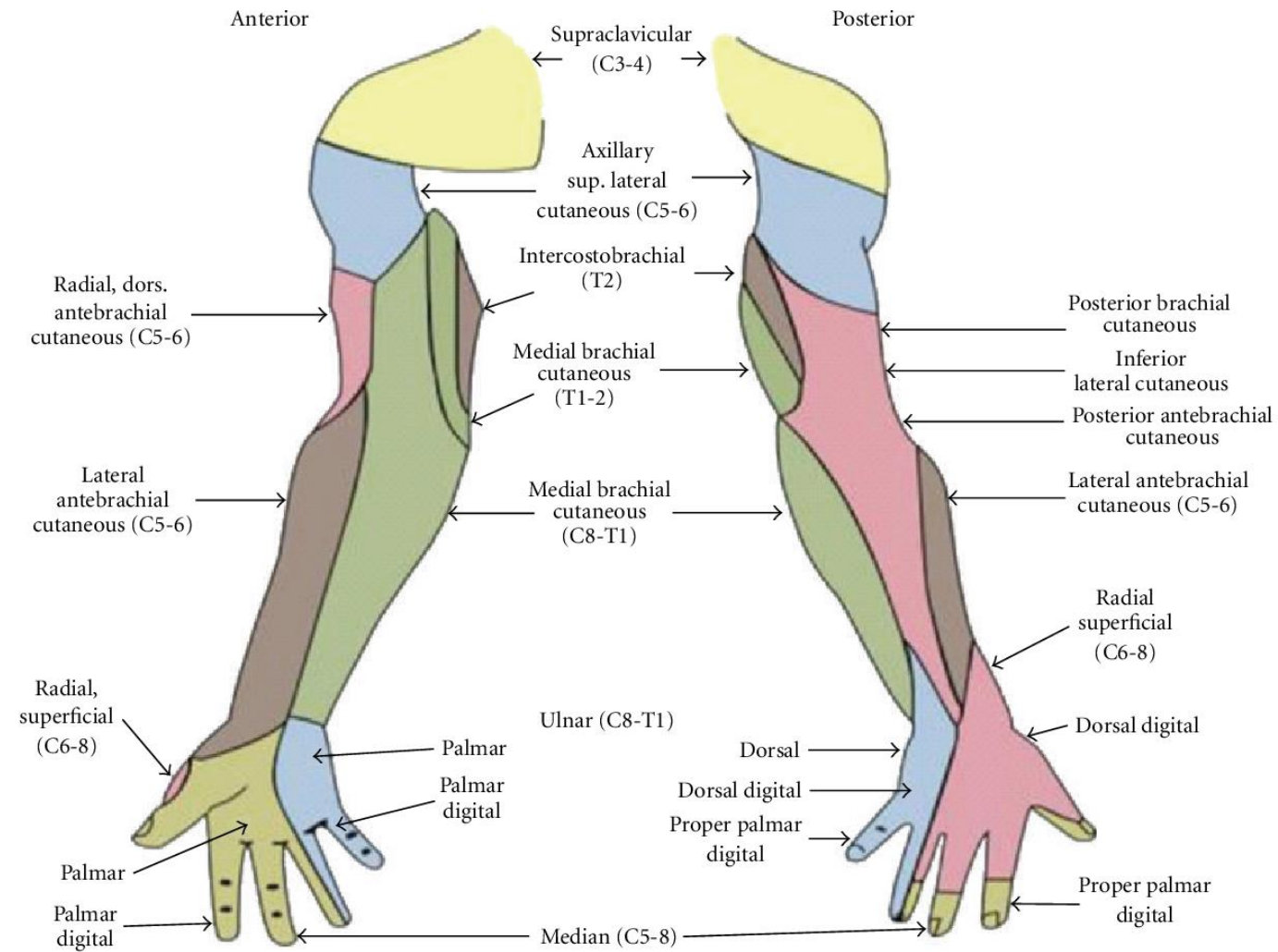


**MY MIND IS LIKE MY  
INTERNET BROWSER.**

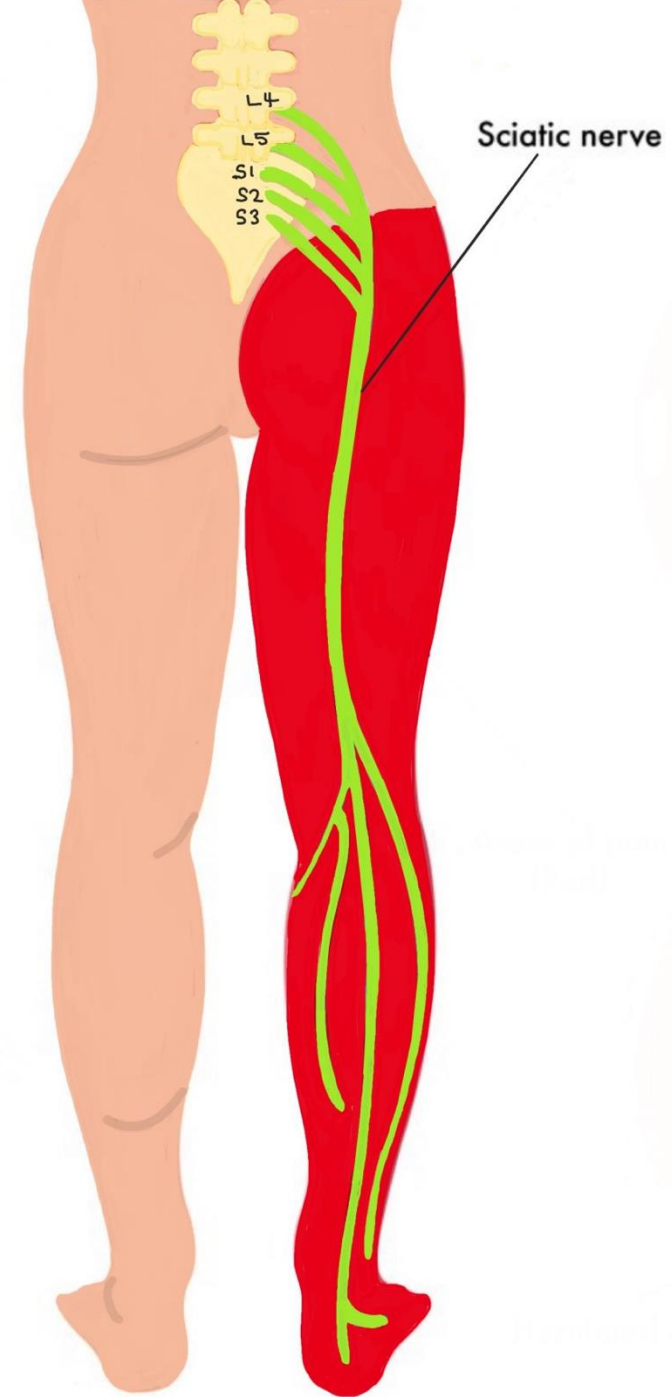
**I HAVE 19 TABS OPEN,  
3 ARE FROZEN,**

**AND I HAVE NO IDEA  
WHERE THE MUSIC IS  
COMING FROM**









## **TENDON**

Binds Muscle to Bone

Bone →



Skeletal  
Muscle

← Bone

## **LIGAMENT**

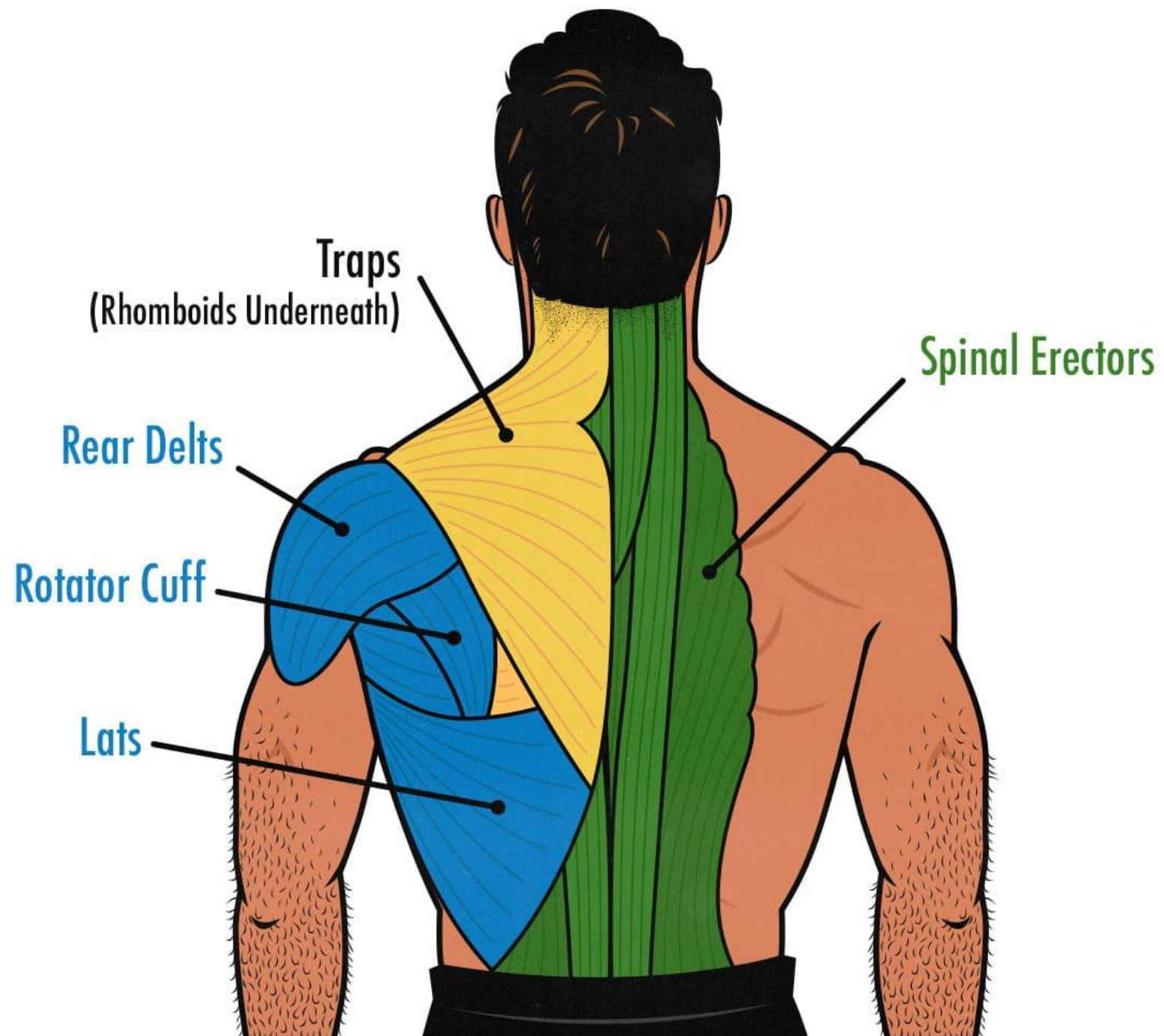
Binds Bone to Bone

## THE 3 MOVING PARTS OF **YOUR BACK & SPINE**

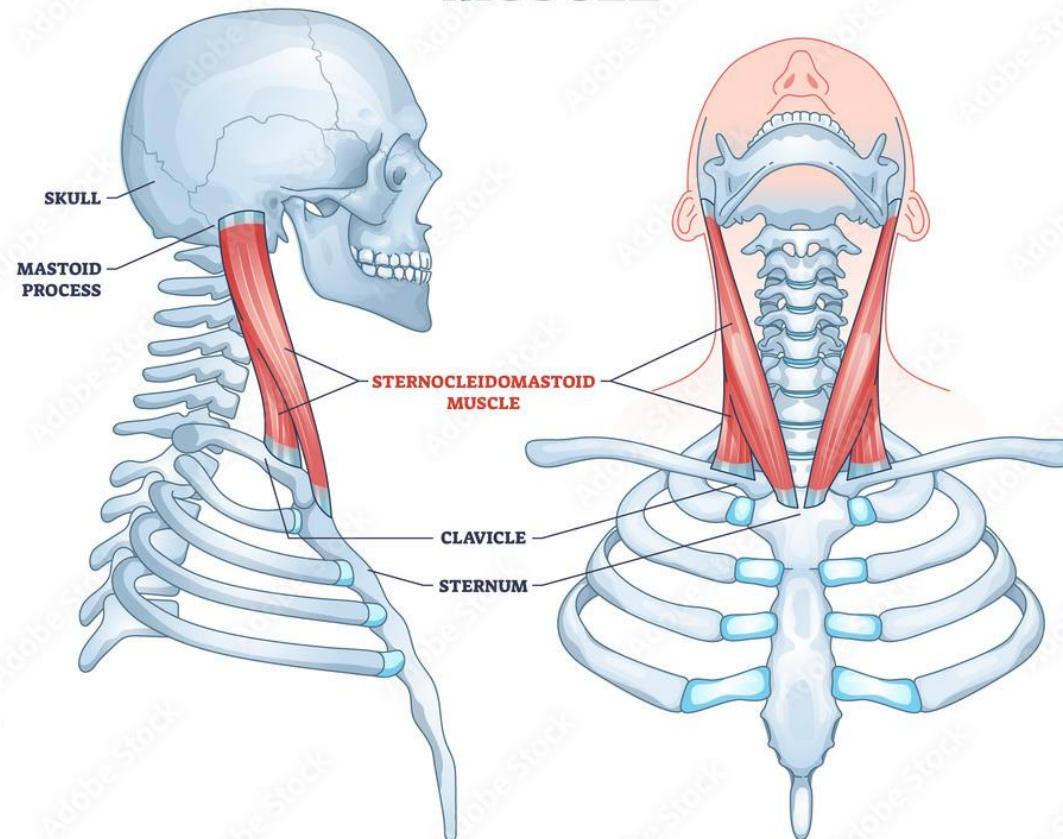
	MUSCLE	TENDON	LIGAMENT
<b>What</b>	Bundles of stretchy, fibrous connective tissue	Strong cords of fibrous connective tissue	Elastic strings of fibrous connective tissue
<b>Where</b>	Connected to your bones by tendons	Attaches your bones to your muscles	Attaches your bones to others bones
<b>Why</b>	The source of all movement in your body	Helps your muscles move your bones & joints	Holds your bones in place and stabilizes your joints
<b>Injury</b>	Strain	Inflammation	Sprain





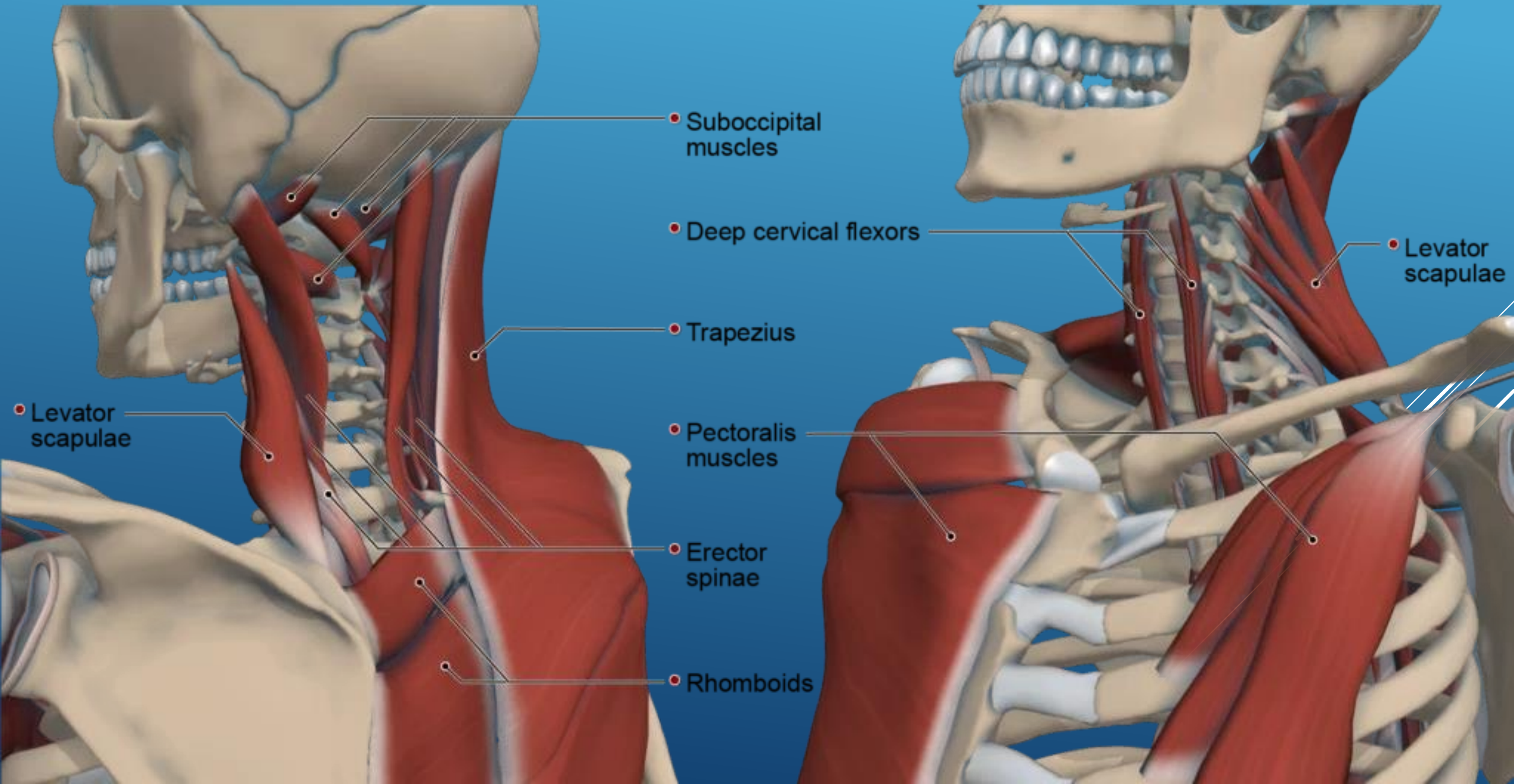


# STERNOCLEIDOMASTOID MUSCLE





## MUSCLES OF THE NECK & CHEST AFFECTED BY TEXT NECK



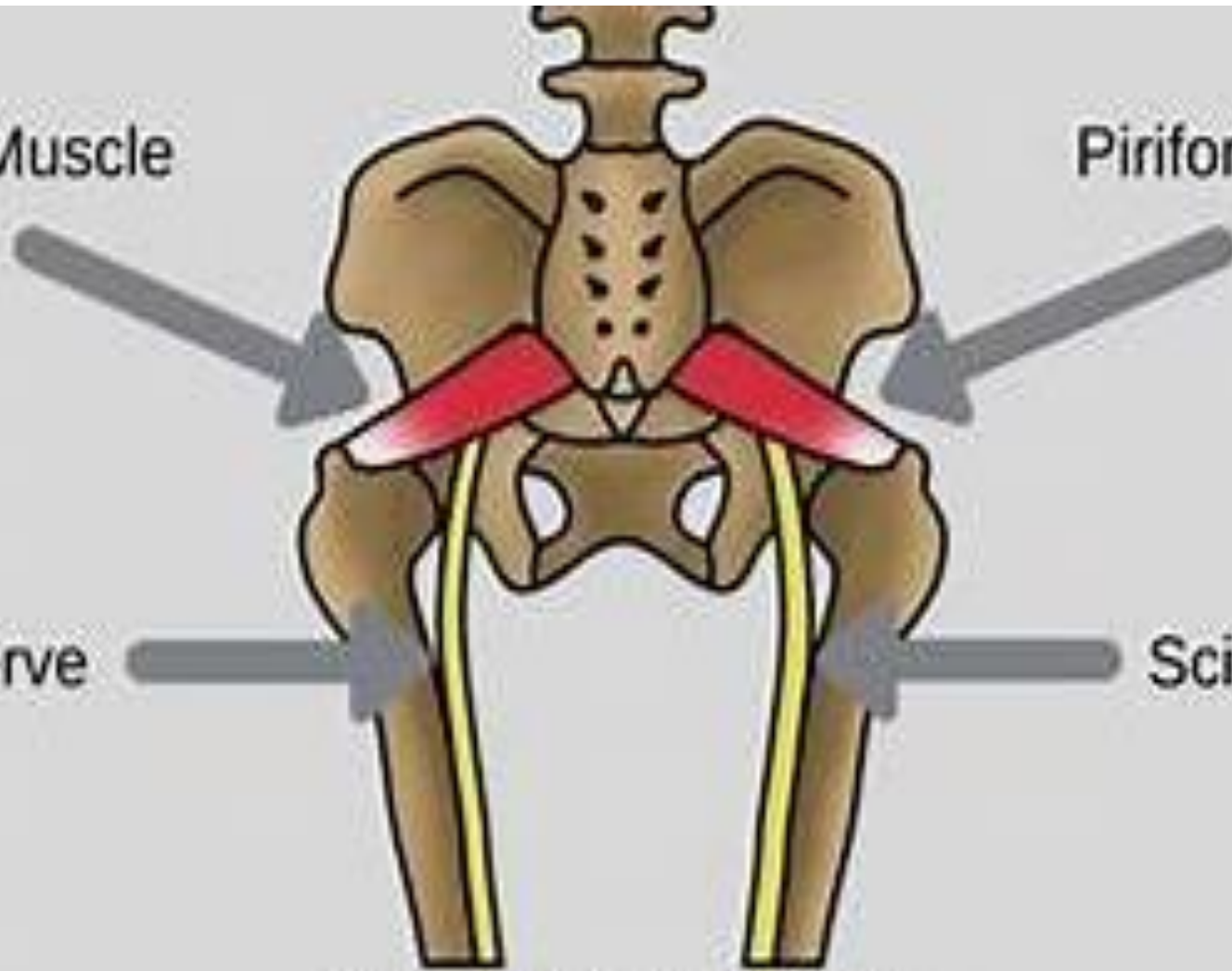


Piriformis Muscle

Piriformis Muscle

Sciatic Nerve

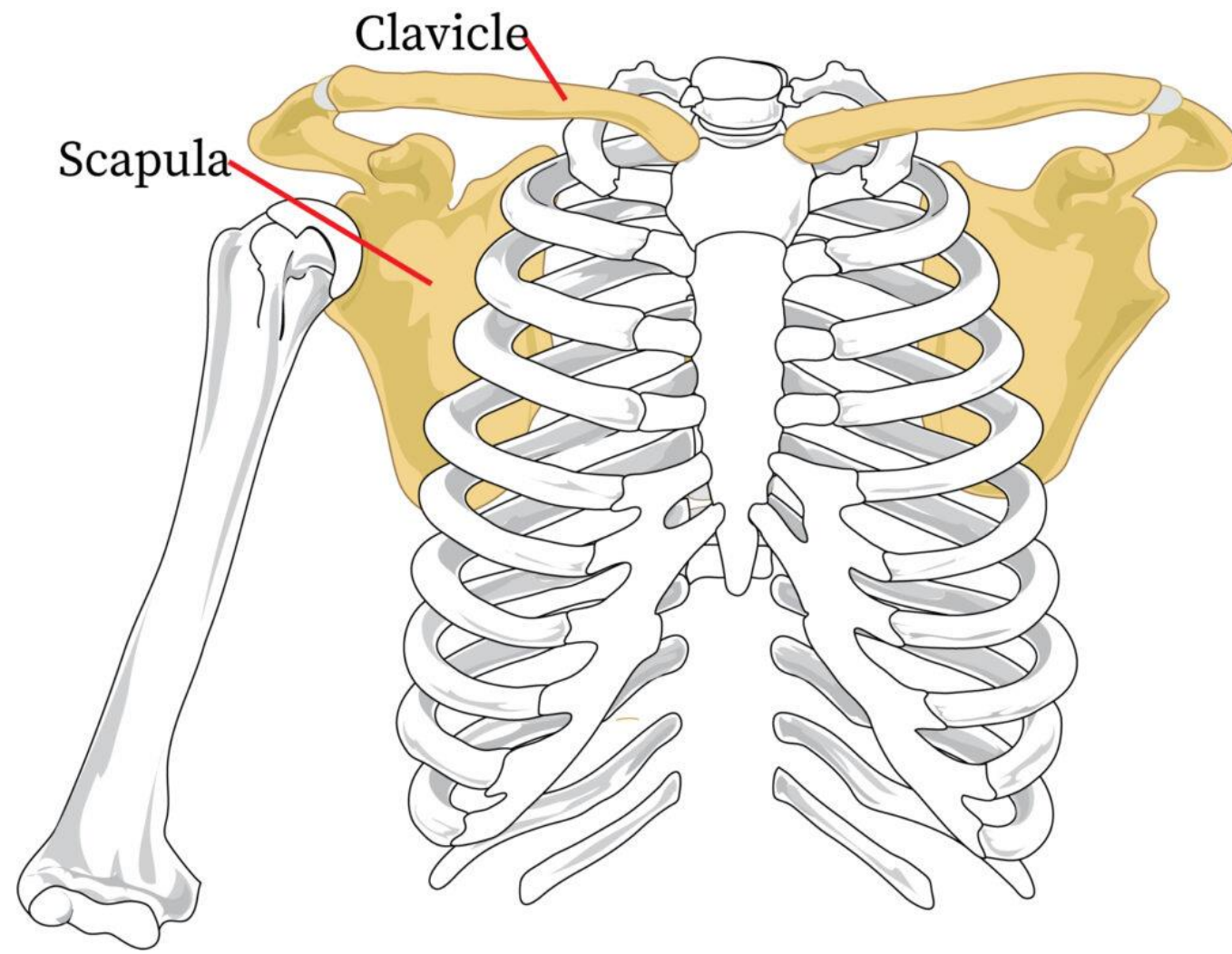
Sciatic Nerve





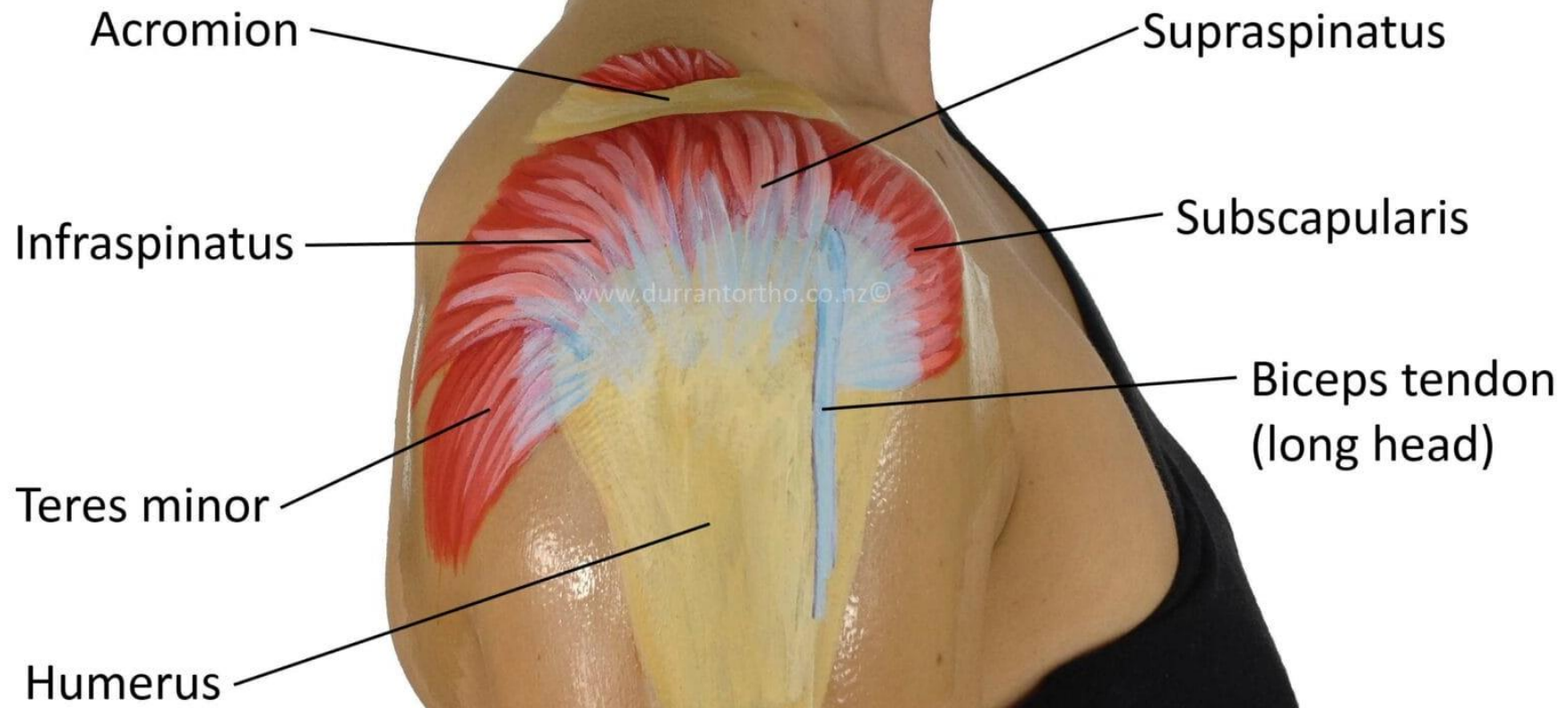
# WHO'S AWESOME?

You're awesome!

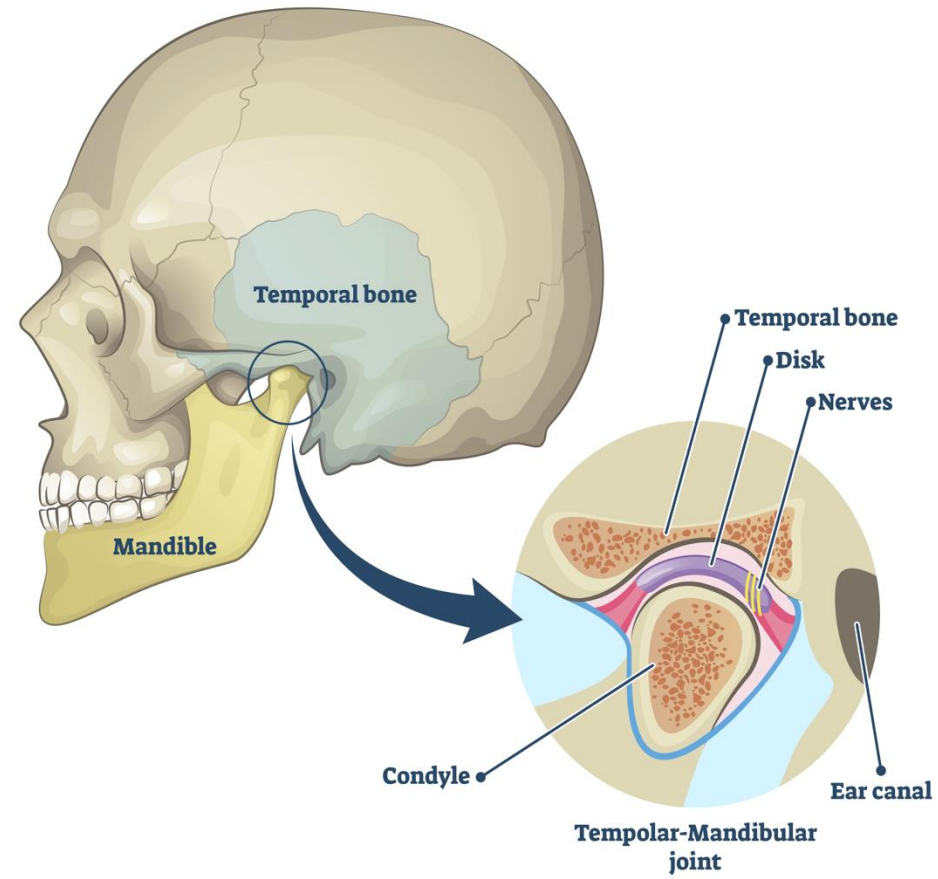








# TMJ DISORDER







### HEAD PAIN

Forehead  
Temples  
Tension type  
Migraine type  
Sinus type

### EYES

Pain behind eye,  
above eye, below eye  
Sensitive to light

### EAR

Ear pain  
Ringing in ears  
Dizziness  
Vertigo  
Fullness

### TEETH

Clenching or  
grinding at night  
Looseness and  
soreness of  
back teeth  
Unexplained  
tooth pain

### SHOULDERS BACK & NECK

Lack of mobility  
Stiffness  
Tired or sore  
muscles  
Arm or finger  
numbness

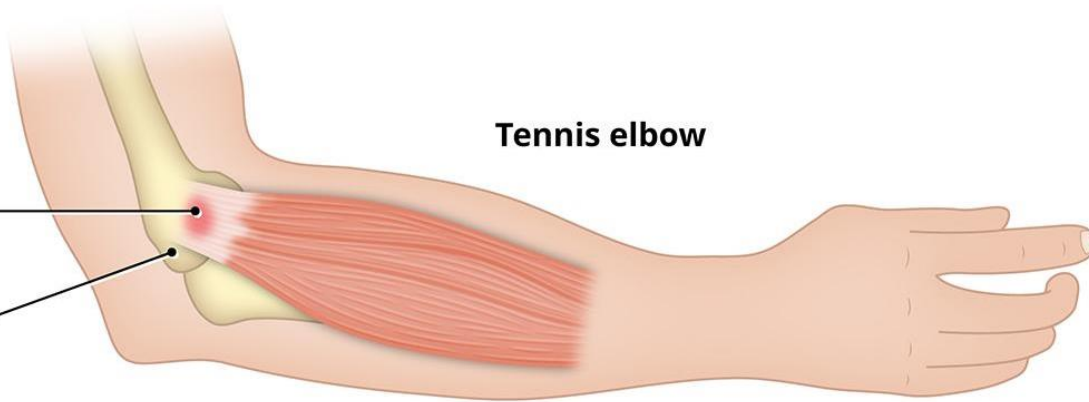
### JAW

Clicking or  
popping  
jaw joints  
Pain in cheek  
Limited  
opening  
Face pain  
Muscle  
stiffness

**Tennis elbow**

Inflamed or injured tendon  
(pain on **outside** of elbow)

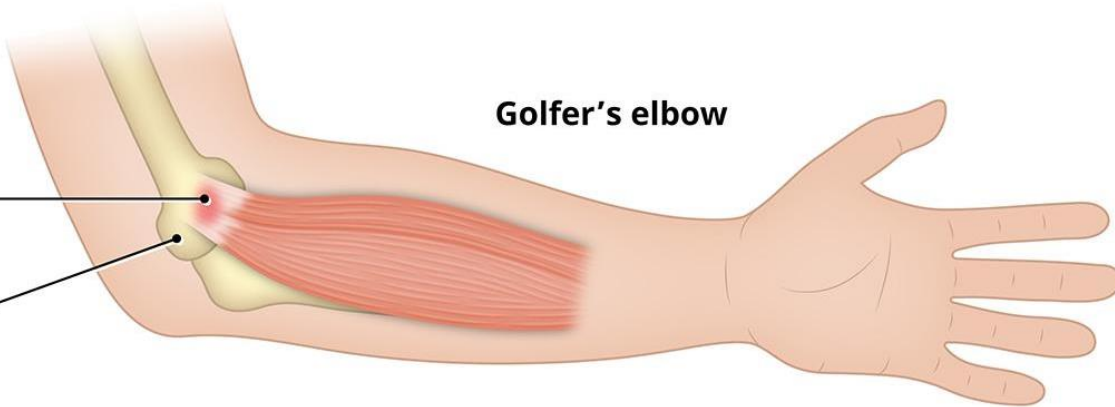
Lateral epicondyle



**Golfer's elbow**

Inflamed or injured tendon  
(pain on **inside** of elbow)

Medial epicondyle



“Whatever you do,  
always give 100%.  
Unless you're  
donating blood.”

---

BILL MURRAY