

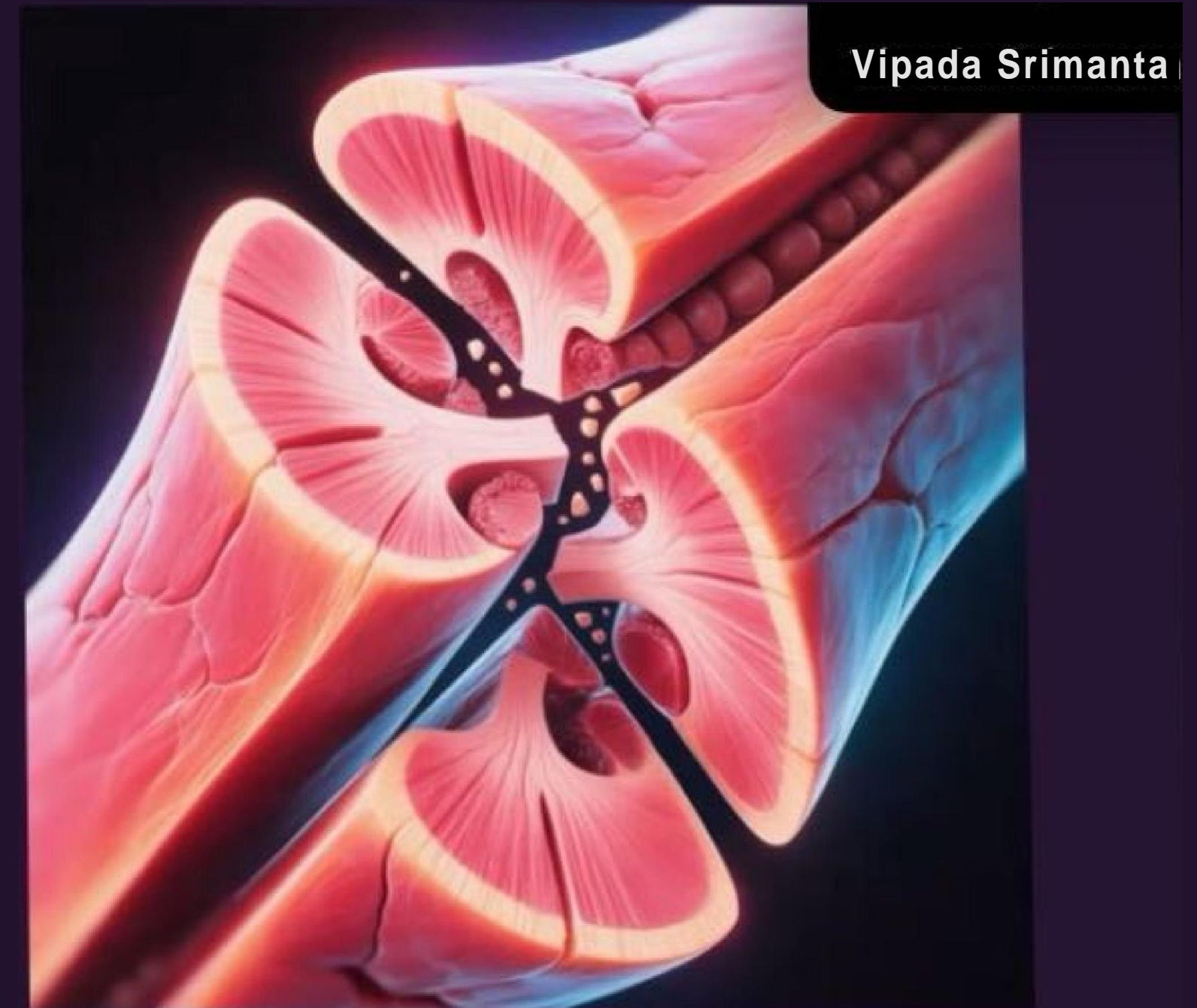
What is a Fracture?

Definition

A fracture is a break or discontinuity in bone tissue caused by external force exceeding the bone's strength, or from pathological conditions that weaken the bone. Fractures may affect surrounding tissues including muscles, blood vessels, nerves, and skin.

Common Causes

- Traumatic injuries from falls, collisions, or sports activities
- Repetitive stress leading to stress fractures
- Osteoporosis making bones fragile and prone to breaking
- Nutritional deficiencies, especially calcium and vitamin D
- Advanced age and muscle deterioration



Classification of Fractures

Closed vs. Open Fractures

Closed (Simple): Skin remains intact; no external wound. Lower infection risk.

Open (Compound): Bone fragments penetrate the skin; high infection risk requiring immediate intervention. **Complete vs. Incomplete**

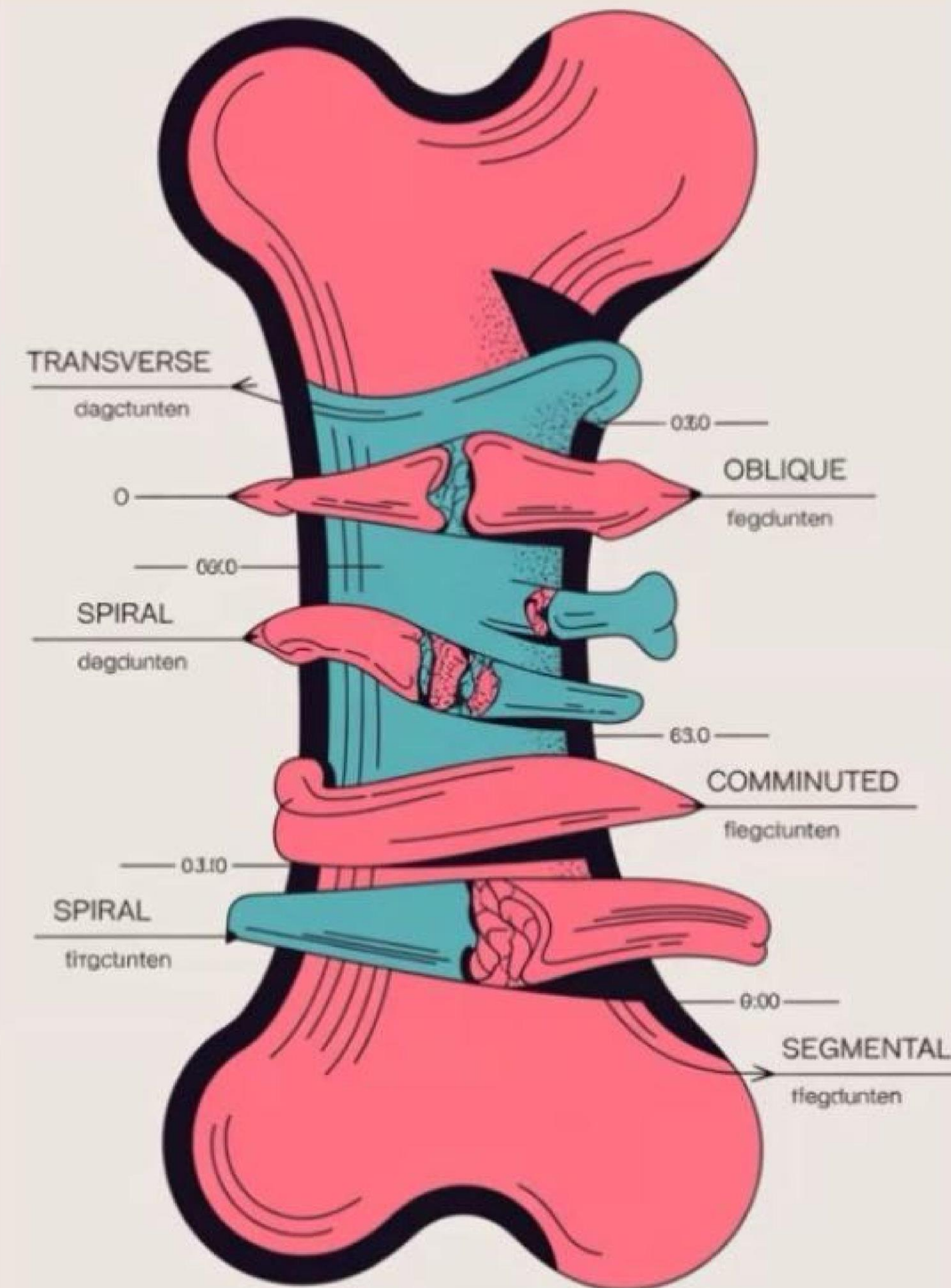
Complete: Bone is broken into two or more separate pieces.

incomplete: Partial break; bone remains partially intact (e.g., greenstick fractures in children).

Displacement

Displaced: Bone fragments are misaligned and separated.

Non-displaced: Bone fragments maintain anatomical alignment.



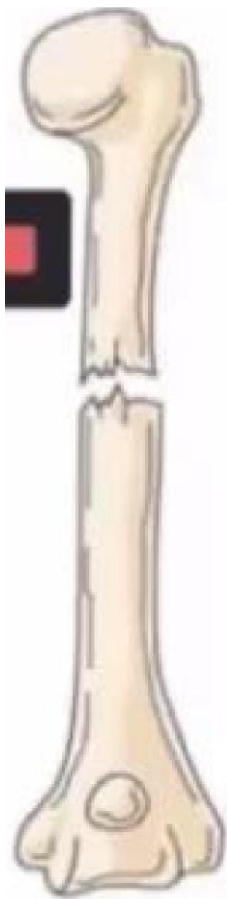
Fractures bone

Musculoskeletal

peccat9
type of fracture



Toe of Fractures bone



Comminuted fracture



Spiral fracture

compound fracture

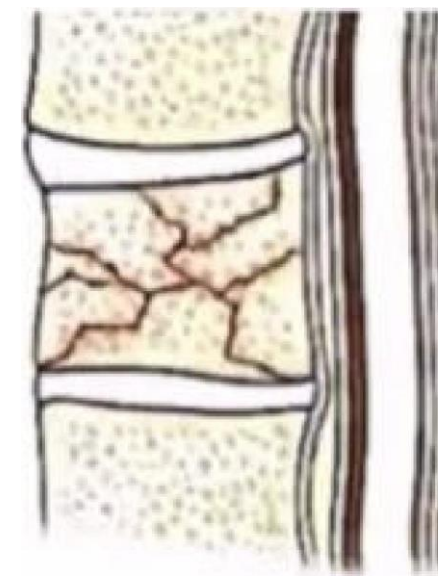
simple fracture.



A fracture that occurs through an area of diseased bone (e.g., osteoporosis, bone metastasis, Paget's disease, bony metastasis + tumor) occurs without trauma or WI



A fracture that results from lowered loading of bone and muscle



Compression
A fracture in which bone has been compressed (seen in vertebral fractures)

Specific Fracture Types



Comminuted

Bone is splintered or crushed into three or more fragments. Common in high-impact trauma; requires complex management.



Impacted

One bone fragment is driven into another causing compression. Often seen in vertebral fractures or hip fractures in elderly patients.



Spiral

Results from twisting force; fracture line spirals around the bone shaft. Common in sports injuries and abuse cases.



Pathological

Occurs through diseased or weakened bone (osteoporosis, cancer, infection) with minimal trauma.



Stress Fracture

Hairline crack from repeated stress or overuse. Common in athletes and military recruits; diagnosed via MRI or bone scan.



Transverse



Stress



**Oblique.
Displaced**



Greenstick



Comminuted