

The Skeletal and Muscular Systems

So why do we have a skeleton?



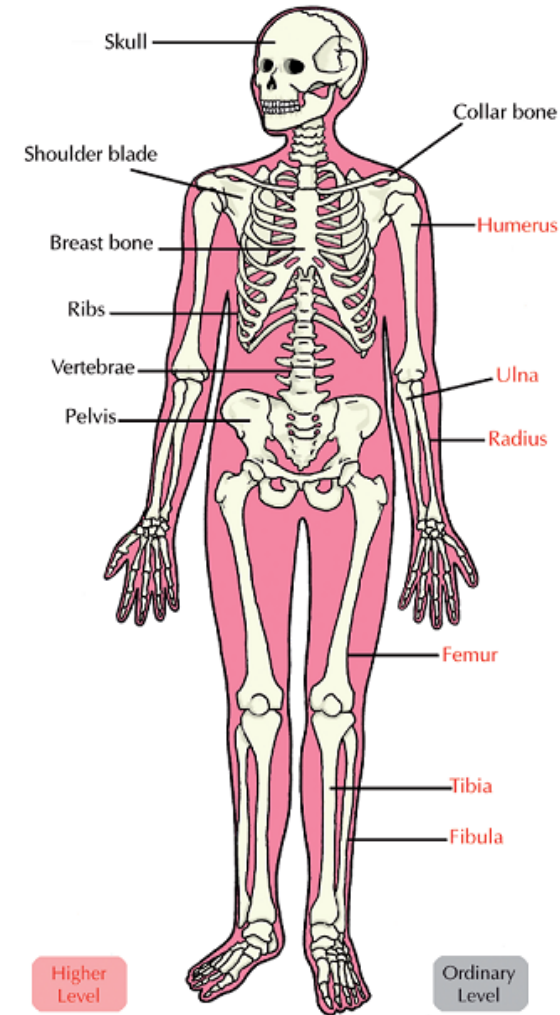
Functions of the Skeleton,

1. **Support** - we can stand and support ourselves
2. **Movement** - we can move with the help of muscles
3. **Protection** - protects organs, e.g. brain, heart

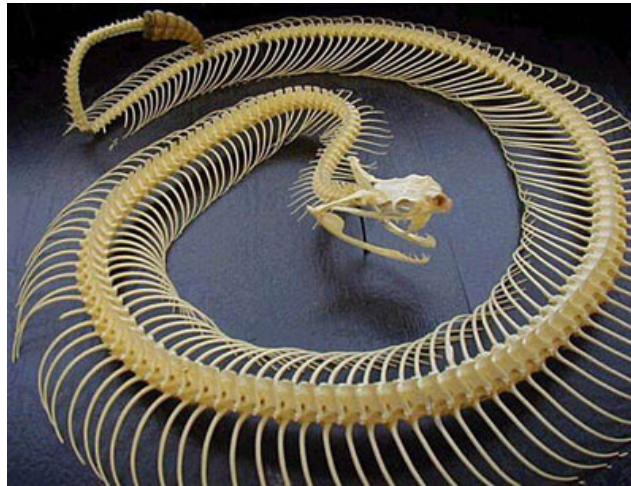
Bones

Dem bones dem bones.....need **Calcium!**

Calcium is a hard mineral element that **strengthens** our bones.



What Animals?

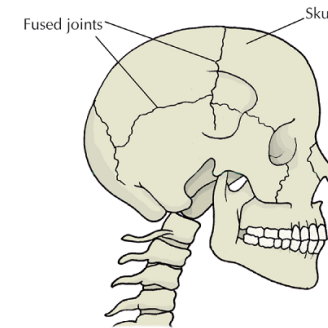


Teeth



Joints and Movement

Fused joints - in your head.
The plates grow into each other.



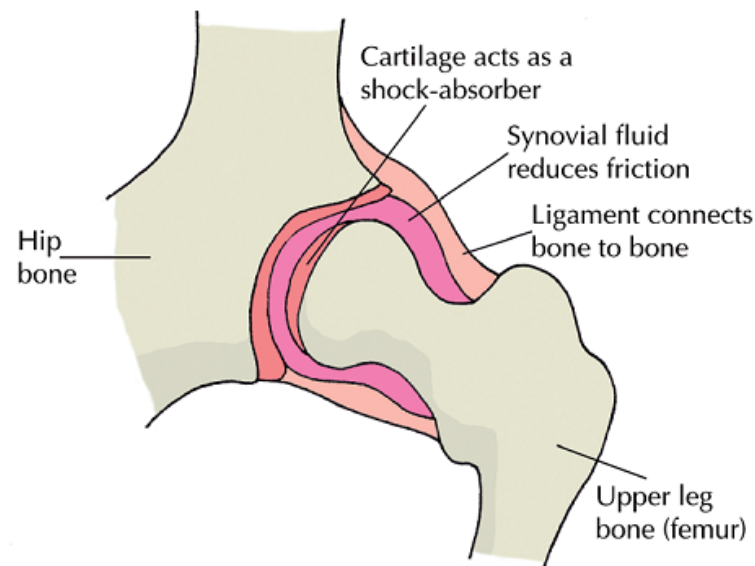
Synovial Joints

These joints can move and have synovial fluid to keep them moving smoothly.

1. **Ball and Socket Joint**- they can swivel in many directions.
e.g. in your hip and shoulder.
2. **Hinged Joint**- can move in one direction only.

Structure of a Moveable Joint

A pad of **Cartilage** acts as a shock absorber between bones.
A lubricating fluid called **synovial fluid** helps keep the joint moving.



Ligaments - join bone to bone and hold the joint together.

Muscles and Movement

Tendons connect muscles to bone.
The **Achilles** tendon is shown here.
Often it can snap and has to be sown back onto the bone.

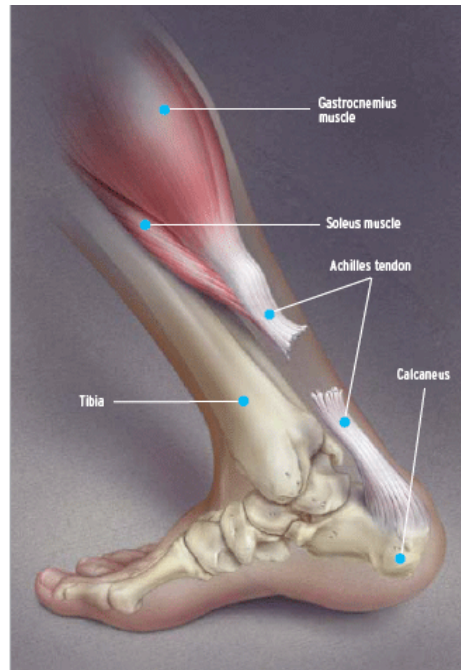
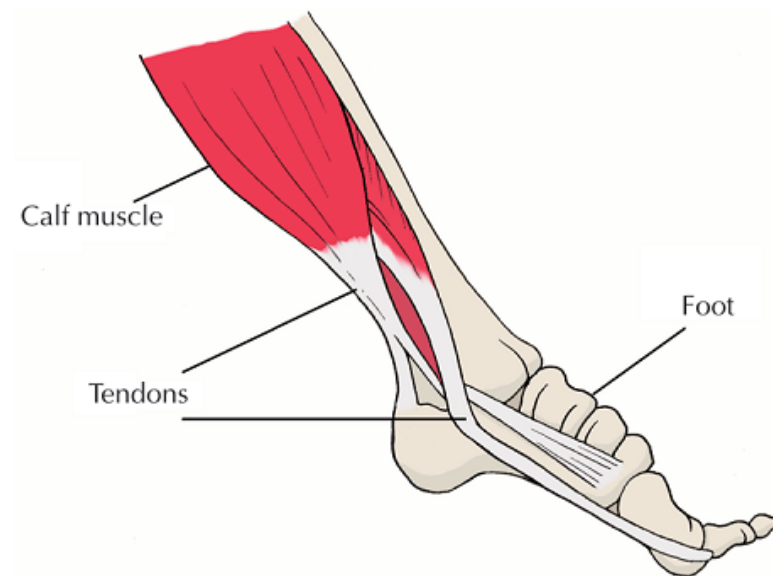


FIGURE 1. Anatomy of the tendocalcaneal joint with a ruptured Achilles tendon



Antagonistic Muscles

These are muscles that pull against each other.

They work together to move bones.

An example is biceps and triceps in your arm.

When you contract your **bicep** the arm moves up.

When you contract your **tricep**, the arm moves down.

