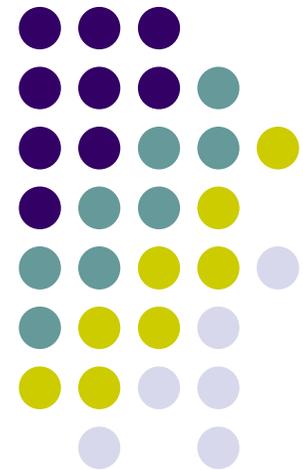


Osteología General

Dra. Karina Flores
Equipo Docente Anatomía
Universidad de Chile





Osteología:

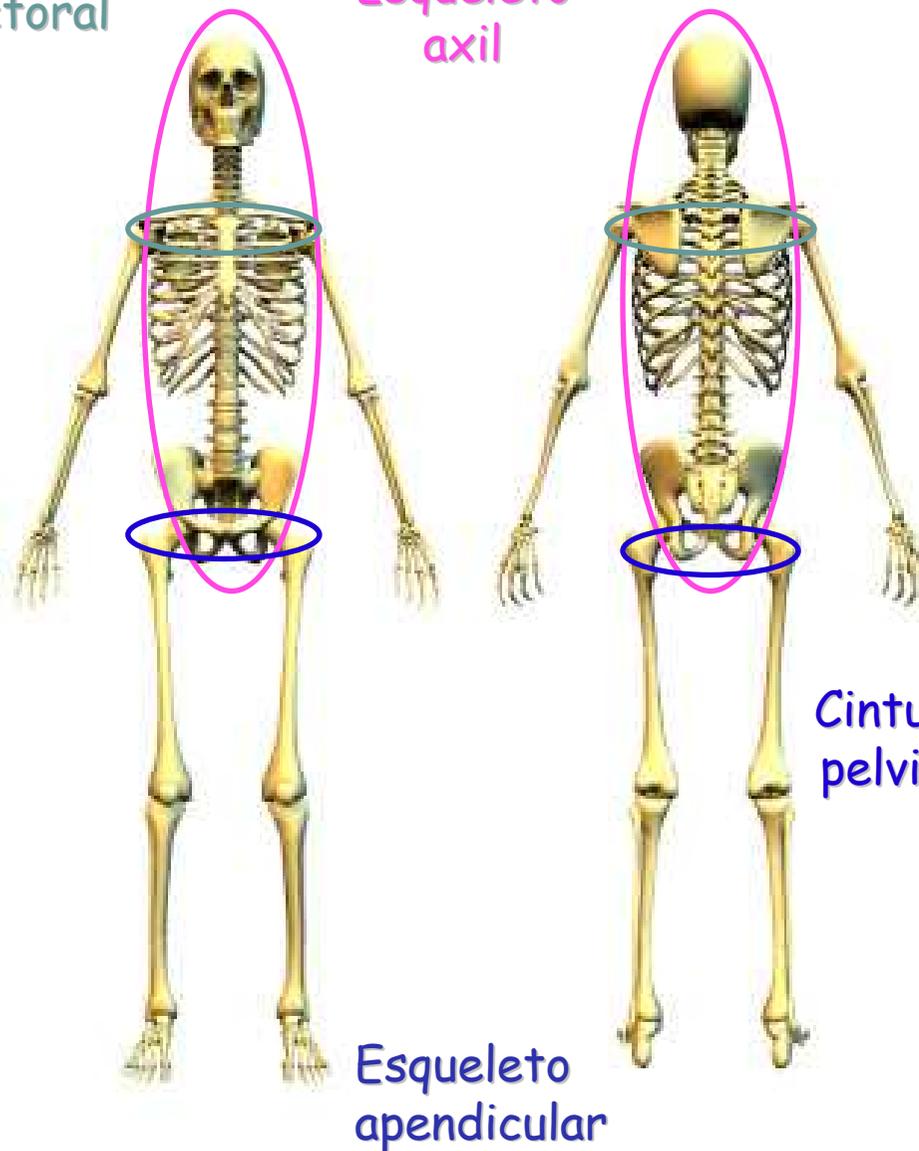
Estudio científico de los huesos.

Esqueleto:

Conjunto de huesos unidos por articulaciones.

Cinturón pectoral

Esqueleto axial



Cinturón pelviano

Esqueleto apendicular

Funciones

- Sostén muscular.
- Protección de órganos y partes blandas.
- Permiten movimiento.
- Hematopoyesis.

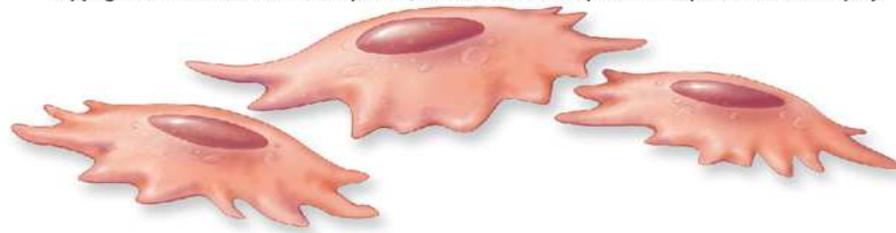
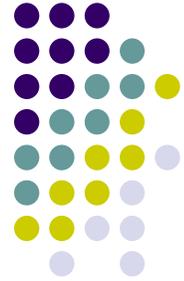


Tejido óseo



- Variedad de tejido conectivo que da protección y soporte mecánico a las partes blandas del organismo.
- Constituido por **células** y **matriz extracelular**.

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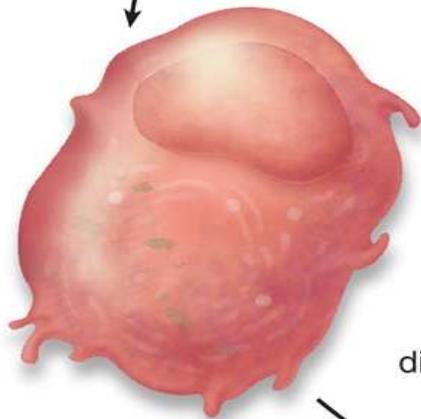


Osteoprogenitor cells develop into osteoblasts.

Osteocito

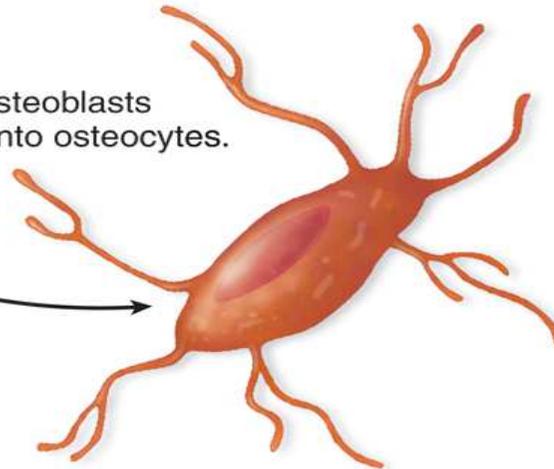
Osteoblasto

Osteoclasto



Osteoblast
(forms matrix of bone tissue)

Some osteoblasts differentiate into osteocytes.

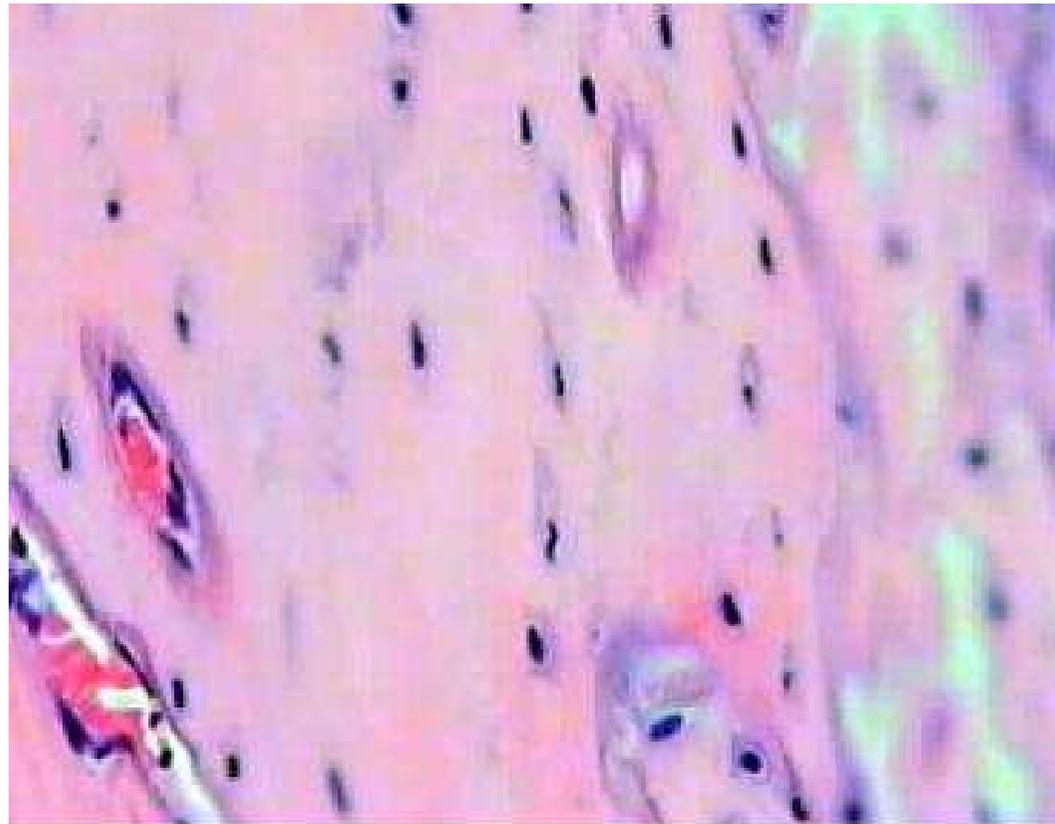


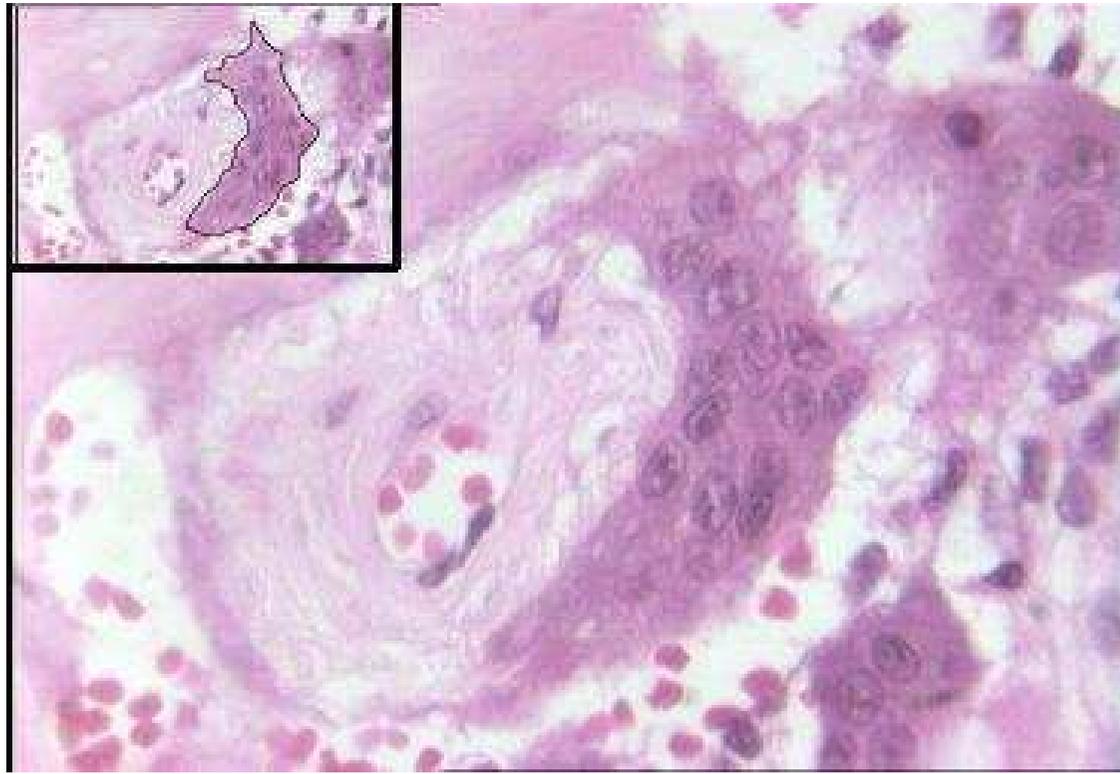
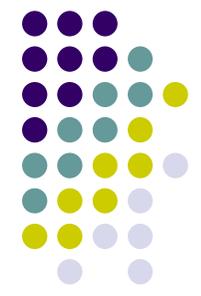
Osteocyte
(maintains matrix of bone tissue)



Matriz extracelular:

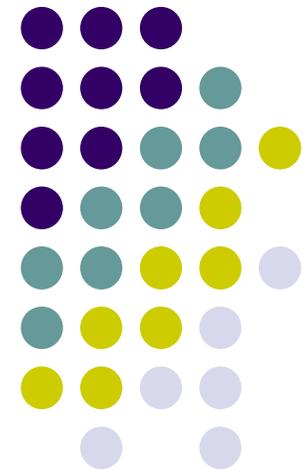
- **Matriz fibrilar:** fibras colágenas. 90%.
- **Matriz no fibrilar:** proteínas, enzimas y sales minerales. 10%.





Clasificación

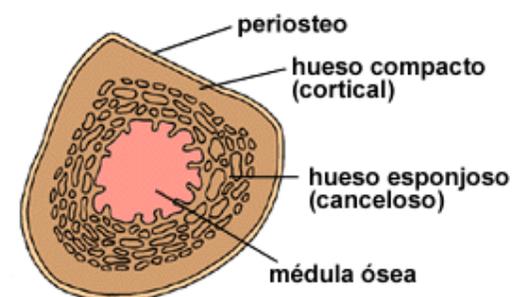
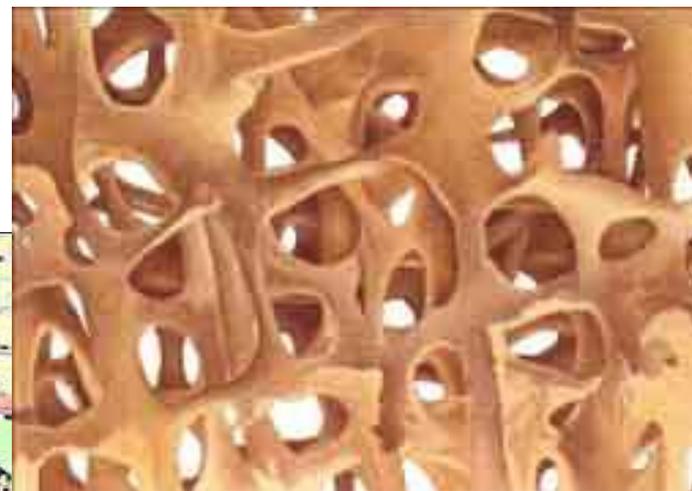
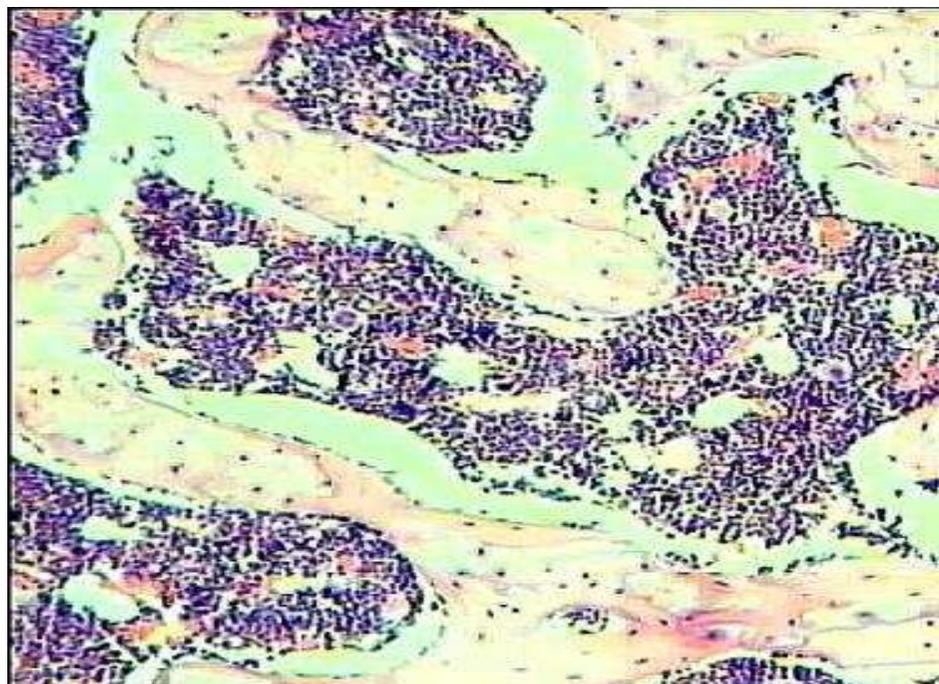
Tejido Oseo





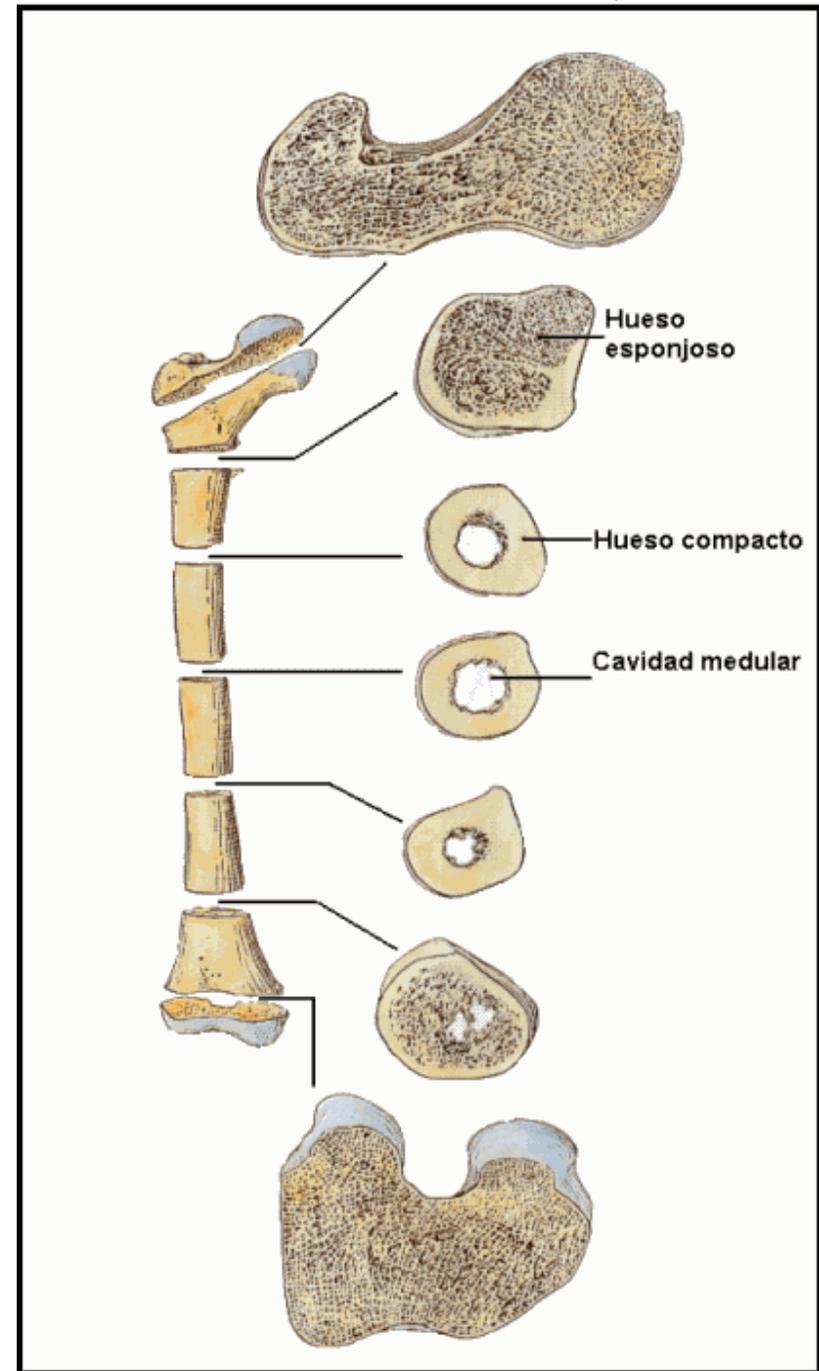
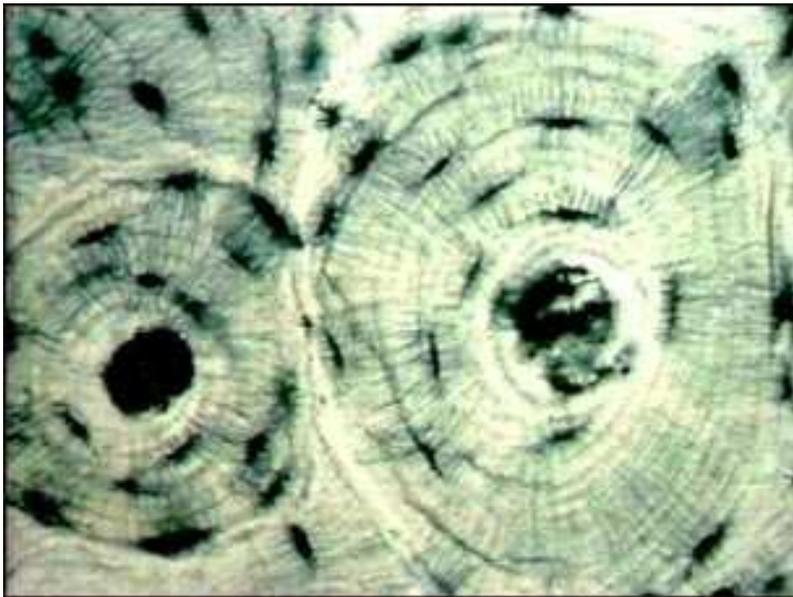
Esponjoso o trabecular:

- Múltiples espacios medulares entre las trabéculas óseas.

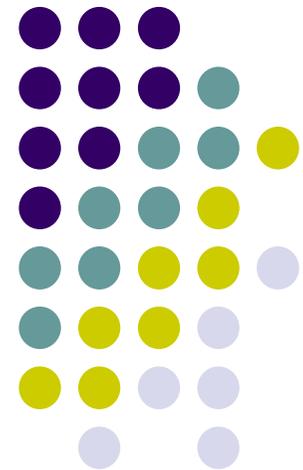


Compacto:

- Organización en sistemas laminillares.



Envolturas del Hueso

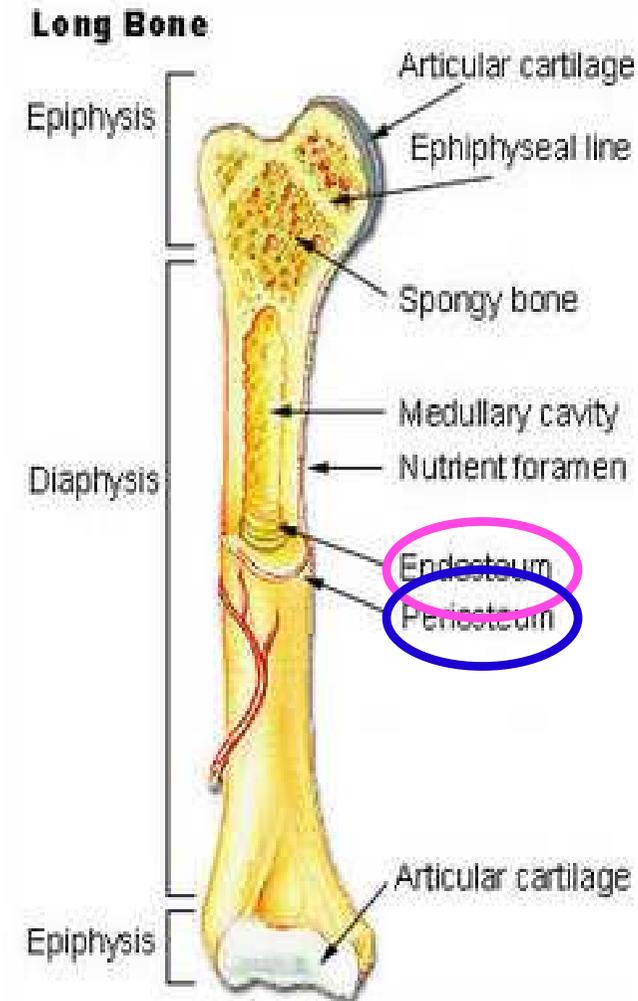


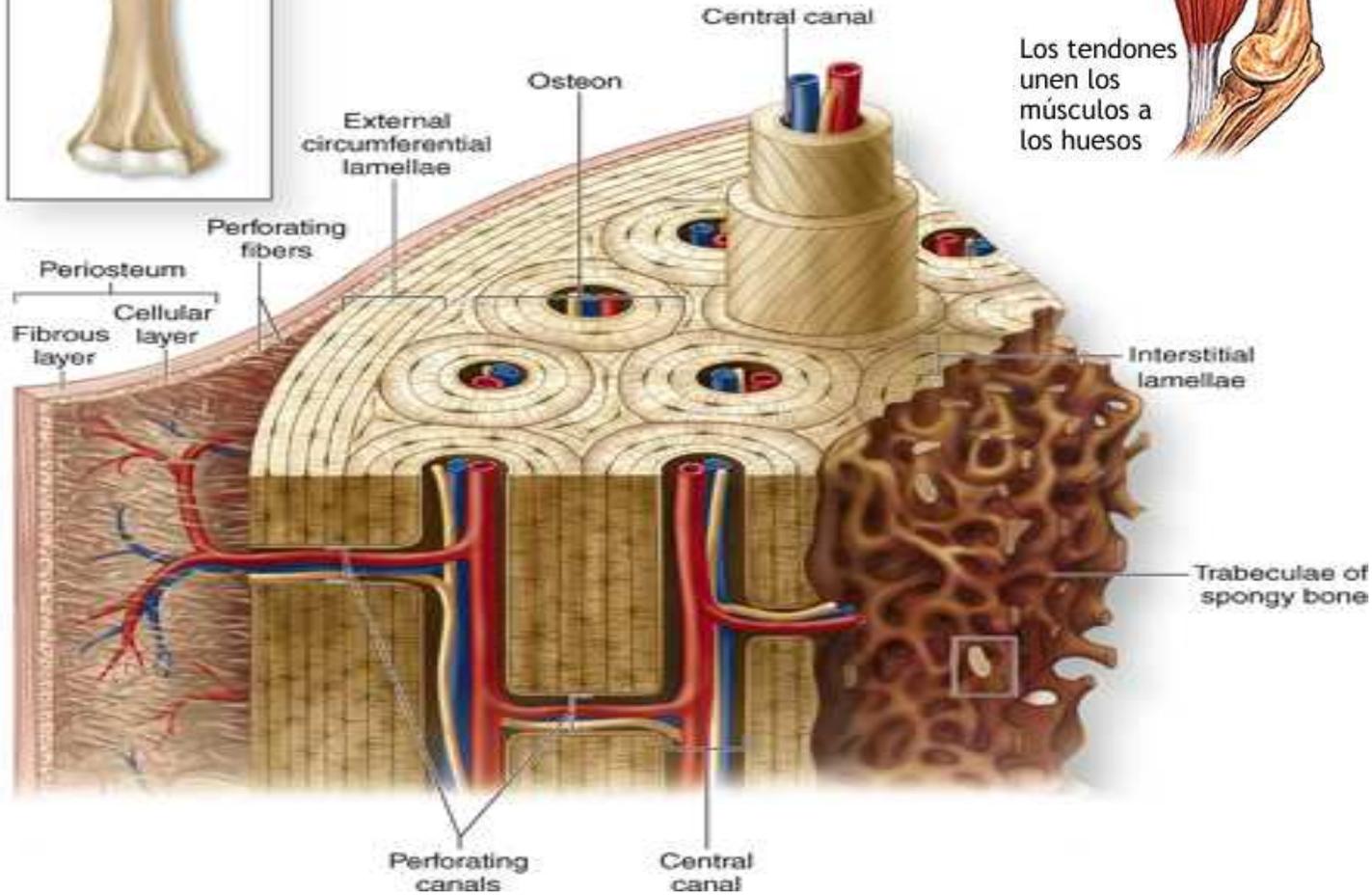
Periostio:

- Vaina de tejido conectivo que envuelve al hueso.
- Capa interna: muy vascularizada. Reparación de fracturas.
- Capa externa o fibrosa: permite inserción de músculos, tendones y ligamentos.

Endostio:

- Reviste las cavidades internas del hueso.
- Osteoblastos, osteoclastos sobre matriz ósea.

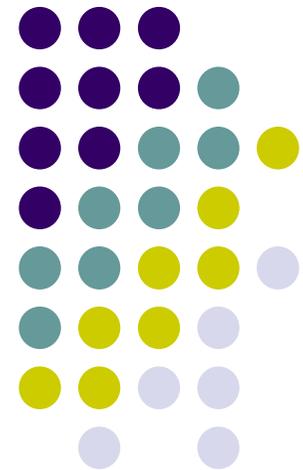




Los ligamentos unen a los huesos entre sí



Osificación





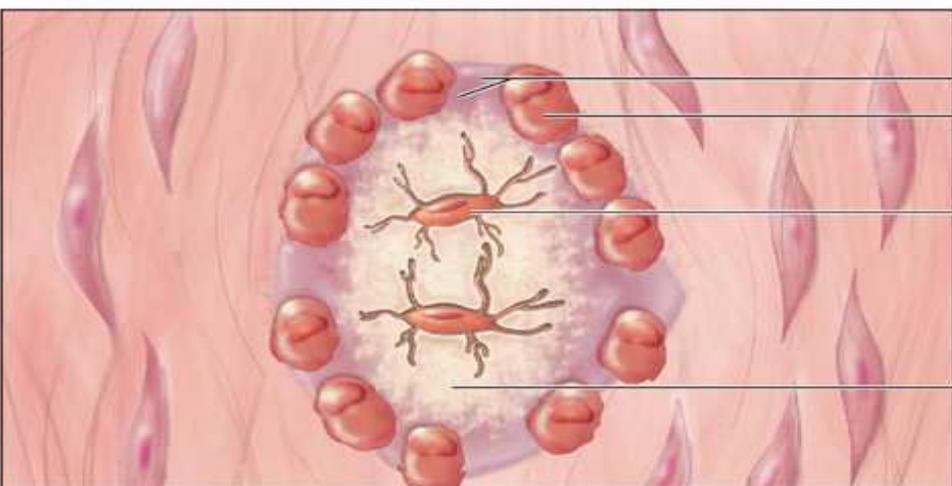
Intramembranous Ossification

① Ossification centers form within thickened regions of mesenchyme



- Collagen fiber
- Mesenchymal cell
- Ossification center
- Osteoid
- Osteoblast

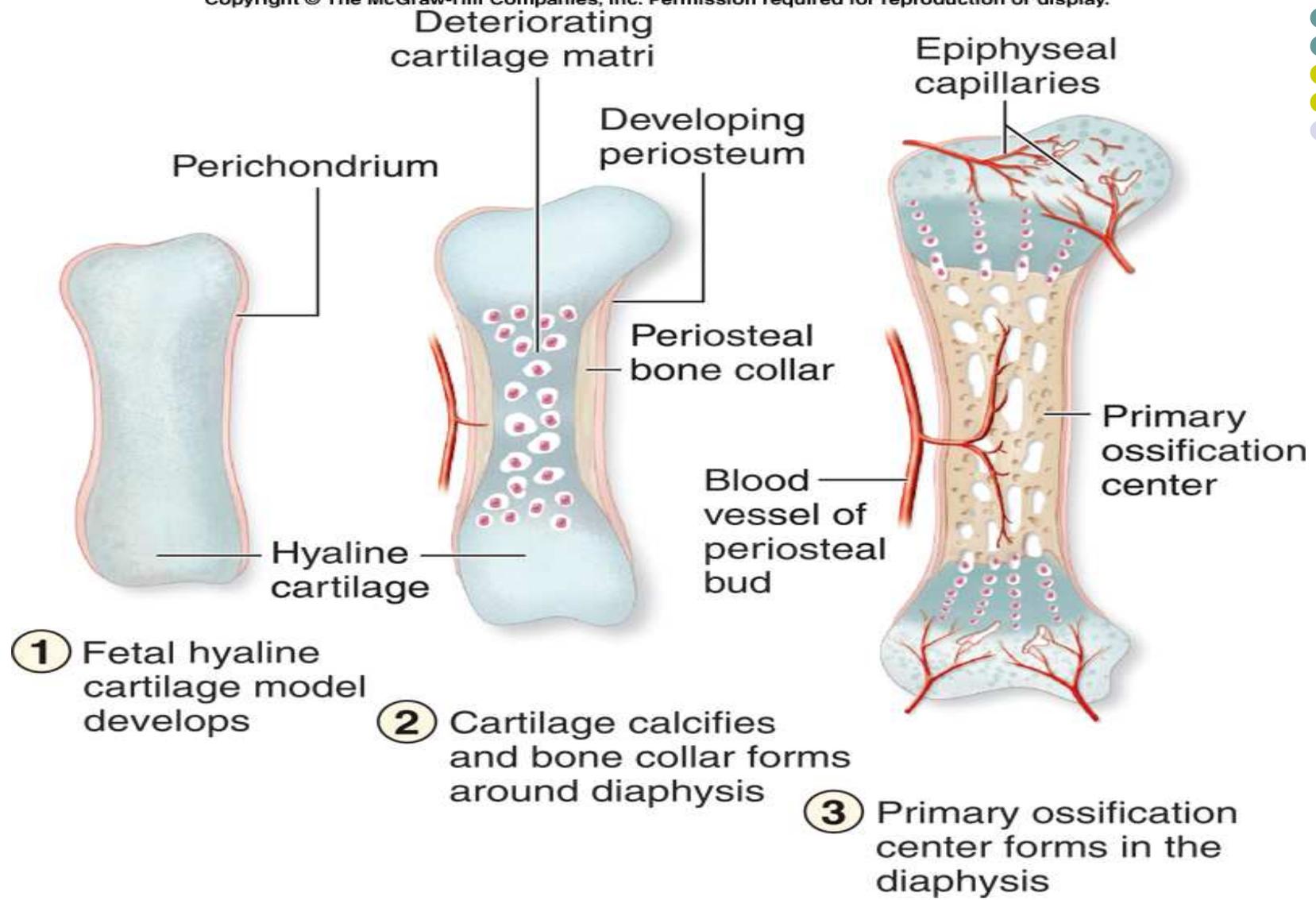
② Bone matrix (osteoid) undergoes calcification.



- Osteoid
- Osteoblast
- Osteocyte
- Newly calcified bone matrix

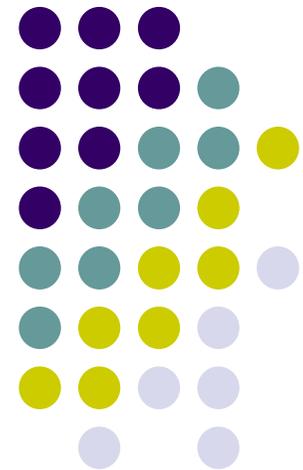
Huesos frontales, parietales, porción escamosa del occipital, mandíbula y clavículas.

Directa o Intramembranosa



Indirecta, Endocondral o Cartilaginosa

Tipos de Hueso



Según su forma:

- Largos
- Cortos o breves
- Planos
- Irregulares



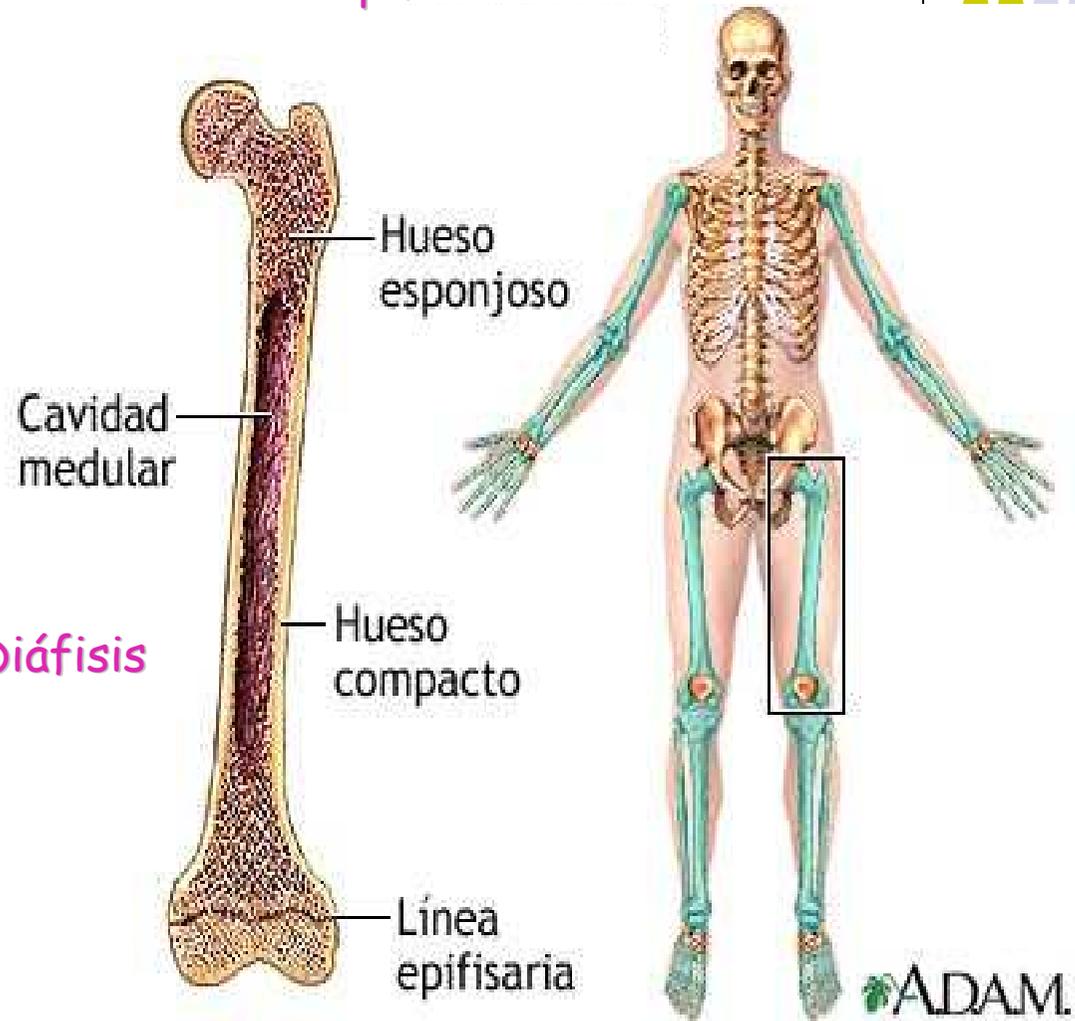
Huesos largos

- Poseen canal medular.
- Su longitud es mayor que su ancho y grosor.
- Húmero, radio, fémur, metatarsianos.

Metáfisis

Diáfisis

Epífisis





Huesos cortos o breves

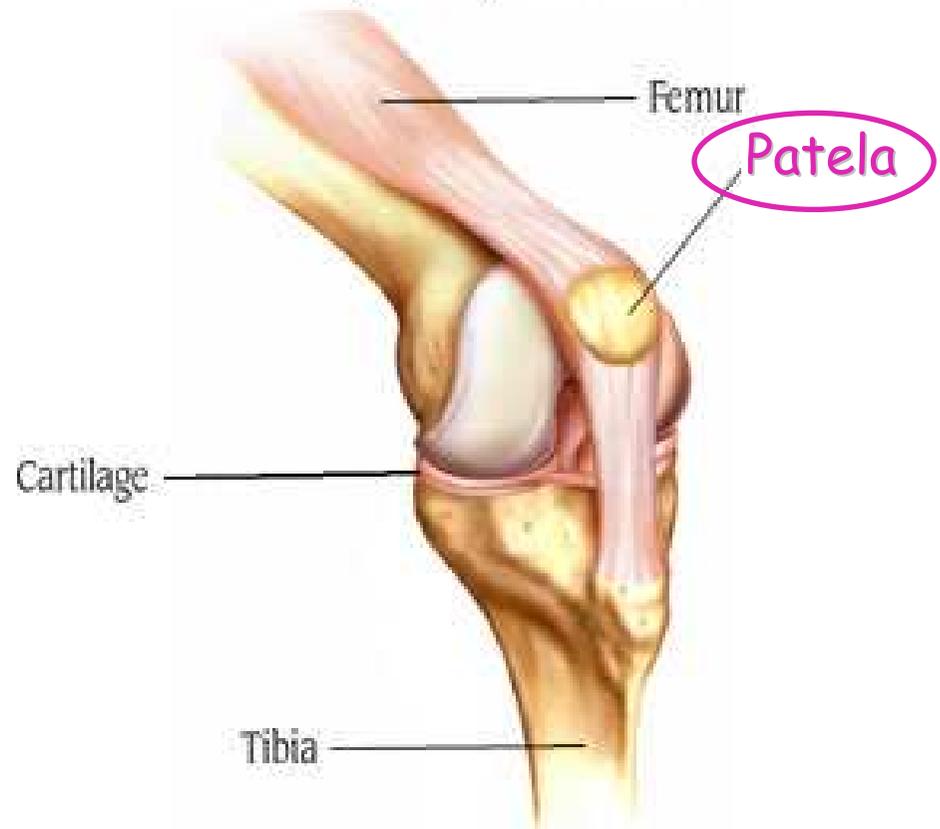


- Dimensiones similares en todos sus sentidos.
- Huesos del tarso y del carpo.





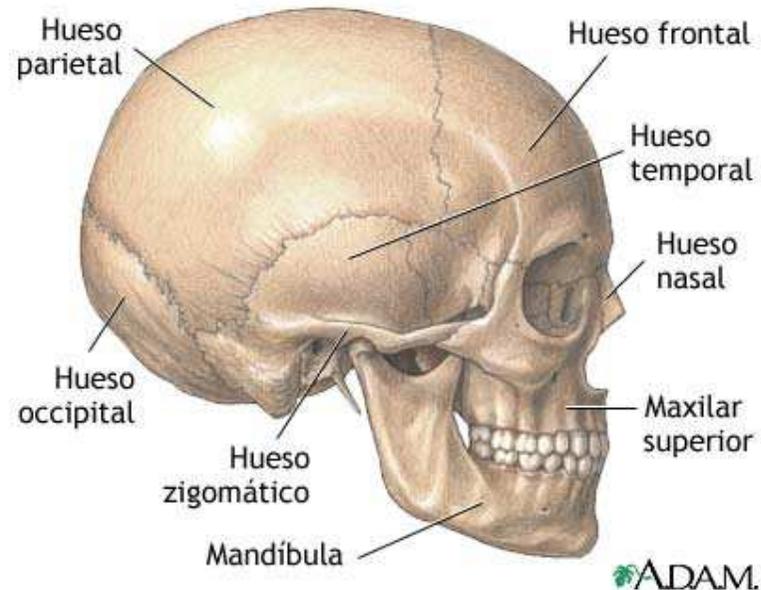
Healthy knee joint surfaces



Huesos sesamoideos: hueso corto relacionado con tendones o cápsulas articulares.

Huesos planos

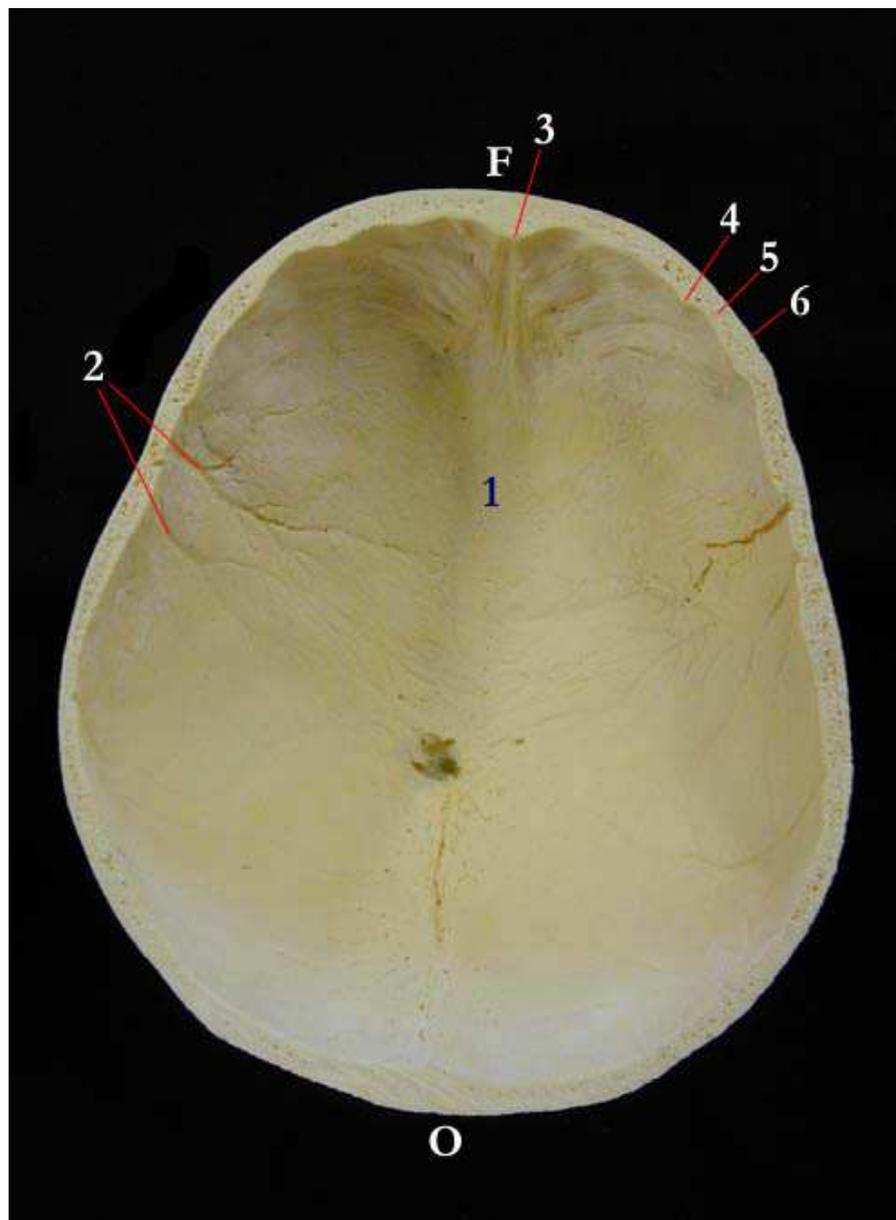
- Dos láminas de tejido óseo compacto separadas por una lámina de tejido óseo esponjoso.
- Huesos del cráneo y escápula.





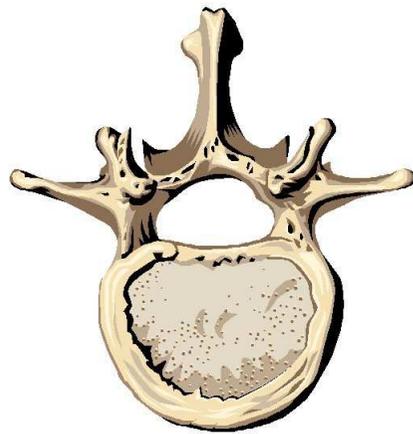
Diploe

Lámina de
tejido óseo
esponjoso entre
dos láminas de
tejido óseo
compacto

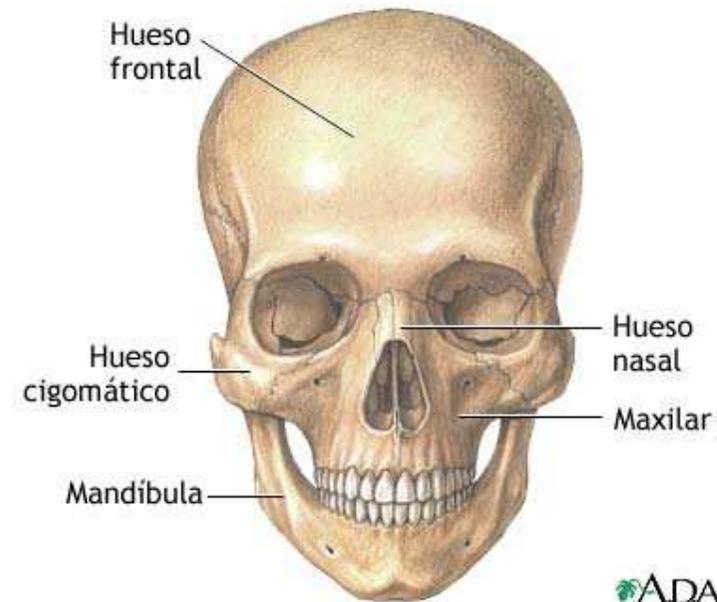


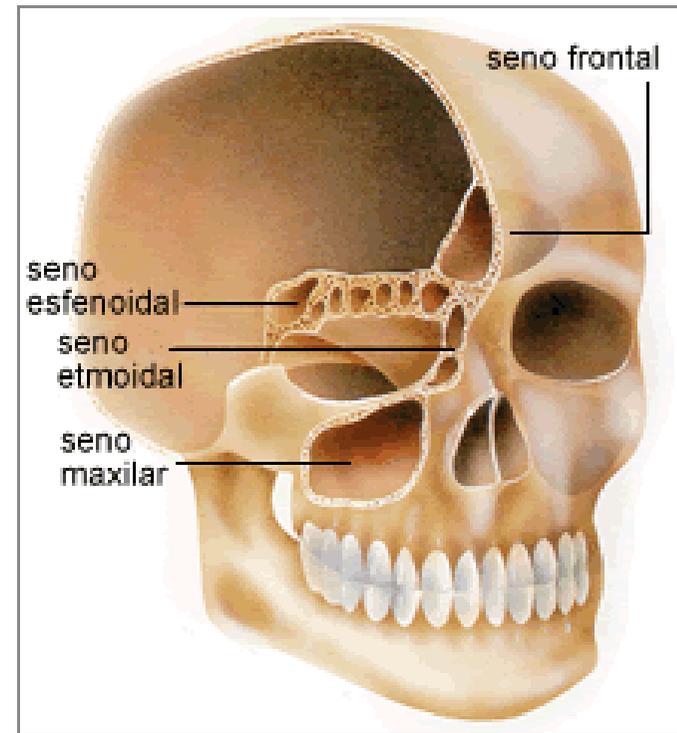
Huesos irregulares

- Forma irregular.
- Coxal, vértebras, huesos de la cara.



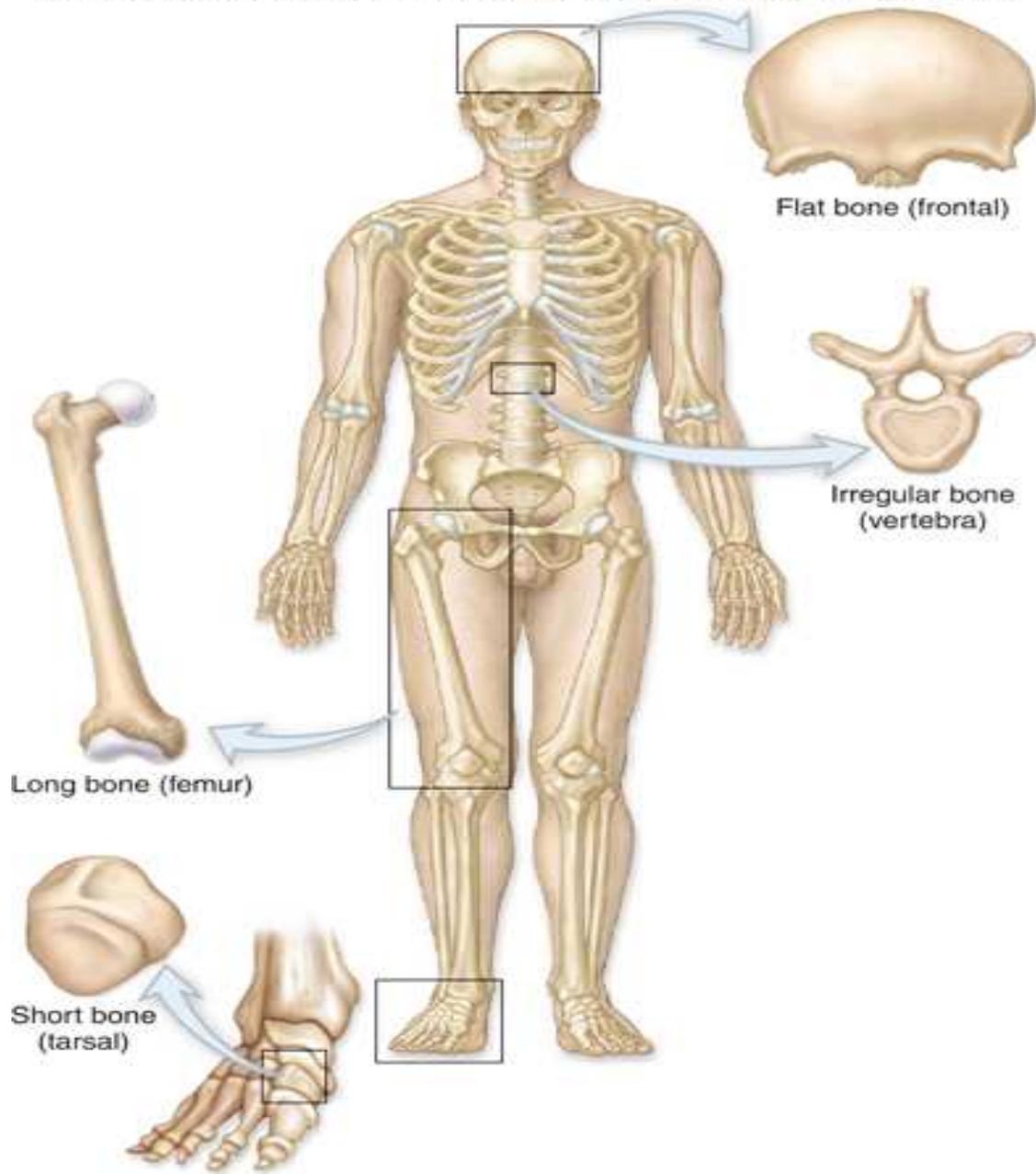
vertebra lumbalis



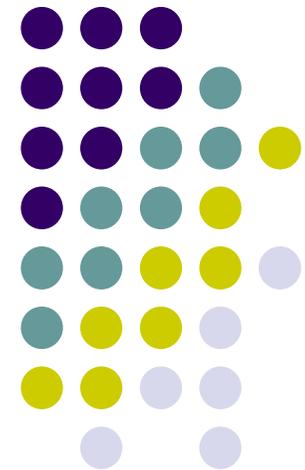


Huesos neumáticos: tiene cavidades o senos en su interior. Maxilar, etmoidal, esfenoidal.

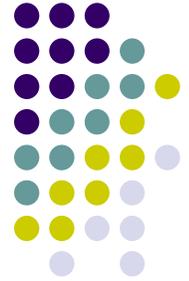
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Accidentes óseos



Relieves óseos

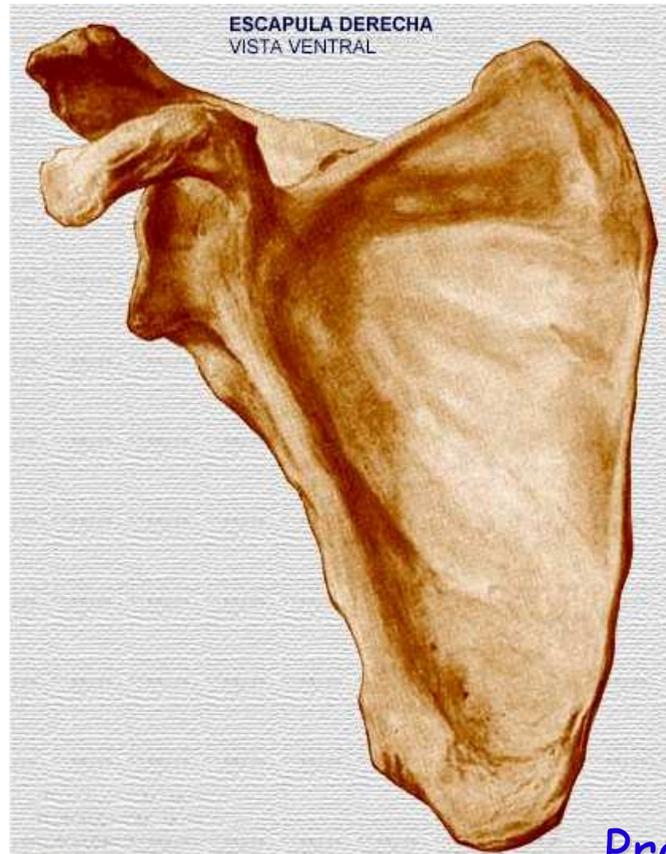


- Superficies articulares
- Relieves no articulares
 - Procesos
 - Tuberosidades
 - Tubérculos
 - Espinas
 - Crestas

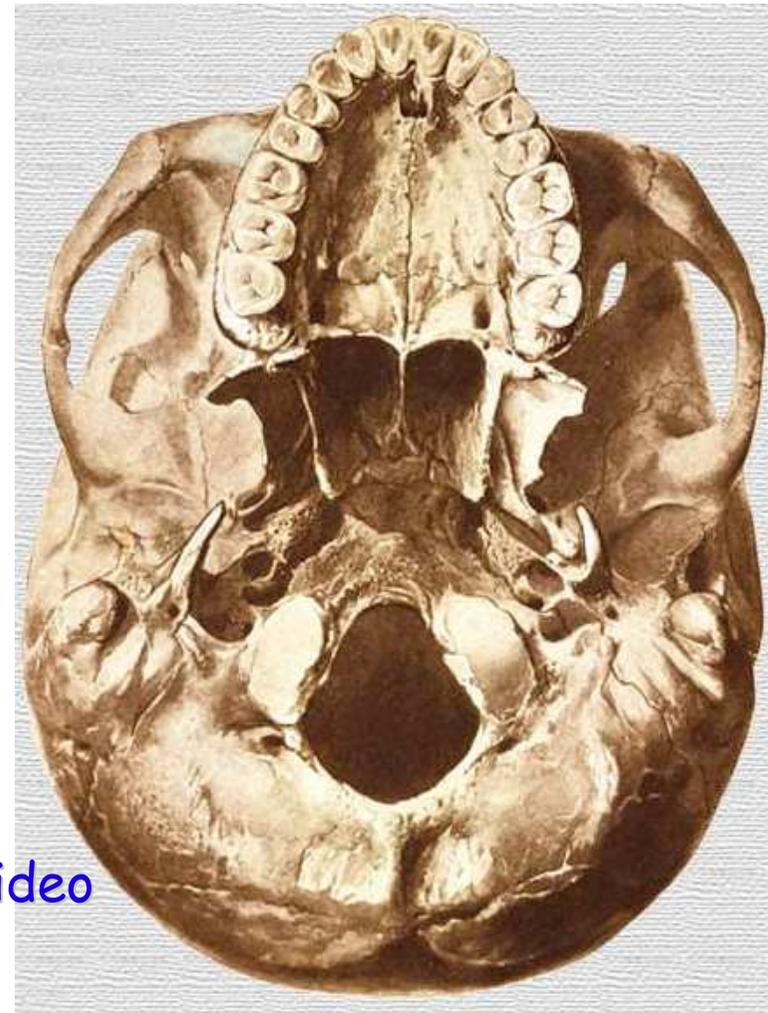
• **Proceso: excrecencia voluminosa (apófisis)**



Proceso coracoides



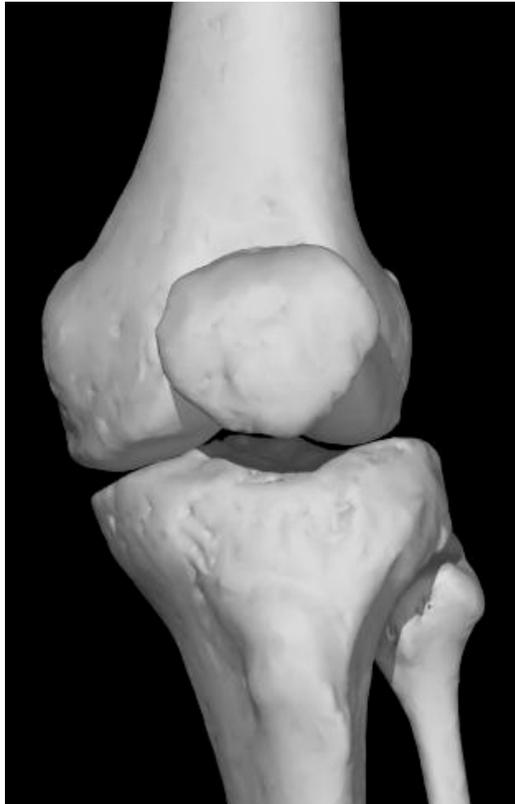
Proceso pterigoideo



Proceso
estiloideo

Proceso mastoideo

- Tuberosidad: prominencia de menor desarrollo.



Tuberosidad tibial anterior

- Tubérculo: relieve poco marcado.



Tubérculo del pubis



- Espina: prominencia puntiaguda.



Espina escapular



- Cresta: prominencia lineal.

Cresta ilíaca

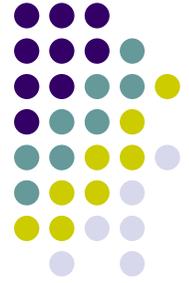




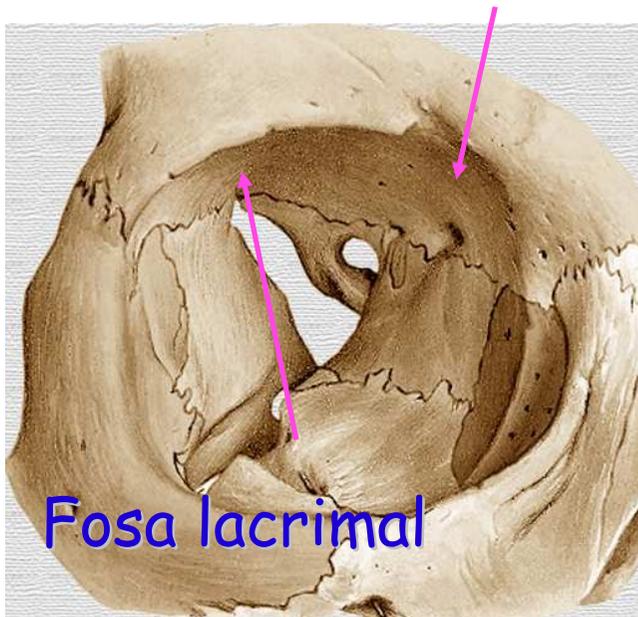
Depresiones óseas

- Cavidades articulares
- Depresiones no articulares
 - Fosas
 - Cavidades
 - Surcos
- Foramenes u orificios
- Escotaduras

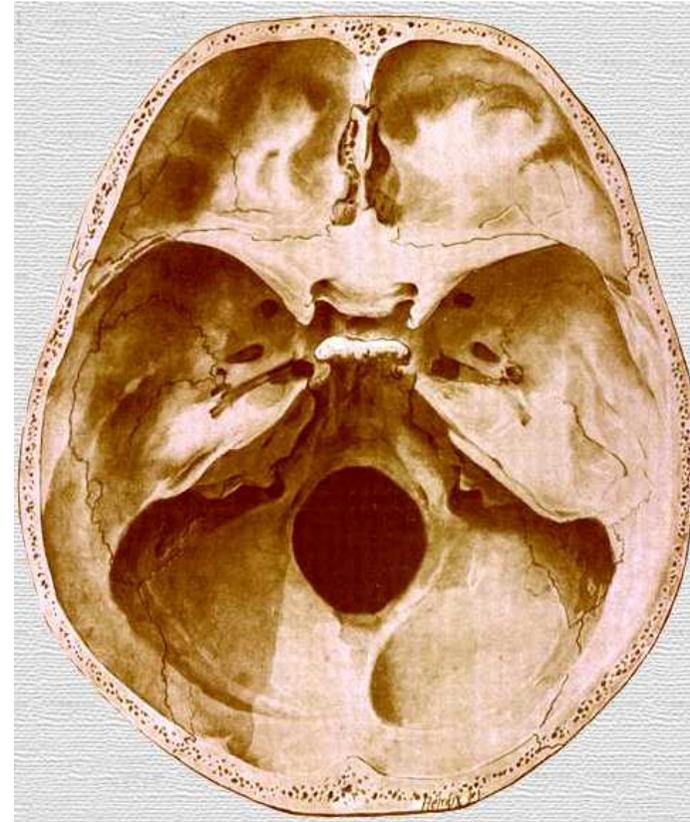
- Fosas para inserción muscular o tendinosa o de órganos.



Fosa troclear



Fosa lacrimal

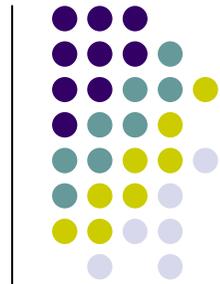
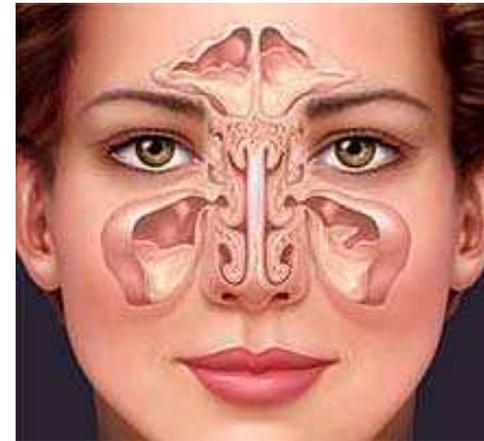


Fosa craneal

- Cavidades para contener órganos.

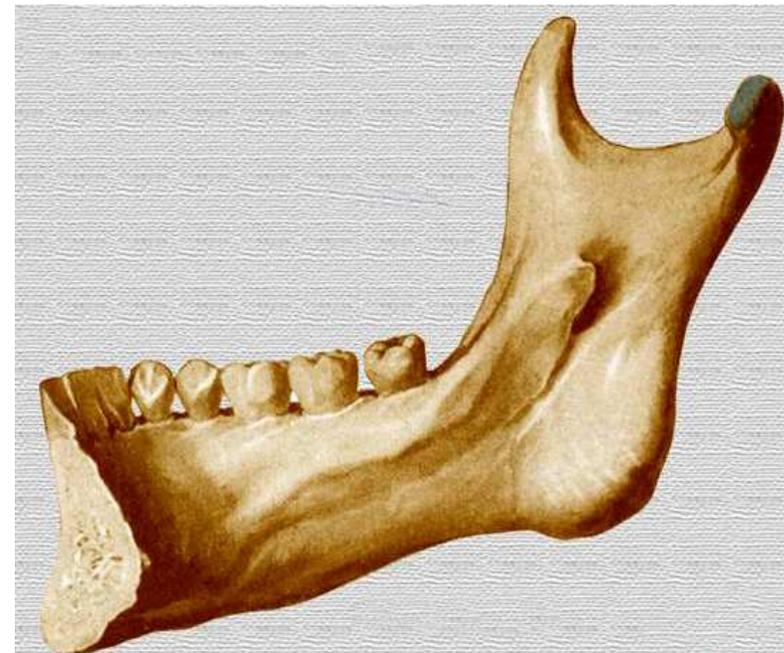


Cavidad pélvica



CPN

Surco milohioideo

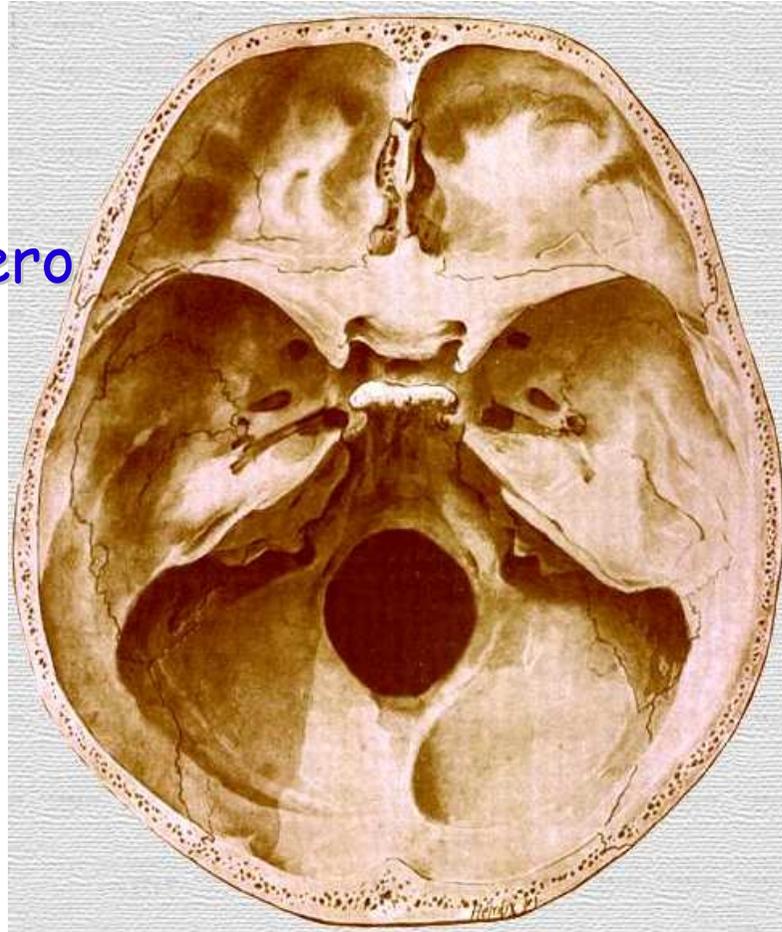


- Surcos para el paso de elementos musculares o vasculonerviosos.

- Foramen, agujero u orificio.



Agujero
oval



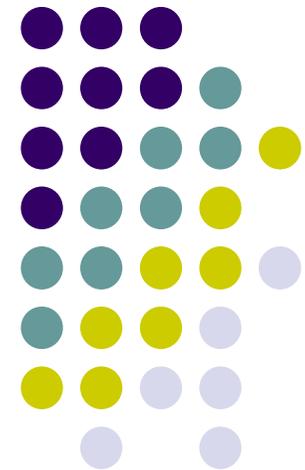
Foramen magno

- Escotadura

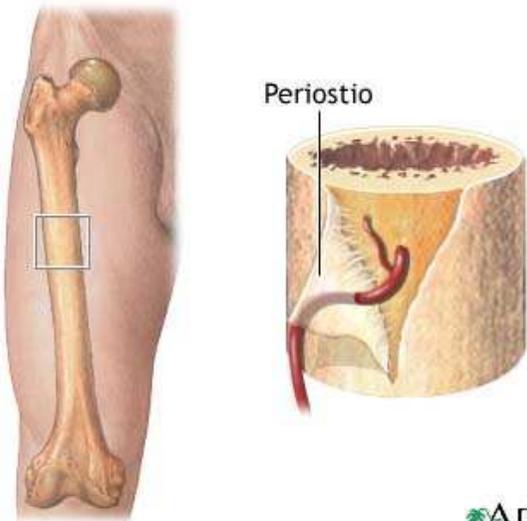


Escotadura externa

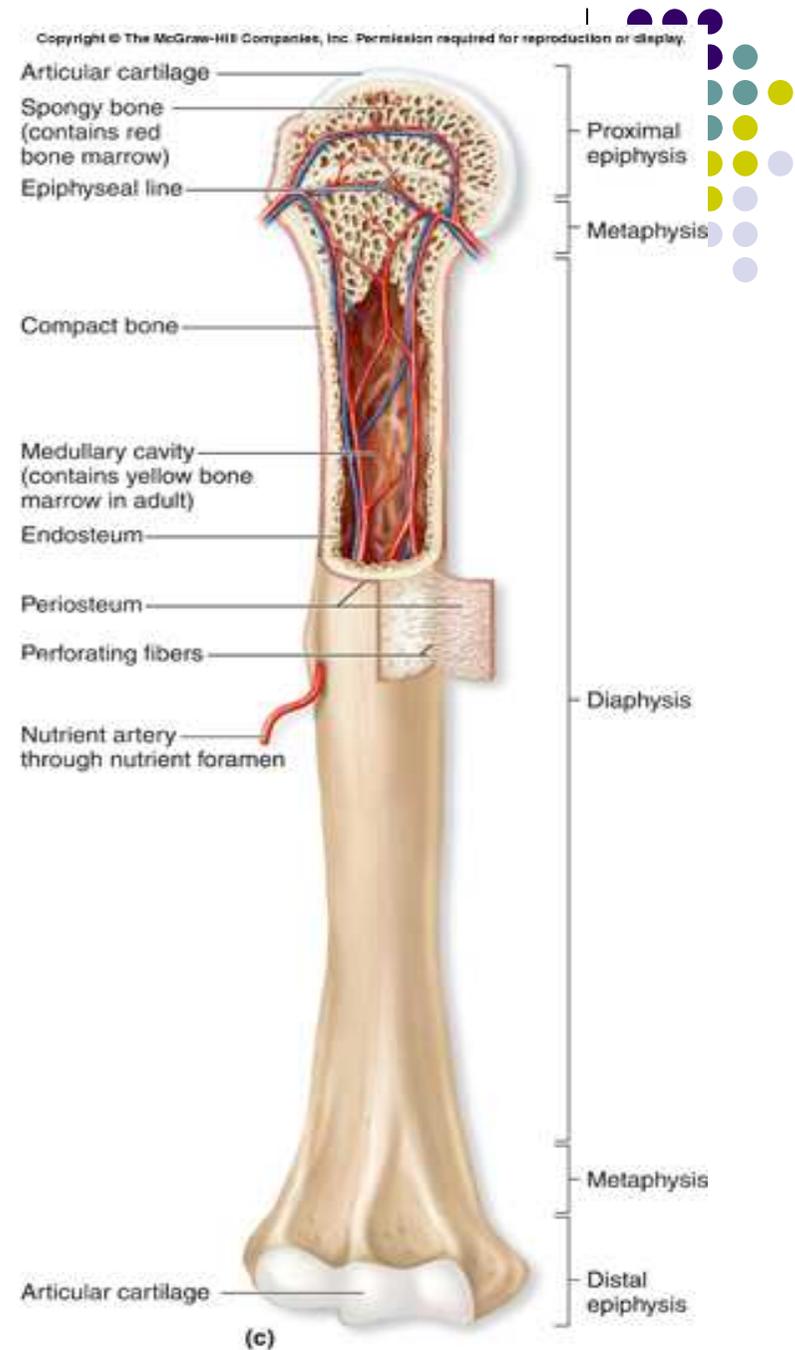
Irrigación



- Arterias nutricias.
- Ramas periósticas.
- Vasos derivados de arterias articulares.
- Vasos sanguíneos forman una red anastomosante con los del periostio.



ADAM.





...FIN