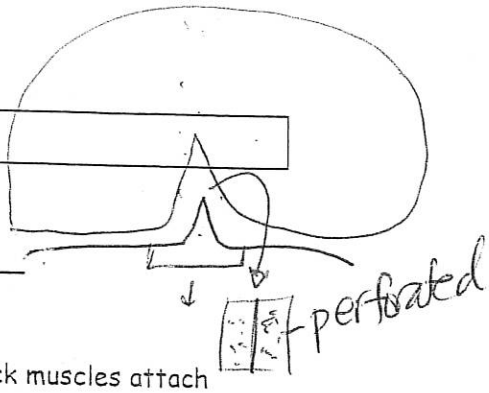
Axial Skeleton Lecture:



Responsible for the names of the bones of the skull
Crista galli: docks hemispheres
Cribrofim plate: allows passage for olfactory nerves
Some special markings:
Styloid process: attachment for neck muscles
Mastoid process: full of air cavities (mastoid sinuses) some neck muscles attach
Jugular foramen: passage for jugular vein
Carotid canal: internal carotid artery

14 facial bones ✓
Maxillae: sinuses drain into nasal passages
Paranasal sinuses: lighten skull bones, amplify sounds as we speak
Lacrimal bones: form medial wall of orbits w a groove which serves as a passage for tears
Hyoid bone: ligaments anchor it to styloid, supports the tongue

Vertebral column:
7 cervical (neck)
12 thoracic
5 lumbar
1 sacrum (fusion of 5 sacral vertebrae)
Coccyx bones

Common vertebral parts:
Spinous process: pointy end, feel on your back
Laminae: fuse to give rise to spinous process (spina bifida)
Superior facets articulate with the inferior facet of the vertebra immediately superior
Pedicles: project off the lamina leading to a body
Body is separated by a fibrocartilage disc (intervertebral discs)
Vertebral foramen for the spinal cord
Transverse processes

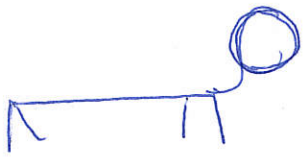
Cervical vertebrae: have three foramen : vertebral and transverse (for arteries and veins)
Thoracic vertebrae: all 12 have rib facets on bodies and transverse processes
Lumbar vertebrae: one hole and no rib facet: equipped to bear weight due to body being big and spinous process is broad

Specialized vertebrae:
C1 atlas: supports the head, occipital condyles rest on the superior facets, allows you to say YES, No spinous process or body

C2 axis: odontoid process (dens) allows the rotation of the head to say NO

Sternum: manubrium, body and xiphoid process (frequently used for biopsy of marrow)
12 pairs of ribs all posteriorly attached to thoracic vertebrae at the articulating facets of the ribs and 10 pairs are attached to costal cartilage

Normal curvatures:



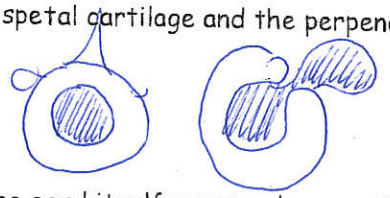
4 slight curves when viewed from the side
Cervical and lumbar
Thoracic and sacral curves
Curvature increases strength, maintain balance in the upright position, absorb chock, protect from vertebral breaks

Axial skeleton disorders:

Cleft palate: results when palatine bones don't fuse to form a hard palate
Palantine bones form the roof of the mouth behind the maxilla, forming the posterior portion of the hard palate, part of the floor and the lateral wall of the nasal cavity and a small portion of the orbit

Deviated nasal septum: a septum that bends sideways from the middle of thenose, can completely block passageway , can lead to congestion, blocked sinuses, chronic sinusistis, headaches and nosebleeds

Nasal septum is formed by the vomer, spetal cartilage and the perpendicular plate of the ethmoid bone



*Spina bifida:
Congenital defect where laminae fail to unite
Serious cases: meninges protrude or the cord itself may produce partial or complete paralysis, loss of urinary control and reflexes
Related to folic acid

Herniated discs
Ligaments of the interterbral discs are so weakened that the fibrocartilage discs ruptures, herniating the material inside usually a lumbar vertebrae

Unusual curves:
Sciolosis: a crooked sideways bend if you look straight at the back
Kyphosis: exaggerated thoracic curve (elderly due to osteoporosis, rickets and posture)
lordosis: swayback or exaggerated lunbar curve, weight,poor posture, rickets or TB of spine)
lumbar

osteoporosis: resorption outpaces deposition, causes more than a million fractures in the US a year causes shrinkage of vertebrae ↑PTH activates osteoclasts ↓calcitonin - deposit Ca/bone

Rickets: disorder where calcification fails causing bones to become soft, rubbery and easily deformed (rickets affects growing children and osteomalacia affects adults) hypocalcemia due to vit D deficiency. Vit D allows Ca to be absorbed through the gut. Need UV light to synthesize Vit D, usually due to malnutrition, bow legs, floppy baby syndrome