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ISHTA 200H TT Assignment
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Topic 4
Anatomy II: Spine

4.1 How many individual vertebrae are in the spinal column? How many vertebrae are in each curve?

There are 24 individual vertebrae in the spinal column. The curves and their respective number of vertebrae include:

- Cervical Vertebrae - 7
- Thoracic Vertebrae - 12
- Lumbar Vertebrae - 5
- Sacral Vertebrae - 4-5 fused together
- Coccygeal Vertebrae - 3-5 fused together

4.2 Which of the spinal curves are present when a baby is born? At what point of development do the others appear?

After birth, a baby takes the shape of a comma, so there is a kyphodic curve/convexity in both the thoracic and sacral vertebrae. When the baby begins to lift it's head, the lordadic cervical curve develops. When the baby begins to walk, the lordadic lumbar curve develops.

4.3 The cervical spine has the most freedom of movement in all directions. The thoracic and the lumbar areas have limited freedom in some directions. For each of these areas, list the actions and the structures that limit freedom of movement (Example: Thoracic spine: Flexion is limited by the ribs).

- Cervical Spine
  - Rotation (turning one's head completely around) is limited by inelastic ligaments in the spine
  - Lateral flexion may be limited by tension in the trapezius muscles and/or ligaments in the spine

- Thoracic Spine
  - Flexion and lateral flexion are limited by the ribs and ligaments on the posterior of the spine, and ligaments between the transverse processes respectively
  - Extension is limited by compression of the spinous processes and ligaments on the anterior of the spine
- Lumbar Spine
  - Rotation is limited by the shape and fit of the facet joints in this part of the spine
- Sacral Spine
  - Rotation, lateral flexion, flexion, and extension are limited by the fusion of the sacral vertebrae
- Coccygeal Spine
  - Rotation, lateral flexion, flexion, and extension are limited by the fusion of the coccygeal vertebrae