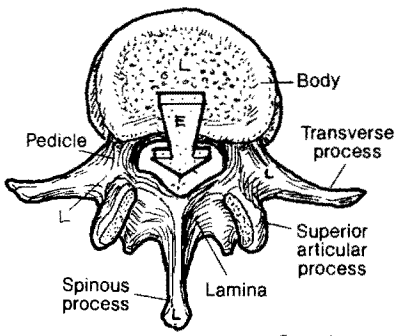
See 21, 22

LUMBAR, SACRAL, & COCCYGEAL VERTEBRAE

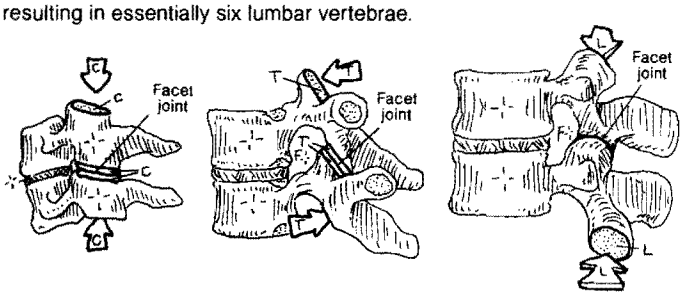
CN: Use the same colors as were used on the previous two plates for C, T, L, E, F, A, S, and Co. (1) Begin with the three large views of lumbar vertebrae. (2) Color the different planes of articular facets. (3) Color the four views of the sacrum and coccyx. Note that the central portion of the median section receives the vertebral canal color (E').

LUMBAR VERTEBRA L
VERTEBRAL FORAMEN E
VERTEBRAL CANAL E'
INTERVERTEBRAL FORAMEN F
INTERVERTEBRAL DISC A

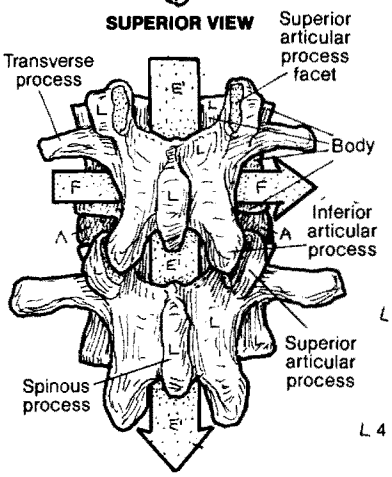
The five *lumbar vertebrae* are the most massive of all the individual vertebrae, their thick processes securing the attachments of numerous ligaments and muscles/tendons. Significant flexion and extension of the lumbar and lumbosacral motion segments, particularly at L4-L5 and L5-S1, are possible. At about L1, the spinal cord terminates and the cauda equina (bundle of lumbar, sacral, and coccygeal nerve roots; see Plate 21) begins. The lumbar *intervertebral foramina* are large. Transiting nerve roots/sheaths take up only about 50% of the volume of these foramina. *Disc* and facet degeneration is common in the L4-5 and L5-S1 segments; reduction of space for the nerve roots increases the risk of nerve root irritation/compression (radiculitis/radiculopathy). Occasionally, the L5 vertebra is partially or completely fused to the sacrum (sacralized L5). The S1 vertebra may be partially or wholly non-fused (lumbarized S1), resulting in essentially six lumbar vertebrae.

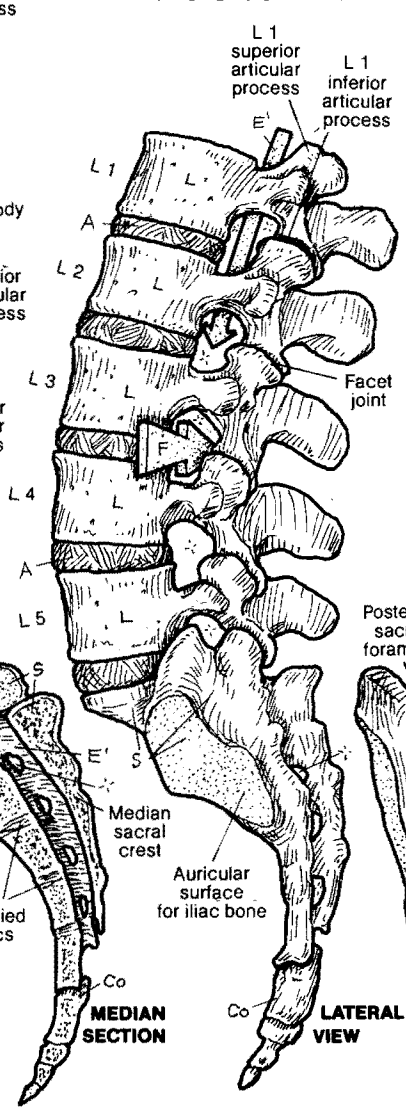


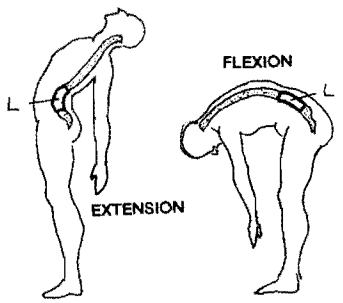
PLANES OF ARTICULAR FACETS:
CERVICAL C
THORACIC T
LUMBAR L

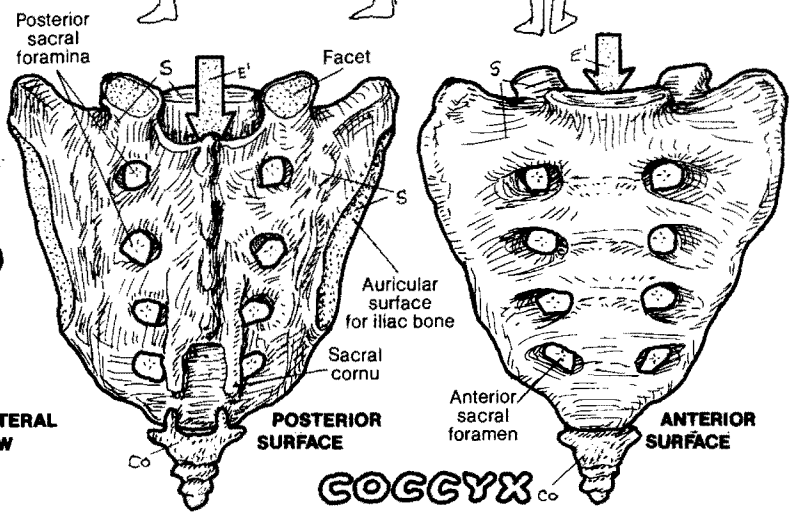


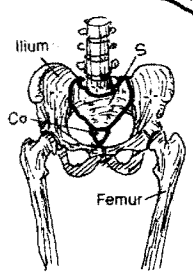
The planes (orientation) of the articular facets determine the direction and influence the degree of motion segment movement. The plane of the *cervical facets* is angled coronally off the horizontal plane about 30°. Considerable freedom of movement of the cervical spine is permitted in all planes (sagittal, coronal, horizontal). The *thoracic facets* lie more vertically in the coronal plane, and are virtually non-weightbearing. The range of motion here is significantly limited in all planes, less so in rotation. The plane of the *lumbar facets* is largely sagittal, resisting rotation of the lumbar spine, transitioning to a more coronal orientation at L5-S1. The L4-L5 facet joints permit the greatest degree of lumbar motion in all planes.

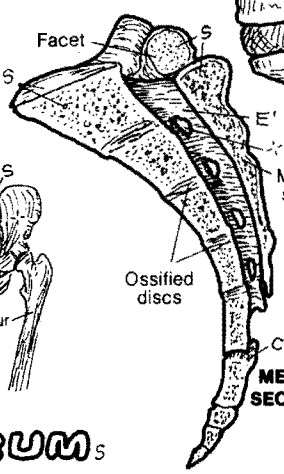












SACRUM S

The *sacrum* consists of five fused vertebrae; the intervertebral discs are largely replaced by bone. The sacral (vertebral) canal contains the terminal sac of the dura mater (dural sac, thecal sac) to S2 and the sacral nerve roots, which transit the sacral foramina. The sacrum joins with the ilium of the hip bone at the auricular surface, forming the sacroiliac joint.

COCCYX Co

The sacrum and the ilia of the hip bones form an arch for the transmission and distribution of weightbearing forces to the heads of the femora. It is a strong arch, and the sacrum is its keystone. The *coccyx* consists of 2-4 tiny individual or partly fused, rudimentary vertebrae. The first coccygeal vertebra is the most completely developed.