

The first thoracic vertebra (T1) is an atypical thoracic vertebra with a typical thoracic vertebral body and a **small circular vertebral foramen**. Although T1 shares many similarities with the typical thoracic vertebrae, there are a number of differences. On each side of the vertebral body are complete circular costal facets for articulation with the head of the first rib and small, inferior demifacets for articulation with the head of the second rib below.

From the body, pedicles project posteriorly and the short, thick laminae project postero-medially, **overlapping** the laminae of the vertebra below. T1 has a long, thick spinous process, which projects horizontally from the junction of the laminae and is often as prominent as that of C7. Anteriorly and infero-medially facing inferior articular facets are located on the inferior articular processes that project from the laminae. The pediculo-laminar junctions give rise to thin, flat superior articular processes, which face posteriorly and supero-laterally and support the oval superior articular facets. Also projecting postero-laterally from the pediculo-laminar junctions of **T1** are the transverse processes, which display concave oval facets on their anterior surfaces for articulation with the tubercles of the first ribs.

Ossification

The centrum and each half of the vertebral arch ossify from single centers that appear in-utero in the seventh week and fourth month, respectively. The arches unite during the first year and then join with the vertebral body by the fourth year. The ring apophyses (or epiphyseal rings) form secondary ossification centers at approximately 12 years and fuse with the vertebral body between the ages of 14 and 25 years. At 16 years centers also appear at the tips of the transverse and spinous processes and fuse with the rest of the vertebra by 25 years.

Secondary ossification centers may remain unfused at these sites and are known as accessory ossification centers. They must be differentiated from fracture on plain-film radiographs.