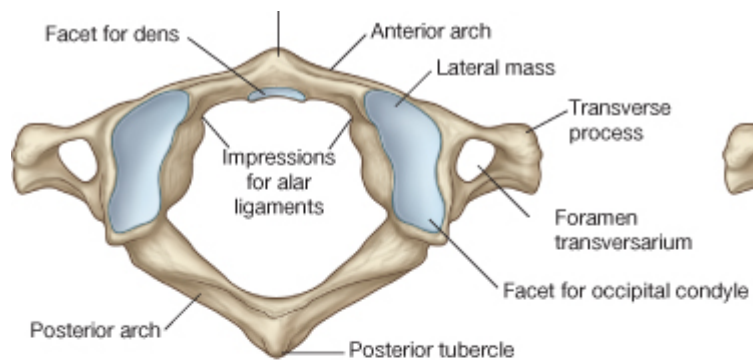


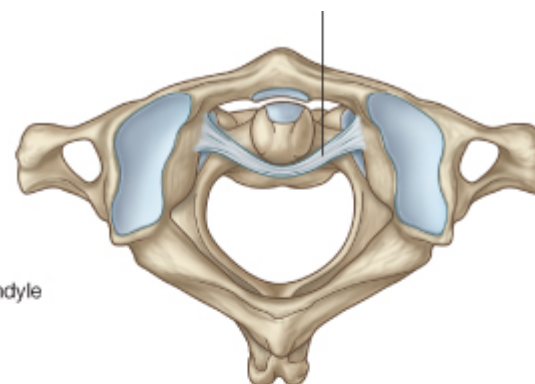
Atlanto-occipital and Atlantoaxial joints

Atlanto-occipital joint

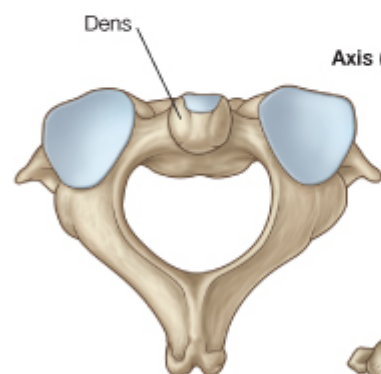
- Variety- Synovial joint of Ellipsoid variety
- Articular surface-
- Above: convex occipital condyles
- Below: Concave superior articular facet of atlas



Superior view

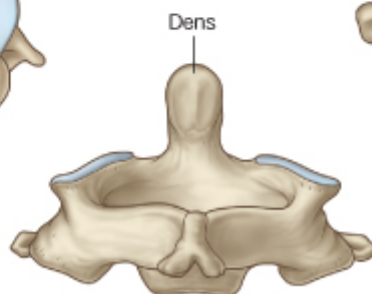


Superior view

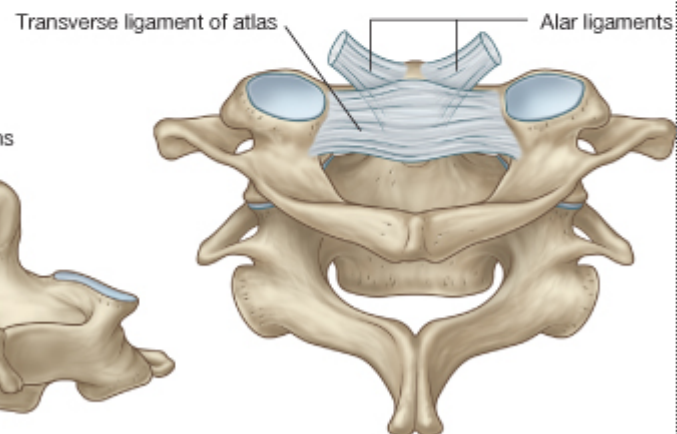


Superior view

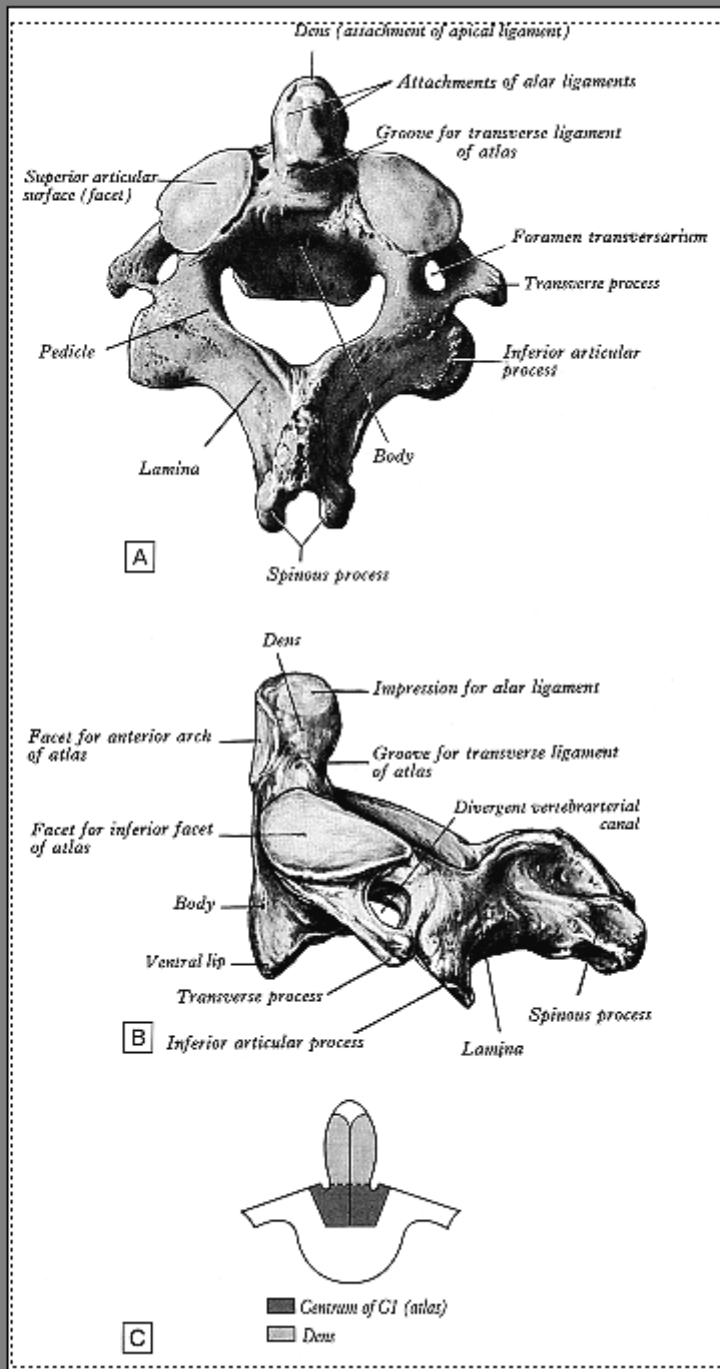
Axis (CII vertebra)



Posterior view



Posterosuperior view



Ligaments:

1. Fibrous capsule:

- surround the joint
- Thick posterolaterally and anteromedially

2. Anterior atlanto-occipital membrane:

- Anterior margin of foramen above to upper border of anterior arch of atlas below
- Anteriorly strengthened by anterior longitudinal ligament
- Laterally continuous with the anterior part of capsular ligament

Posteroatlanto-occipital membrane:

- Posterior margin of foramen magnum above
touppe border of posterior arch of atlas below
- Inferolateral free margin arches over the
vertebral artery and first cervical nerve
- Laterally continuous with the capsular ligament

Blood supply: Vertebral artery

Nerve supply: C1 nerve

Movements:

- Ellipsoid joint (biaxial joint)
- Flexion / extension (nodding)- transverse axis
- Lateral flexion- anteroposterior axis

- Muscles producing movements

Movement	Muscles involved
Flexion	Longus capitis , Rectus capitis anterior
Extension	Rectus capitis posterior major and minor, oblique capitis superior, semispinalis capitis, splenius capitis, and trapezius
Lateral flexion	Rectus capitis Lateralis, semispinalis capitis, splenius capitis, sternomastoid and trapezius

Atlantoaxial joint

Comprise of

- 1. A pair of lateral atlantoaxial joints: (Plane joint) between inferior facets of atlas and superior facets of axis.
- A median atlantoaxial joint: (pivot joint) between the dens and anterior arch and transverse ligament of atlas.

- **Lateral atlantoaxial joint:**

Ligaments:

- **Capsule** all around
- Lateral part of **anterior longitudinal ligament**
- **Ligamentum flavum**
- Medial **atlantoaxial joint:**
- Loose **capsular ligament** anteriorly
- Posterior part between dens and transverse ligament is continuous with one of the atlanto occipital joint
- Main support is ***transverse ligament*** which forms part of the cruciform ligament

- ***Transverse ligament***: attach on each side to medial surface of lateral mass of atlas
- In the median plane fibers extend upward to basi-occiput and downward to the body of axis to form cruciform ligament of atlas

Movements:

- All three joints produce rotatory movement around a vertical axis (No movement)
- Movement is limited by alar ligament
- Muscles producing movement are: Rectus capitis posterior major, obliquus capitis inferior, splenius capitis of one side along with sternomastoid of other side