Craniovertebral Joints
&
Joints of Cervical Vertebral Column

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Craniovertebral Joints

- Atlanto-occipital joints.
- Atlanto-axial joints.
Atlanto-occipital joints- Articular Surfaces

- Synovial joints of ellipsoid variety
Atlanto-occipital joints-Ligaments

Anterior view
- Basilar part of occipital bone
- Pharyngeal tubercle
- Anterior atlantooccipital membrane
- Capsule of atlantooccipital joint
- Posterior atlantooccipital membrane
- Lateral atlantoaxial joint (opened up)
- Anterior longitudinal ligament

Posterior view
- Apical ligament
- Superior crus of cruciate ligament
- Tectorial membrane
- Posterior atlanto-occipital membrane
- Nuchal ligament
Movements at Atlanto-occipital joints

- Flexion & Extension (Nodding or ‘YES’ movements).
- Lateral Flexion
Atlanto-axial joints

- Median atlantoaxial joint.
- Two lateral atlantoaxial joints.
Median Atlanto-axial joint - Articular surfaces

- Synovial joint of **pivot** variety
Median Atlanto-axial joint - Ligaments

- Fibrous capsule.
- Transverse ligament.
- Apical ligament of dens (Morphologically, it represents the **remnant of notochord**).
- Alar ligaments (check ligaments).
- Membrana tectoria.
Apical Ligament of Dens & Membrana Tectoria
Clivus portion of occipital bone

Alar ligaments

Dens covered by cruciate ligament

Transverse ligament of atlas (part of cruciate ligament)
Lateral Atlanto-axial joints- Articular surfaces

- Synovial joint of plane variety
Movements at Median Atlanto-axial joint ('NO' Movements)
Joints of Cervical Spinal Column

- **Joints between vertebral bodies**-
  - Secondary cartilaginous (intervertebral disc).
  - Synovial [Joints of Luschka (Uncovertebral Joints)].

- **Joints between vertebral arches**-
  - Joints between articular processes of vertebrae [Zygohypophyseal joints (Facet joints)].
  - Intervertebral syndesmososes between laminae, spines and transverse processes.
Secondary cartilaginous Joints (Symphysis)
Curvature of Cervical Spinal Column
Secondary cartilaginous Joints - Anterior Longitudinal Ligament

Internal occipital protuberance
Atlanto-occipital joint (atlanto-occipital capsule)
Atlas (C1)
Transverse foramina
Axis (C2)
Anterior longitudinal ligament
Sulcus for spinal nerve
Intervertebral disk
Occipital bone, basilar part
Anterior atlanto-occipital membrane
Transverse process
Lateral atlantoaxial joint (capsule)
Zygapophyseal joint (capsule)
Posterior tubercle
Anterior tubercle
Vertebra prominens (C7)
Secondary cartilaginous Joints-
posterior longitudinal Ligament
Prolapse of Intervertebral Disc in Cervical Region
Joints of **Luschka** (*Uncovertebral Joints*)

Synovial joints of **plane** variety
Zygohypophyseal Joints (Facet Joints)
Movements at Facet Joints
Intervertebral Syndesmosis