

### **Anomalies of the Dens (Syn. Odontoid Process)**

Anomalies (congenital, acquired or traumatic) of the dens are not uncommon; they often result in **atlanto-axial instability** and may require surgical intervention. Hypoplasia of the dens may lead to invagination into the basilar part of the occipital bone.

### **Odontoid Fractures**

Anderson and D'Alonzo classified **odontoid fractures** according to their location – this classification also gave an indication as to the prognosis.

Type 1 fractures are mechanically stable and represent avulsion of the alar ligament(s).

Type 2 fractures are located at the base of the odontoid. These are the commonest type of fracture and have the worst natural history. Mechanical instability and non-union are the possible sequelae.

Type 3 fractures arise through the cancellous bone of the vertebral body and have a favorable prognosis if they can be reduced.