History
17 year old female involved in a motor vehicle accident.

Diagnosis
Type 3 Odontoid Fracture

Discussion
Type III odontoid fractures are actually fractures of the C2 vertebral body rather than the odontoid. The mechanism of injury is poorly understood but likely related to complex vectors. Facial fractures and other injuries of the cervicocranium are associated with these injuries. These fractures heal easily but are mechanically unstable.

Findings
CT-Oblique coronal fracture extending through the base of the odontoid process into the body of the axis; the odontoid process is anteriorly tilted relative to the body. MR-Sagittal T1, T2 and IR images confirm the type 3 fracture and demonstrate edema in the precervical and suboccipital regions but intact ligamentous structures.

Reference
Harris JH and Mirvis SE. The radiology of acute cervical spine trauma. 3rd Ed. Williams and Wilkins (1996).
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