# **Occipital condyle fracture**

Occipital condyle fractures (OCFs) are rare injuries

## Treatment

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Their treatment remains controversial.

Typically ranged from semirigid collar immobilization to halo fixation or occipitocervical fusion.

It has been the Maserati et al. impression, based on experience with OCFs at their institution, that classification is cumbersome and contributes little to the clinical decision-making process, while the identification of craniocervical misalignment and neural element compromise is paramount, and sufficient, for the planning of treatment.

The authors performed a retrospective review of 24,745 consecutive trauma presentations to a single Level I trauma center (UPMC Presbyterian Hospital) over a 6-year period, identifying 100 patients with 106 OCFs. All patients were evaluated by the spine trauma service and underwent imaging of the craniocervical junction using reconstructed CT scans. Patient characteristics, fracture characteristics (including fracture classification according to the 2 major classification systems), initial management, and status at follow-up were recorded. RESULTS: The incidence of OCF in this trauma population was 0.4%. Two patients had evidence of craniocervical misalignment on reconstructed CT imaging at the time of admission; both patients underwent occipitocervical fusion. One patient underwent occipitocervical fusion for unrelated C1-2 fractures. The remainder of those surviving to discharge, whose fractures represented all fracture subtypes, received treatment with a rigid cervical collar or counseling alone. No patients, including 4 patients with bilateral OCFs, were found to have developed delayed craniocervical instability or misalignment on follow-up, or to require further neurosurgical intervention for an OCF. Neural element compression was not identified in any of the patients, and there were no cases of delayed cranial neuropathy.

Beyond the identification of craniocervical misalignment on reconstructed CT scans at admission, further classification of OCFs is unnecessary. Management should consist of up-front occipitocervical fusion or halo fixation in cases demonstrating occipitocervical misalignment, or of immobilization in a rigid cervical collar followed by delayed clinical and radiographic evaluation in a spine trauma clinic if misalignment is not present <sup>1)</sup>.

# Classification

Several classification systems have been proposed, first by Anderson and Montesano and more recently by Tuli and colleagues and Hanson and associates, who sought to stratify these fractures in a manner that would guide treatment.

### Pediatric Occipital condyle fracture

Pediatric Occipital condyle fracture

#### 1)

Maserati MB, Stephens B, Zohny Z, Lee JY, Kanter AS, Spiro RM, Okonkwo DO. Occipital condyle fractures: clinical decision rule and surgical management. J Neurosurg Spine. 2009 Oct;11(4):388-95. doi: 10.3171/2009.5.SPINE08866. PubMed PMID: 19929333.

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