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內文：

### **Abstract**

1. Condylar fractures in children are especially important because of the risk of a mandibular growth-center being affected in the condylar head, which can lead to growth retardation and facial asymmetry.
2. Follow up the two and half year clinical and radiological evaluation of the conservative treatment of a 10 year-old patient, who had a unilateral green-stick type fracture.

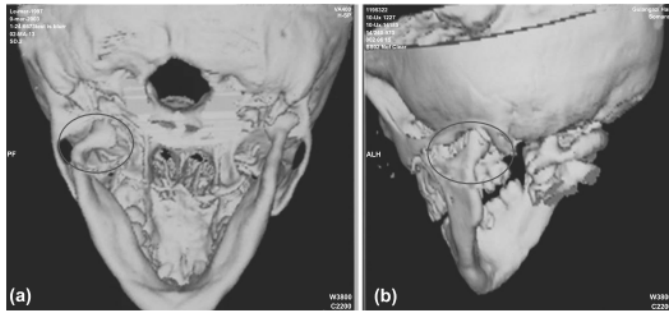
### **Introduction**

1. It is well documented that mandibular fracture is the commonest craniofacial injury and 19-52% of them involve the condyle.
2. The anatomical level of the condylar fracture is divided into three sites: the condylar head (intra-capsular), the condylar neck (extracapsular) and the subcondylar region. Although the condyle is well protected in the glenoid fossa, its neck is a relatively fragile area.
3. The subcondylar fracture, which was associated with a green-stick fracture, is usually seen at the age of less than 6 years due to the fact that a child's bone is more flexible, so that it can be more likely bent rather than a complete breakage.
4. Etiology: motor vehicle accidents, falls, work-related fractures, and fractures caused by sporting activities, and personal violence.
5. Some studies demonstrated that, after fracture of the mandibular condyle in children, there is an excellent chance that the condylar process would regenerate to approximately its original size and a small chance that it would overgrow after the injury if an adequate function can be obtained.

### **Case Report**

#### **1. Diagnosis**

- ✧ A 10-year-old boy attended with his left condyle fractured, caused by a soccer accident. Painful facial swelling localized over the left condylar region, and lateral deviation of the mandible to the left side resulting in a facial asymmetry.
- ✧ Medical History: NP
- ✧ Intra-oral examination: anterior crossbite and excessive crowding. Limited mouth opening and mandibular deviation during opening and closure were observed, and mastication and speech were both affected.
- ✧ Panoramic radiograph and CT findings: green-stick (incomplete) fracture on the L't condyle.

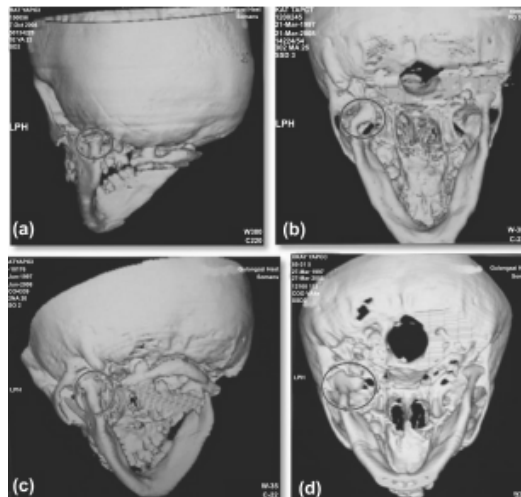


2. Treatment

- ✧ Closed reduction—allow to initial fibrous union of the fracture segments and obtain remodeling with normal functional stimulus.
- ✧ 3 mm thick removable acrylic mandibular splint was used; Soft diet and rest were suggested.

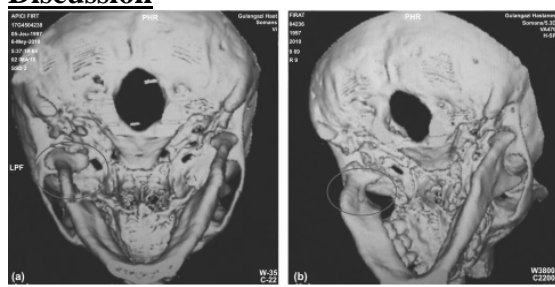


- ✧ Clinical and radiologic examination at 1, 3, 6, 12 and 27 months -- uneventful healing with reduction of the condylar head and remodeling of the condylar process.



- ✧ Neither deviation nor pain was observed. Occlusion was normal and mouth opening was within normal limits.
- ✧ Correct positioning of the ramus (repositioning) and new bone modeling (i.e., remodeling) of the submandibular condyle observed by CT scan resulted. Bone callus was observed on the anterior surface of the condyle, and the condylar axis was flattened.
- ✧ TMJ disorders such as ankylosis and dysfunction, or malocclusion as well as the limitation of the mouth opening were not observed after 30 months

**Discussion**



1. Treatment of condylar fractures depends on various factors; (i) the age of the patient, (ii) the co-existence of other mandibular or maxillary fractures, (iii) whether the condylar fracture is unilateral or bilateral, (iv) the level and displacement of the fracture, and (v) the state of the dentition and the dental occlusion.
2. Two main therapeutic approaches for condylar fractures: (i) Close reduction--conservative treatment with intermaxillary mobilization followed by functional therapy; (ii) Open reduction: surgical intervention to reposition and stabilize the fragments.
3. Close reduction is indicated in almost all condylar fractures occurred in childhood, and in intracapsular and extracapsular fractures that do not include serious condylar dislocation in adults. Open reduction and internal fixation may be indicated in bilateral injuries with loss of a vertical ramus.
4. Children have a greater osteogenic potential which allows rapid union within three weeks and non-union or fibrous union is rarely seen
5. It appears that pediatric condylar fractures could be managed by closed procedures and obtains an encouraging prognosis, as long as there was no damage to the fibrous attachments of the capsule, disc, and condylar cartilage.

**Conclusion**

6. A non-surgical functional approach in children presenting unilateral fractures of the mandibular condyle prevents distortion in subsequent growth.
7. The proliferation in the chondrocyte layer supports new bone formation in the fractured condyle, which contributes to the continuous and simultaneous condylar growth in the healing process of fractures during the growing period.
8. Functional therapy resulted in remodeling with functional adaptation of the condyle to the fossa.

題號	題目
1	Where is the most common fracture site in mandibular fracture cases? (A) Ramus (B) Angle (C) Condylar (D) Body
答案(C)	出處：Contemporary Oral and Maxillofacial Surgery, 3e (中文版)
題號	題目
2	Which kind of fracture indicates that fracture site communicate to the outside of the body? (A) Greenstick fracture (B) Simple fracture (C) Comminuted fracture (D) Compound fracture
答案(D)	出處：同上