

# Pediatric Condylar Trauma: Diagnosis, Treatment, and Management

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## DESCRIPTION

Pediatric condylar trauma is a common injury that occurs in children and adolescents. The condyle is a bony structure at the end of the mandible that connects the jaw to the skull. Injury to the condyle can cause significant functional impairment and affect the growth and development of the mandible. This article provides an overview of the diagnosis, treatment, and management of pediatric condylar trauma.

The diagnosis of condylar trauma in children is based on a combination of clinical examination, imaging studies, and patient history. The most common presenting symptoms include pain, swelling, and difficulty opening the mouth. Clinical examination may reveal tenderness and crepitus in the Temporomandibular Joint (TMJ) region. Imaging studies, such as panoramic radiography, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI), can provide detailed information about the extent and nature of the injury.

Pediatric condylar trauma is classified into three types based on the severity of the injury. Type I injuries are minimally displaced fractures that do not require surgical intervention. Type II injuries are displaced fractures that require surgical reduction but do not involve significant joint involvement. Type III injuries involve significant joint involvement and require surgical intervention.

The treatment of pediatric condylar trauma depends on several factors, including the severity of the injury, the age and overall health of the child, and the presence of associated injuries. The treatment may involve conservative management, surgical intervention, or a combination of these modalities.

Conservative management is appropriate for type I injuries and involves the use of soft foods, analgesics, and physical therapy to manage pain and improve function. The use of a bite block or splint may be recommended to stabilize the jaw and prevent further injury.

Surgical intervention is required for type II and type III injuries and involves the reduction of the fracture and stabilization of the jaw. The most commonly used surgical techniques include Open Reduction and Internal Fixation (ORIF) and Closed Reduction with External Fixation (CREF). ORIF involves the use of plates, screws, and wires to stabilize the fracture, while CREF involves the use of pins and wires to immobilize the jaw.

Management of pediatric condylar trauma involves a multidisciplinary approach that includes a team of oral and maxillofacial surgeons, orthodontists, and physical therapists. Early intervention and appropriate management are essential for minimizing the long-term effects of the injury on jaw function and growth.

Complications associated with pediatric condylar trauma include malocclusion, TMJ dysfunction, and growth disturbances. Malocclusion may occur due to displacement of the jaw, while TMJ dysfunction may result from injury to the joint capsule and surrounding structures. Growth disturbances may occur due to disruption of the condylar cartilage, which can affect the growth and development of the mandible.

Prevention of pediatric condylar trauma involves the use of appropriate protective equipment, such as helmets and mouth guards, during sports activities. Adequate supervision and education of children and adolescents regarding safe play practices can also help prevent these injuries.

Pediatric condylar trauma is a common injury that can cause significant functional impairment and affect the growth and development of the mandible. Early diagnosis and appropriate management are essential for minimizing the long-term effects of the injury on jaw function and growth. A multidisciplinary approach involving a team of oral and maxillofacial surgeons, orthodontists, and physical therapists is recommended for optimal management of these injuries. Future research is needed to evaluate the effectiveness of different treatment modalities and to develop strategies for preventing pediatric condylar.

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