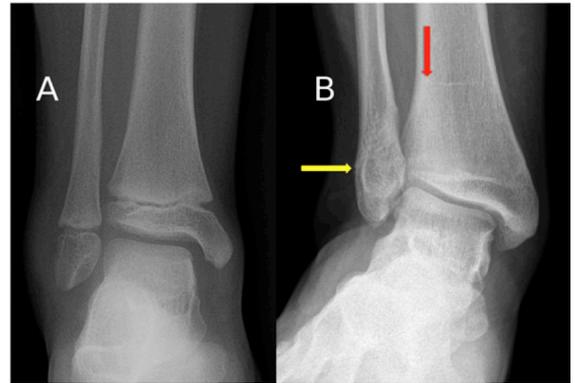


Complications

1. Premature closure

8 girl who had a twisting injury of the ankle.

The same patient was seen again because of symptoms of progressive “flatfoot” when she was fourteen years old. The fibula is shortened and valgus deformity is evident in the ankle because of fibular physeal and lateral tibial physeal arrest.



2. Osteochondral Defect

Osteochondral defect of the talus following ankle sprains and fractures is an increasingly common diagnosis. MRI is the gold standard for evaluating cartilage injury and provides excellent osseous detail as well. Treatment may be either open or arthroscopic surgery and includes osteochondral defect stabilization, microfracture, or drilling of the involved cartilage area.

3. Compartment Syndrome

Extensor retinaculum syndrome is a compartment syndrome unique to pediatric ankle fractures. In one report, six patients with distal tibial physeal fractures (four type-II and two triplane fractures) presented with severe ankle pain and swelling, a hypoesthetic first web space, weakness of the extensor hallucis longus and extensor digitorum communis, and pain with passive toe flexion. Extensor retinaculum release and fracture fixation relieved pain and weakness, but two patients had persistent altered sensation in the first web space.

4. Growth Arrest

Observation, bar excision, epiphysiodesis, and corrective osteotomies were used to treat the growth arrest.

MRI if necessary, to evaluate for physeal bar formation, and excision of the physeal bar if <50% of the physis is involved.

CT or MRI may also be used to detect “secondary tethers,” such as incomplete bar resection or recurrent bars in cases of insufficient growth restoration.

Radiographs can be followed for the presence of Park-Harris growth lines, which should parallel the physis if normal growth resumes. Angular deformity is detected when lines are not parallel.

Asymmetric Park-Harris growth arrest line resulting from premature closure of the medial distal tibial physis two years following a displaced Salter-Harris type-III medial malleolar fracture. Note the convergence (red arrows) of the growth arrest lines toward the physal bar (yellow arrow).



Type III fracture 2002



ORIF in 2002



Varus deformity in 2004



Corrective Osteotomy[oblique open osteotomy and epiphysiodesis of lateral epiphysis



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