Role of fixation in children’s fractures

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Children's Fractures

Fracture Factors

Patient Factors
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- Supracondylar elbow fractures
- Epicondylar fractures
- Fractures around the ankle
- Fractures around the knee
- Femoral shaft fractures
- Miscellaneous fractures
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Fractures

Failure of primary closed stabilisation
Failure to maintain reduction
Articular fractures
Problem fractures
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Failure of primary closed stabilisation

Unstable configuration

Inability to obtain accurate reduction
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Failure to maintain reduction

Loss of reduction in cast immobilisation

Late surgery for malunion
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Articular fractures

Most involve physeal injury

Accurate reduction is essential

Restoration of normal growth is not guaranteed
3 PART LATERAL TRIPLANE
3 PART LATERAL TRIPLANE
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Problem fractures

Mostly related to rotational instability
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Patients

Multiple injury
Head injury
Miscellaneous problem bone conditions
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Head injury/Multiple trauma

Difficulties in nursing

Alarming rate of callus formation

May miss the boat if child 'unfit' for surgery
9 yo with MT
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Problem bone conditions

Underlying pre-existing bone condition
Predispose to fracture
Pathological Fractures

Not all pathological fractures require fixation!!
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Supracondylar elbow fractures
Epicondylar fractures
Fractures around the ankle
Fractures around the knee
Femoral shaft fractures
Miscellaneous fractures
Elbow Fractures

Supracondylar Fractures

HISTORY

1948 Swenson
1953 Judet
1974 Fowler
1988 Pirone
1996 Garbuz (Rang)
Elbow Fractures

Type 3 Fractures

?? Closed reduction and percutaneous wires??

Garbuz et al. (JPO) 1996

Hadlow et al. (JPO) 1996
Elbow Fractures

Garbuz et al. JPO 1996

326 Children
Wires for type III
Conclusions regarding absent pulse
22 absent pulse
Only 7 expired
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Hadlow et al. JPO 1996

176 Children
Only 7 pinned
Fracture analysis suggests 61% overtreatment!
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Flexible rod fixation for diaphyseal femoral #

Multiple system injury
Head injury
Spasticity
Multiple long bone fractures
Floating knee
Pre-existing pulmonary dysfunction
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87 Children
1 Refracture
1 Excessive valgus
1 Nail backed out