Splinting versus casting of torus fractures

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Objectives

- Diagnosing a torus fracture
- Statistics
- Current management
- Research
- Limitations
- Implications for practice
Can torus fractures be safely splinted rather than immobilised in a POP below elbow short arm cast?
Key Features of a torus fracture

- Also known as buckle fracture
- FOOSH
- Age 1 - 15yrs
- Cortex “buckles” rather than breaks
- Paediatric periosteum thicker & stronger
- Common sites: distal radius & ulna
- Little or no angulation
- Stable injury
Statistics…..

3 million children attend ED annually

(Cleaver & Webb 2007)

35-45% Paediatric wrist injuries

85% Torus fractures of the distal radius

(Boyer et al 2002)
Traditional Treatment

• 2-4 weeks in a POP below elbow short arm cast

• Fracture clinic review (within 7 days)

• Fracture clinic review, repeat radiograph +/- removal of splint (at 2-4 weeks)

........dependent on local Trust policy
Velcro splinting device....
Literature Review

- Systematic approach: abstract content
- Inclusion/exclusion criteria
- English Language
- 1984 – 2008
- UK; USA; Canadian articles
- RCT x 4; Retrospective reviews x 2

<table>
<thead>
<tr>
<th>Inclusion</th>
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<td>- Paediatric patients</td>
<td>- Special needs child</td>
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<td>(age specific)</td>
<td>- Out of area</td>
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<tr>
<td>- Torus fracture</td>
<td>- Metabolic bone</td>
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<td>- Multiple injuries</td>
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<td>- Age specific (&lt; 5 yrs)</td>
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Research

• The role of serial radiographs
• Farbman et al (1999)

FINDINGS
Serial radiographs unnecessary
No change in fracture healing
Cost savings $35 million annually
Research

- Simple treatment for torus fractures: cast versus splint

FINDINGS
Fracture unite, nil loss of position
Futura splint is safe and acceptable
Clinical & radiological F/up not necessary
Economic implications
Research

• Hospital versus home management
• Symons et al (2001)

FINDINGS
Stable fracture
Safe to manage injury at home (removable backslab)
- open access to clinic
- clear instruction
Research

- Splint versus cast: physical functioning

FINDINGS
Improved physical functioning
No difference in level of pain
Research

Comparing splints to casts....

- Radiographs at F/up: not necessary
  (Farbman et al 1999)

- Fractures unite, nil loss of position
  (Davidson et al 2001)

- 100% fracture healing
  (van Bosse et al 2005)

- Removable splint preferable
  (Symons et al 2001; West et al 2005; Plint et al 2006)
Limitations

- Recruitment
- Diagnosis of torus fracture
- Age specific

..Incidence of re-fracture on an already weak metaphysis??
Implications for practice...

- Reduction to inpatient time
- Improved physical functioning
- Economic implications
- Reduced radiation to child
- Empowerment of parent & child
Any Questions?
References


