

Chauhan H, Spacey K, Patel A, Symons S
 Department of Trauma and Orthopaedics, Basildon Hospital, Essex, United Kingdom

Introduction

Distal radius buckle fractures the most common forearm fractures in children. They are the compression failure of bone and are un-displaced and stable by definition.

Distal radius buckle fractures are manageable in soft splints rather than traditional Plaster of Paris (POP). Soft splints can be removed at home by the parent(s), avoiding unnecessary follow-up appointments. Therefore a soft cast treatment pathway would involve application of the removable soft cast at first appointment and discharge with cast care, removal and mobilisation advice.

Aim

We examined our current departmental practice and present a cost comparison of using the proposed soft splint pathway rather than POP.

Method

We initially examined the radiographs and notes of all children presenting with distal radial buckle fractures over a 3 month period. Costings were assimilated through plaster room purchasing and the clinical coding department. A new pathway and parent information sheet using the soft splint rather than the POP was devised and implemented (Fig. 1 & 2).

Figure 1: Soft splint pathway

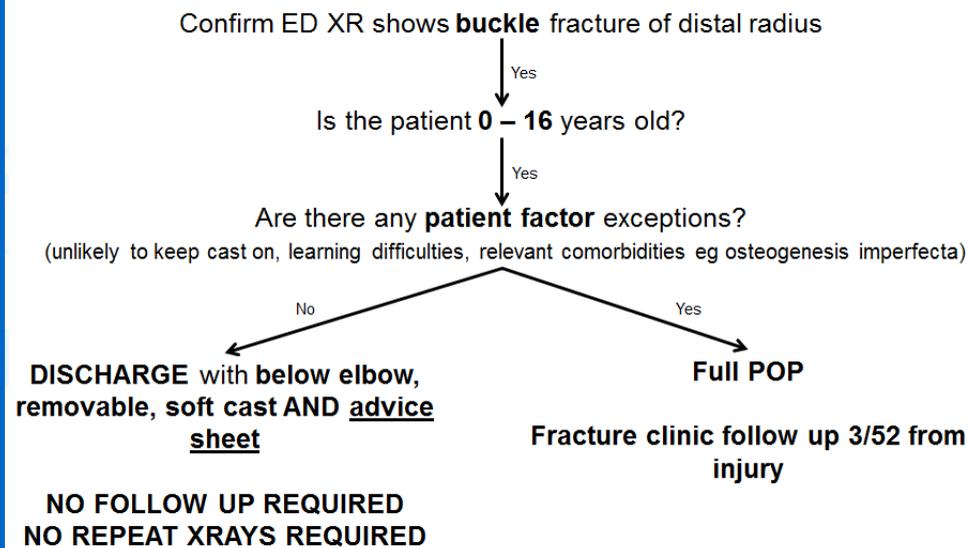


Figure 2: Advice sheet

Basildon and Thurrock University Hospitals NHS Foundation Trust

Buckle Fracture of the Wrist

Discharge information for parents and carers

Your child has sustained an injury of the wrist bone which your doctor has diagnosed as a 'Buckle Fracture'

This injury is common in children. It is treated like a sprain and will not cause any long term problems or deformity.

Treatment

We have provided your child with a soft, removable cast to make them more comfortable.

The splint should be worn day and night for up to 4 weeks and should only be removed for washing and hygiene reasons. After 4 weeks the splint can be removed and the wrist used as normal.

Sport, PE and rough play should be avoided for a total of 6 weeks to avoid the risk of further injury.

Things to look out for

Your child may have pain and minimal swelling in the wrist which should settle over a few days. They may require simple painkillers.

When first removing the splint after 4 weeks your child may complain of mild stiffness and aching, this should settle over a few days.

If your child has problems whilst wearing the splint or for two weeks after the splint has been removed contact: Fracture Clinic 01266 524900 ext 2756/7 (Mon-Fri 9am-5pm)

Results

	Pre-pathway results	Post-pathway results
Number of children (male:female)	107 (61M: 46F)	113
Average age	8.4	3.7
% of children with additional unnecessary radiographs	25.2%	2%
Seen in paediatric clinic	85%	97%
% appropriately managed in soft splint and discharged at first fracture clinic appointment	32%	89%
Net hospital earnings for treating cohort/per patient	£188.28	£144.90
Plaster room time/per patient	15.3 mins	10 mins
Missed earnings on unnecessary follow up appointments	£7936.11	£1531.53
Number of extra appointments if new pathway followed	57	11

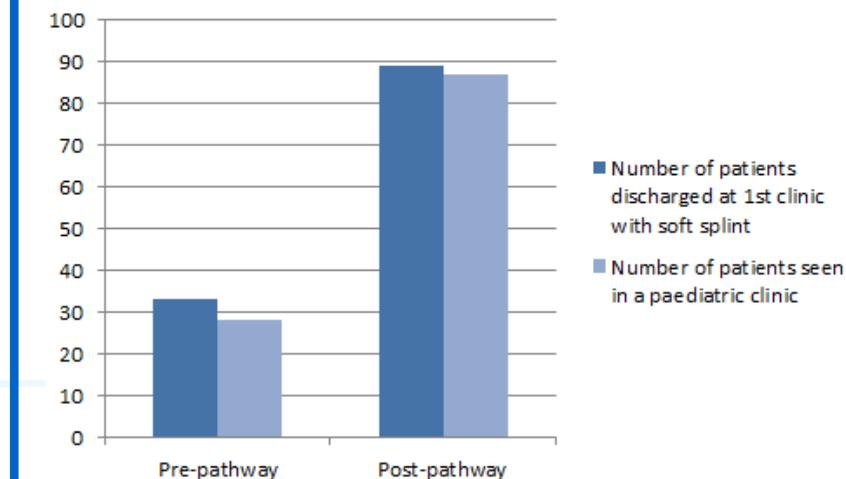


Figure 3: Number of patients seen in a paediatric clinic of those treated according to the pathway

Conclusion

Soft casts are a cost-effective way of managing buckle fractures. Reducing inappropriate fracture clinic follow-ups can increase new patient appointments and improve service efficiency. Based on these findings, the new treatment algorithm using soft splints has been introduced in our department.