Pathomechanics 1

Annotated Orthopaedic Evidence Assignment

Plint AC, Perry JJ, Correll R, Gaboury I, Lawton L. A randomized, controlled trial of removable splinting versus casting for wrist buckle fractures in children. *Pediatrics.* 2006;117:691-7.

This article addressed the problem of decreased quality of life to children that sustain wrist fractures and are immobilized using a cast. A burden on the family and health care system for the follow up visit to remove the cast is also noted. The purpose of the study was to compare ease of activities of daily living in children with removable splints and casts.

A randomized, controlled trial was conducted among 113 patients who presented with buckle wrist fractures in the Childrens' Hospital of East Ontario. Subjects were randomly assigned to two groups: short arm plaster cast or fitted, removable splint. Baseline measurements were taken using the AKSp scale; both groups were similar at baseline.

The subjects were sent home with care instructions, such as avoiding getting the wound wet. The short arm cast group participants were required to return at day 21 to remove the cast. At days 7, 14, 20 and 28 follow up measurements were collected for each group. Blinding was not possible for the subjects and was not employed for the clinicians.

The removable splint group reported much higher ASKp scores on day 14. However, on days 7, 20 and 28 the ASKp scores were similar between the two groups. The scores on the VAS scale were similar between both groups throughout the study. During the study, five patients in the plaster cast group returned to the emergency room for problems with their casts.

Since the results for this study were similar for both groups, either treatment would be acceptable for children with buckle wrist fractures. A removable splint may be more preferable as it does not require a follow up visit for cast removal.

According to the AAOS evidence scale, this article is rated at level II.

This article is helpful to my practice as I work with athletes from ages 14 to 18 on a daily basis. While I do not often see wrist fractures, it is always a possibility in sport. Understanding the various methods of immobilization and care instructions with each is important for me as an athletic trainer who will be working with these athletes on a regular basis. I often receive questions about care and treatment of injuries from my patients and their parents following an ER visit.

Critical Appraisal Checklist

Was the assignment of patients to treatments randomised? Yes

-and was the randomisation list concealed? Article did not address this, so assume no

Were all patients who entered the trial accounted for at its conclusion? No, only 87 of 113 were included in final analysis

-and were they analysed in the groups to which they were randomised? Yes

Were patients and clinicians kept "blind" to which treatment was being received? No

Aside from the experimental treatment, were the groups treated equally? Yes

Were the groups similar at the start of the trial? Yes

Is your patient so different from those in the trial that its results can't help you? My patients are similar to those in the study, but I do not often see buckle wrist fractures

How great would the potential benefit of therapy actually be for your individual patient? It would be somewhat beneficial, especially to the parents. It is a convenience issue more than anything else.

Do your patient and you have a clear assessment of their values and preferences? Yes, I always present the various options to the patient and parent and ask which they would prefer