

Patho II

Orthopedic Evidence Assignment

For children and adolescents with fifth metatarsal fractures is the adult treatment effective for this age group as well?

Herrera-Sota JA, Scherb M, Duffy MF, Albright JC. Fractures of the Fifth Metatarsal in Children and Adolescents. *J Peadiatr Orthop*. 2007;27:427-431.

Various types of fractures to the fifth metatarsal can be sustained and several treatment protocols have been studied for them. However, most of these studies have been performed on adults. Metatarsal fractures are becoming more common among children and adolescents but only one study of proper treatment for a fractured fifth metatarsal has been conducted on this age group. The purpose of this study was to success rate and healing time of previously established adult treatments on youth. The authors of this study searched their database for patients between the ages of 4 and 18 for fifth metatarsal fractures. Those with other injuries or inadequate follow up were excluded. The fractures were classified into five classes: type I is base of the fifth; type II is intra-articular; type III, or Jones; diaphyseal; and neck.

Type I fractures were treated with a walking cast for 3 to 6 weeks. Two of the 30 in this group had complications and all in the group had resolved symptoms at the final follow up visit. Type II was treated with either a non-weight bearing cast or a short-leg walking cast. Those in the non-weight bearing cast healed more quickly than in the walking cast. However, the authors concluded that age was not a factor as this is comparable to adult healing time ratios. Subjects with a Jones fracture were treated with a non-walking cast for 6 weeks and gradually began to weight bear, or underwent ORIF. Patients older than 13 years had the best success with surgical intervention. All diaphyseal and neck fracture patients were treated with a non-walking cast for 3 to 4 weeks and healed well. Since these patients were treated according to treatment protocols for adults and were overall successful, the authors concluded that adult treatments can also be applied to youth.

According to the AAOS scale this article would be classified as a level III therapeutic study because it is a retrospective study which is comparing various interventions for a specific injury (types of an injury).

The bottom line is that treatment protocols for adults with fifth metatarsal fractures can be applied successfully to children and adolescents with the same injury. This is helpful for me as a high school athletic trainer because I treat adolescents constantly and have already had an athlete with a Jones fracture this year. In my limited classes so far at ATSU I have learned that studies on one population cannot be generalized to other populations. I now know that I can use treatment protocols designed for adults on my high school athletes with fifth metatarsal fractures. Many of my athletes believe that they are invincible and should be able to heal within days if not hours. This article is helpful as it gives certain time frames for each type of fracture and treatment. It also indicates that in avascular areas, such as the Jones fracture, healing time for youth is not much better than that of adults. This point will help me stress to my athletes that their bodies need time to heal.

Was the assignment of patients to treatments randomised?

No, it was from the physician's database and was based on what type of fracture the patient sustained.
-and was the randomisation list concealed? No

Were all patients who entered the trial accounted for at its conclusion? Yes

-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, all were between the ages of 4 and 18 with a fracture of the fifth metatarsal.

Not sure that the calculations apply to this article. I would compare adult healing rate with youth healing rate, however, figures for adult healing rates are not provided.

Is your patient so different from those in the trial that its results can't help you? No, my patients are similar.

Do your patient and you have a clear assessment of their values and preferences? Yes

Are they met by this regimen and its consequences? Yes