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CORR Insights®: Does Fracture Affect the Healing Time or Frequency of Recurrence in a Simple Bone Cyst of the Proximal Femur?

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Where Are We Now?

Simple cysts of the femur in children are an important clinical problem. Imagine a 10-year-old child begins to limp. A radiograph, perhaps from an urgent care center, shows a large lytic area in the proximal femur. There is a

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possibility that the bone has fractured. The pathology shows a simple, non-malignant cyst wall. Traditional treatment for this type of cyst is to pack the cavity with a bone graft. These cysts, whether observed, nailed, grafted or fractured, usually resolve slowly as the child reaches maturity. In this retrospective study, Chin and colleagues reviewed their long-term experience with flexible nails for large cysts with and without fractures. The 25 children with fractures and the 29 without fractures were treated with flexible nails. Both groups had similar experiences, including healing in approximately the same amount of time.

Where Do We Need To Go?

What we want to know now is how many of the patients without fractures

actually needed the nailing. The cyst index is a measurement that relates the area of the cyst to the diameter of the bone. Larger cysts (big area) in smaller bones (smaller diameters) have a high cyst index, and are more likely to fracture. Would it be ethical to randomly assign patients with a high cyst index into a nailing group and a control group? The present paper demonstrates that with and without fractures, the clinical course is similar, so perhaps the answer is that it would be ethical to perform such a randomized study; this is helpful information to direct future research efforts. Although the authors have few complications with their flexible nails, this has not been everyone's experience [1]. The adverse experience with nailing must be weighed against the morbidity of an unplanned fracture through a large cyst.

How Do We Get There?

The authors of the current study call on the collaboration of pediatric orthopedists and their colleagues to undertake

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a multicenter prospective trial. For this trial, patients would be randomly assigned to either a nailing group or followed nonoperatively. A carefully crafted trial with good review of the protocol by experienced investigators could provide Level I evidence to

guide therapy in the future. It would be worth the effort.

Reference

1. Narayanan UG, Hyman, JE, Wainwright AM, Rang M, Alman BA. Complications of elastic stable

intramedullary nail fixation of pediatric femoral fractures and how to avoid them. *J Pediatr Orthop*. 2004;24:363–369.