Surgical Options for Broken Intramedullary Nail

To the Editor:


The problem of a broken nail is often complicated by the technical difficulty of removing retained nail segments. Multiple techniques have already been described for the extraction of the distal segment of a broken nail. Recent publications related to this topic, including the 2 manuscripts previously referenced,1,2 emphasize the actuality of this technically challenging problem and the absence of a single best answer. These 2 reports also combine data and details of additional methods.

In approaching the problem of broken nail extraction, the clinician must consider the nonoperative option of leaving the nail fragment in place. We think that a bypass fixation using the thin wire Ilizarov circular device is a safe and simple solution in the treatment of non-unions with irretrievable pieces of a broken nail in the distal fragment.3 Utilizing the Ilizarov device aims at avoiding unnecessary soft tissue injury, bone weakening due to additional osteotomies, significant blood loss, prolonged surgery, and fluoroscopy time that are often inescapable when the removal of instrumentation is attempted. Using the Ilizarov device allows an immediate and simultaneous stabilization of the nonunion site as well. The 3-plane stability of the ring fixation device allows early full weight bearing. Fixation in an elastic circular frame, combined with cyclic loading, creates a favorable biomechanical environment for fracture healing and promotes callus formation while permitting functional gait.

We believe that the thin wire Ilizarov frame is a good surgical alternative that provides stable bone fixation and functional treatment of patients who present with delayed fracture healing and a difficult to retrieve distal portion of a broken intramedullary nail.

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REFERENCES

In Response:

I would like to thank Dr. Lerner and his colleagues for their letter regarding our manuscript. The application of an Ilizarov device is a demanding treatment process and one that requires patient cooperation. Using an Ilizarov circular device for a femur fracture in an obese patient may not be that easy and not as stable as a large-diameter intramedullary nail, especially in cases in which additional reaming or bone grafting is needed.

Our report was intended to contribute to our knowledge base of the multiple methods of removing a broken nail. The Ilizarov device should be considered as an additional option for bypassing a non-union with failed instrumentation, especially when other methods of nail removal may not be suitable for a particular case.

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In Response:

The authors thank Dr. Lerner and colleagues for their interest in our study. We agree with their assertion that the problem of a long bone nonunion with a retained broken distal intramedullary nail can be approached by leaving the broken fragments in place.1 The thin wire Ilizarov circular fixator may be a good salvage technique in selected cases.

However, there will still remain situations in which removal of the broken implant is desirable. These would include the infected nonunion in which the retained fragments may provide a nidus for infection. In addition, many surgeons still lack expertise with thin wire fixation, and these devices may not be available in all hospitals. Finally, certain patients may refuse to accept long periods of external fixation when alternative treatment methods are available. Therefore, the ability to remove a broken distal intramedullary nail must be in the surgeon’s armamentarium as he or she decides on the best management of this difficult problem.

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REFERENCE