

Quick Tips - Surgery

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Interlocking Nails

Interlocking nails are similar to a large IM pin, except that there are small holes in both ends to accept screws or bolts that allow direct fixation to the bone. Generally two bolts are placed in both the proximal and distal fracture segments. Unlike an IM pin, the interlocking nail is able to withstand ALL forces acting on a fracture and can provide adequate axial, rotational, and bending stability even in complicated fractures. The strength of a fracture treated with an interlocking nail is similar to or better than that provided by a standard bone plate and screws. Interlocking nails have a significant advantage over bone plate fixation because they allow application of the "biologic osteosynthesis" principle, which emphasizes minimal disruption to the blood supply during fracture stabilization. In this approach, the goal is alignment of major fracture segments without complete anatomic reconstruction of smaller fragments. Comparison of standard anatomic reconstruction with bone plate fixation vs. biologic re-alignment with interlocking nail fixation shows that fractures treated with interlocking nails heal on average 2 weeks faster, with no difference in complication rate. Another advantage of interlocking nails is cost – a nail with 4 bolts is significantly less expensive than a standard bone plate with screws, or an external fixator apparatus. Interlocking nails are used primarily for mid-diaphyseal humeral, femoral, or tibial fractures. As with other intra-medullary implants, their use in the radius is contraindicated. Because of their biomechanical advantage, interlocking nails are also ideal for comminuted fractures or other complicated cases including infected fracture sites that require revision or cases of non-union.

I hope you found this information helpful,

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