Intramedullary Nailing: Entry Points, Reaming and Locking Strategies

22 July 2026 | by jkadmin



Intramedullary nailing has been the gold standard for femoral diaphyseal fixation since Küntscher's pioneering work in the 1940s. Modern implant families with improved metallurgy, wider diameter ranges and multiplanar locking have extended the technique to proximal metaphyseal, subtrochanteric and distal femoral fractures.

Entry Point Selection

For antegrade nailing, the trochanteric entry point (tip of greater trochanter, aligned with the lateral cortex of the femoral neck on AP) is preferred for standard nails. The piriformis entry provides a straighter channel but risks proximity to the medial femoral circumflex artery in some anatomical variants. Confirm the entry portal with two-plane fluoroscopy before advancing the guide wire — a medial start causes valgus; lateral causes varus.

Reaming Protocol

Sequential reaming to 1.5 mm above nail diameter improves canal fill, increases endosteal contact and reduces non-union rates (RR 0.62 vs unreamed in multiple meta-analyses). In patients with pre-existing pulmonary compromise, limit reaming to nail OD + 0.5 mm to reduce fat embolism risk.

Locking Strategies

Static locking (both ends) is recommended for all unstable, comminuted and segmental fractures — it prevents shortening and rotation. Dynamic locking (one end) is preferred for simple transverse fractures in young patients with good bone stock, permitting controlled micromotion that accelerates callus formation. Convert to static if union is delayed beyond 12 weeks.

Contact

- **Address:** 14 Harley Medical Court, London W1G 9PF, United Kingdom
- **Telephone:** +91 9319821922
- **Email:** exports@orthomedimplants.com

This document was generated from https://www.jksigma.in/2026/07/22/intramedullary-nailing-surgical-technique-guide/