

Tibial Nail Starting Point: How to Get It Fluoroscopically!

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Tibial Entry Point

- Appropriate radiographs for tibial nail insertion can be difficult
- Malrotated images lead to translation of the tibial nail entry point
- A 30° arc (range, 25°-40°) provides a suitable anteroposterior radiograph
- For every 5° of rotation, the ideal entry point moves 3% of the plateau width
- During external rotation, a misleading medial entry point is obtained
- External rotation of the tibia leads to medial entry points = valgus
- A fibular bisector line correlates with an entry point that is ideal or up to 5 mm lateral to this but never medial
- Fibula bisector line can help avoid medial entry points
- The film that best shows the fibular bisector line is between 0° and 10° of internal rotation of the tibia.

Clinical applications

- During intramedullary nailing of the tibia the leg has a tendency to lie in external rotation (free or traction)
- This will lead to medial starting points if not adjusted for with compensatory rotation of the image intensifier

CONCLUSIONS:

The fibula head bisector line can be used to avoid choosing external rotation views and, thus, avoid medial insertion points.

This may help prevent malalignment during intramedullary nailing in proximal tibial fractures.

Reference:

Walker R, Zdero R, McKee M, Waddell J, Schemitsch EH. Ideal tibial intramedullary nail insertion point varies with tibial rotation. J Orthop Trauma; 2011; 25(12): 726-30.