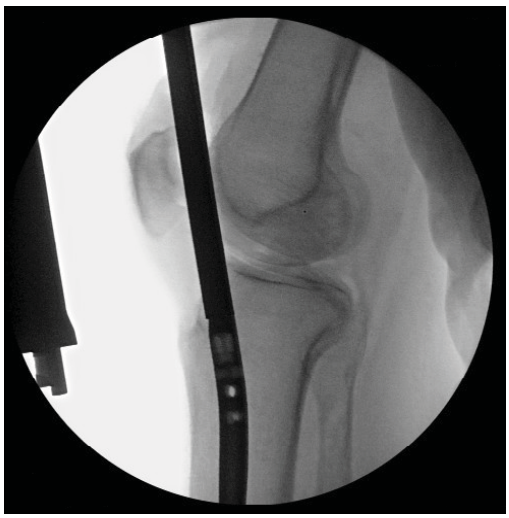
Can you align a tibia using finesse, and not force?

smith&nephew

TRIGEN◇
META-NAIL◇
Semi-extended Instrument Set

Through constant innovation, Smith & Nephew is the **first company to fully support** an alternative technique to the standard nailing of tibia fractures.



Easier alignment

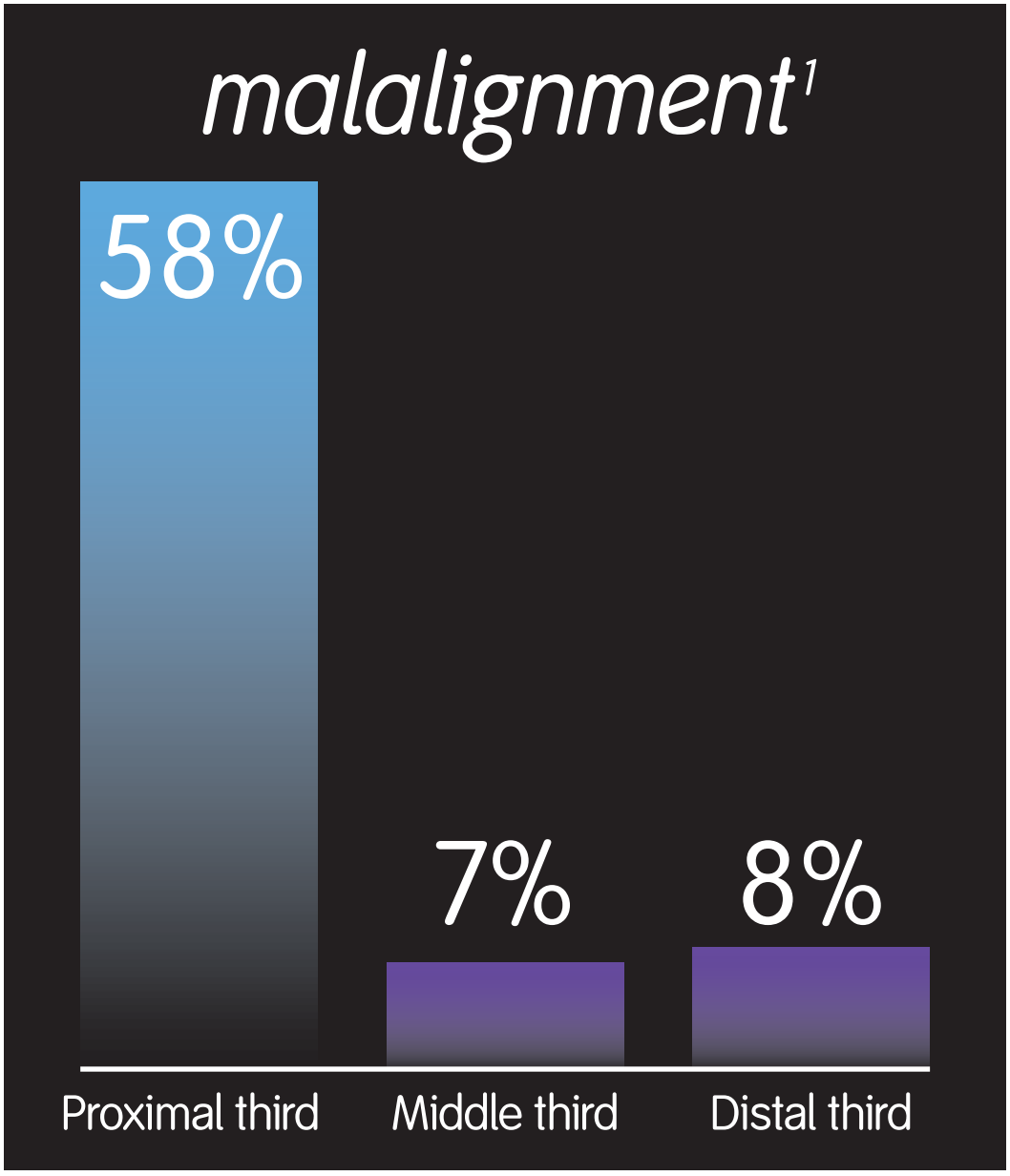
Simplified procedure

Enhanced fixation

The new TRIGEN® Semi-extended Instrumentation facilitates intramedullary nailing procedures of the tibia with less flexion of the knee joint. Reduced flexion leads to less pull from the quadriceps mechanism, helping to avoid fracture malreductions and misalignment.

The semi-extended technique offers easier reductions, easier imaging and less angulation of the proximal segment while offering the enhanced, multiplanar fixation synonymous with the META-NAIL® Tibial Nailing System.

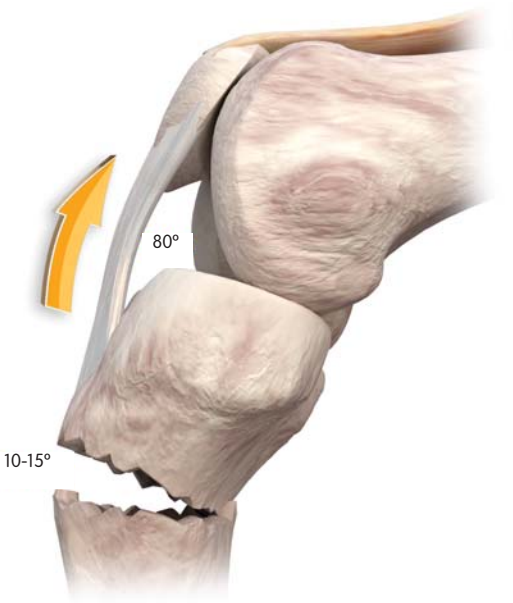
Challenges with tibial nailing



133 tibia nailing cases showed

58% of proximal tibia fractures were malaligned (>5° angulation)

Easier alignment



Stresses from angle of flexion in traditional technique

When dealing with proximal tibia fractures, a common issue is forced angulation. The semi-extended position allows for **neutralization of the pulling forces of the quadriceps tendon**.[2]

Without these pulling forces the fracture **naturally reduces**, leading to **less malalignment**.

Reducer used in extended position allows for easier control of the distal fragment.

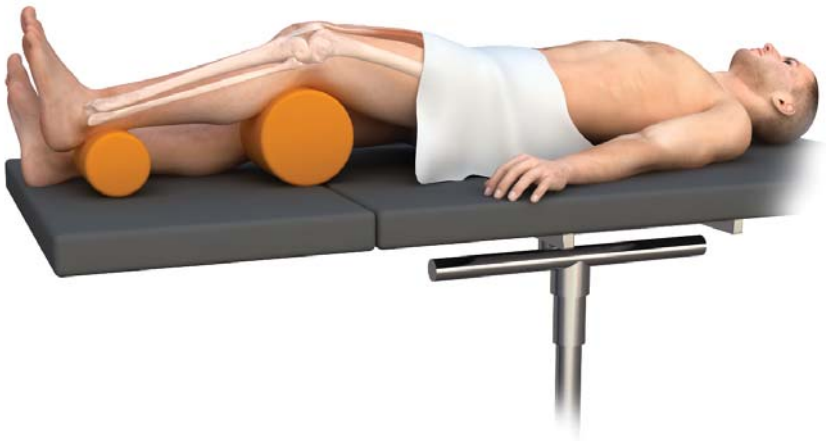
Simplified procedure

C-Arm use becomes easier for M/L & A/P views due to leg position.

Leg positioning does not need to change for freehand distal locking.

Reaming and guide wire placement are easier since they do not have to be raised in the air over the hyper-flexed knee.

There is no need for triangles or other aids to force the position of the leg. In the semi-extended position **only bumps are needed for the procedure**.

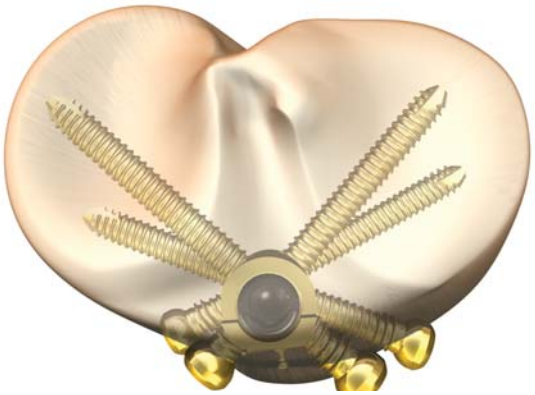


Enhanced fixation – Proven META-NAIL◇ technology

The Semi-extended Instrumentation still utilizes all the benefits of the TRIGEN◇ META-NAIL System.

Tissue protecting instruments built specifically for this approach allow surgeons to operate in the joint space with confidence and accuracy.

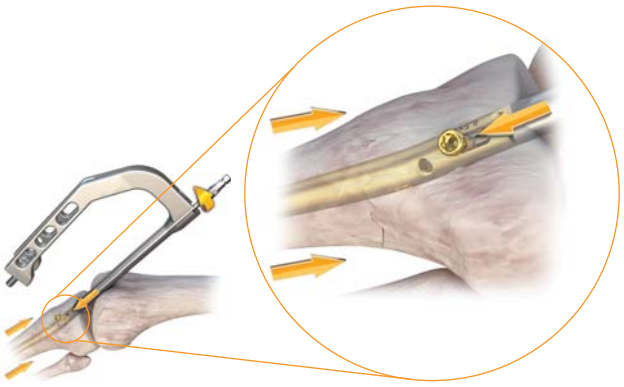
The **multiplanar screw configuration** of the META-NAIL Tibial Nail continues to offer a **stable, locked construct**.



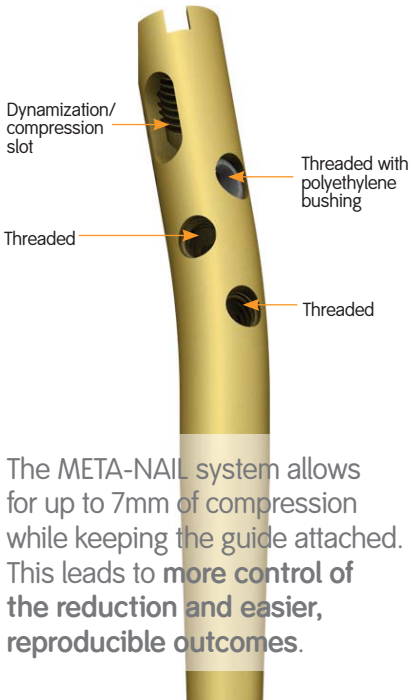
With the semi-extended instruments, the surgeon is still **able to use the blocking screw attachments** to create an artificial diaphyseal canal and **help prevent nail translation** as the patient begins to move and weight bear.

Adjustable cartridge allows canal to be lengthened

The threaded holes and polyethylene bushing **enhance screw fixation** and help **prevent screw back out and nail translation**.



As the proximal screw is moved down the dynamization slot through the guide, the distal segment of the tibia is pulled up to reduce the fracture.



The META-NAIL system allows for up to 7mm of compression while keeping the guide attached. This leads to **more control of the reduction and easier, reproducible outcomes**.

The META-NAIL Tibial Nail continues to offer the highest proximal bend on the market, allowing for easier insertion into the canal space with less risk of dislocation.

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References

1. Freedman EL, Johnson EE. Radiographic analysis of tibial fractures malalignment following intramedullary nailing. *Clin Orthop Relat Res. 1995:25-33*.
2. Tornetta P, 3rd, Collins E. Semi-extended position of intramedullary nailing of the proximal tibia. *Clin Orthop Relat Res. 1996:185-189*.

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