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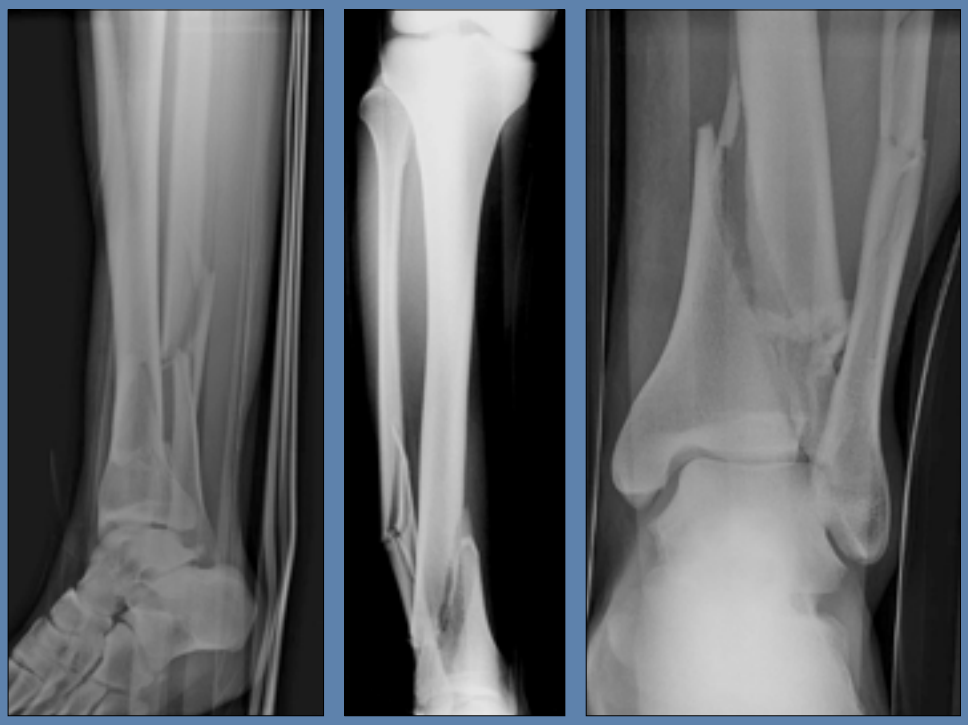
Trauma

S2™ Tibial Nail
IM Nail Case Report #1

Options Matter



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IM Nail Case Report #1

Equipment:

S2™ Tibial Nail

Patient's injury:

methaphyso-epiphyseal fracture of right tibia and distal $^1/_3$ fibula

From:
Dr. Gilbert Taglang
Chief of Emergency Service
Centre de Traumatologie et d'Orthopédie (CTO)
Strasbourg, France

Background Information:

The patient, a 24 year-old male, suffered a football injury resulting in a comminuted, distal $^1/_3$ tibia fracture, with an associated fracture of the fibula. He came into the emergency room at Centre de Traumatologie et d'Orthopédie (CTO) in Strasbourg after he had been temporarily immobilized with a cast.

Considering the location of the fracture and its displacement, along with the patient's age and activity level (young and active), it was decided to reduce the distal metaphyseal tibial fragment first, using one cannulated screw.
Then, intramedullary nailing was performed. Because of its very distal locking holes, the S2™ Tibial Nail was selected for fixation.

Preoperative X-Rays

Procedure

Step 1: Fracture Reduction
To perform the procedure, the patient was put on a traction table in the supine position. The fracture was reduced via closed means, by applying transcalcaneal traction. To restore the tibial pilon, a 5mm Asnis III screw, 55mm in length was placed, anatomically reducing the fracture.

Step 2: Nail Insertion
A para-tendenous incision was made, extending approximately 4cm distally from the patella. The entry point was located under fluoroscopic control. The cortex was penetrated with the curved awl and the ball tipped guide wire passed down the tibial shaft. Progressive reaming was performed, up to 12mm in diameter.

A 10mm diameter nail, 330mm in length, was then inserted.

Step 3: Locking
Proximal locking was performed using the Target Arm. Because of the very distal position of the fracture, only one 5mm screw was used for proximal locking.

Distal locking was performed in a free-hand manner. For better rotational stability of the distal fragment, the nail was first locked with an AP screw and then with one ML screw (the more distal one, at 5mm from the tip of the nail).

Comments

The proximal ML distal hole was not locked, because it was located exactly at the level of the fracture site.

The distal fragment was very well fixed and stabilized with one AP and one ML screw.

Postop X-Rays

Asnis Screw insertion

Proximal Locking

Distal AP locking

Postoperative Follow-Up, from 8 Weeks

Results

Immediate mobilisation was permitted, without weight bearing for the first 8 weeks. Then, up to 3 months, partial weight bearing was allowed, also depending on consolidation level noticed on the follow-up X-rays.

The patient was doing extremely well at the eight week follow-up appointment. The fracture was healing and he was able to perform sports activities, 6 months after the surgery.

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Dr. Gilbert Taglang

Chief of Emergency Service
Centre de Traumatologie et d'Orthopédie (CTO)
Strasbourg, France

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Stryker Trauma GmbH
Prof.-Küntscher-Strasse 1-5
D-24232 Schönkirchen
Germany

www.trauma.stryker.com