

# A spiral tibial fracture combined with a hidden posterior malleolar fracture.

## Preoperative planning & intraoperative alterations



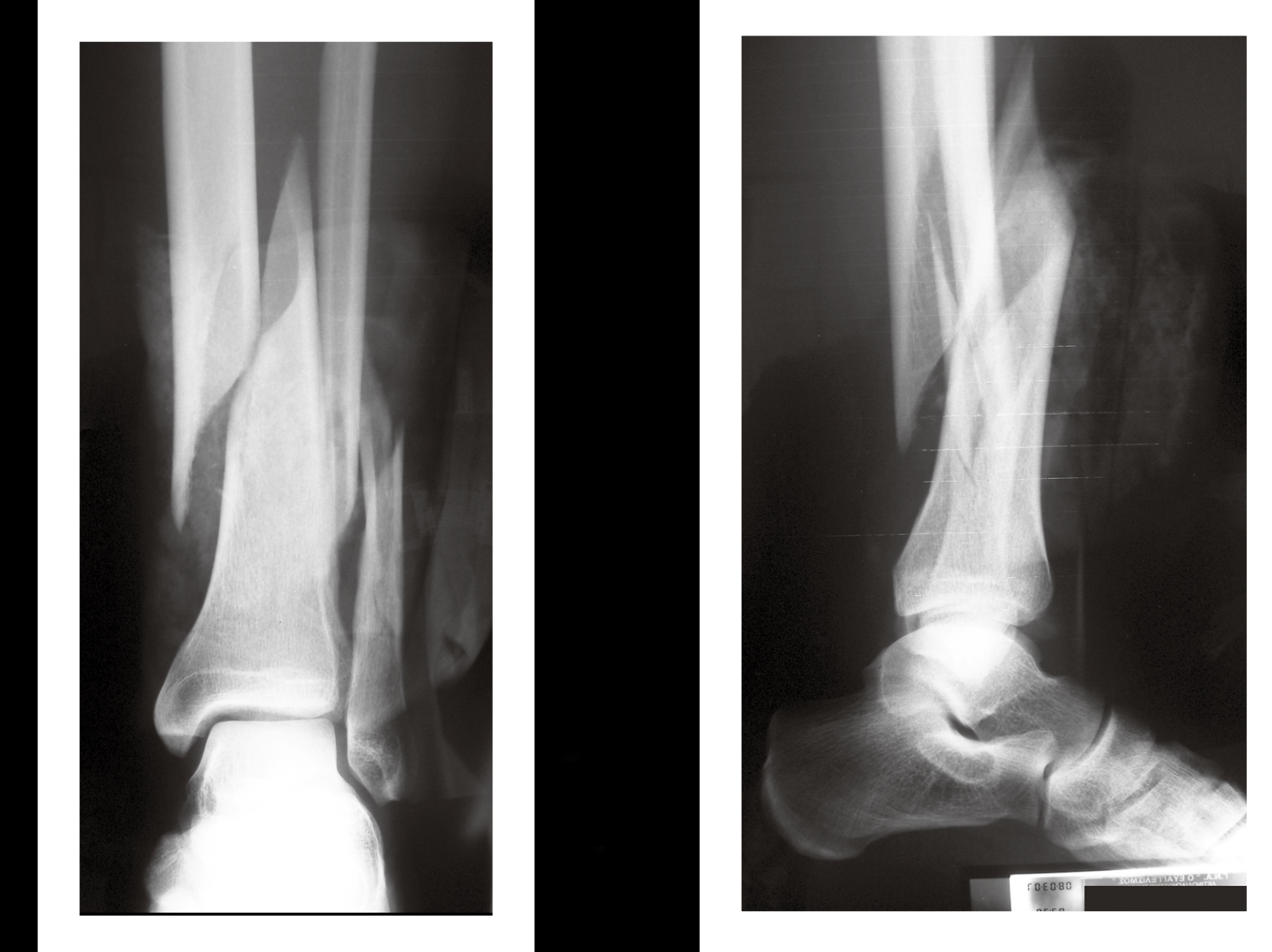
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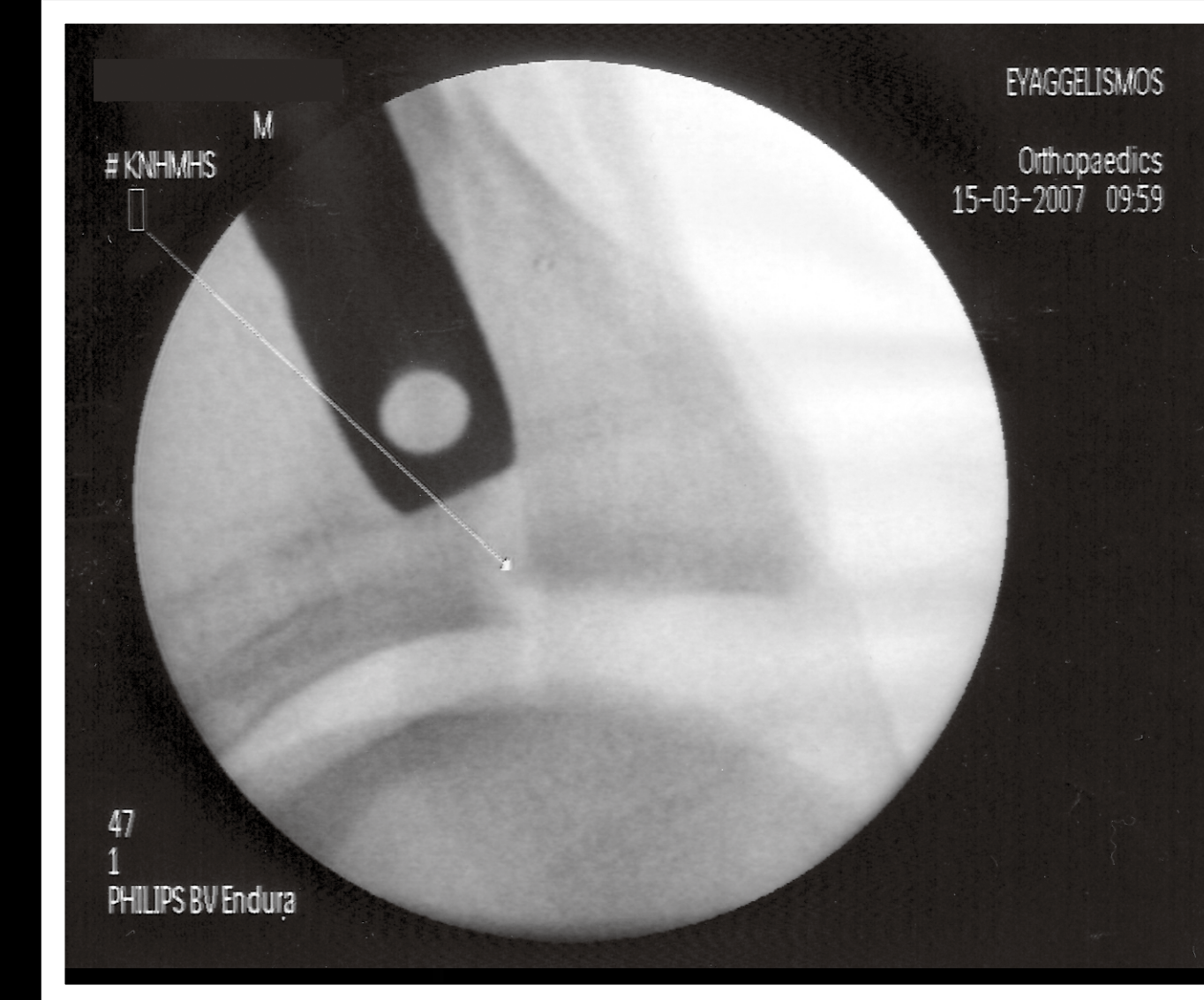
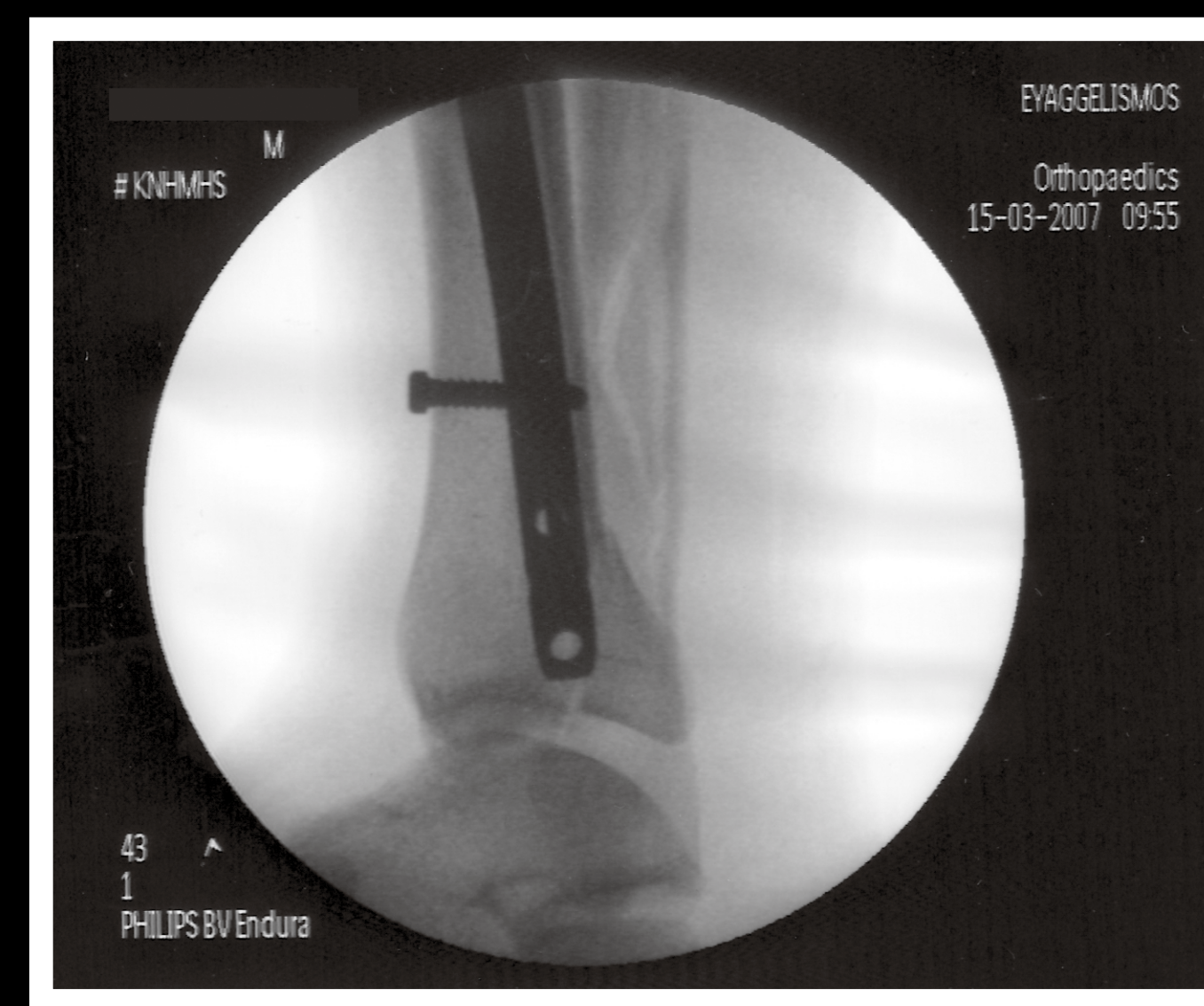


**BACKGROUND- AIM :** It is known that posterior malleolar fractures are often associated with tibial diaphyseal fractures. We aim to point out the need of thorough examination for posterior malleolar fractures in combination with tibial diaphyseal fractures and present the way of treatment of such a case with simultaneous intramedullary nailing and internal fixation.

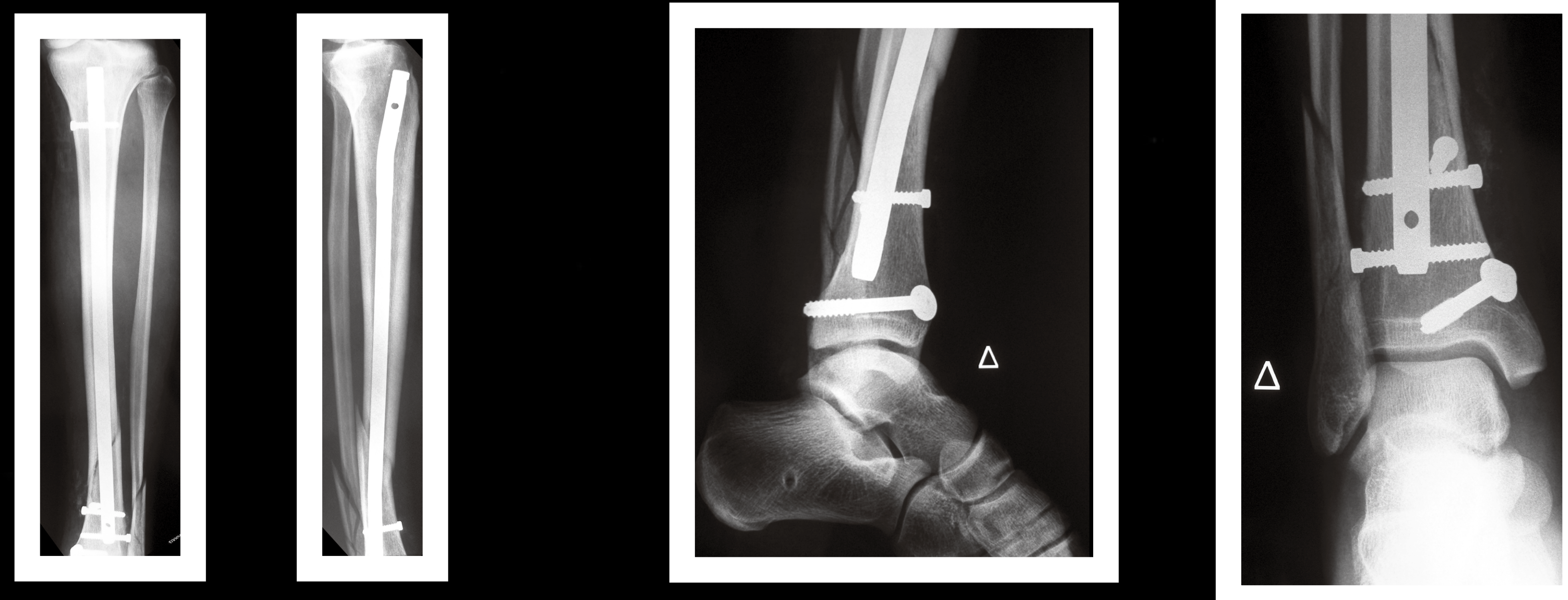
**MATERIAL-METHOD:** A 33 years old patient was transferred to the emergency department after a fall from his motorbike. The examination revealed a spiral fracture of the distal tibial diaphysis, reaching distally into the metaphysis, without any radiological sign of intra-articular participation.



**RESULTS:** The patient was transferred to the operating theatre for a typical intramedullary nailing to be performed... An S2 tibial nail (Stryker ©) was chosen in order to exploit the very distally placed holes of the nail. When the chosen nail of 11mm diameter & 360 mm length started entering the distal fractured part an unexpected discovery occurred. A posterior malleolar fracture capturing about 50% of the articular surface emerged.



The operative plan did not change since the malleolar fracture could be reduced by a cortical screw, anteriorposteriorly placed through the nail. When though the nail reached its final position the malleolar fracture was becoming too much displaced to be stabilized...The 11/360 nail was removed... By a posterior incision an Asnis cochlear screw was used to reduce and stabilize the posterior malleolar fracture. A new tibial nail of 11m diameter and 345 mm length entered the medullary canal and was locked proximally and distally.



**DISCUSSION :** The posterior malleolar fractures that accompany distal diaphyseal fractures of the tibia may fail to be recognized. In our case the malleolar fracture was detectable in preoperative plain films, retrospectively. There is a need for a meticulous preoperative x-ray control.

**CONCLUSION:** The fractures of the posterior malleolus shall be suspected, especially in cases of low-energy spiral distal tibial diaphyseal fractures. The indications for intramedullary nailing of unstable diaphyseal tibia fractures may be extended to include certain fractures with distal extension into the ankle joint.

### References :

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