How I ... Fix Medial Malleolar Fractures

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Ankle fractures are among the most common lower extremity injuries encountered by the general orthopaedic surgeon. Treatment options include both operative and non-operative modalities. This article will outline the authors preferred method of operative treatment of medial malleolar fractures.

Under tourniquet, hockey stick incision is made over the centre of the fracture, curving from anterior to posterior, to ensure adequate visualisation of the joint surface and access to the distal most extent of the medial malleolus. The soft tissues are dissected sharply to the level of the fracture. Periosteum is cleared from the edges of the proximal and distal fragments, and a curette and irrigation are used to remove debris. A 2.0mm k-wire is used to make a uni-cortical hole approximately 1 cm proximal to the fracture; this acts as the proximal anchor point for a pointed reduction clamp. The clamp is then placed and the fracture is reduced. This provides compression of the fracture and obviates the need to lag by technique or design. The joint surface is inspected to ensure anatomic reduction. Two 2.0mm retrograde k-wires (the correct drill size for 2.7mm screws) are then placed to secure the medial malleolus. The wires should be parallel, well-spaced, as distal as possible, and perpendicular to the fracture. Fluoroscopy is used at this time to ensure maintenance of reduction and appropriate wire placement. The wires are then sequentially replaced (to prevent rotation) with 45mm fully threaded 2.7mm screws. Importantly, no drilling is needed prior to replacing the 2.0mm wires with 2.7mm screws. The wound is thoroughly irrigated and closed in a step-wise fashion.

References

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