The Masquelet technique of induced membranes for healing of bone defects. A review of 8 cases

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Background: Segmental defects of long bones are notoriously difficult to treat. The present study evaluates eight cases in which the Masquelet technique of induced membranes was used. The purpose of the study was to assess the results compared to other types of bone reconstruction and share our tips and tricks to improve the outcome.

Method: Retrospective study based on patient records and radiographs. Eight patients operated between 2011 and 2014 were included. Three had infected non-unions. Outcomes were time-to full weight-bearing, time to radiographic consolidation, need for secondary bone grafting and complications.

Results: Time to full weight bearing seemed shorter in patients treated with nails. In two cases only partial radiographic consolidation was noted at the latest follow up visit. One patient needed secondary bone grafting and two limbs were slightly malaligned. There were no amputations, no persistent infections, and no implant failures.

Discussion: The induced membrane technique is a useful tool to substitute bone loss, yet consolidation time is somewhat unpredictable and prolonged non-weight bearing is required.

Conclusion: Nailing seems to improve outcome compared to plating. It shortens treatment time, reduces the amount of bone graft needed, aligns the bone and should be considered when feasible.

Case BK. Explosion injury. Consolidation and full weightbearing at 8 months.

Case TA. Segmental tibial defect after infected non-union. Full weightbearing at 4 months.