

Intramedullary Delivery of Autologous Bone Graft to Long Bone Defects Using Reamer Irrigator Aspirator 2 System

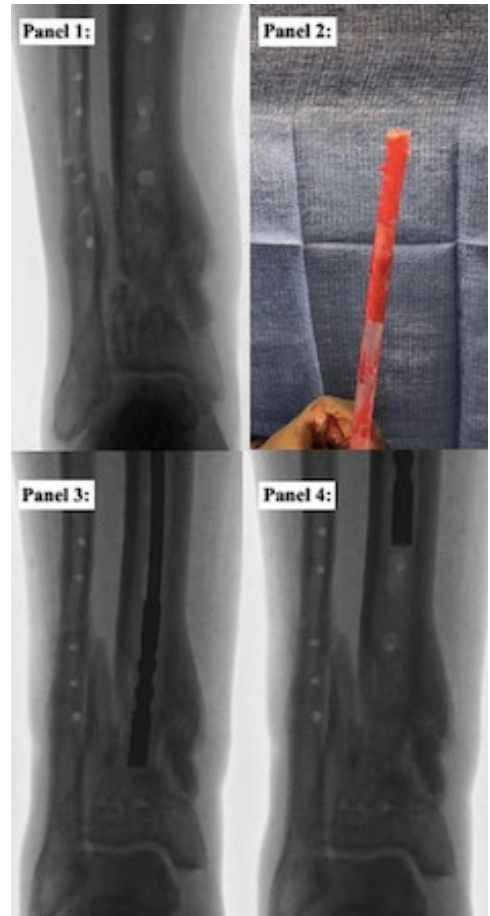
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Purpose: Management of nonunions and bone defects remain a persistent orthopaedic challenge. Traditional methods of autologous bone graft are complicated by donor site morbidity, limited graft availability, and local morbidity imposed from surgical dissection around the nonunion. This case demonstrates a method of autologous bone grafting that avoids many of these patient morbidities while delivering a large volume of bone graft to the nonunion site.

Methods: Here we describe a novel method utilizing the Reamer Irrigator Aspirator 2 System (RIA2) to harvest and deliver ipsilateral autologous bone graft intramedullary to the distal tibia nonunion without the need for further surgical dissection. The patient was a 66-year-old male who sustained an open distal tibia pilon fracture (AO 43C1.3) that developed a metaphyseal nonunion. Figure 1 shows delivery of the bone graft using the RIA2 equipment (Panel 1, pre-bone graft; Panel 2, bone graft packed into RIA tubing; Panel 3, bone graft delivery using RIA tubing and reamer insert; Panel 4, after graft placement).

Results: This technical trick successfully delivered a large volume of bone graft intramedullary to the nonunion site without additional surgical dissection or extra equipment.

Conclusion: Using the RIA2 equipment, a large volume of autologous bone graft can be delivered to the nonunion site intramedullary without additional fracture site dissection or additional harvest site morbidity.



TECHNICAL TRICKS AND TIPS

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.