



PATIENT-MATCHED PATELLOFEMORAL IMPLANT SURGICAL TECHNIQUE AS PERFORMED BY JAMES E. BUTLER, M.D.

1. Routine prepping and draping with use of a pneumatic tourniquet at 350mm of mercury are performed.
2. A mid-line incision is made from approximately 5cm proximal to the patella extending inferiorly to just below the tibial tuberosity (Figure A).



Figure A. Incision beginning proximal to patella and extending inferiorly below tibial tuberosity.

3. Subcutaneous flaps made medial and lateral.
4. Lateral retinacular release is performed incising the iliopatellar band from the edge of the vastus lateralis muscle fibers down to the insertion of the patellar tendon into the tibial tuberosity (Figure B).

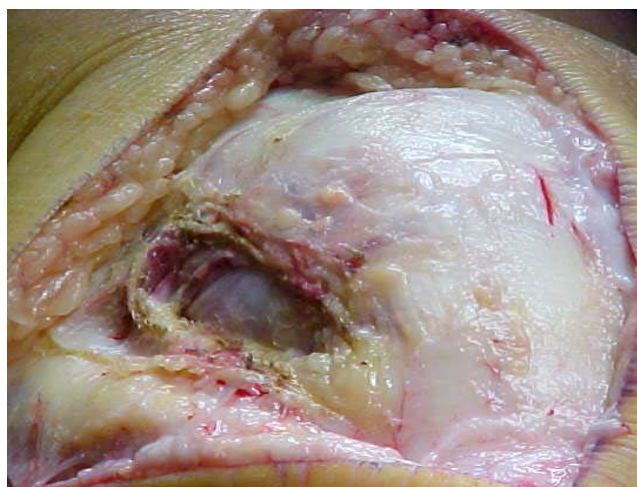


Figure B. Retinacular release.

5. A generous medial arthrotomy incision is made and the patella is everted (Figure C).

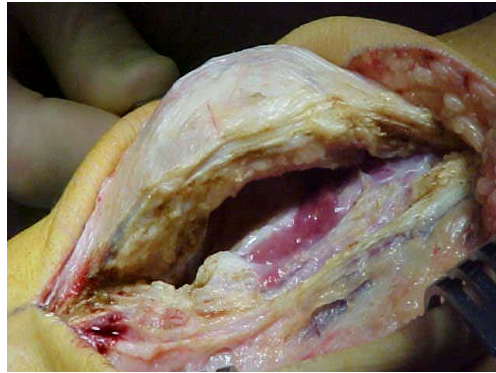


Figure C. Medial arthrotomy.

6. A subtotal synovectomy is carried out with emphasis on removing most of the synovium in the suprapatella pouch to allow the trochlear implant to rest snugly on the anterior distal femur (Figures D and E).

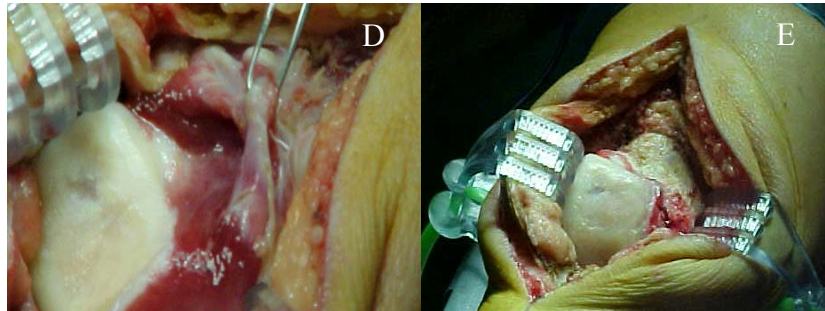


Figure D. Subtotal synovectomy of suprapatellar pouch. Figure E. View of distal femur and patella after synovectomy was performed.

7. All osteophytes around the trochlea are removed (Figure F).

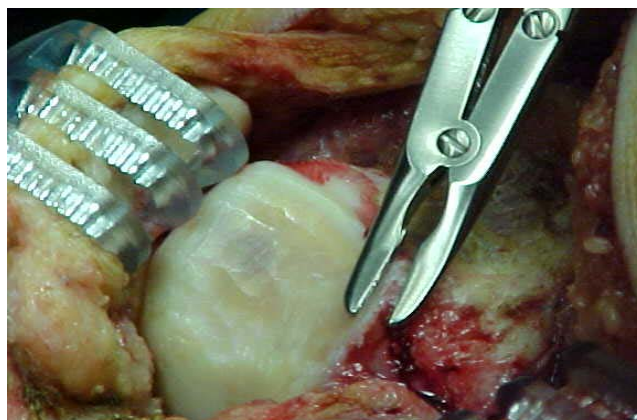


Figure F. Removal of osteophytes around patella and distal femur.

8. The articular cartilage in the trochlea is cleaned with a beaver #94 knife blade (Figure G). It is also often necessary to remove some hypertrophic bone at this stage.

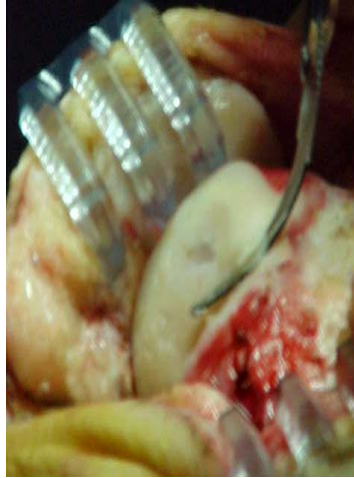


Figure G. Removal of trochlear cartilage.

9. The trochlear implant is then set onto the trochlea making certain that the most distal point is snug up against the articular surface (Figure H).

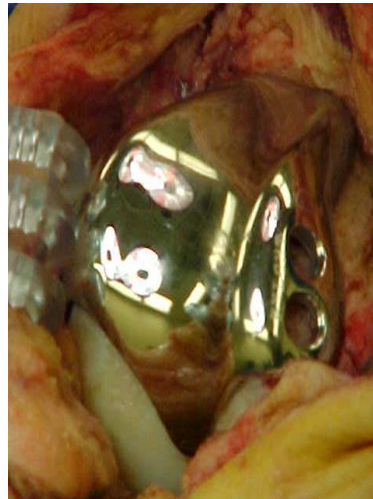


Figure H. Placement of trochlear implant. Care should be taken to ensure that the implant is properly seated before inserting screws.

10. Four, 6.5mm, low profile, cancellous, bone screws are used to anchor the trochlear implant onto the femur (Figure I). The screw length most typically used is 30mm.

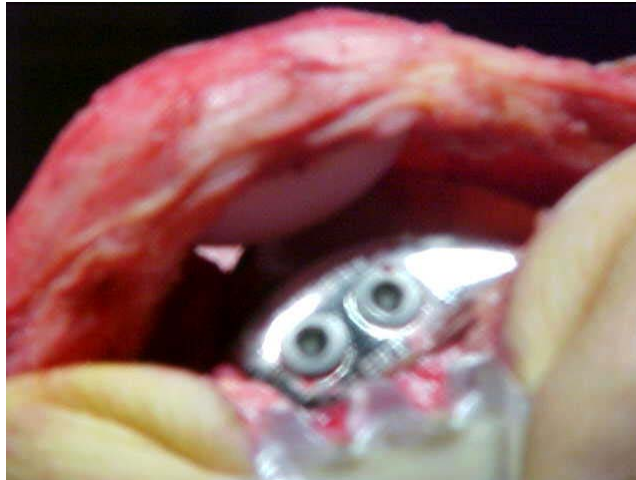


Figure I. Trochlear implant fixed in place using four low-profile cancellous screws.

11. Patella is resurfaced using any Biomet 1.0" radius patella. Cover as much of the patella surface as possible.
12. Reduce the patella onto the trochlea.
Reduction in satisfactory position is imperative so that the patellar button glides in the trochlea implant through an arc of motion of 90°, without any sutures. If this does not occur, then more release should be done until these two implants interface perfectly through and arc of 90°.
13. A hemovac drain may be placed if desired.
14. A standard closure is then carried out followed by appropriate dressings and durable medical equipment as desired by the surgeon.
15. The postoperative care steps are the same as those of a total knee replacement. However, the steps are performed in an expedited manner (approximately ½ the time of TKA).