

Chief Complaint/History of Present Illness

This 41 year old male has a long-standing history of anterior right knee pain. As a teenager he sustained a patellar dislocation with a fractured osteoarticular fragment. An open VM 0 quadriceps repair and removal of loose body was performed. Since then, five further arthroscopic debridements have been performed.

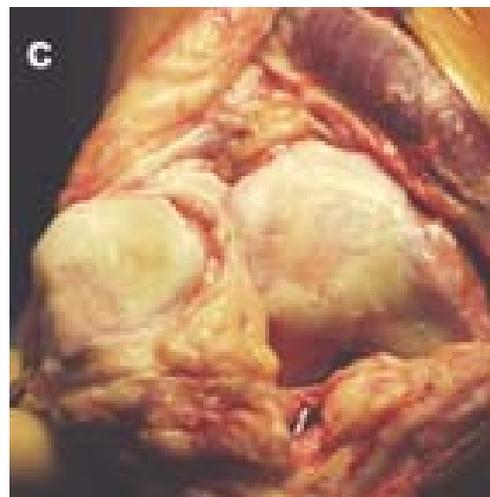
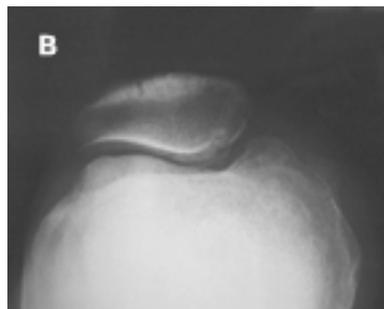
Presently he has chronic pain. He uses NSAIDs and ice for pain management only. He has pain which awakens him at night when he rolls over in bed. He is able to walk better on the level than on inclines or up-and-down stairs. He must use a handrail one step the time in order to ascend or descend stairs. He has frequent effusions in the knee when he does more work around the house than he usually is capable of doing. He requests a definitive operation that will alleviate him of his pain and allow him to return to work rapidly in order to support his family. His job does not require physical labor-intensive activities.

Physical Exam

6'1"

210 lbs

Clinical examination demonstrates a fit appearing 41 year old man with neutral tibiofemoral axial alignment. He walks with an antalgic gait. He must use his hands to get out of the seated position, he is unable to crouch or squat. His findings include severe patellofemoral crepitations, a large joint effusion, a relatively normal quadriceps angle of 15 degrees. His standing x-rays demonstrate a well maintained tibiofemoral joint space. His skyline x-rays demonstrate narrowed patellofemoral joint space.



Clinical Course and Follow-up

A repeat arthroscopic assessment (not shown), demonstrates intact tibiofemoral

articulations, and severe erosive grade IV changes to the trochlea and the patella with a convex hypoplastic trochlea. A discussion regarding the clinical outcomes of ACI to the trochlea and the opposing patella with a combined trochleoplasty versus a custom patellofemoral prosthesis and its recovery ensue. The patient decides upon the more reliable and quicker recovery using a prosthesis. He accepts the risk of early revision to total knee replacement and the activity level modifications.

Within three weeks of his patellofemoral prosthesis, he is pain-free and back at work. Two years after implantation he remains satisfied with the result.



Decision Making Factors

1. Isolated patellofemoral arthritis
2. Biological reconstruction for this stage of disease possible by ACI or fresh osteoarticular allografts for bipolar disease but unpredictable outcomes
3. Patient factors:
 - has suffered with pain for many years and desires a predictable outcome
 - has low demand requirements
 - compliant with rehabilitation
 - accepts potential prosthesis complications and conversion to total knee replacement in the future despite his young age

Legends

A; standing AP x-ray with normal tibiofemoral joint space

B; skyline x-ray demonstrating early lateral facet narrowing

C; appearance at open arthrotomy: the trochlea is convex, hypoplastic, and with severe erosive changes. The patella similarly has a large area of exposed bone and has a dysplastic concave appearance.

D; lateral postoperative x-ray demonstrating inset trochlear cobalt-chrome prosthesis, and onset patellar polyethylene prosthesis.

E; standing AP x-ray of same prosthesis

F; skyline view of patellofemoral prosthesis

Courtesy of Tom Minas MD, and Tim Bryant RN, Cartilage Repair Center, Brigham and Women's Hospital, Boston MA USA