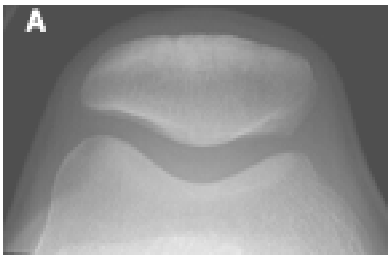
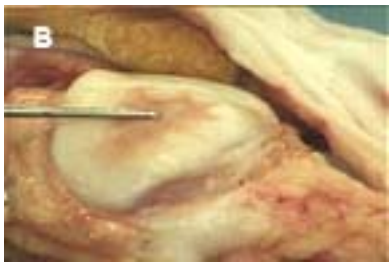
***Chief Complaint/History of Present Illness***

This 24-year-old male has had a history of bilateral recurrent patellar dislocations. He has failed physical therapy measures including taping and bracing to maintain patellofemoral tracking. He has had to prior arthroscopic debridement on both knees. These had been ineffective. He has severe anterior knee pain, right greater than left, preventing him from participating in any sporting activities, and limiting him in his activities of the living. He is unable to climb up and down stairs without the use of a handrail one step at the time.




***Physical Exam***

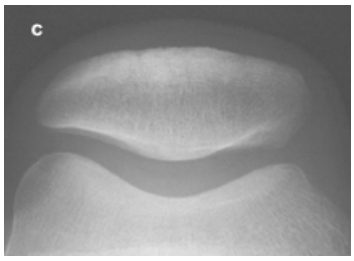
6'0"
175 lbs

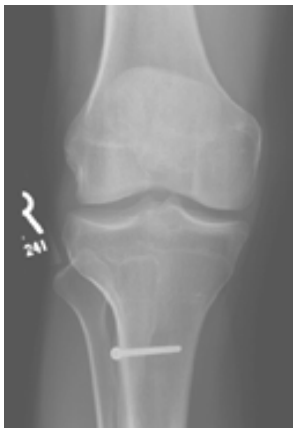
Clinical examination revealed a slim to fit appearing 24 year old man. He had neutrally aligned legs. He is unable to perform a squat. His quadriceps angle measures 25 degrees with the patella in a reduced position, there is .lateral subluxation with quadriceps contractions. He has moderate patellofemoral crepitations, with a 20-30 CC joint effusion and gait disturbance.

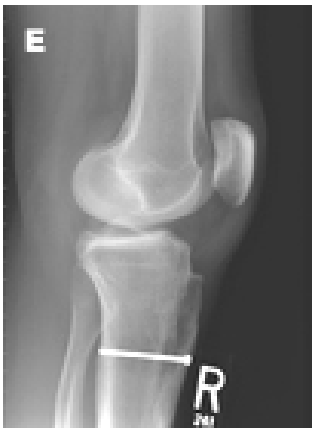
***Clinical Course***

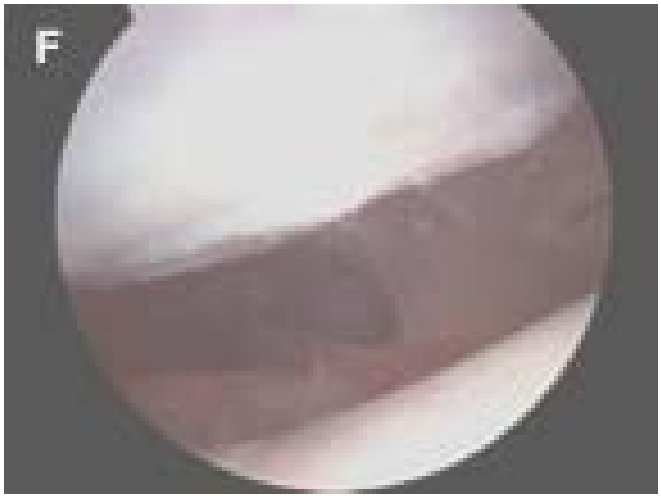
Arthroscopic evaluation demonstrated grade IV chondromalacia to the central and medial patella. There was obvious subluxation and tilt laterally of the patella. The trochlea articular surface was normal. A cartilage biopsy for cell culturing was taken for ACI.

Reconstructive surgery included anteromedial tibial tubercle osteotomy, patellar lateral release,VMO quadriceps advancement, and ACI to the patella, 25 mm wide by 16 millimeters long, using tibial periosteum, 24 million autologous cultured chondrocytes were injected under the periosteal patch and sealed with autologous fibrin glue.
One year later, a second look arthroscopy was performed to remove hardware, and








perform a chondroplasty to periosteal overgrowth presenting as retropatellar crepitations with mild discomfort. The patient was pain-free afterwards, and had the other knee reconstructed identically. Four years later he is playing competitive volleyball.

***Decision Making Factors***

1. The patient is a active 24-year-old male
2. There is patellofemoral subluxation and tilt, with a 25 degrees quadriceps angle
3. There is grade 4 chondromalacia transversely across the patella
4. Patellar realignment osteotomy alone will not decompress the central patella, it is successful to treat inferior and lateral patellar disease only
5. Cartilage repair to the central patella is required to obtain a highly functional outcome

***Legends***

A; preoperative skyline x-ray demonstrating well maintained cartilage space
B; appearance of chondral defect at the time of open reconstruction prior to debridement and ACI.
C; postoperative skyline x-ray
D; postoperative AP
E; lateral x-rays demonstrating fixation and healing of tibial tubercle osteotomy
F; arthroscopic appearance of ACI after chondroplasty to patella

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