

Procedures of the Knee

Latest and Greatest

Dr. James D. Spearman MD



LOWCOUNTRY ORTHOPAEDICS

Latest and Greatest

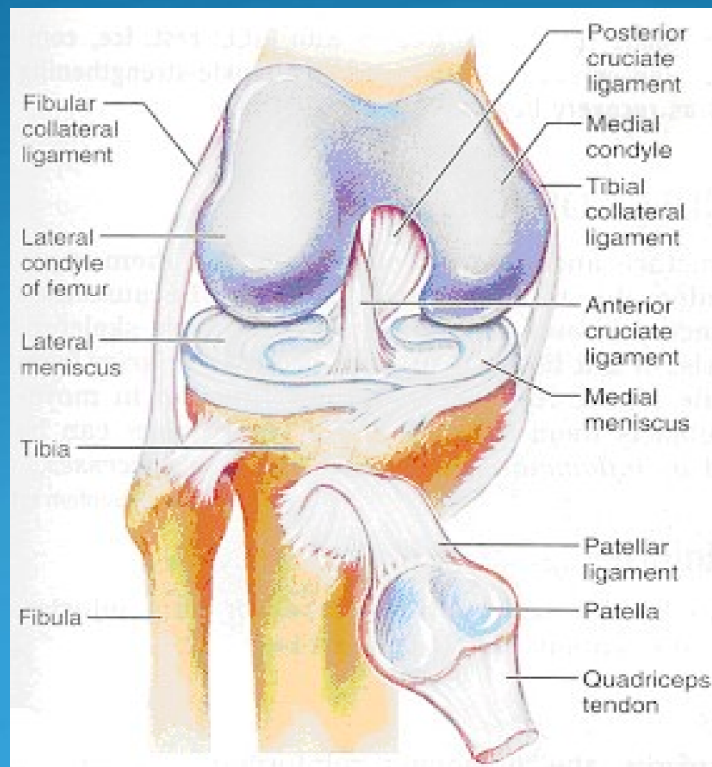
Rarely the Same

Knee Surgery

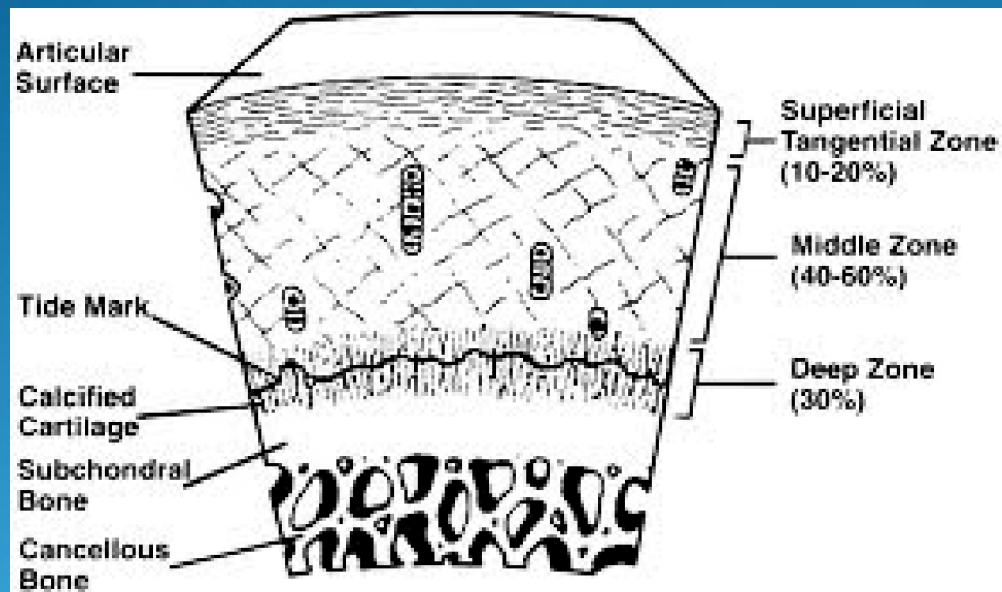
“No knee is so bad that it cannot be made worse with surgery”

- Dr. Jack Hughston MD
Father of Sports Medicine

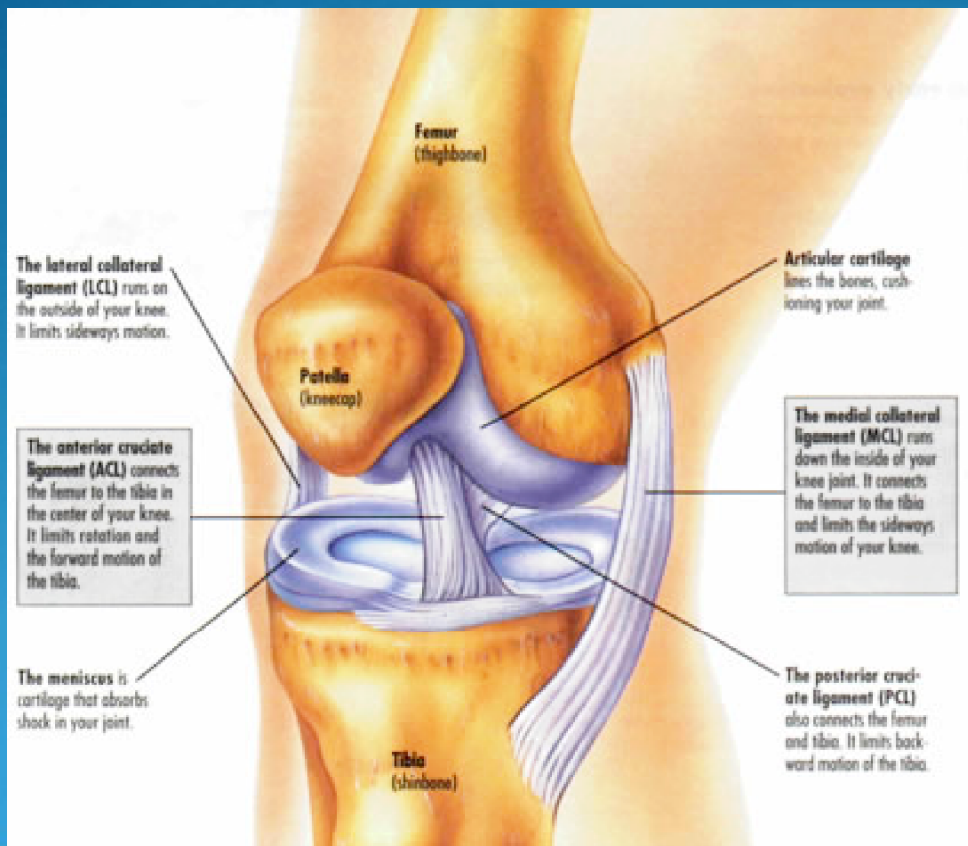
Complex Anatomic Structure



Biomechanical Miracle



The Weak Points



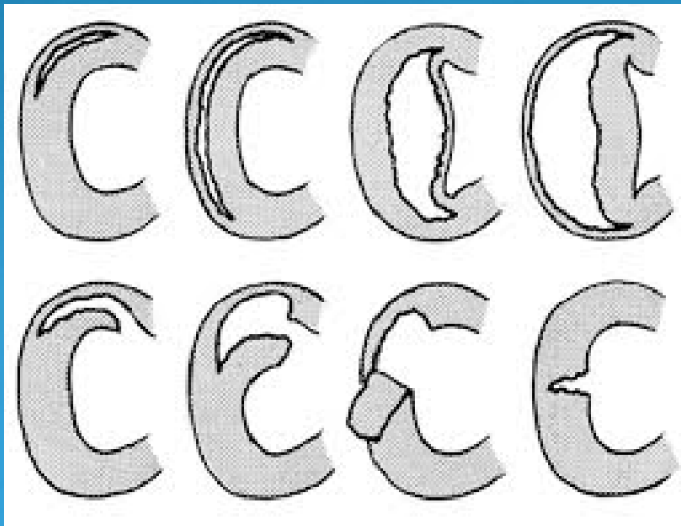
Cartilage Breakdown

➔ Chondromalacia



Meniscal Breakdown

→ Tears



Ligament Tears

- ACL, PCL, MCL, PLC, LCL, MDPFL, Patella Tendon, Quadriceps Tendon

Pain

- Instability
- Mechanical Problems
- Cartilage Breakdown
- Synovitis
- Patella Femoral Syndrome
- Avascular Necrosis
- Muscle Weakness
- Malalignment
- Chondromalacia
- Stress Fracture

Diagnosing the Problem

- History
- Physical Exam
- X-Ray
- Labs
- CT
- MRI
- Bone Scan

Treating the Problem Conservatively

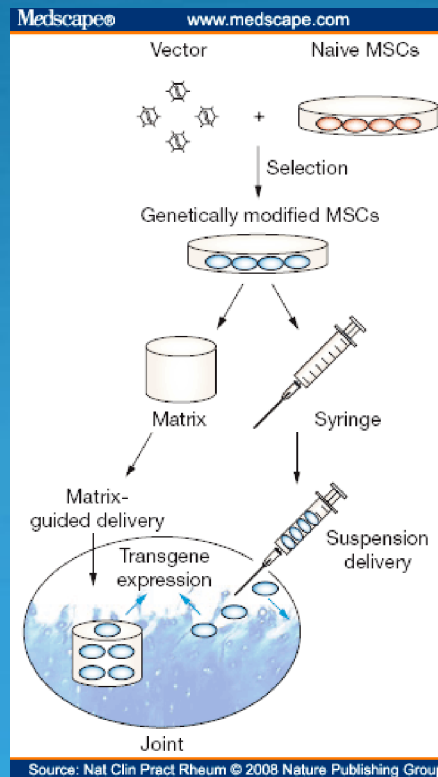
- P. T.
- NSAIDs
- Injections
- Bracing

When Conservative Treatment Fails

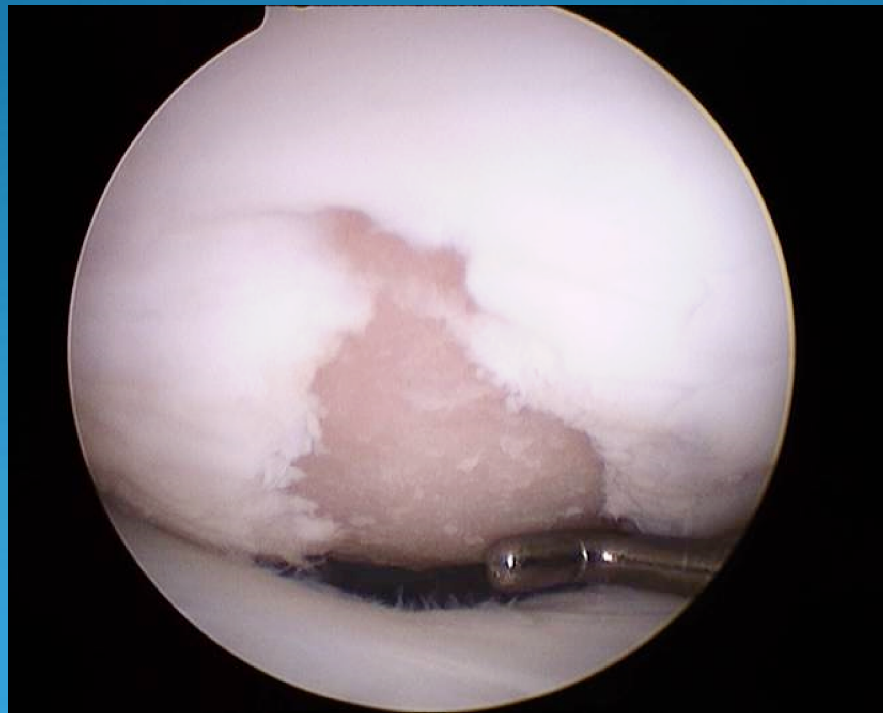


Stem Cell Treatment?

○ The Future



Helping the Body Repair & Regrow



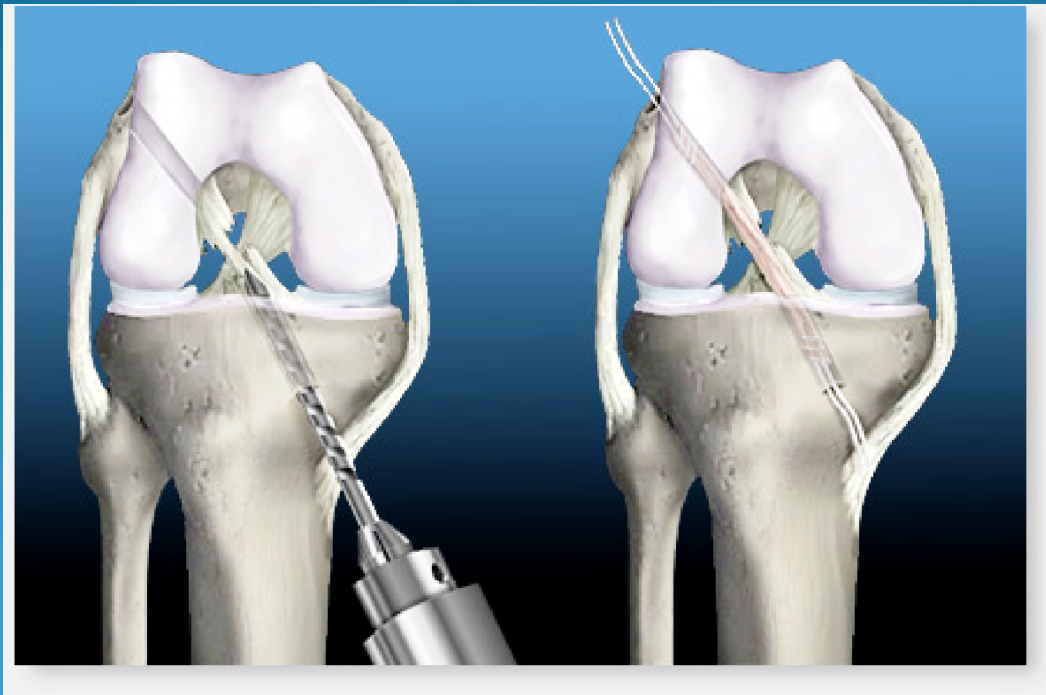
Cartilage Treatment/Surgery

- Debridement
- Microfracture
- Osteochondral Transfer
- Autologous Chondrocyte Implementation (ACI)

Meniscal Treatment/Surgery

- Debridement
- Repair
- Replacement
- Allograft/Artificial Scaffolding

Ligament Reconstruction



ACL Reconstruction – 100,000/yr

- Graft Source
- Graft Placement
- Rehab

Injury Prevention

- Muscle Co-contraction
- Neuromuscular-training



Multiple Ligament Reconstruction

- ACL
- PCL
- LCL
- MCL

Beyond Repair



Unicondylar Replacement



Small Incision

- Minimal Bone Removal
- Outpatient Procedure?!

Total Knee Replacement



Change in Fixation

- Cement
- In-growth Technology



Change in Components

- High Flexion Designs
- Mobile Bearing Devices



- Mini Incisions
- Computer Navigation



Change in Rehab & Post-op Care



Pain Management



Prevention of

- Infection
- DVT
- Stiffness
- Ligament Injury
- Periprosthetic Fracture

Revision TKA

- Success depends on accurate determination of the cause of the failure



What About the Future?

- Controlling Chondrocyte Apoptosis
- Measuring Articular Cartilage Degeneration
- Genetic Manipulation

Disease Modifying Drugs



Cartilage Repair Technology (ACI)



Words for the Research Doctors

- Anticatabolics
- Mitogens
- Morphogens
- Intracellular Regulators
- Antiapoptotic Agents

For Now – The Greatest

- Arthroscopic Surgery
- ACL Reconstruction
- Total Knee Athroplasty

Questions?

