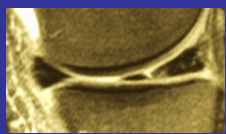
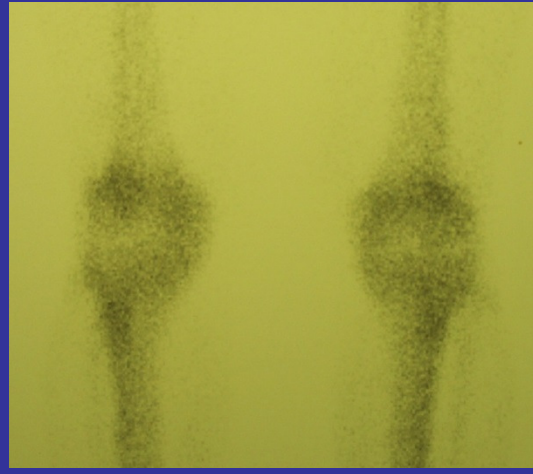
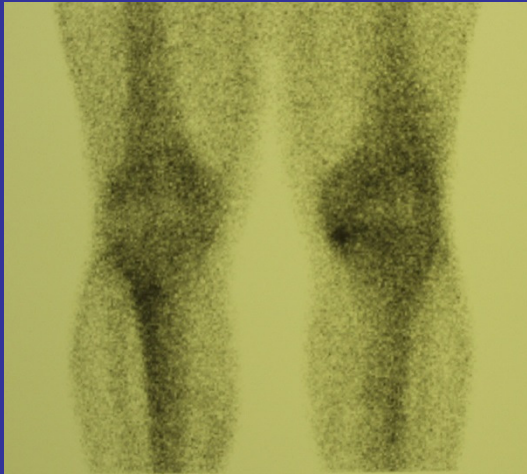


# The PREVENTION of Early OA of the Knee Following Meniscal or ACL Surgery is Possible by The Achievement (+ Maintenance) of Joint Homeostasis

Pre-Op

Post-Op

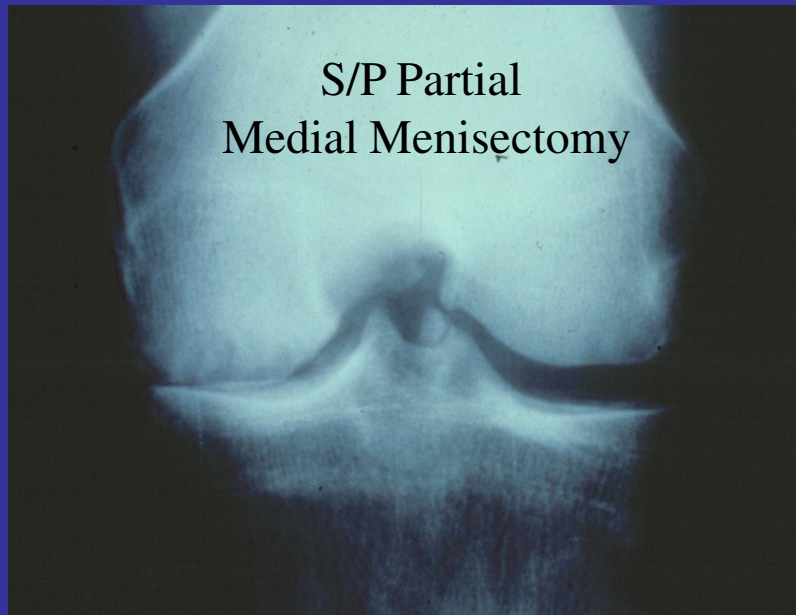
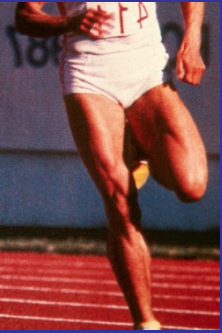


Restoration of Osseous Homeostasis 20 M P/O  
Partial MM Without the Development of OA



Scott F Dye MD  
Davies Campus  
CalPacificMedCenter  
Ass.Clin.Prof. UCSF

# The Development of Early Knee Arthritis Following Medial Meniscal Or ACL Injury and Surgery Is Extremely Common



# The Human Knee is An Excellent Model for Post-Traumatic OA (PTOA)

E.G.:The Rate of Early OA Following  
ACL Reconstruction is 50% at 10yrs P/O



# Example

**Pre-Op**



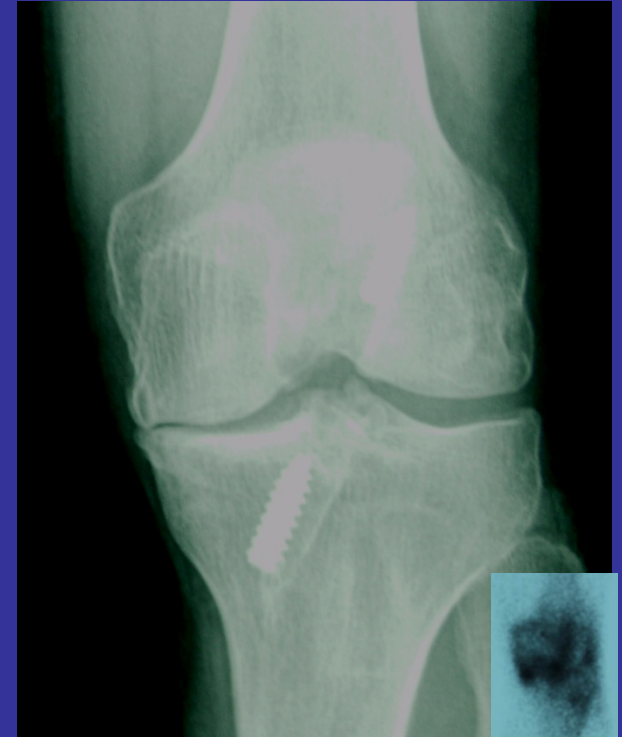
**Age 23**

**P/O ACL**

**Reconstruction**

**“Accelerated” Rehab  
Patient was told  
He was “Fixed”  
OK to Return to  
Pivoting sports  
Returned to  
Soccer at 4 m P/O**

**Advanced DJD  
9 yrs P/O ACL**



**Age 32**

**Complaints of Recurrent soreness and  
Mild effusions with Soccer were Dismissed!**

Early Reports of the More “Anatomically  
Placed, Double-Bundle”

ACL Reconstructive Procedures

Using Current Post-Op Rehab Protocols

Show

NO DIMINISHMENT



In Rates of Early Osteoarthritis

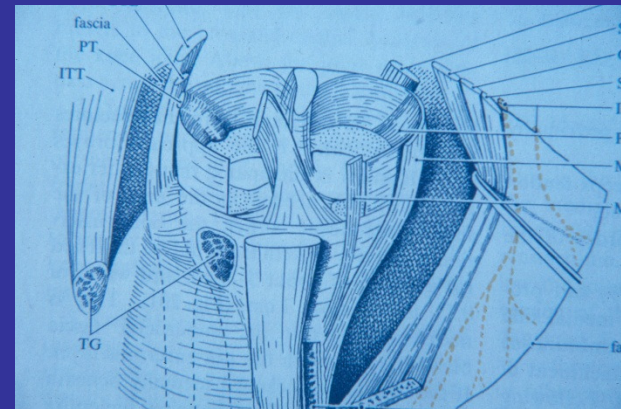
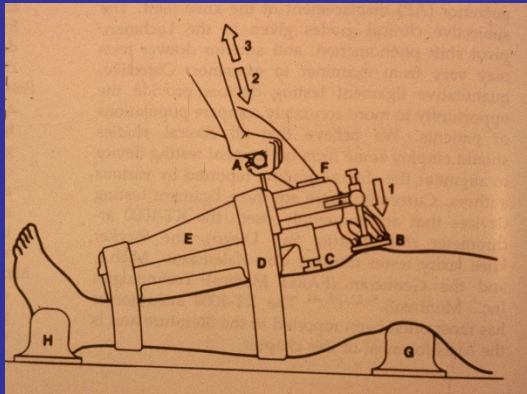
Seon J-K, et al.” Double-Bundle ACLR Cannot

Prevent Osteoarthritis Compared with Single-Bundle

Technique” AOSSM Annual Meeting Baltimore 2012

# The Problem:

## Belief in a PURE Structural/Biomechanical Paradigm of Joint Function



# ASSUMPTION:

Restoration of Measurable  
Structural/Biomechanical  
Characteristics

=

Restoration of Knee Function

There is a Different  
Emerging Orthopaedic & M/S Paradigm:

**That Views Joints as Living,  
Metabolically Active**

**Systems of Billions of Cells**

**Each Tissue (Volume of Cells)**

**Has its' own**

**Normal Metabolic Characteristics**

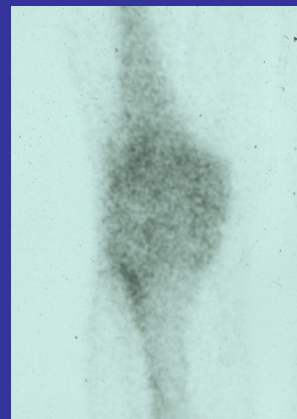
**TISSUE HOMEOSTASIS**



# Tissue Homeostasis:

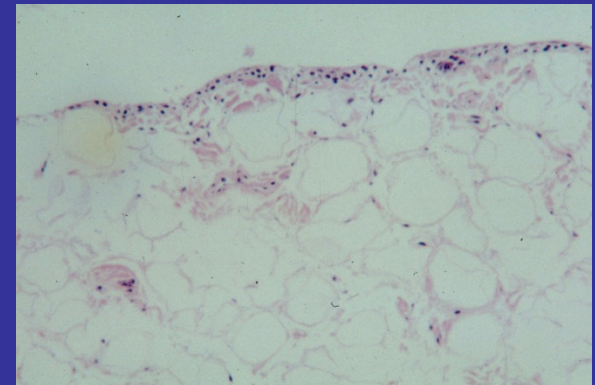
The complex biochemical/metabolic Processes that maintain the normal Physiological characteristics of **VOLUMES** of living cells

Osseous Homeostasis



Normal Bone Scan

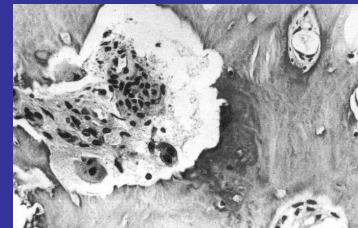
Soft Tissue Homeostasis



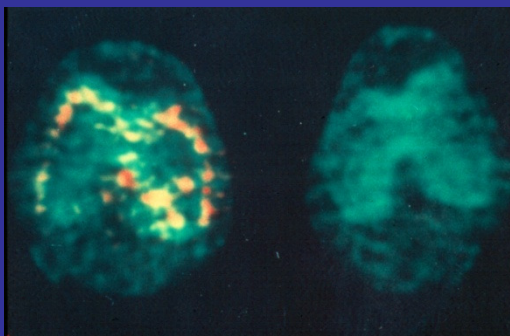
Normal Synovium and Fat Pad Tissue

# Loss of Tissue Homeostasis

Initial Phases of a Stress Fracture  
Disuse Muscle Atrophy  
Ligament Strain  
Synovitis

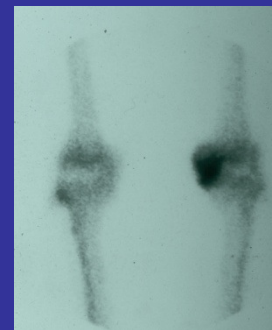


Chronic ACL Deficient Knee



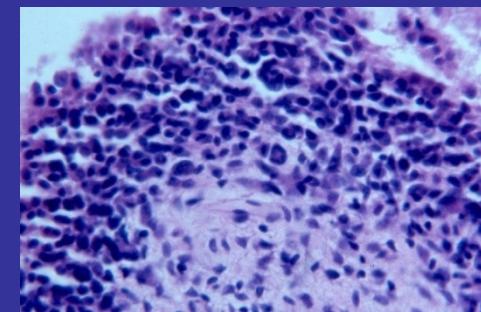
PET Scan Fl 18

Positive Bone Scan



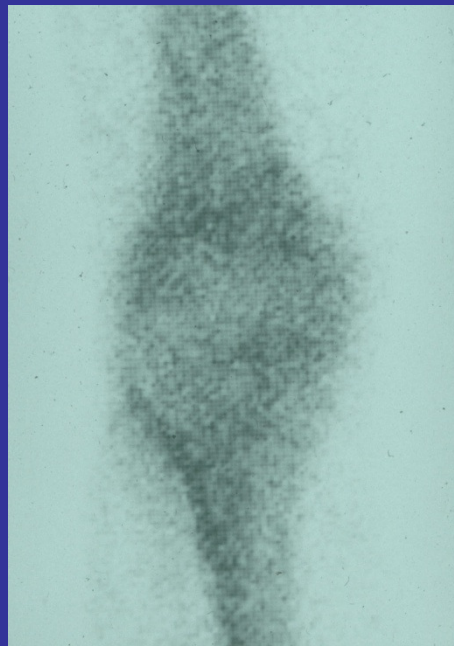
Loss of Osseous Homeostasis

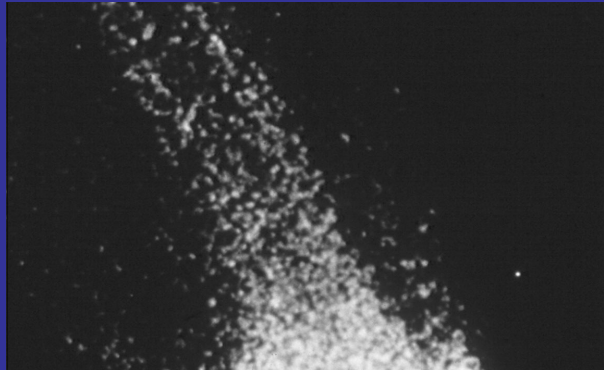
Synovitis



Loss of Soft Tissue Homeostasis

Fundamental Principle of Orthopaedic Treatment  
Restore Tissue/Joint Homeostasis  
Rather Than Restore Normal  
Structural/Biomechanical Characteristics





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