

Posterior Condyle Fractures



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Disclosures

Fellowship Support – Arthrex

Fellowship Support – Smith & Nephew

**Associate Editor – Orthopaedic
Journal of Sports Medicine**

**Editorial Board – American Journal of
Sports Medicine**

Editorial Board – Journal of Knee Surg.

H'offa' Fracture

**Fracture of the
Femoral Condyle
In the
Coronal Plane**

**Originally Described
By Hoffa in Germany**



**Hoffa, Lehrbuch der Frakturen
& Luxationen 1904**

Hoffa Fracture

Rare Fracture

0.65% of Femur Fxs

Lateral > Medial

≈ 80%

Frequently Missed

Up to 1/3

On Initial X-rays

CT Scan



Allmann, J Belg Radiol 1996

Arastu, BJJ 2013

Injury Mechanism

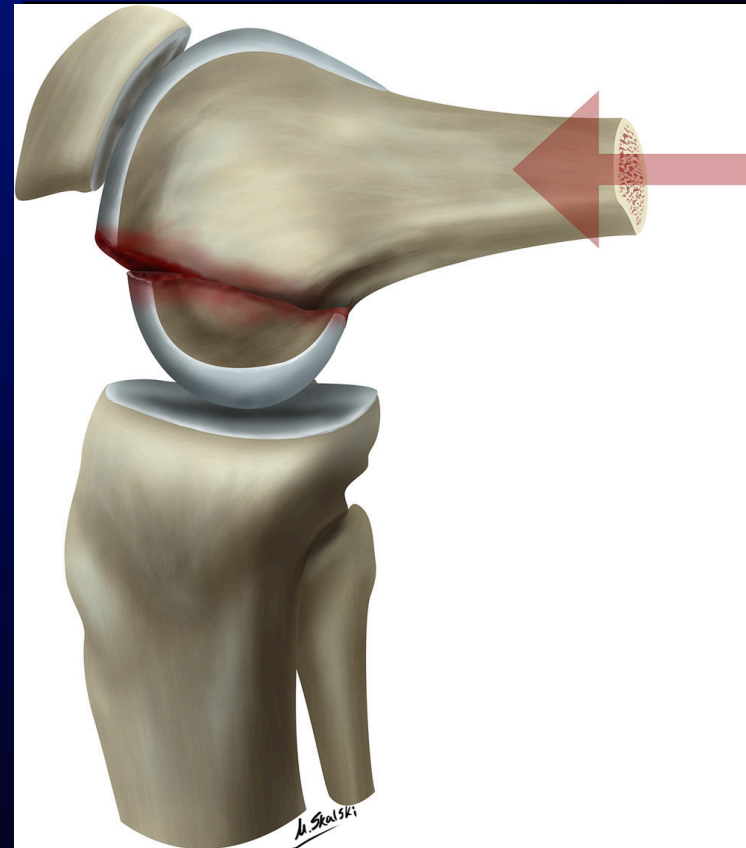
High Energy Injuries

80% MVC

**Axial Load to
Flexed Knee**

Intercondylar Fxs

40% Hoffa Fragment

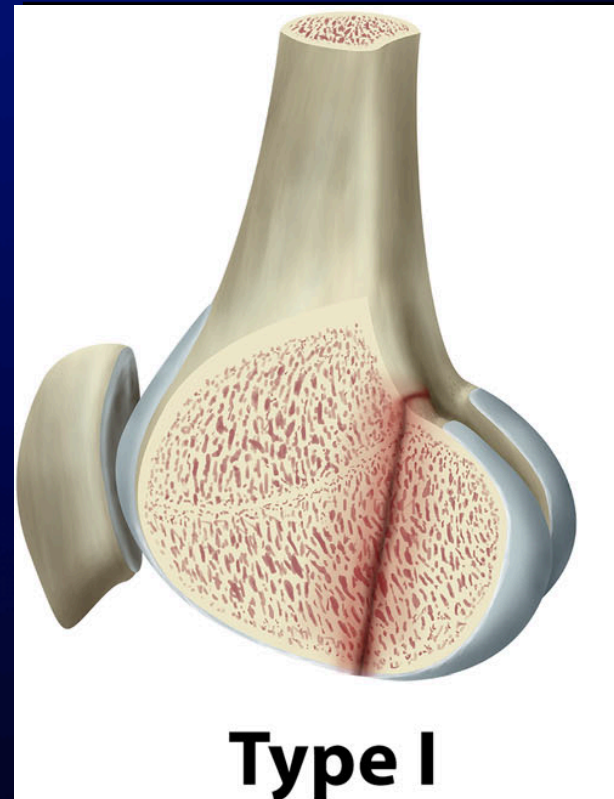


Nork, JBJS 2005

Classification

Type I

**Extends Parallel
to the Posterior
Cortex From an
Extra-Articular
Location**



Letenneur, Ann Chir 1978

Classification

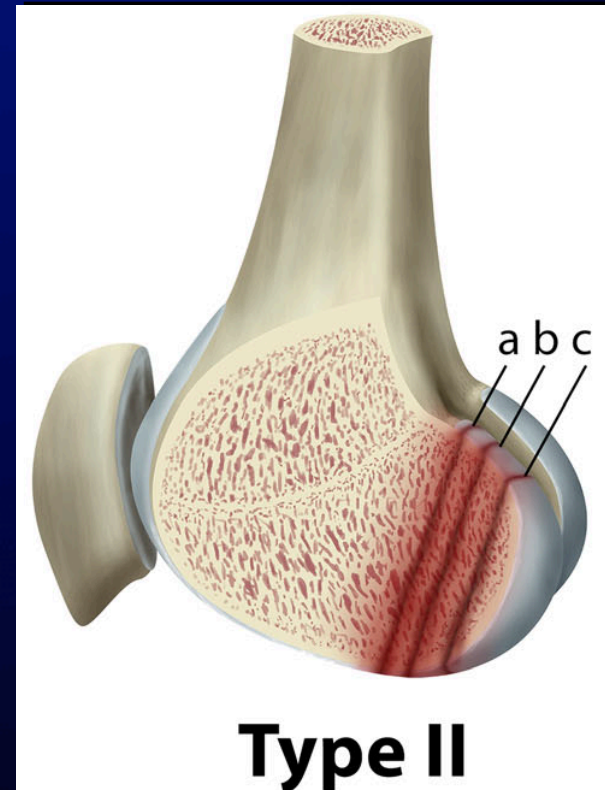
Type II Intra-Articular Fracture Fragment

a \approx 75%

b \approx 50%

c \approx 25%

Highest Risk of AVN!!



Letenneur, Ann Chir 1978

Classification

Type III

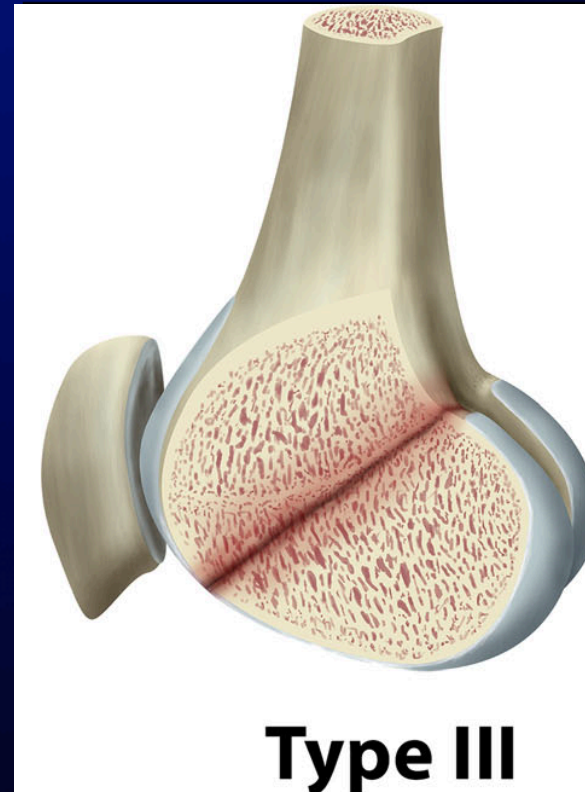
Oblique Fracture

ACL & LCL

Remain Attached

To Fracture

Fragment



Letenneur, Ann Chir 1978

Evaluation

**High Index of
Suspicion**

Injury Mechanism

Lipohemarthrosis

Oblique Radiographs

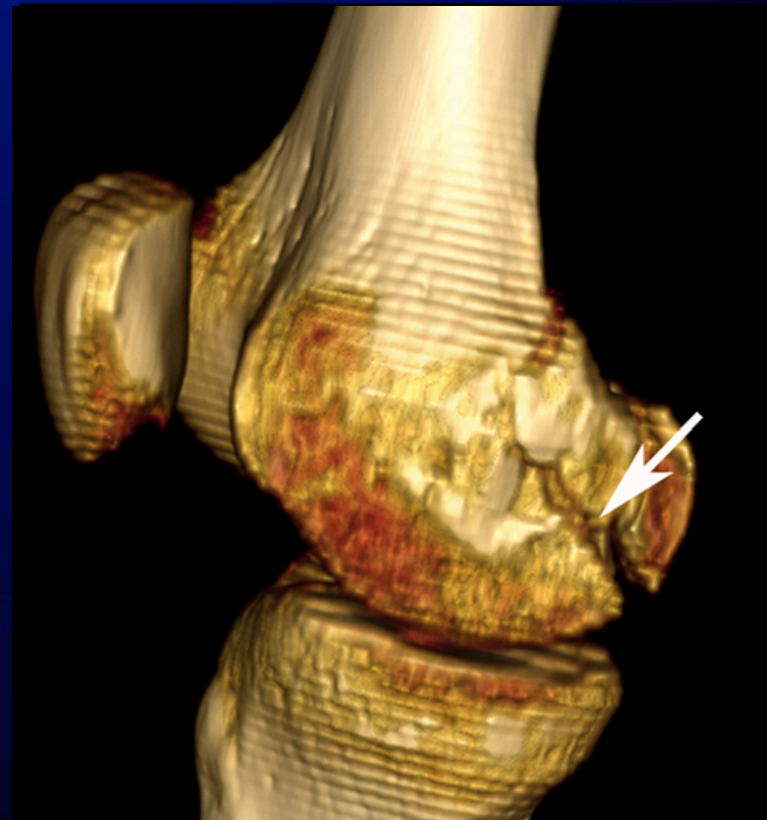
CT Scan



White, Skeletal Radiol 2015

CT Scan

**2-D and 3-D
Scans
Can be Very Helpful
For
Diagnosis and
Surgical Planning**



Treatment

**Non-Operative
Treatment
Has a High
Chance of
Malunion or
Non-Union**



Lewis, JBJS-B 1989

Treatment Goals

Anatomic Reduction

Stable Fixation

Early ROM



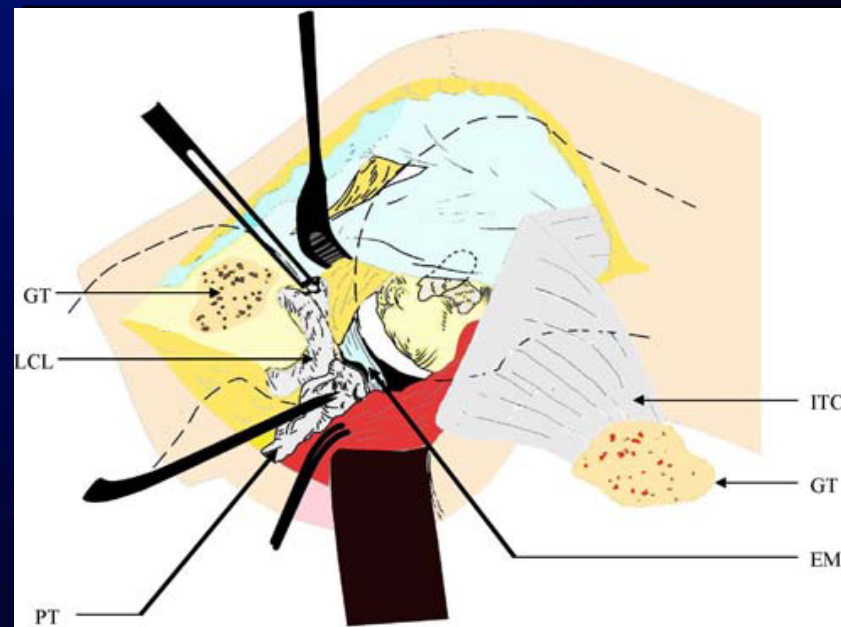
Surgical Approaches

Lateral

Lateral Parapatellar
Gerdy's Osteotomy
"Swashbuckler"

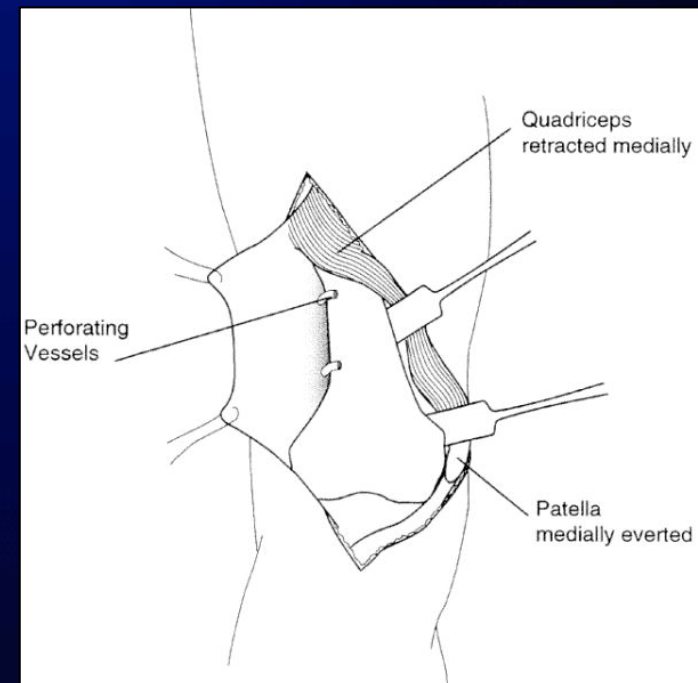
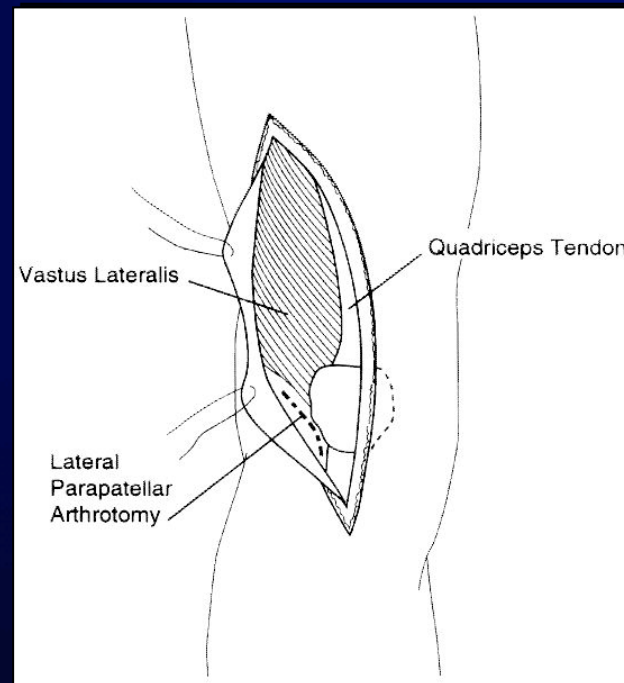
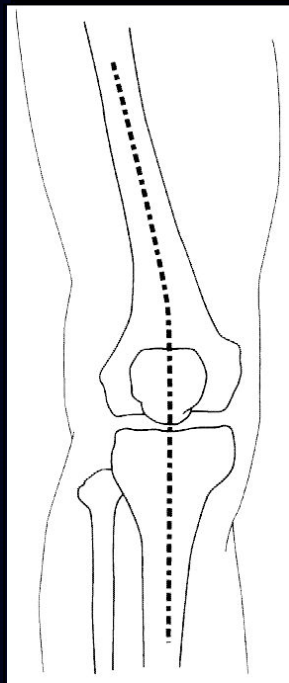
Medial

Medial Parapatellar
Subvastus



Garofalo, KSSTA 2006

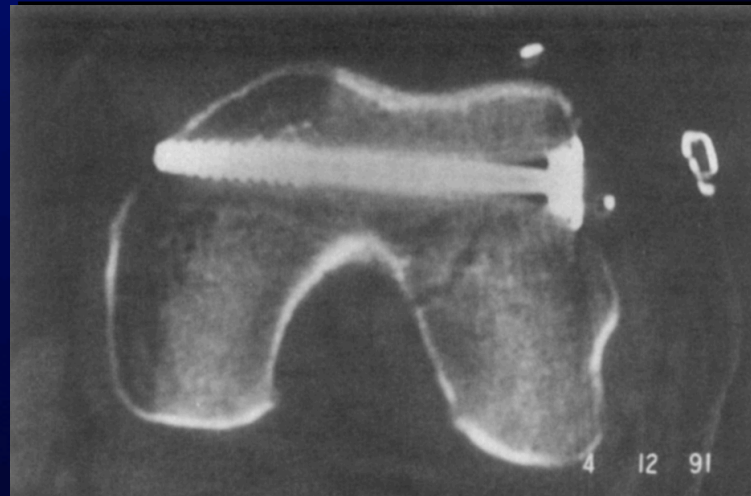
Swashbuckler Approach



Starr, J Ortho Trauma 1999

Surgical Approach

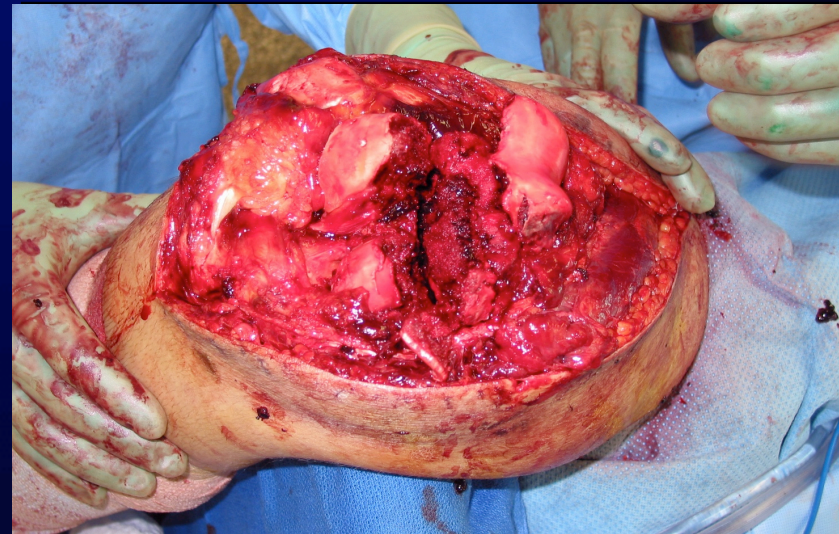
**Few Case
Reports of
Limited Incision
Or
Arthroscopic
Reduction**



**Borse, Eur J Trauma Emerg Surg 2010
McCarthy, Arthroscopy 1996**

Surgical Approach

**I Prefer
Extensile Exposure
For ORIF
Of These
Challenging
Fractures**



Fixation

Small Frag Screw

Most Common

Large Frag Screw

Better Fixation

Headless Screw

Less Articular Damage

Buttress Plate

Posterior Comminution



Hak, Injury 2005

Jarit, J Orthop Trauma 2006

Screw Placement

Ant → Post

Easiest

Post → Ant

Strongest

Oblique

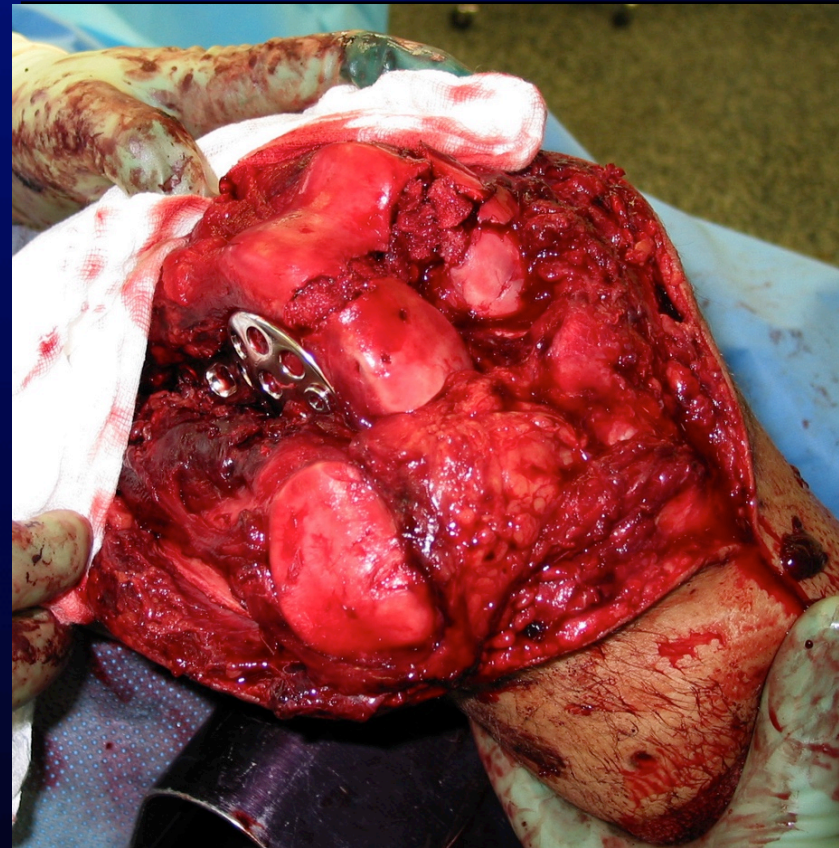
Avoids

Articular Cartilage



Intercondylar Fractures

**Lateral Locking
Plate
Supplemented
With
Small Fragment
Or Headless Screws**



Rehabilitation

Post-op Brace

Early ROM

NWB 6 Weeks

Gradual Rehab



Outcomes

Limited Literature

**Small Series or
Case Reports**

**Generally Good
Results With
Early Recognition
And Anatomic
ORIF**



Arastu, BJJ 2013

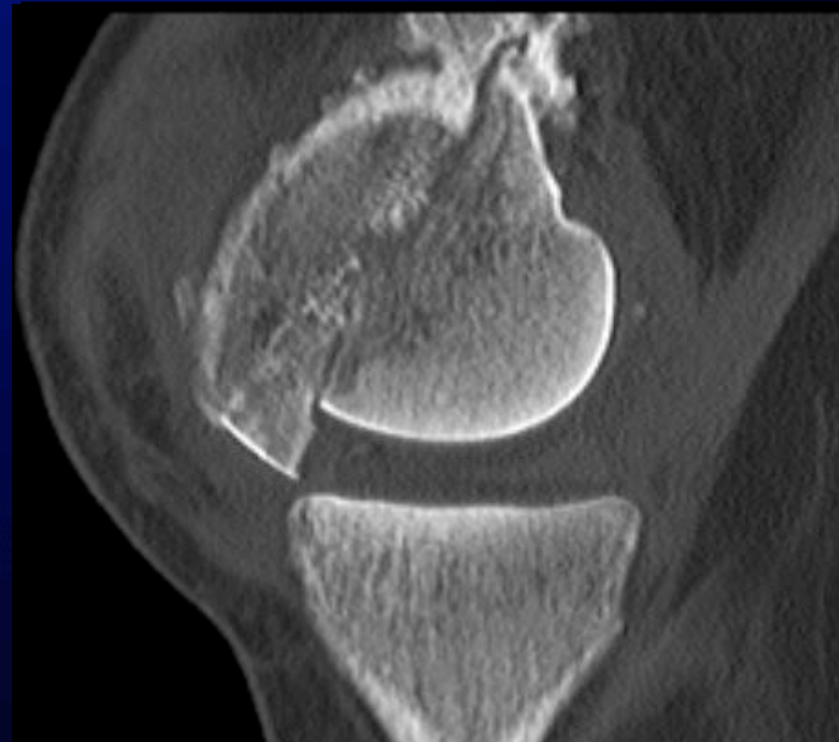
Complications

Malunion

Non-Union

Stiffness

**Post-Traumatic
Arthritis**



Take Home Points

High Suspicion
CT Scan
Operative Treatment
Extensile Exposure
Anatomic Reduction
Stable Fixation
Early ROM



Thank You !!

