Common Work Related Injuries to the Knee

James Dettling, MD, FAAOS, FACS

Introduction

- Knee injuries are one of the most common orthopedic injuries in our society
- Knee injuries occur in people of all age groups, lifestyles and activity levels
- Gender, race non-specific

Introduction

- The knee is the largest and arguably one of the most complex joints in the human body
- Knee injuries are the most frequent cause of disability related to sports activity and one of the most common causes of impairment in our country’s workforce

Introduction

The knee flexes and extends, allowing the body to perform many activities, from walking and running to climbing and squatting.

The

There are a variety of structures that surround the knee and allow it to bend and that protect the knee joint from injury.

Introduction

- Whether a knee injury occurs on a playing field or at a work site, traumatic disorders of the knee occur because of external forces placed across/ through the knee

Introduction

- Majority of knee injuries are minor and self-limiting
- Devastating knee injuries do occur frequently and can lead to significant morbidity, loss of function and permanent impairment

Introduction

- In the 1980’s the orthopedic community became focused on injuries to the knee as a major cause of disability in the athletic community

Introduction

- In the past three decades major advances have been made in all specialties in orthopedics, particularly in regards to the knee

Introduction

- Research in anatomy, biomechanics, epidemiology, surgical techniques, non-surgical treatments and rehabilitation protocols have led to an explosive understanding of the knee joint.

Introduction

- Over the past few decades the Anterior Cruciate Ligament (ACL) has been studied as much as if not more than any other orthopedic structure *
- Almost 5000 articles published in past 20 years on this structure alone *

Introduction

- With the advent of the arthroscope orthopedic sports medicine physicians saw an opportunity to utilize arthroscopy to identify, study and treat knee injuries in athletes in a minimally invasive manner to maximize functional outcomes and minimize morbidity

Epidemiology

Epidemiology

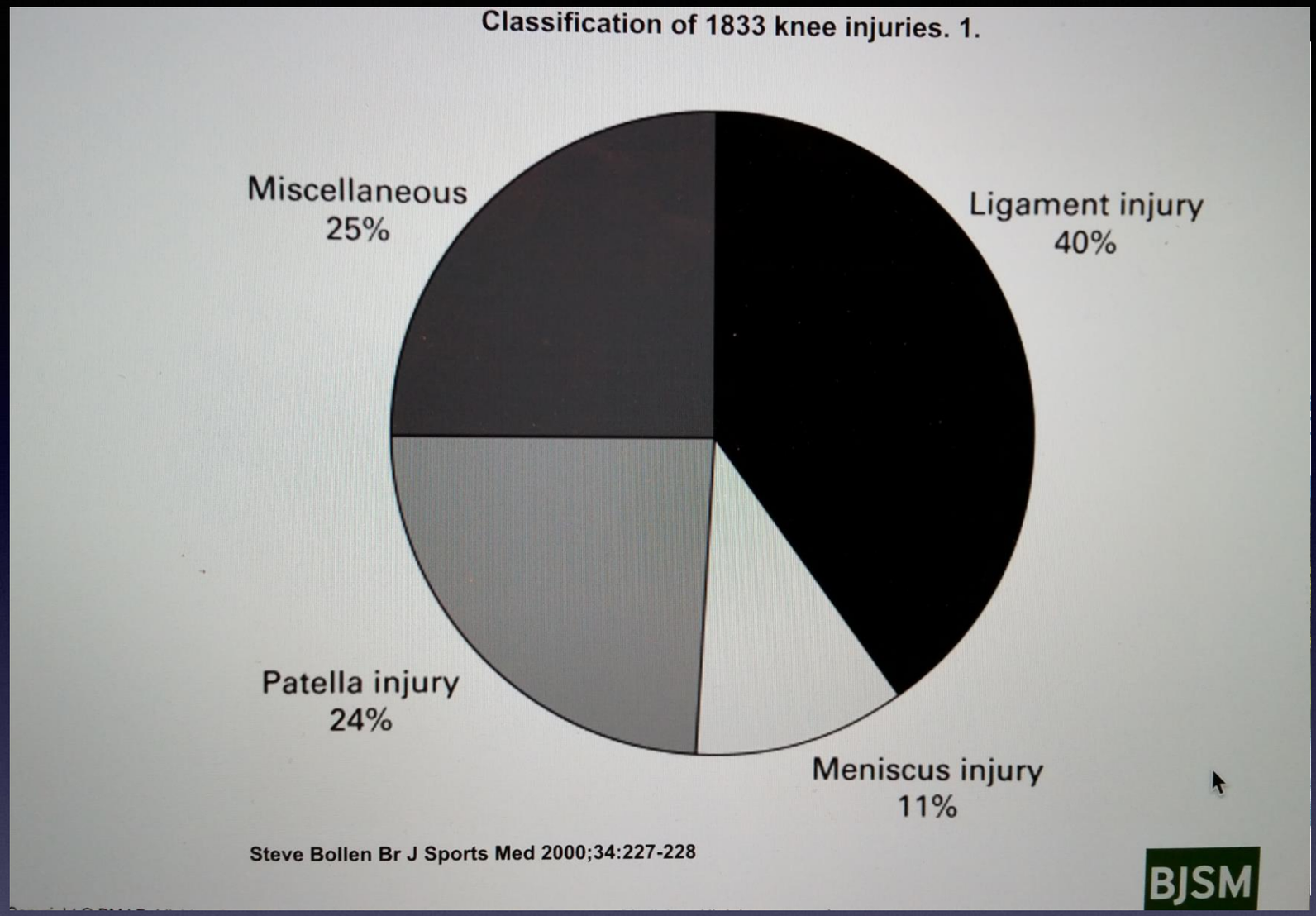
Knee injuries in the <u>adult</u> general population:

- 4/1000 community adults
  - 46% women (older); Likely non-sports related
  - 54% men (younger); Likely sports related

Epidemiology

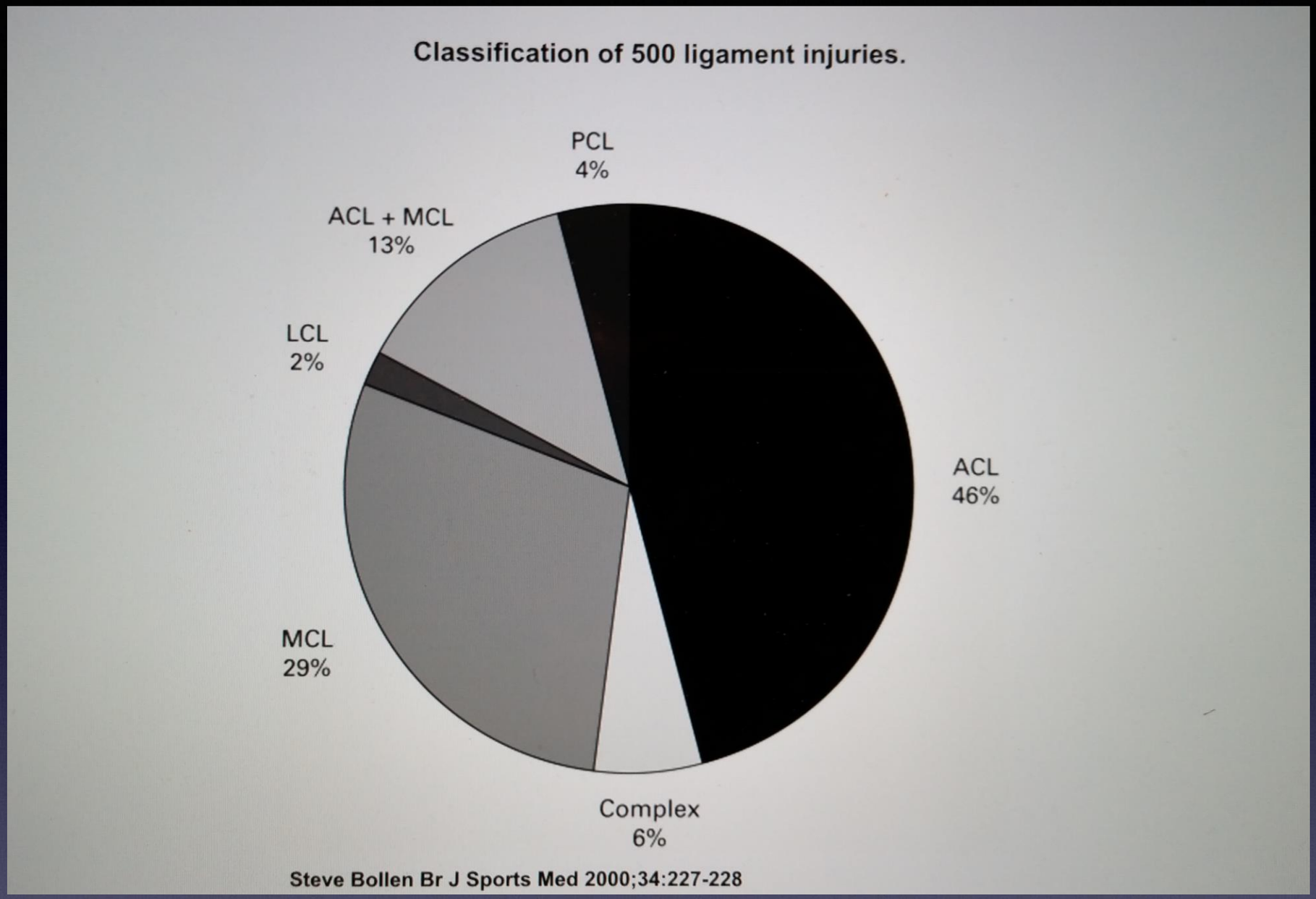
Knee injuries in the <u>adult</u> general population:

- 37% knee injuries required orthopedic surgeon's care
- 12% required surgical care



Classification of <u>Knee Injuries</u>:

Ligament injuries to the knee are the more common than any other type of major knee pathology



Classification of <u>Ligament Injuries</u>:

ACL injuries are the most common ligament injured in the knee.

> 200,000 ACL ruptures occur in the U.S. annually **

Epidemiology

- ***The knee is the most commonly injured joint by adolescent athletes with an estimated 2.5 million sports-related injuries presenting to EDs annually.***

- **The most common diagnoses:**
  - **strains and sprains (42.1%)**
  - **contusions and abrasions (27.1%)**
  - **lacerations and punctures (10.5%).**

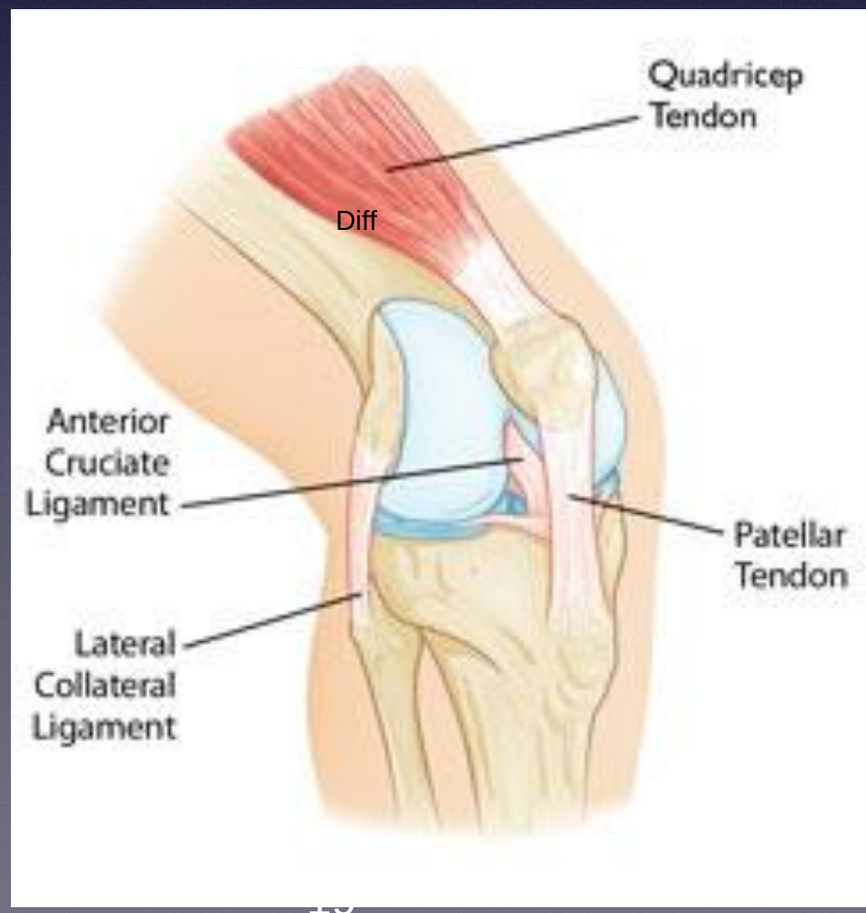
Acad Emerg Med. 2012 Apr;19(4):378-85

Anatomy

Anatomy

The knee is made up of 4 main structures:

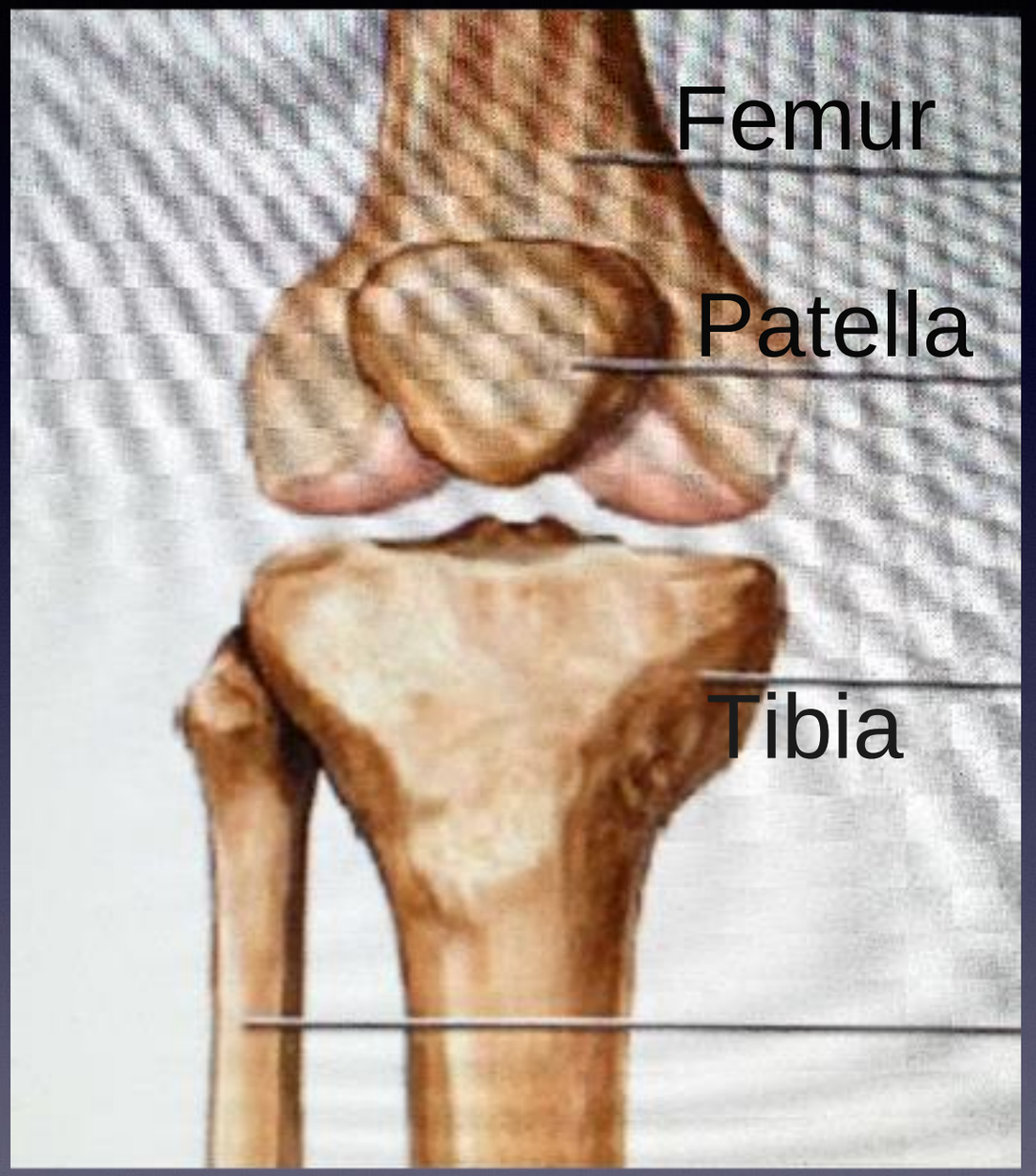
- Bones
- Ligaments
- Tendons
- Cartilage



Anatomy

Bones

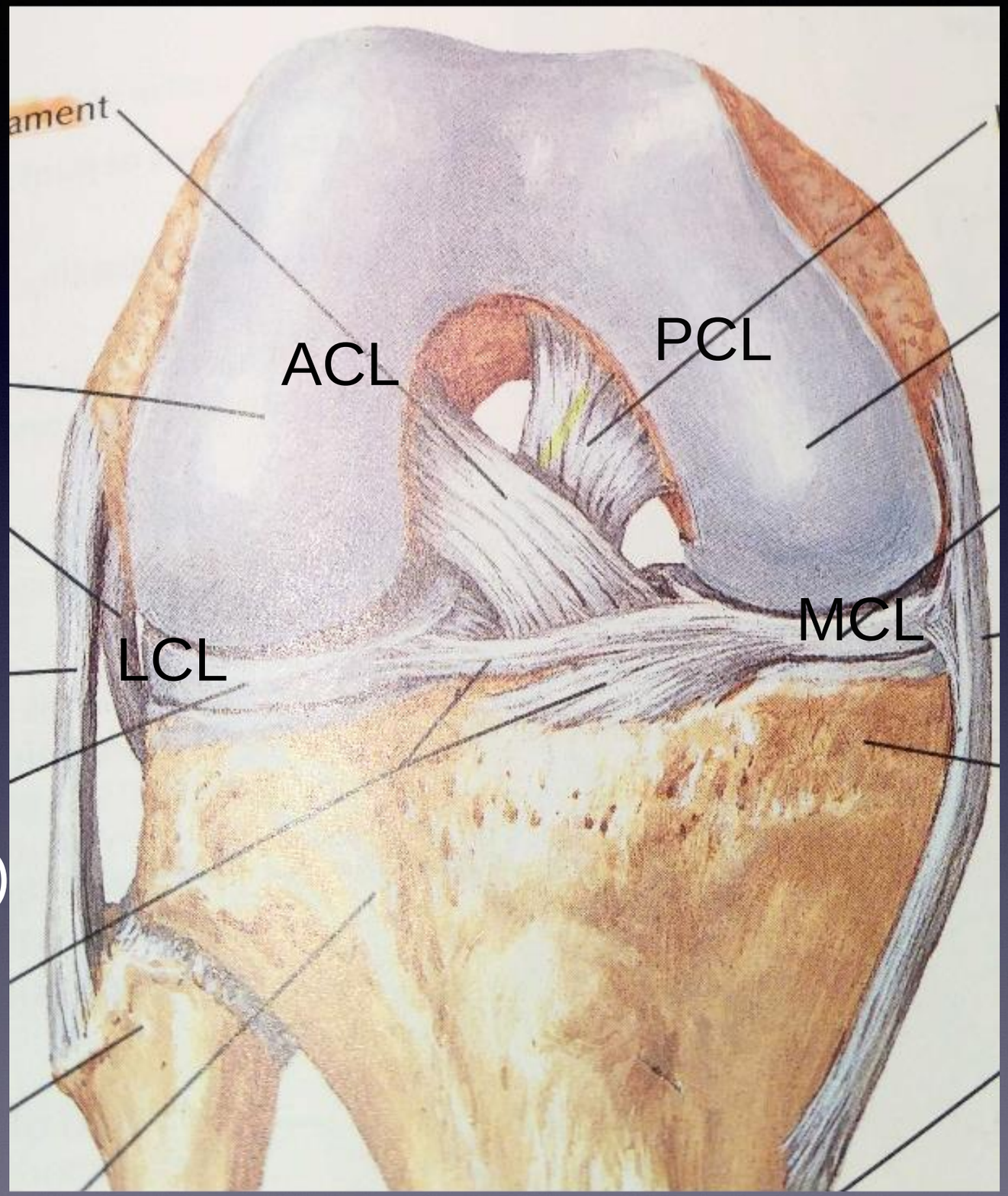
Femur
Tibia
Patella (knee cap)



Anatomy

4 Major Ligaments

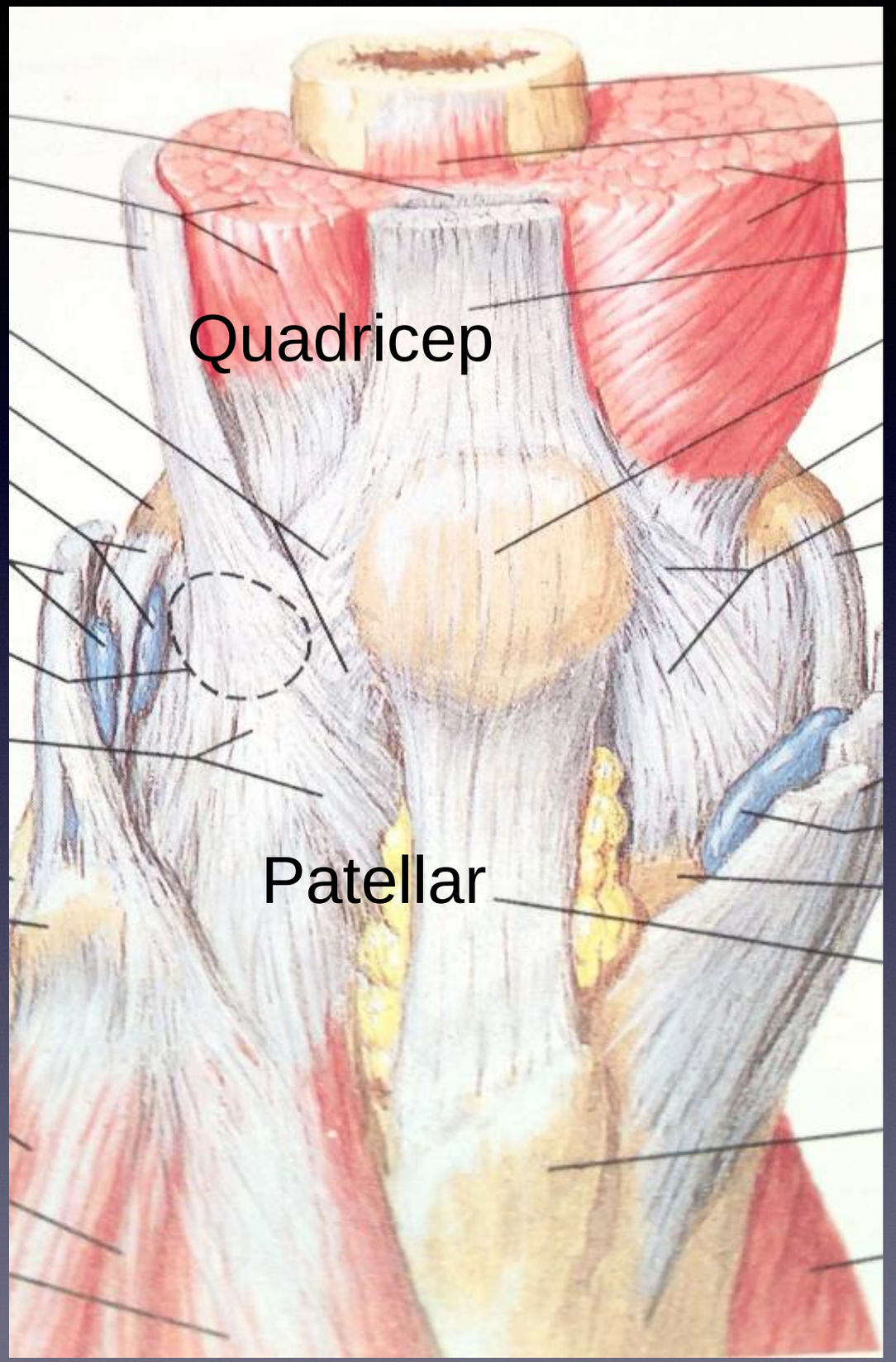
Anterior Cruciate Ligament (ACL)
Posterior Cruciate Ligament (PCL)
Medial Collateral Ligament (MCL)
Lateral Collateral Ligament (LCL)



Anatomy

Tendons

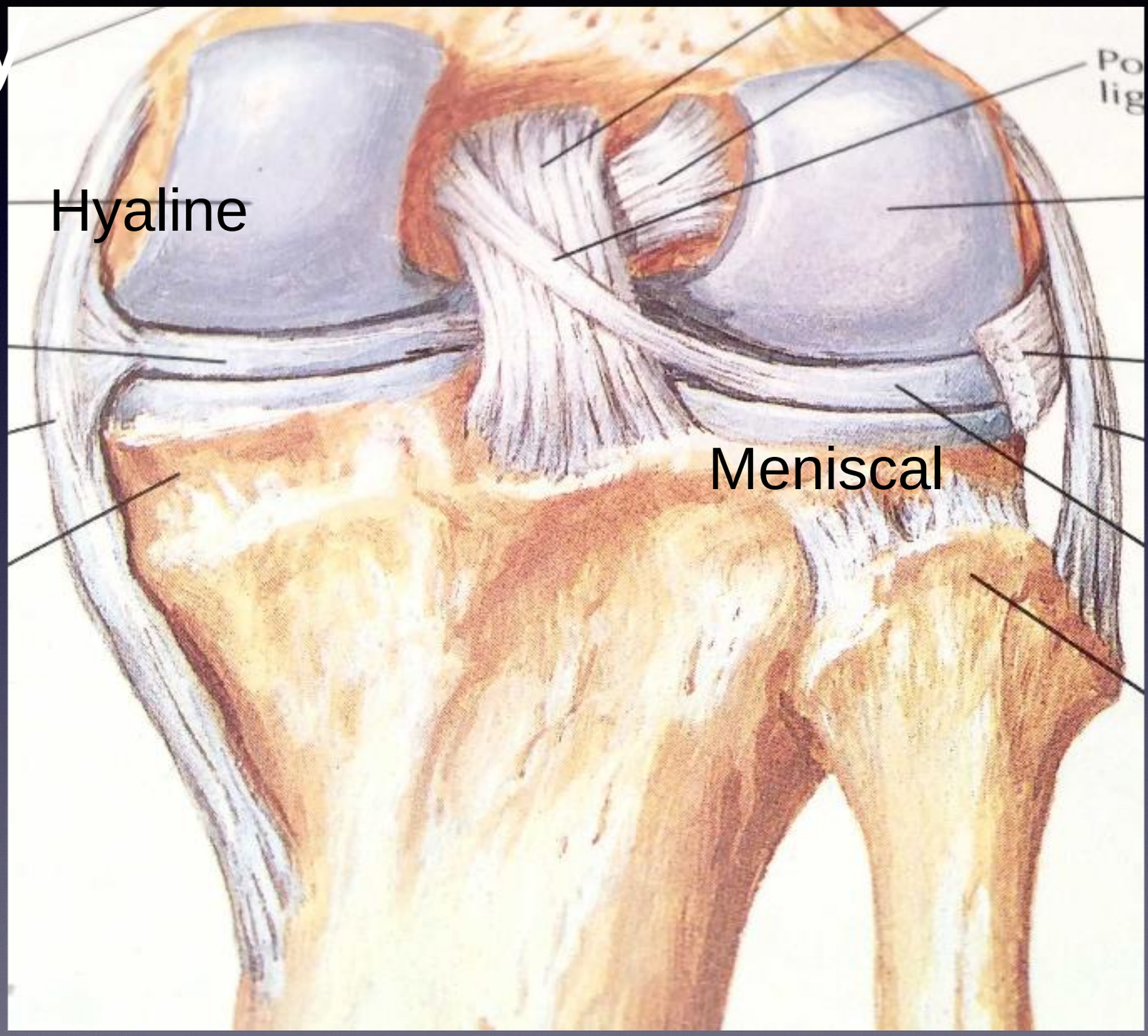
Quadricep
Patellar



Anatomy

Cartilage

Articular (Hyaline)
Meniscal
Medial
Lateral



Definitions

- ***Strain***- *muscle or tendon is overstretched or torn.*
- ***Sprain***- *a stretching or tearing of a ligament*
- ***Contusion***- *a region of injured tissue or skin in which blood capillaries have been ruptured; a bruise*
- ***Laceration***- *a deep cut or tear in skin or flesh*
- ***Acute***- injuries less than 3 months old
- ***Chronic***- injuries more than 3 months old
- ***Ligament***- structure that attaches a bone to a bone
- ***Tendon***- structure that attaches a muscle to a bone

Mechanism of Injury

Closely evaluating the mechanism of a reported injury can often times delineate between industrial and non-industrial disorders identified in the knee.

Mechanism of Injury

Causation

An identifiable factor (ie; accident) that results in a medically identifiable condition

Mechanism of Injury

Evaluating Causation:

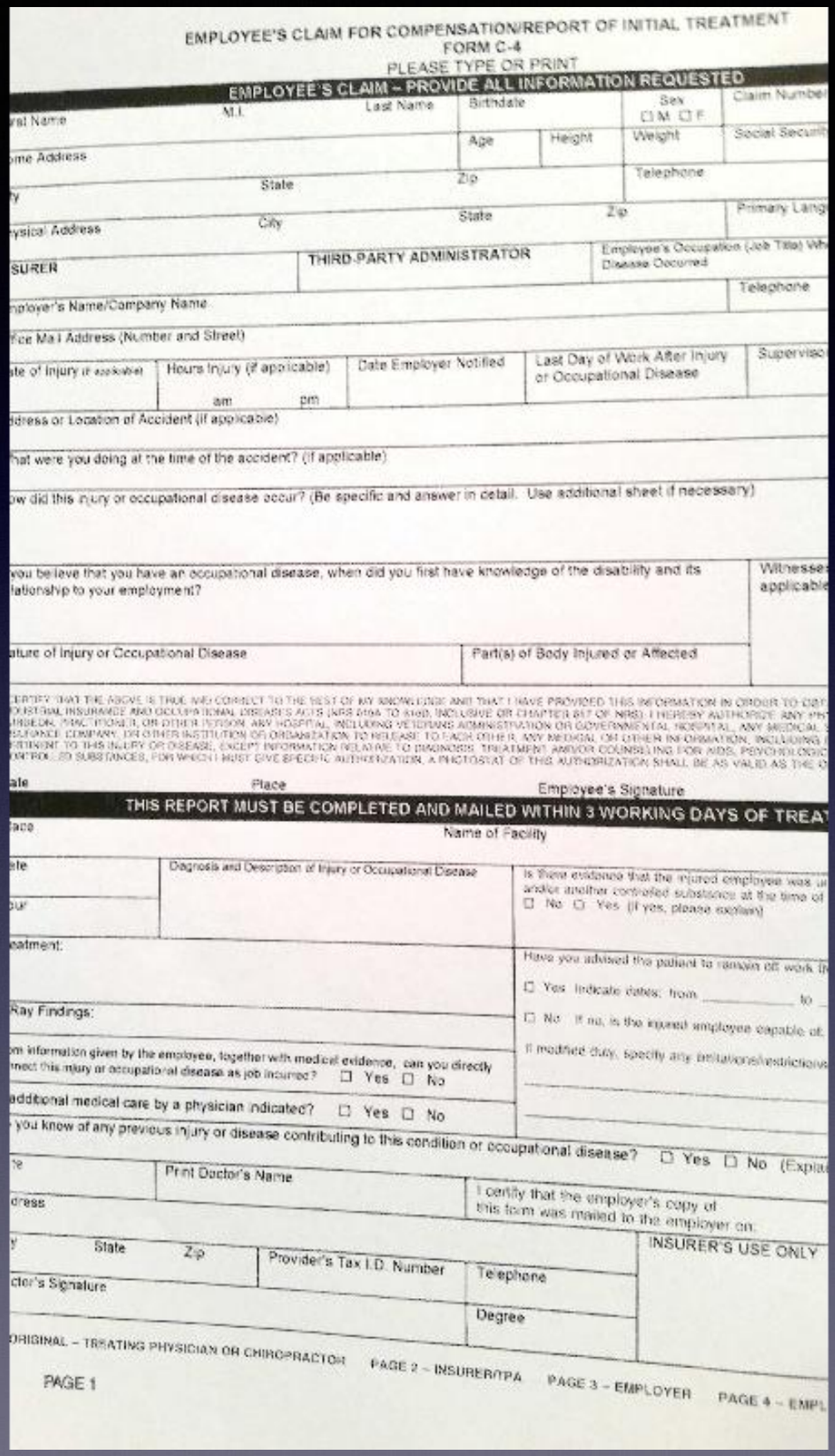
- C4 Form (report of injury)
- Patient History
- 3rd party witnesses/Video

Mechanism of Injury

Causation

C4 Form

- ***Not a holy grail***
- Often filled out while patient under duress
- Patient not educated on medical terminology
- Filled out by other party present with patient



EMPLOYEE'S CLAIM FOR COMPENSATION/REPORT OF INITIAL TREATMENT
FORM C-4
PLEASE TYPE OR PRINT

EMPLOYEE'S CLAIM – PROVIDE ALL INFORMATION REQUESTED

rst Name | M.I. | Last Name | Birthdate | Sex ☐M ☐F | Claim Number
Age | Height | Weight | Social Securit
me Address
State | Zip | Telephone
y
ysical Address | City | State | Zip | Primary Lang
SURER | THIRD-PARTY ADMINISTRATOR | Employee's Occupation (Job Title) Wh Disease Occurred
nployer's Name/Company Name | Telephone
fice Mail Address (Number and Street)
te of Injury If applicable | Hours Injury (if applicable) am pm | Date Employer Notified | Last Day of Work After Injury or Occupational Disease | Supervisc
ddress or Location of Accident (if applicable)
hat were you doing at the time of the accident? (if applicable)
w did this injury or occupational disease occur? (Be specific and answer in detail. Use additional sheet if necessary)
you believe that you have an occupational disease, when did you first have knowledge of the disability and its lationship to your employment? | Witnesse applicable
ature of Injury or Occupational Disease | Part(s) of Body Injured or Affected

ERTIFY THAT THE ABOVE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I HAVE PROVIDED THIS INFORMATION IN ORDER TO OBT
OCCUPATIONAL INSURANCE AND OCCUPATIONAL DISEASES ACTS (NRS 616A TO 616D, INCLUSIVE OR CHAPTER 617 OF NRS), I HEREBY AUTHORIZE ANY PH
URGEON, PRACTITIONER, OR OTHER PERSON, ANY HOSPITAL, INCLUDING VETERANS ADMINISTRATION OR GOVERNMENTAL AGENCY, ANY MEDICAL
SURANCE COMPANY, OR OTHER INSTITUTION OR ORGANIZATION TO RELEASE TO EACH OTHER, ANY MEDICAL OR OTHER INFORMATION, INCLUDING
STIMENT TO THIS INJURY OR DISEASE, EXCEPT INFORMATION RELATIVE TO DIAGNOSIS, TREATMENT AND/OR COUNSELING FOR AIDS, PSYCHIATRIC
NTROLLED SUBSTANCES, FOR WHICH I MUST GIVE SPECIFIC AUTHORIZATION. A PHOTOSTAT OF THIS AUTHORIZATION SHALL BE AS VALID AS THE O

ate | Place | Employee's Signature

THIS REPORT MUST BE COMPLETED AND MAILED WITHIN 3 WORKING DAYS OF TREAT

ace | Name of Facility
te | Diagnosis and Description of Injury or Occupational Disease | Is there evidence that the injured employee was u and/or another controlled substance at the time of ☐ No ☐ Yes (If yes, please explain)
ur
eatment:
Ray Findings:
Have you advised this patient to remain off work (I ☐ Yes Indicate dates: from ____ to ____ ☐ No If no, is the injured employee capable of If modified duty, specify any limitations/restrictions
m information given by the employee, together with medical evidence, can you directly nect this injury or occupational disease as job incurred? ☐ Yes ☐ No
dditional medical care by a physician indicated? ☐ Yes ☐ No
you know of any previous injury or disease contributing to this condition or occupational disease? ☐ Yes ☐ No (Explai
e | Print Doctor's Name | I certify that the employer's copy of this form was mailed to the employer on
dress
State | Zip | Provider's Tax I.D. Number | Telephone | INSURER'S USE ONLY
ctor's Signature | Degree

ORIGINAL – TREATING PHYSICIAN OR CHIROPRACTOR PAGE 2 – INSURER/TPA PAGE 3 – EMPLOYER PAGE 4 – EMPL
PAGE 1

Mechanism of Injury

Causation

Patient history: critical to identifying mech of injury and determining causation

Witnesses/Video: when available often play an important role when an injury is disputed

Common Work Related Knee Injuries

Common Knee Injuries

- **Strains/Contusions**
- **Ligament injuries**
    - *ACL, PCL, MCL, LCL*
- **Cartilage injuries**
    - *Articular cartilage disorders*
    - *Meniscal injuries*
- **Tendon injuries**
    - *Quadricep & Patellar Tendons*
- **Fractures/Dislocations**

Orthopedic Surgical Emergencies

Involving the Knee

These injuries require immediate surgical intervention often within a *finite time frame* (ie; 4-6 hours after the injury) to prevent limb/life threatening complications or sequelae

Orthopedic Surgical Emergencies
Involving the Knee

- **Knee dislocation** (tibio-femoral)
- **Open knee joint** (Penetrating trauma or laceration **into** the joint itself)
- **Open fracture**
- **Neuro-vascular injury**
- **Septic joint** (infection **within** the joint space)

Common Work Related Knee Injuries

Typical Mechanism of Injury

Signs & Symptoms

Radiographic Evaluation

Treatment

Ligament Injuries

Anterior Cruciate Ligament Deficiency

Tear or loss of function of the ACL

Anterior Cruciate Ligament Deficiency

Mechanism of injury

- Caused by a deceleration/rotational force placed through a knee
- Caused by an extreme hyperextension force placed through a knee

Anterior Cruciate Ligament Deficiency

Common Examples of Mechanism of Injury

- *Twisting Knee Injury (High energy)*
- *Fall from a ladder or into a trench*
- *MVA*
- *High energy direct blow (i.e.: clipping injury)*
- *Stepping into a hole*
- *Knee dislocation*
- *Penetrating trauma*

Anterior Cruciate Ligament Deficiency

Symptoms

- Pain
- *Immediate* Effusion
- Instability
- Mechanical Symptoms (popping, clicking, locking)

Anterior Cruciate Ligament Deficiency

Clinical Signs

- *Large effusion*
- *Limited range of motion, severe involuntary guarding*
- *Anterior Drawer, Lachman test, Pivot shift*

- ***Immediate exam is best to diagnose an ACL injury. Delayed exam may give equivocal findings.*

Anterior Cruciate Ligament Deficiency

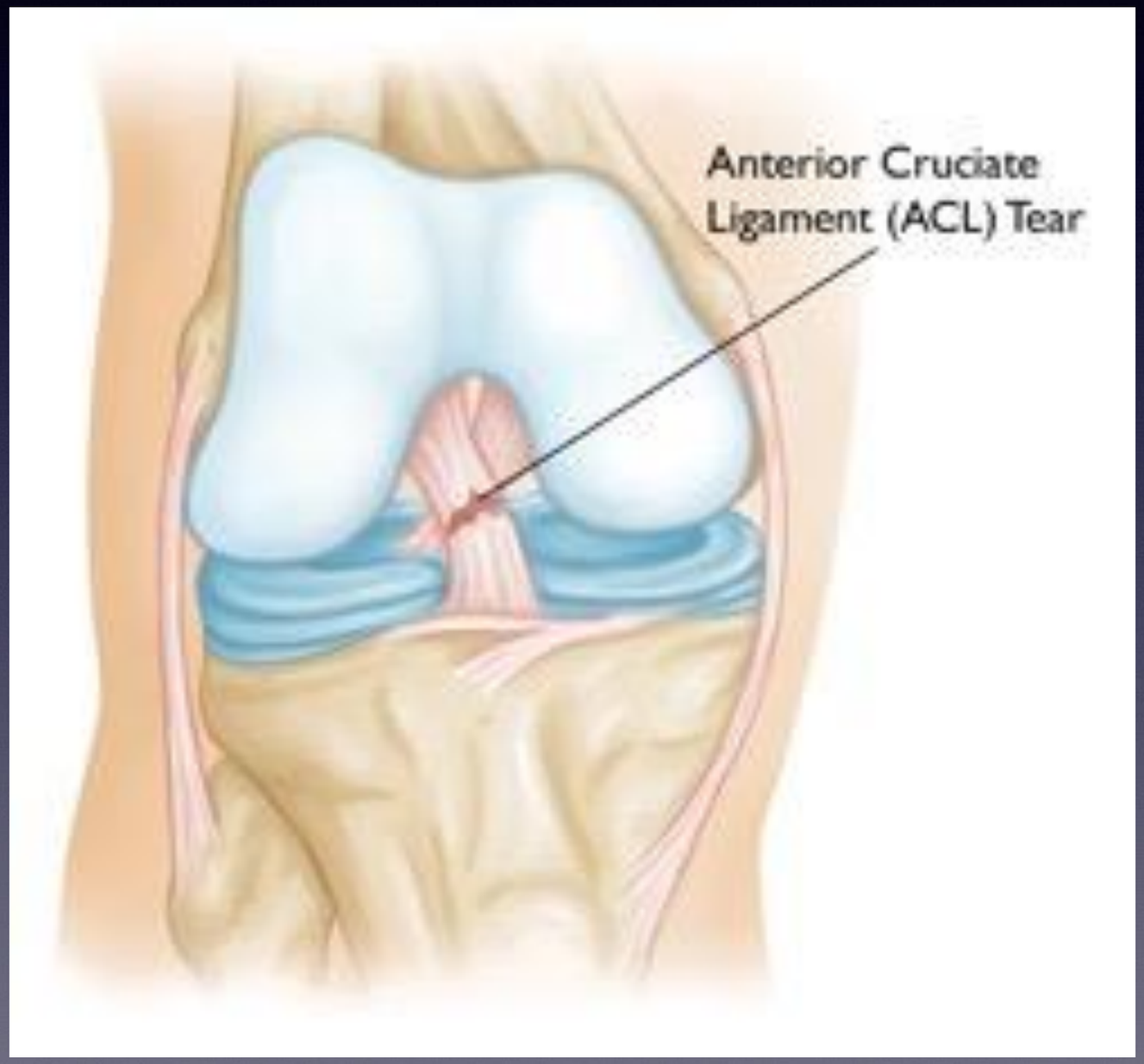
Radiographic Evaluation

- ***X-ray series***
- ***MRI***
- ***KT-1000*** *(objectively evaluates laxity)*

Anterior Cruciate Ligament Deficiency

Treatment

- ***"RICE"*** (rest, ice, compression, elevation)
- ***Rehabilitation***
- ***Bracing***
- ***Modification of Activity***
- ***Surgical Stabilization***



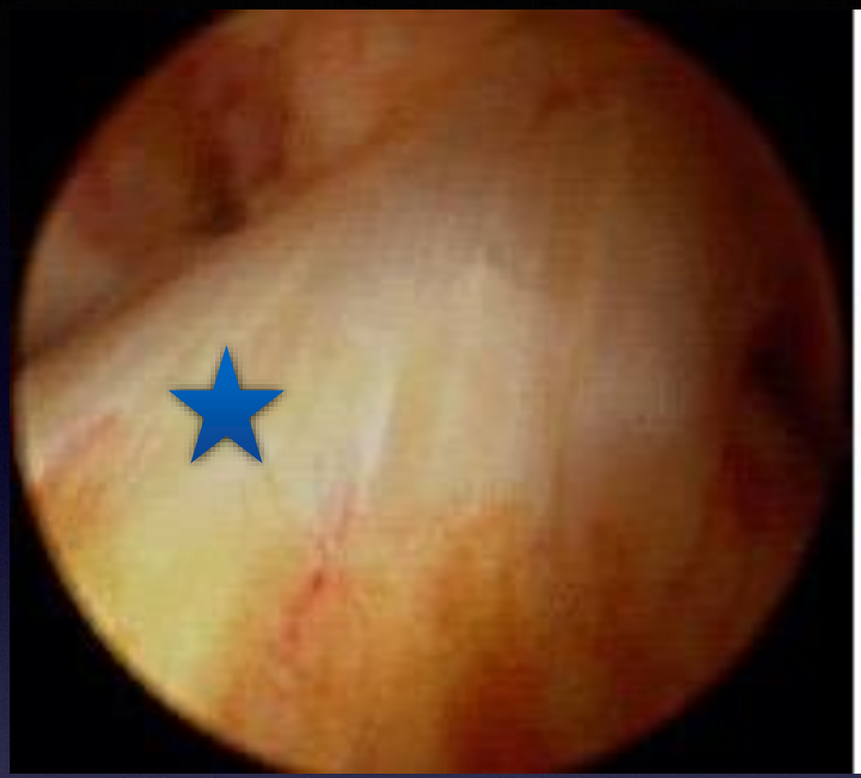
Anterior Cruciate Ligament Deficiency

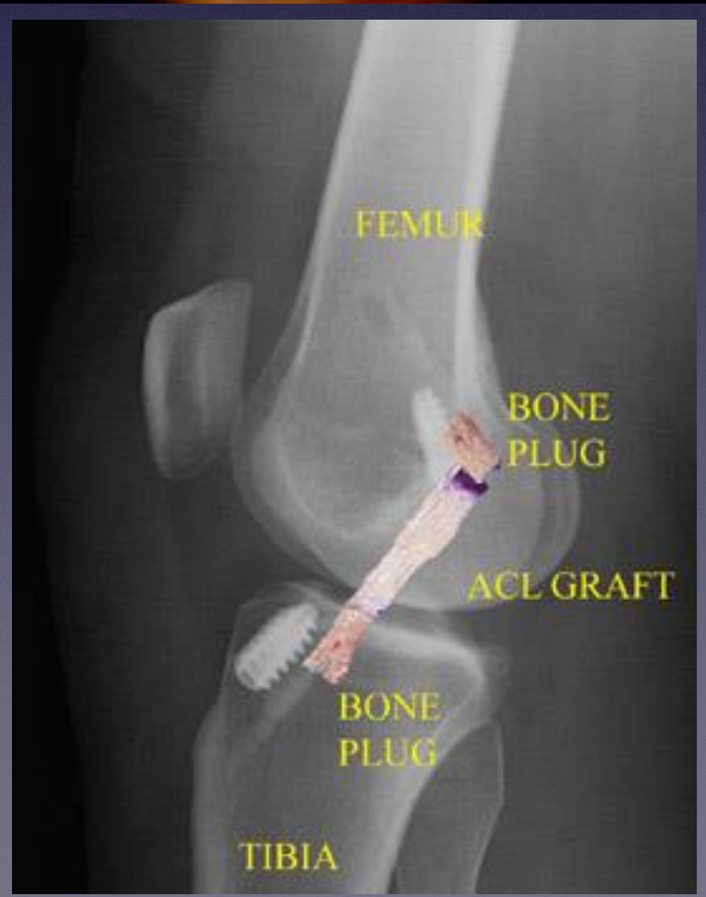
Surgical Treatment

Numerous techniques for reconstruction

Numerous tissue choices for reconstruction

Surgical repair is not an option at this time




FEMUR
BONE
PLUG
ACL GRAFT
BONE
PLUG
TIBIA

Anterior Cruciate Ligament Deficiency

Surgical Treatment

Different patients require different methods of ACL reconstruction (patient's knee = patient's choice……w/guidance)

Various surgical techniques, methods of fixation, and tissue/graft selection are within the standards of care

Surgeon must be ready, willing and able to utilize a number of methods, tissues or fixation devices to obtain best possible outcome

Ligament Injuries

Posterior Cruciate Ligament Deficiency

Tear or loss of function of the PCL

Posterior Cruciate Ligament Deficiency

Mechanism of Injury

- *Caused by a significant posteriorly directed force upon the front (anterior) aspect of the knee (proximal tibia)*
- *Caused by a significant rotational force placed upon the knee*

Posterior Cruciate Ligament Deficiency

Common examples of Mechanism of Injury

- *MVA (dashboard injury)*
- *Fall from heights onto anterior aspect of knee*
- *SEVERE twisting knee injury*
- *High energy direct blow to knee (clipping injury)*
- *Knee dislocation*
- *Penetrating trauma*

Posterior Cruciate Ligament Deficiency

Symptoms

- Pain
- *Immediate* Effusion
- +/- Instability
- Mechanical Symptoms (popping, clicking, locking)

Posterior Cruciate Ligament Deficiency

Clinical Signs

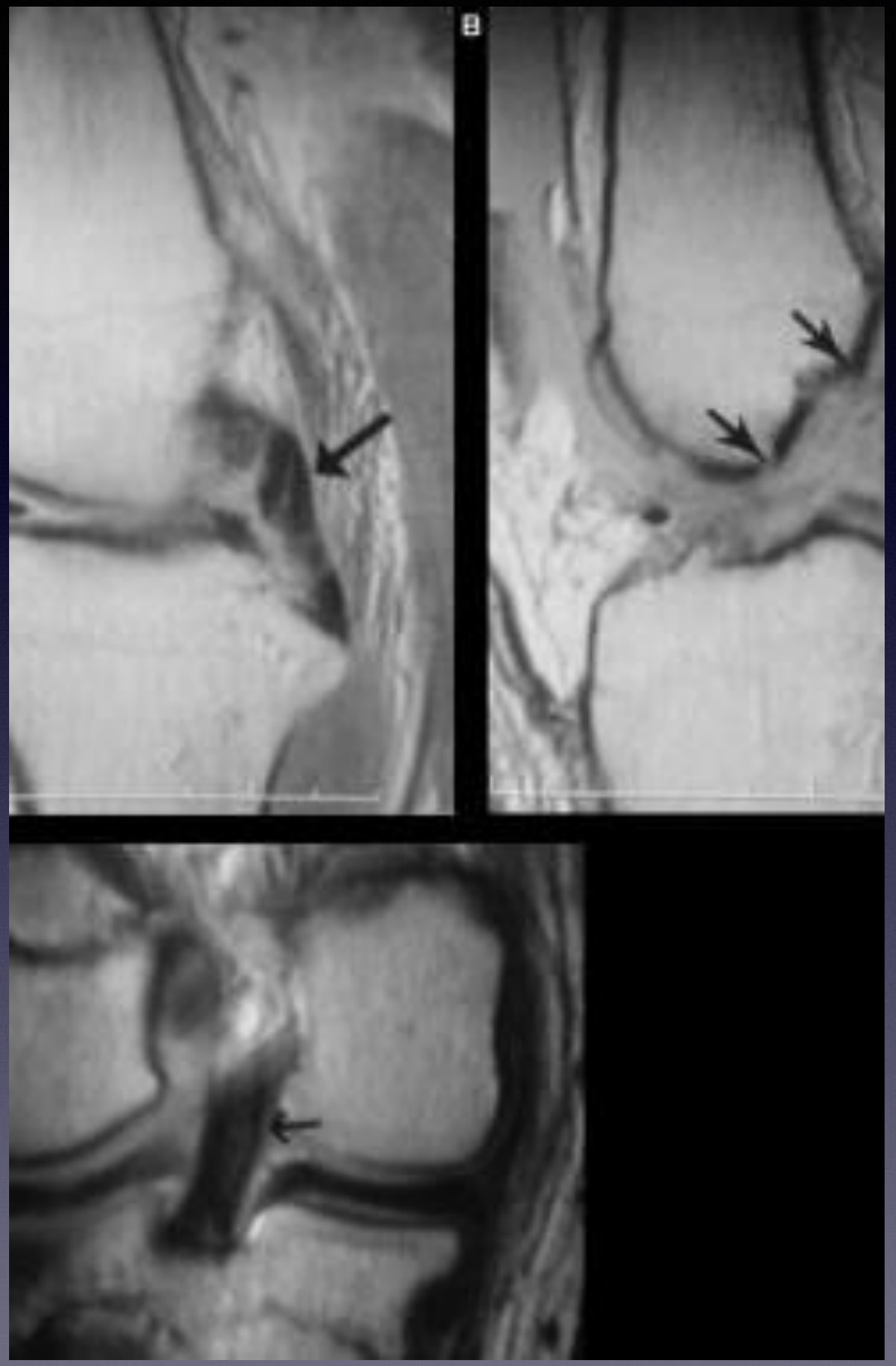
- *Large effusion*
- *Limited range of motion, involuntary guarding*
- *Posterior Drawer, Reverse Pivot shift*

- ***Immediate exam is best to diagnose an ACL injury. Delayed exam may give equivocal findings.*

Posterior Cruciate Ligament Deficiency

Radiographic Evaluation

- *X-ray series*
- *MRI*



Posterior Cruciate Ligament Deficiency

Treatment

** ***CONSERVATIVE*** *

- *Rehabilitation*
- *Bracing*
- *Modification of Activity*

Surgical Reconstruction

(rarely required)

Ligament Injuries

Medial Collateral Ligament Deficiency

Tear or loss of function of the MCL

Medial Collateral Ligament Deficiency

Mechanism of Injury

Caused by a laterally directed force/load cross the knee (from the outside of the knee).

Medial Collateral Ligament Deficiency

Common Examples of Mechanism of Injury

- *Direct blow to the knee from outside (lateral side) …….clipping injury*
- *Fall from height*
- *MVA*
- *Knee dislocation*
- *Penetrating trauma*

Medial Collateral Ligament Deficiency

Symptoms

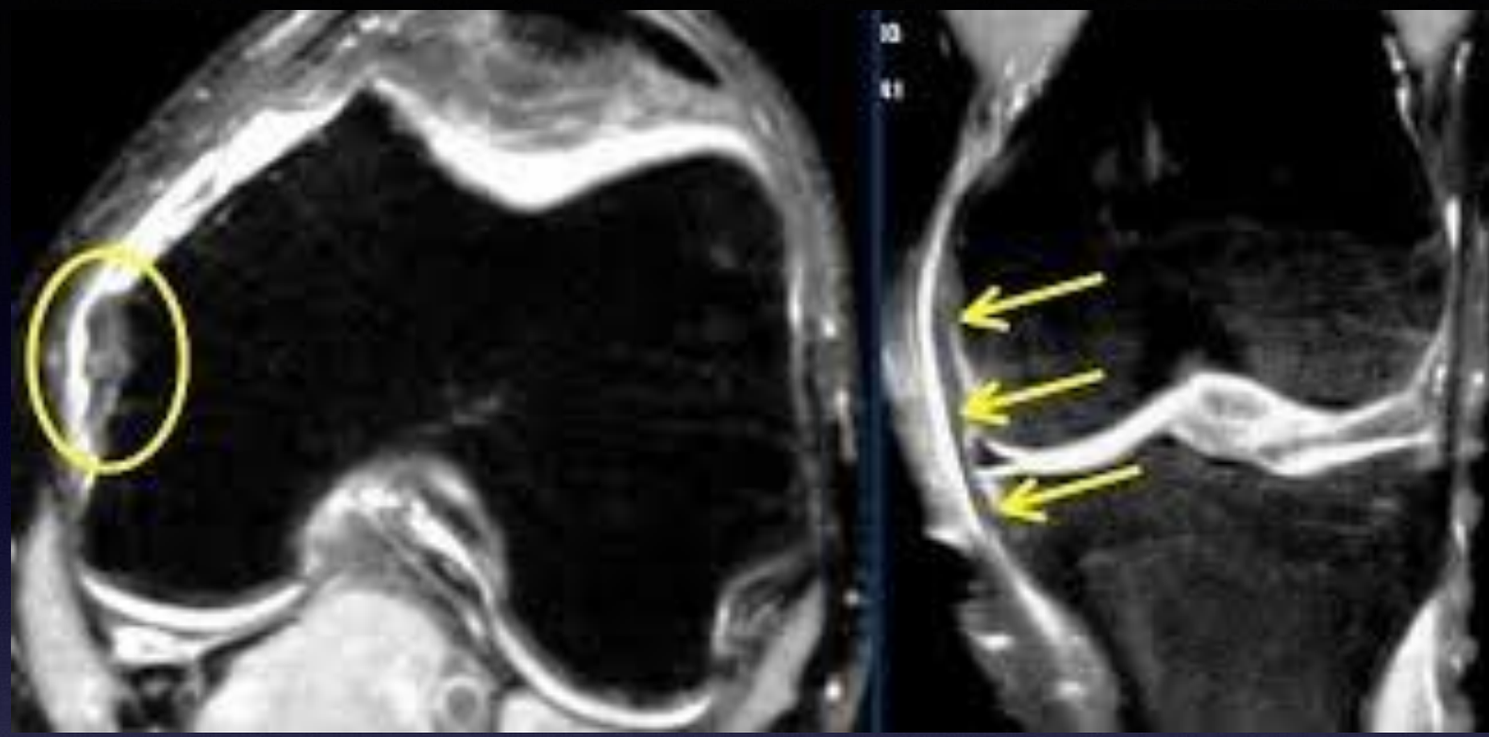
- *Pain (localized to the medial aspect of knee)*
- *Instability*
- *Loss of range of motion, involuntary guarding*
- *Soft tissue Swelling (not effusion)*

Medial Collateral Ligament Deficiency

Clinical Signs

- *focal tenderness along medial femoral condyle and/or joint line*
- *focal soft tissue swelling medially*
- *+ valgus laxity of the knee*

Medial Collateral Ligament Deficiency



Radiographic evaluation

- *X-Ray series*
- *MRI*

Medial Collateral Ligament Deficiency

Treatment

- ***Conservative , conservative, conserative……***
  - *Bracing full time 6-8 weeks*
  - *Rehabilitation*
- ***Surgical repair RARELY required!***

Ligament Injuries

Lateral Collateral Ligament Deficiency

Tear or loss of function of the LCL

Lateral Collateral Ligament Deficiency

Mechanism of Injury

Caused by a medially directed force/load cross the knee (from the inside of the knee)

Lateral Collateral Ligament Deficiency

Common Examples of Mechanism of Injury

- *Direct blow to the knee from inside (medial side) …….clipping injury*
- *Fall from height*
- *MVA*
- *Knee dislocation*
- *Penetrating trauma*

Lateral Collateral Ligament Deficiency

Symptoms

- *Pain (localized to the lateral aspect of knee)*
- *Instability*
- *Loss of range of motion, involuntary guarding*
- *Soft tissue Swelling (not effusion)*

Lateral Collateral Ligament Deficiency

Clinical Signs

- *focal tenderness along lateral condyle and/or joint line or the fibular head*
- *focal soft tissue swelling laterally*
- *+ <u>varus</u> laxity of the knee*

Lateral Collateral Ligament Deficiency

Radiographic Evaluation

- *X-ray series*
- *MRI*

Lateral Collateral Ligament Deficiency

Treatment

- ***Conservative (bracing, rehabilitation)***
  - *low grade tears, sedentary patients*
- ***Surgical reconstruction***
  - *high grade tears, high level athletes*

Tendon Injuries

Quadricep tendon deficiency

Patellar tendon deficiency

Irritation, partial or complete tear or loss of function of the Quadricep or Patellar tendon

Quadricep/Patellar Tendon Deficiency

Mechanism of Injury

The injury involves an awkward landing from a jumping position where the quadriceps muscle is contracting, but the knee is being forcefully straightened. This is a so-called <u>eccentric contraction.</u>

<u>Eccentric load:</u> *An eccentric contraction is the motion of an active muscle while it is lengthening under load.*

Quadricep/Patellar Tendon Deficiency

Common Examples of Mechanism of Injury

- *An eccentric load placed across the knee*
- *Fall from height*
- *MVA*
- *Knee dislocation*
- *Penetrating trauma*

Quadricep/Patellar Tendon Deficiency

Symptoms

- *Immediate pain, snapping or popping sensation*
- *acute deformity about the knee*
- *weakness, inability to extend(straighten) knee*
- *instability*
- *inability to stand or walk*

Quadricep/Patellar Tendon Deficiency

Clinical Signs

- *Physical deformity*
- *weakness (knee extension) against gravity*
- *Soft tissue swelling/ effusion*
- *Palpable defect in the tendon*
- *bruising*

Quadricep/Patellar Tendon Deficiency

Radiographic Evaluation

- *X-Ray series*
- *MRI*

Quadricep/Patellar Tendon Deficiency

Treatment

- ***Surgical Treatment usually required***
  - *3-6 month recovery*
  - *residual weakness may persist despite repair*
- ***Conservative treatment*** *(poor prognosis)*
  - *medical issue prevent surgery*

Cartilage Injuries

- ***Articular cartilage (Hyaline)***
- ***Meniscal cartilage***

Meniscal Tears

Medial / Lateral meniscus

Tear of the meniscal cartilage in the medial or lateral compartment of the knee

Meniscal Tears

Mechanism of Injury

- *Caused by a shearing or rotational force placed through a knee that is loaded (weight bearing).*

- *Caused by a hyper flexion force placed through a knee.*

Meniscal Tears

Common examples of mechanism of injury

- *Twisting injury to the knee (low energy)*
- *Squatting down*
- *getting up from a kneeling position*
- *MVA*
- *Penetrating trauma*

Meniscal Tears

Symptoms

- *Pain*
- *Mechanical symptoms*
  - *popping, clicking, locking*
- *slow effusion*
- *instability*

Meniscal Tears

Clinical Signs

- *small effusion*
- *joint line tenderness to palpation*
- *+ McMurray's sign*
- *limited range of motion*

Meniscal Tears

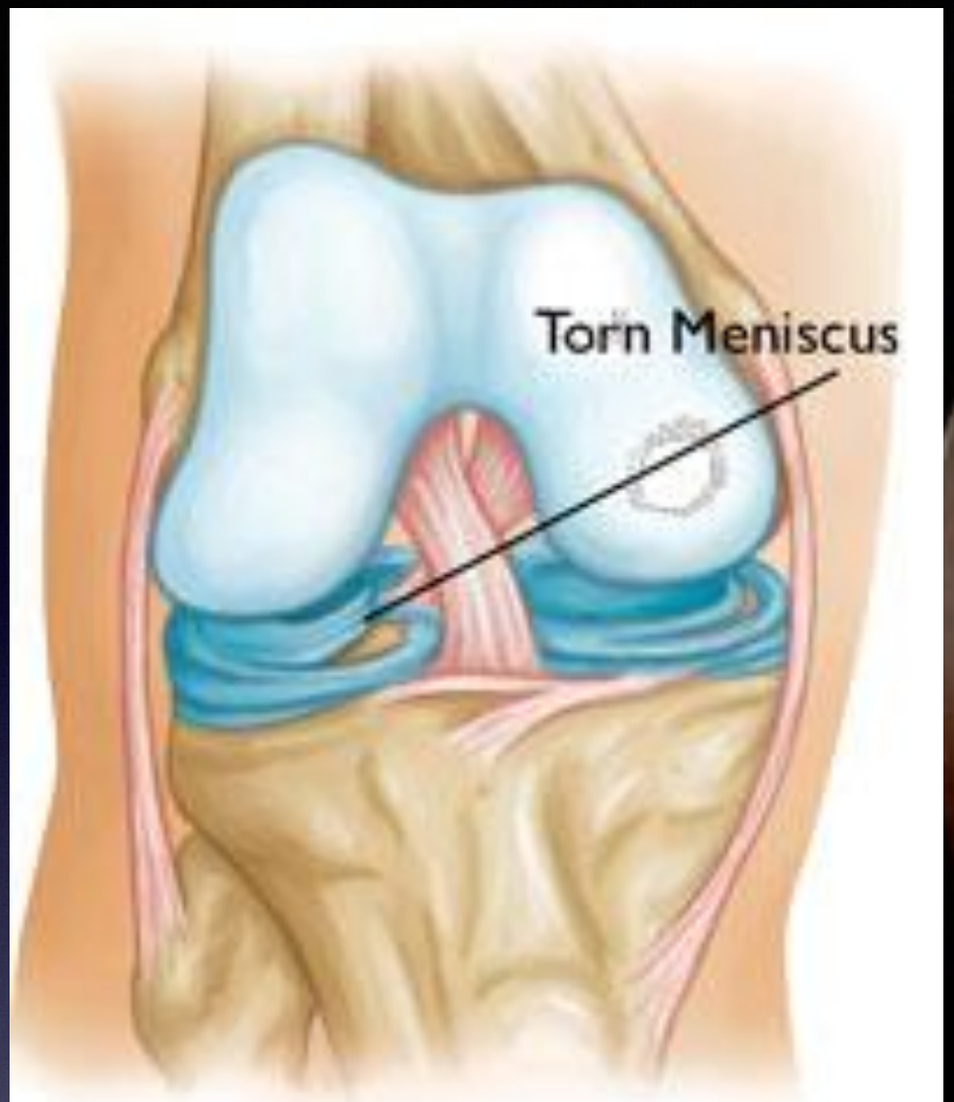
Radiographic evaluation

X-Ray series
MRI
MRI w GAD Arthrogram

Meniscal Tears

Treatment

- ***"RICE"***
- ***Conservative***
  - *Rehabilitation, NSAIDs, Modification of Activities, Brace*
- ***Surgical intervention***
  - *Arthroscopic debridement / repair*


Torn Meniscus

Articular (Hyaline) Cartilage Deficiency

Chondral defect

Osteochondral defect

Chondromalacia

Articular (Hyaline) Cartilage Deficiency

Chondral / Osteochondral defects

Focal areas of articular damage with cartilage damage and injury of the adjacent subchondral bone.

Chondral / Osteochondral Defect

Mechanism of Injury

- *A direct or repetitive trauma with in a joint*
- *Often accompanies injuries associated with twisting forces*

Chondral / Osteochondral Defect

Common examples of mechanism of injury

- *Contact/collision sports*
- *Activity requiring a quick change of direction*
- *Blunt trauma*
- *MVA*
- *Fall from heights*
- *Penetrating trauma*

Chondral / Osteochondral Defect

Symptoms

- *Pain*
- *Effusion*
- *Increased pain with weight bearing*
- *Limited range of motion*

Chondral / Osteochondral Defect

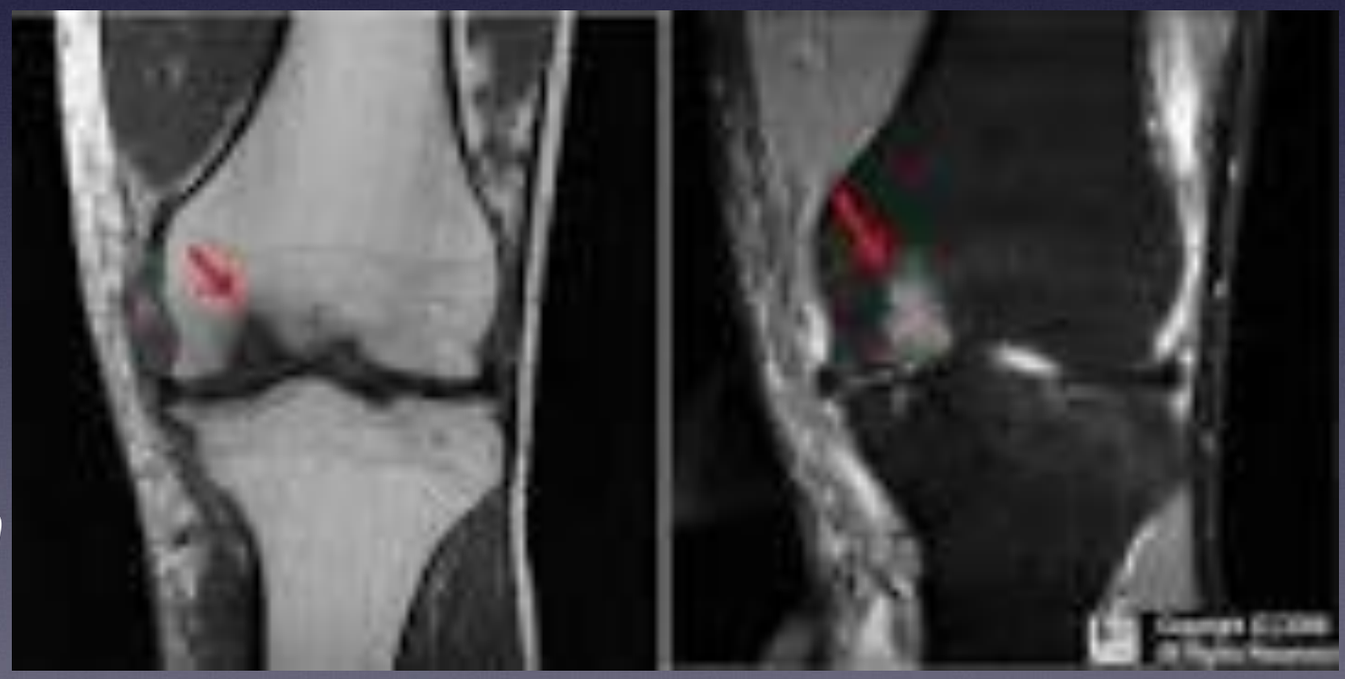
Clinical Signs

- *Effusion*
- *Limited range of motion*
- *Focal tenderness to palpation over joint line or femoral condyle*

Chondral / Osteochondral Defect

Radiographic Evaluation

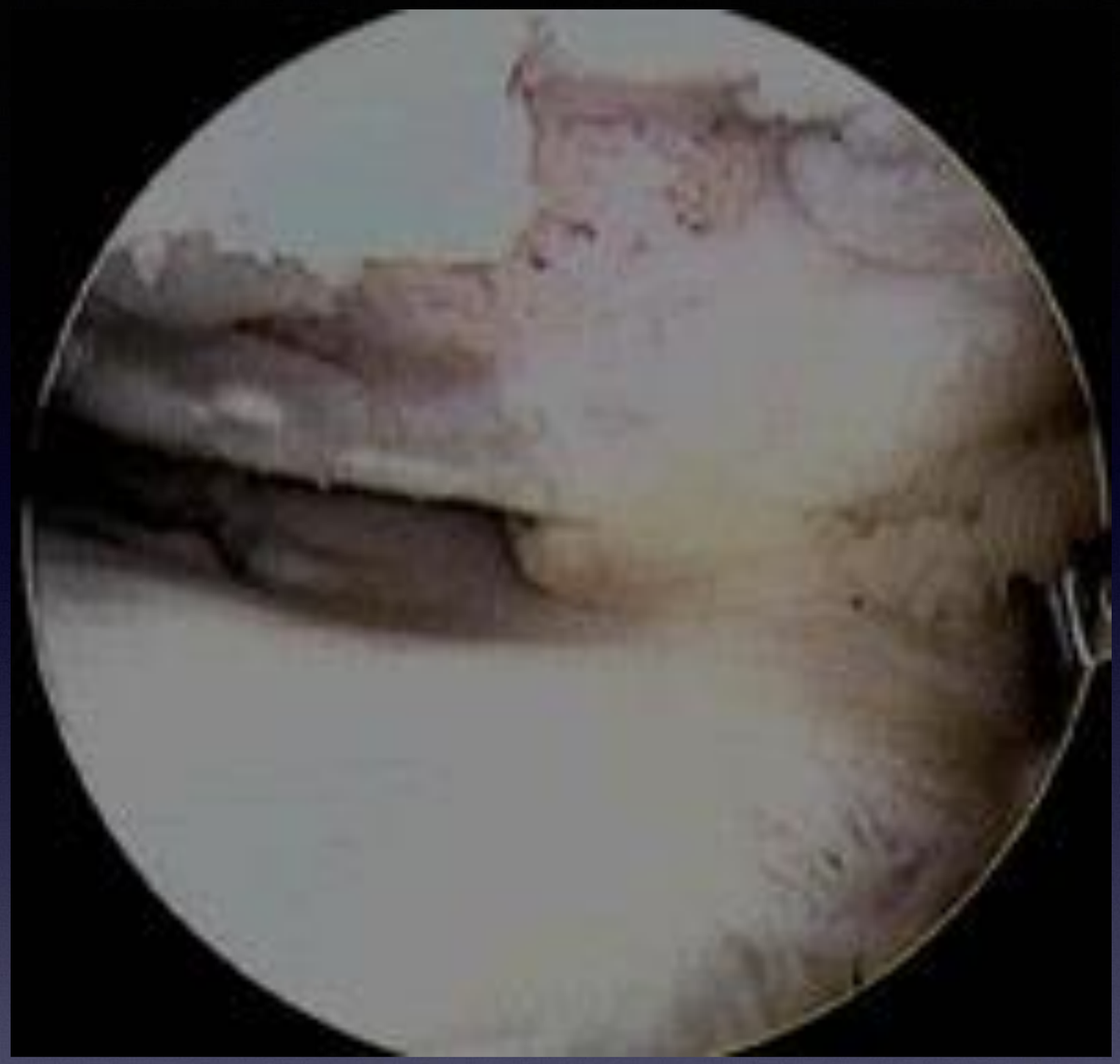
X-Ray series
MRI w GAD Arthrogram
CT Scan

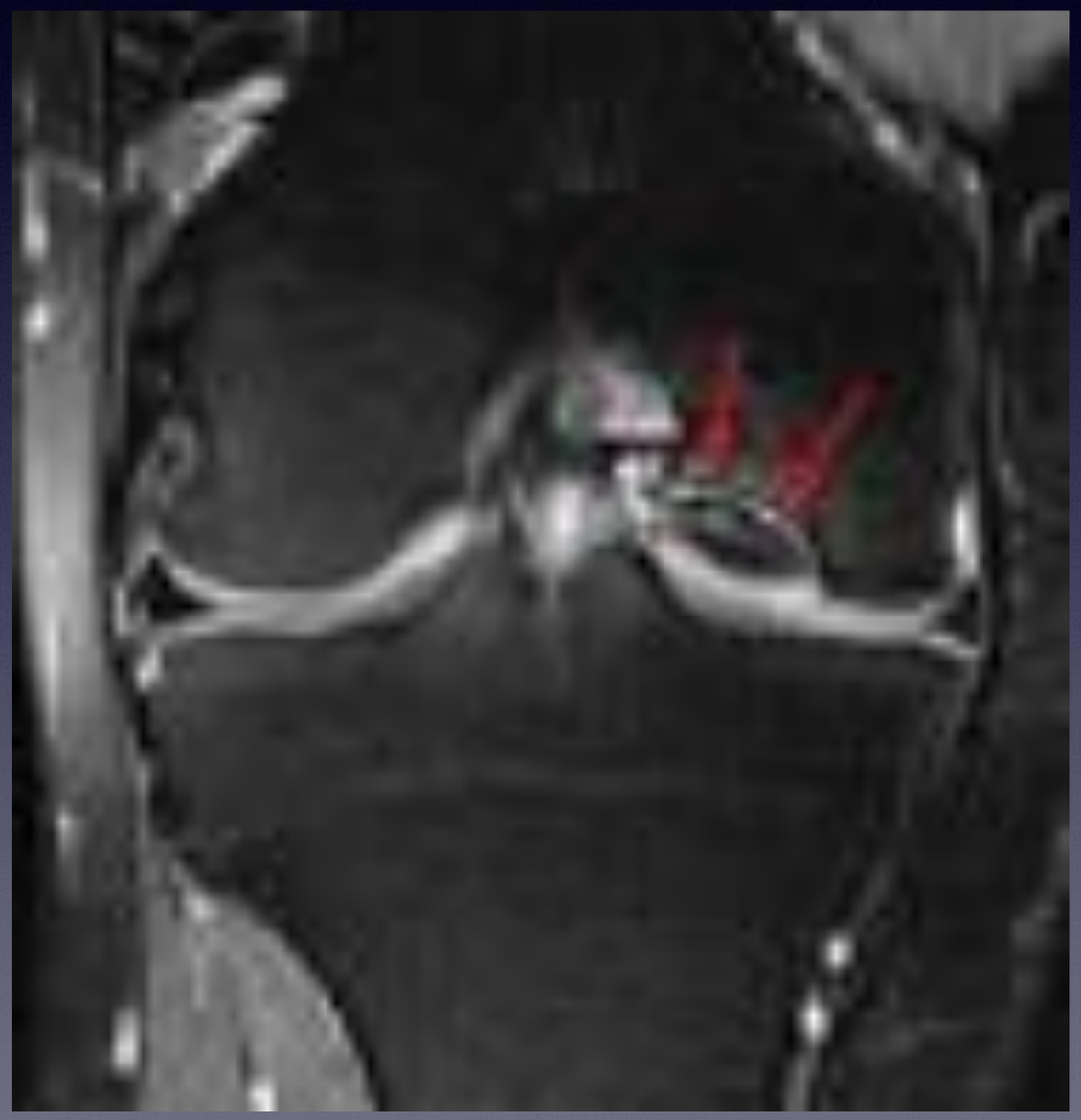


Chondral / Osteochondral Defect

Treatment

- ***Immobilization / Observation***
- ***Surgical (Arthroscopic)***
  - *Chondroplasty*
  - *Microfracture/drilling*
  - *Arthroscopic reduction & fixation*
  - *Cartilage transplantation*





Articular (Hyaline) Cartilage Deficiency

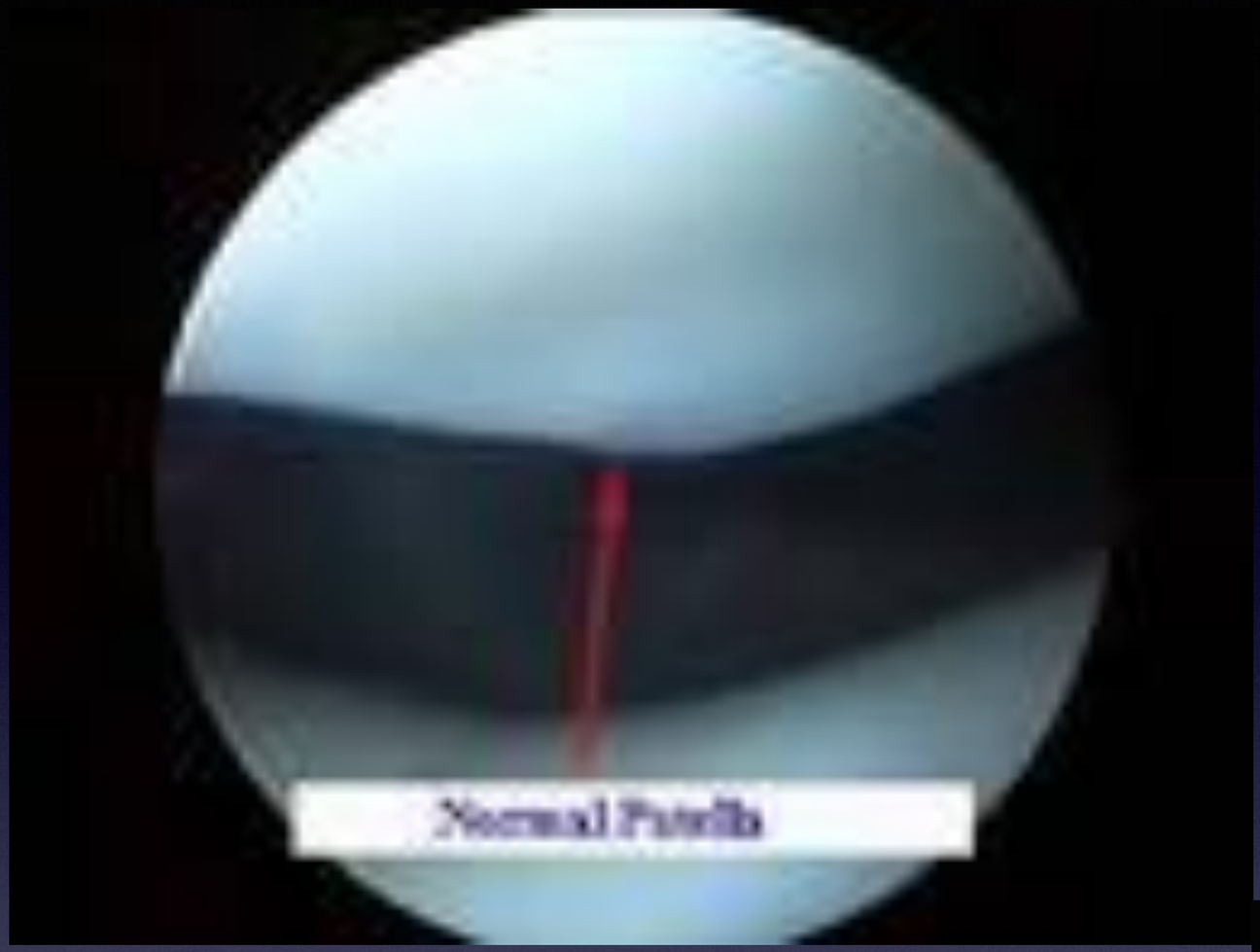
Chondromalacia

Abnormal softening or degeneration of the cartilage in a joint, especially the knee.

Chondromalacia is often seen as an overuse injury in sports and work. In other cases, improper knee & muscle alignment is the cause.

A progressive, degenerative process in older patients.

It is <u>not</u> felt to be a precursor to DJD when it occurs in the young.


Normal Patella


Chondromalacia Patella

Chondromalacia

Common etiology

- ***Trauma**, especially a fracture (break) or dislocation of the kneecap*
- *An **imbalance of the muscles** around the knee (Some muscles are weaker than others.)*
- ***Overuse** (repeated bending or twisting) of the knee joint, especially during sports*
- ***Poorly aligned muscles or bones** near the knee joint*
- ***Injury to a meniscus** (C-shaped cartilage inside the knee joint)*
- *Rheumatoid arthritis or osteoarthritis*
- *An infection in the knee joint*
- *Repeated episodes of bleeding inside the knee joint*
- *Repeated injections of steroid drugs into the knee*

Harvard Health Publication

Chondromalacia

Symptoms

- *Dull ache/pain in front half of knee*
- *Effusion*
- *Grinding sensation*
- *Mechanical symptoms*
    - *popping, catching, locking*
- *Instability*

Chondromalacia

Clinical Signs

- *Effusion*
- *Crepitation*
- *+ patellar grind test*
- *loss of range of motion*

Chondromalacia

Treatment

- *NSAID's, Ice regimen*
- *Low impact exercise/strengthening program*
- *Bracing / taping techniques*
- *Avoid high impact activity, kneeling, squatting*
- *Arthroscopic chondroplasty (rare)*

Fractures & Dislocations involving the Knee

- **Patella**: accounts for 1% of all fractures, most common in ages 20-50

- **Femoral condyles**: these usually fracture when the knee is stressed.

- **Tibial plateau**: compressive fractures of the articular surface, typically from extreme force such as fall from a height or being hit by a vehicle, although in patients with osteoporosis minimal force may be needed.

Knee dislocation

This is a relatively rare injury resulting from dislocation between the femur and tibia. It is a highly traumatic event which may be associated with serious vascular injury. It often presents with multisystem trauma, and it is a high-energy traumatic injury usually associated with road traffic accidents and severe falls. It results in marked soft tissue damage.
A surgical emergency!!

Patellar dislocation

This is common, especially in young active individuals. Most dislocations are lateral, and are accompanied by pain and swelling. Damage to the medial ligaments is common. Dislocation may occur when the foot is planted on the ground and a rapid change of direction or twisting occurs. Usually pre-existing ligamentous laxity is present, and when patellar dislocation has occurred once, it may recur owing to the consequent ligament damage. Relocation to the patellar groove is often spontaneous as the leg is straightened.[

Knee dislocations are an orthopedic surgical emergency

Treatment of a W/C Knee Injury

Primary Goals

- *Treat an injured worker in the most appropriate, cost effective, efficient manner*
- *Return a patient to their pre-injury level of activity as soon as possible (maximize functional outcomes)*
- *Minimize impairment (limit morbidity)*

Treatment of a W/C Knee Injury

Maximal Medical Improvement (MMI)

When a condition is well stabilized and unlikely to change substantially in the next year with or with out medical treatment.

May or may not be a permanent impairment associated with the injury

Treatment of a W/C Knee Injury

Treatment "Guidelines"

ODG

ACOM

Presley Reed Disability Guidelines

Treatment of a W/C Knee Injury

W/C guidelines are <u>NOT Standard of Care or based on Evidenced Based Medicine</u> for the treatment of specific orthopedic injuries.

Impairment Ratings

Different ways of measuring impairment

Anatomic loss *- damage to an organ or body structure*

Functional loss *- change in the function of the organ or body structure (range of motion, strength, stability)*

Diagnosis Based Estimate *- impairment based on diagnosis rather than on physical findings*

Impairment Rating

Table 17-10 Knee Impairment

Whole Person (lower extremity) Impairment (%)

Motion	***Mild***	***Moderate***	***Severe***
	4% (10%)	***8% (20%)***	***14% (35%)***
Flexion	*< 110 deg*	*< 80 deg*	*< 60 deg*
Extension	*5-9 deg*	*10-19 deg*	*> 20 deg*

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Functional Targets

Critical objective measurements obtained to maximize functional outcome and minimize impairment ratings

range of motion

strength

stability

Functional Targets

Example of functional target utilization in the overall outcome & rating process.

Example Rating

General Assumptions

Median Annual Income Las Vegas, 2006

$35,000

(~$730/week)

66.6% = $480/week

Physical Therapy cost/visit = ~$100

Example Rating

- *25 y.o male underwent an uncomplicated ACL reconstruction ~12 weeks ago.*
- *~12 weeks (33-36 visits) of P.T. to date. His R.O.M. is progressing albeit slowly*
- *Current R.O.M.; -7 to 105 degrees*

current rating

4%WP (-7 ext) + 4%WP (105 flexion) = ***8% WP***

PPD Award = $25,935

Example Rating

2 additional weeks PT (6 visits x $100/visit)

2 additional weeks of modified work ($480 x 2)

Additional cost of 2 weeks care

($480 x 2) + ($100 x 6) = $1560

***Functional Target** knee: (-4 ext, 110 flexion)*

Pt's range of motion improves to -4 to 112 degrees

Example Rating

<u>loss of function</u> no longer applies to this patient's rating. Reverts back to a diagnosis based estimate, which is typically 3% WP rating.

PPD award = ~ $9,725

Example Rating

Total Savings

$25,935 (original PPD award) - $9,725 (PPD award after 6 additional PT) - $1,560 (additional costs of treatment = $14,650 savings

Functional Targets

Physicians responsible for the care of W/C patients must know, understand and strive for the <u>functional targets</u> of the knee.

Being able to communicate with a "peer" during "peer reviews" when discussing a patient's care that is falling outside of the W/C "guidelines" is critical.

Conclusion

The knee is an amazing structure, but it must observe the laws of physics (biomechanics) to maintain it's integrity….. just like a bridge or skyscraper.

When abnormal or excessive forces (loads) overcome a specific structure within the knee a traumatic injury (failure) occurs.

Conclusion

A basic understanding of the actual mechanisms of injury (forces) that can (cannot) cause a specific structure in the knee to fail can help determine if a specific accident/event caused a medically identified injury, (causation).

Conclusion

Ultimately, the goal in treatment of an injured knee structure is to restore functional stability, strength and motion to that knee.

This maximizes functional outcome for the patient, minimizes their impairment.

Conclusion

Allowing treatment to continue @ times longer than the suggested "guidelines" may benefit the patient, insurance company and employer by achieving functional targets, hence increasing the functional outcome of a patient and decreasing the impairment/ impairment rating/PPD award.

Conclusion

Each knee injury requires a multi-faceted approach when striving to return patient to a pre-injury level or to maximize their functional outcome.

Physician, patient and 3rd party payer must partner and communicate with each other to achieve a functional outcome.

Conclusion

For the most appropriate, efficient and cost effective treatment of an injured worker, treating physicians and decision makers must familiarize themselves with functional targets when making critical treatment decisions.

Rigidity when working with the “guidelines” is not in the best interest of any party or individual involved.

Last Slide!!!!!!

Thank You!!!!!!