

Back To Chiropractic CE Seminars

History & Examination Knee ~ 4 Hours

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This course counts toward your California Board of Chiropractic Examiners CE. (also accepted in other states, check our website or with your Chiropractic State Board)

The California Board requires that you complete all of your CE hours BEFORE the end of your Birthday month. We recommend that you send your chiropractic license renewal form and fee in early to avoid any issues.

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I'm always a phone call away... 707.972.0047 or email: marcusstrutzdc@gmail.com

Marcus Strutz, DC

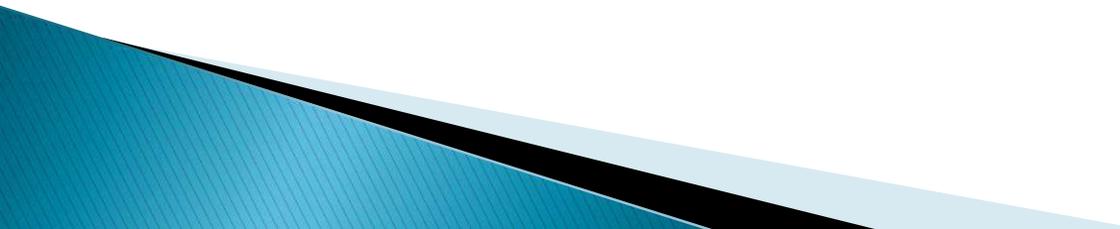
Back To Chiropractic CE Seminars

History and Examination: Knee



Dr. Richard D. Belsky, DC, CCSP

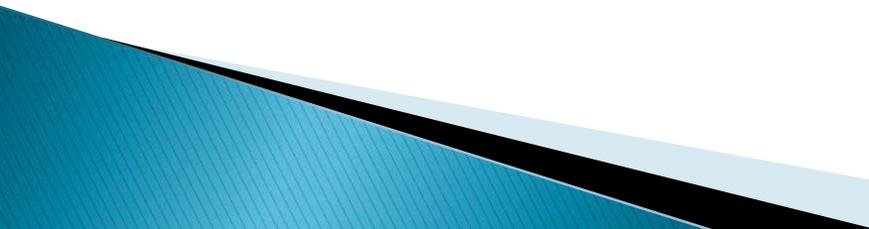
Course Objectives

- ▶ The course will instruct the chiropractor to perform a thorough consultation and examination of the knee to properly diagnose common knee conditions.
 - ▶ The course will focus on the logical thought process of history taking, physical examination procedures and accurate documentation.
 - ▶ The chiropractor will gain an understanding of how to ask pertinent questions to determine a diagnosis as well as performing a detailed knee examination.
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Course Objectives

- ▶ The chiropractor will also gain improved knowledge of recognizing when and where to refer the patient.
 - ▶ A discussion of the doctor–patient relationship, documentation and informed consent will also be covered.
- 

History & Examination of the Knee

- ▶ Doctor–Patient Relationship
 - ▶ Patient Mind–Set
 - ▶ Consultation / Patient History
 - ▶ Examination of the Knee
 - ▶ Conclusions from History & Examination
 - ▶ Referral for imaging / orthopedic consult
 - ▶ Documentation
- 

Doctor–Patient Relationship

- ▶ Greeting & Introduction
- ▶ Establish a relaxed atmosphere
- ▶ Explain the Initial Office Visit
- ▶ Informed Consent



Greeting & Introduction

- ▶ Staff should greet and welcome and acknowledge patient immediately (even if on telephone)
- ▶ Be sure to have a clean, well organized reception area with enough seating



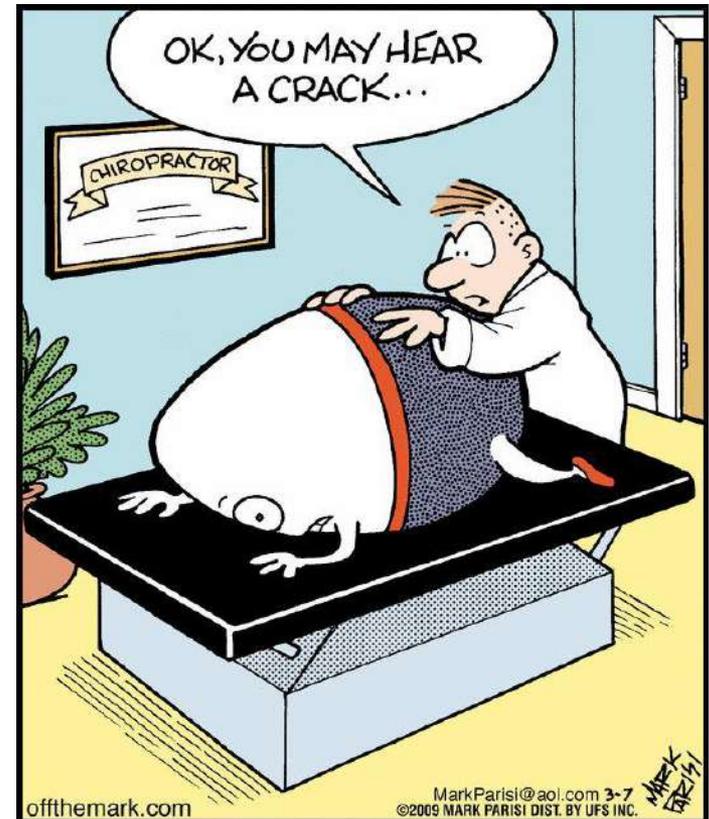
Greeting & Introduction

- ▶ Be on time, do not make the new patient wait
- ▶ Review all the paperwork & initial each page
- ▶ Introduce yourself, acknowledge that you read over all the paperwork & ask the patient to tell you about their pain / problem



Establish a relaxed atmosphere

- ▶ Tell the patient about your practice and your experience with their injury, condition and pain
- ▶ Briefly explain what is going to take place during this initial office visit

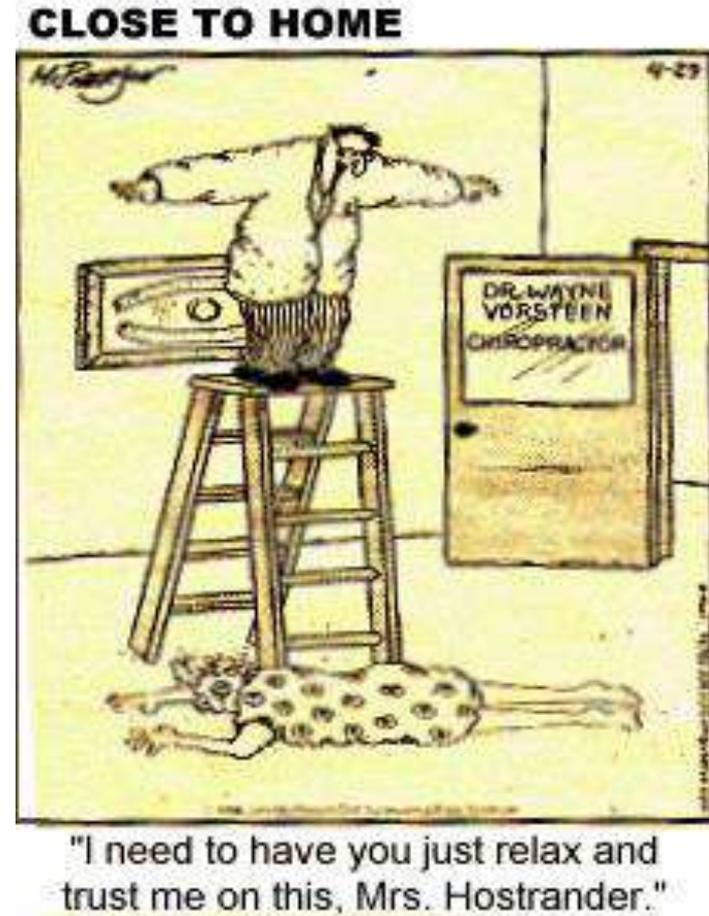


Establish a relaxed atmosphere

- ▶ Make sure they are comfortable – either sitting, standing or laying
 - ▶ Be sure to ask if this is their first time to visit a chiropractor
 - ▶ If it is not, then ask them about their prior experiences and treatment
- 

Establish a relaxed atmosphere

- ▶ Listen to what the patient tells you about their previous chiropractic experience
- ▶ If your practice is different than the patient's prior chiropractic care, then briefly explain how your method can help them
- ▶ This will help you to meet their expectations



Explain the Initial Office Visit

- ▶ If the patient had no previous chiropractic care, then you will need to explain what chiropractic care is and how it will help
- ▶ Prepare a brief explanation of the benefits of chiropractic care – more explanation later
- ▶ Include a brief discussion about wellness care and prevention as well as pain reduction



Informed Consent

- ▶ Before continuing with the medical history, you should obtain **informed consent** from the patient
- ▶ You should review with them what they had signed in the paperwork & explain that as with all medical care, the patient needs to be informed of the associated risks involved
- ▶ **Informed Consent** – permission granted in the knowledge of the possible consequences, typically that which is given by a patient to a doctor for treatment with full knowledge of the possible risks and benefits

Informed Consent

§319.1. Informed Consent – California Rules and Regulations

- ▶ A licensed doctor of chiropractic shall **verbally** and **in writing** inform each patient of the material risks of proposed care. “Material” shall be defined as a procedure inherently involving known risk of serious bodily harm. The chiropractor shall obtain the patient's written informed consent prior to initiating clinical care. The signed written consent shall become part of the patient's record.

The Patient Mindset

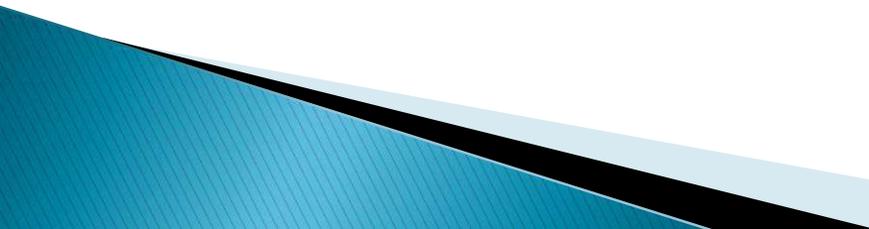
- ▶ Fear
- ▶ Depression
- ▶ Anxiety
- ▶ Expectations
- ▶ Understanding the mindset of your patient will help you to facilitate their recovery



The Patient Mindset

- ▶ The patient will present to you with a problem that they need to have resolved
 - ▶ This problem may be new or may have been persisting for months
 - ▶ This problem may also be associated with fear, depression, anxiety and expectations
- 

The Patient Mindset – Fear

- ▶ Patients are afraid of the unknown
 - ▶ They typically will think of the worst case scenario
 - ▶ They worry if they will be pain free again and if they can return to their activity, work or sport
 - ▶ The fear of the unknown amplifies the pain
 - ▶ If they are in a lot of pain, they are afraid that the treatment will cause them greater pain
- 

The Patient Mindset – Depression

- ▶ The patient may also be upset when they can not participate in their activity, sport or job
- ▶ If the problem has been persisting for over a month, the patient may feel hopeless
- ▶ They may have seen other doctors who were not able to help them



The Patient Mindset – Anxiety

- ▶ The patient may be worry about provoking or aggravating the pain
- ▶ They may be afraid that the pain will increase
- ▶ The patient may avoid all activity



The Patient Mindset – Expectations

- ▶ Patients may not know what to expect
- ▶ Patients may present with unreasonable expectations
 - They may expect to be “fixed” immediately, after one adjustment
 - They may expect to return to playing their sport after one or two treatments

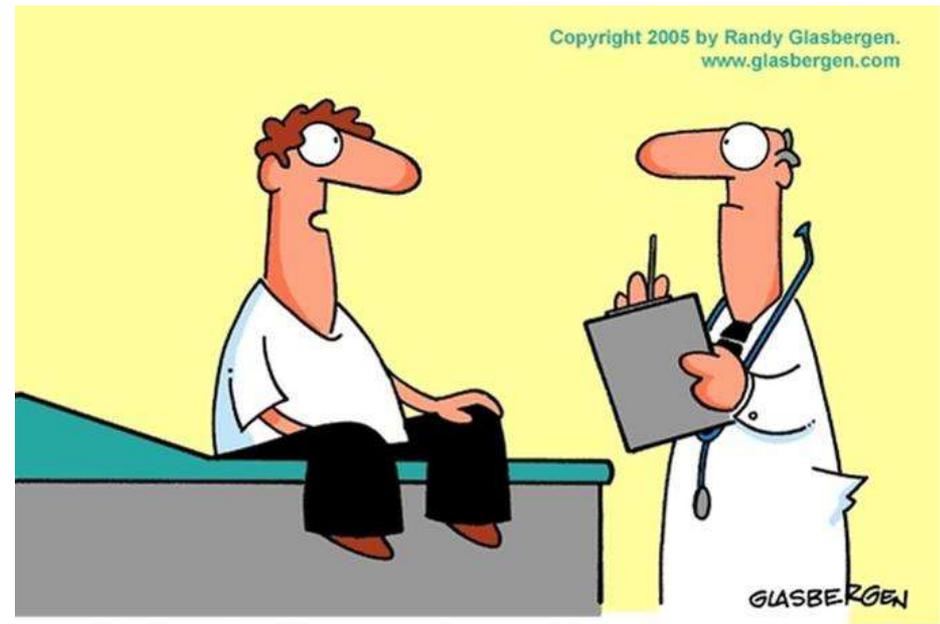


The Patient Mindset

- ▶ Help the patient to feel at ease
 - Introduce yourself & provide a brief explanation of how chiropractic care can help to improve function, speed healing/recovery and benefit health
 - Tell them about what is going to take place during the initial visit and what treatment will be administered
 - Assure them that you will refer them to the proper practitioner if they do not respond to your treatment
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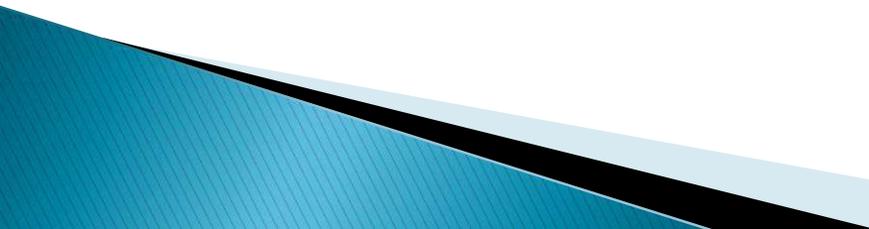
The Patient Mindset

- ▶ Patients may present demanding a certain treatment, self-diagnosing their condition and telling you that they do not need an examination
- ▶ Patients may present quiet and not know how to describe their pain/condition/injury
- ▶ Patients may tell you way too much information



**"I already diagnosed myself on the Internet.
I'm only here for a second opinion."**

The Patient Mindset

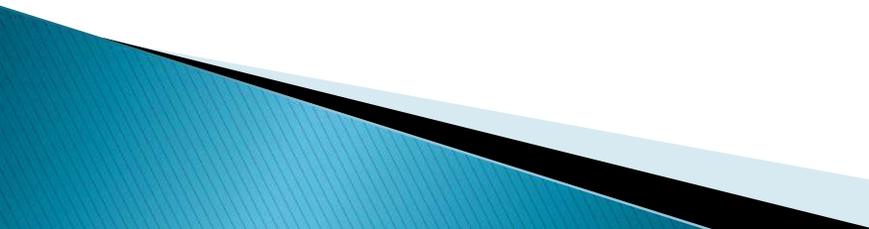
- ▶ Listen and re-direct the patient during the past history, guiding them to what is relevant
 - ▶ Syphon through the history for pertinent information
 - ▶ Direct the patient to stay on topic
 - ▶ Help to ease their fear, depression and anxiety by listening to their history and acknowledge that you will help them with your treatment or with a referral to the right practitioner
- 

History Taking



- ▶ When you hear hoof-beats, think horses not zebras
 - Use logical thinking when listening to the patient's history and don't focus on rare conditions until common conditions have been ruled out
- ▶ Logical thinking -during the patient's history
 - The process in which one uses reasoning consistently to come to a conclusion. Problems or situations that involve logical thinking call for structure, for relationships between facts, and for chains of reasoning that make sense

History Taking for the KNEE

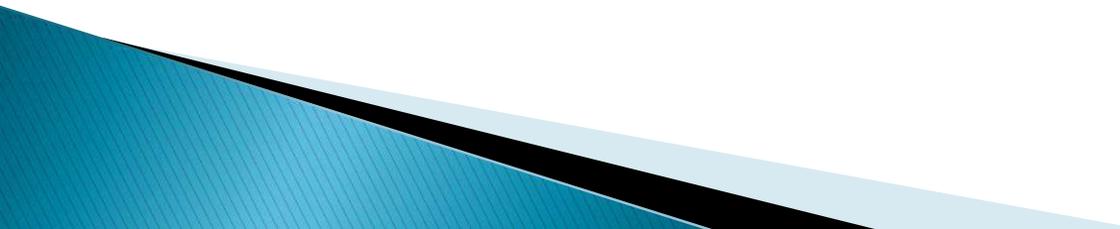
- ▶ Good history taking for knee pain can lead you to making the correct diagnosis
 - ▶ Taking a good history for knee pain, consider:
 - age
 - activity level
 - body morphology
 - previous knee injuries / surgeries
 - gender
- 

History Taking for the KNEE – Factors

- ▶ **Age** – teens who are in a growth spurt are more prone to tendonitis & seniors may have osteoarthritis & degeneration
- ▶ **Activity** – repetitive motions, running, sports contribute to tendon & ligament injuries

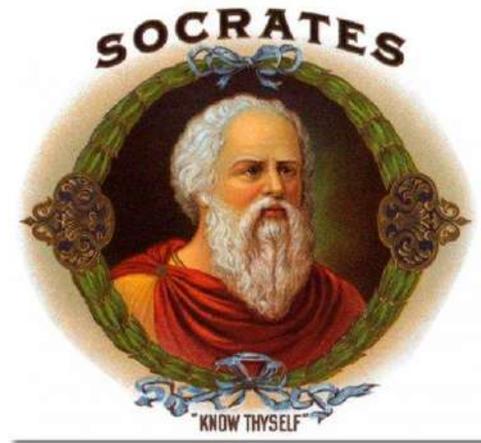


History Taking for the KNEE – Factors

- ▶ Body morphology – well developed/obese patients are prone to degenerative changes
 - ▶ Previous injuries/surgeries – aggravation of prior injury or a compensatory injury
 - ▶ Gender – bone density decreases in older females
- 

History Taking – S.O.C.R.A.T.E.S.

- ▶ S – site – Where is the pain?
- ▶ O – onset – When did the pain start?
- ▶ C – character – What is the pain like?
- ▶ R – radiation – Does the pain radiate?
- ▶ A – alleviating – What reduces the symptoms?
- ▶ T – timing – Does the pain follow any pattern?
- ▶ E – exacerbating – What aggravates the pain?
- ▶ S – severity / social – How bad is the pain?



History Taking for the KNEE – Site

- ▶ Ask the patient to point to the pain site
 - Patella
 - Patella tendon
 - Tibial tuberosity
 - Popliteal fossa
 - Medial aspect
 - Lateral aspect
 - Inside / diffuse pain
 - Quads
 - Hamstrings
 - Calf



History Taking for the KNEE –Onset

- ▶ When did the pain / symptoms start?
 - After or during activity?
 - Tendonitis vs sprain/strain
 - Overuse injury
- ▶ Is the pain a result of an accident?
 - What is the mechanism of injury?
 - Trauma –think fracture, ligament tear, muscle tear
 - What exactly happened during the accident / injury?
- ▶ Did the pain come on gradually?
 - Tendonitis, repetitive stress injury, arthritis
- ▶ Was the pain or symptoms previously present?
 - Recurrence of an old injury

History Taking for the KNEE – Character

- ▶ Describe the pain – ask the patient to describe the pain – if they have trouble, you can give them some words of description:
 - Sharp
 - Dull
 - Burning
 - Tight
 - Stabbing
 - Cramping
 - Numb
 - Tingling



History Taking for the KNEE – Radiation

- ▶ Does the pain stay localized or does it radiate?
 - ▶ Where does the symptoms radiate?
 - ▶ Along a dermatome pathway?
 - Possible nerve injury
 - ▶ Diffuse, general radiation?
 - Possible muscle injury
 - ▶ Is the radiation is **neuropathic** – along a nerve pathway (dermatome) that may represent nerve compression
 - ▶ Is the radiation following a **muscular pain pattern** – from a trigger point in the muscle
- 

History Taking for the KNEE – Alleviating

- ▶ What reduces the symptoms?
 - ▶ Which medications help?
 - NSAIDs reduce inflammation
 - ▶ What positions or movements help?
 - Help to determine cartilage or ligament injury
 - ▶ Is there pain / symptoms at night or at rest?
 - Possible fracture
 - ▶ Are there any associating symptoms?
- 

History Taking for the KNEE – Timing

- ▶ When does the pain come on?
 - Does it follow a pattern?
- ▶ Is the pain :
 - **Acute** – onset less than 3 months
 - **Chronic** – onset greater than 3 months
- ▶ Is the pain:
 - Constant – present 100%
 - Frequent – present 75%
 - Intermittent – present 50%
 - Occasional – present 25%

History Taking for the KNEE– Exacerbating

- ▶ What makes the pain worse?
- ▶ Which actions/motions/activities provoke pain?
 - Cartilage and ligament injuries will limit motion
 - Pain thru the full range suggests tendon injury
- ▶ How long into doing an activity until the pain starts?
 - Tendonitis can have a delayed onset in the activity
 - Sprain will hurt immediately in the activity
- ▶ Is this activity necessary or important?
 - Can the patient stop this activity to allow time to heal

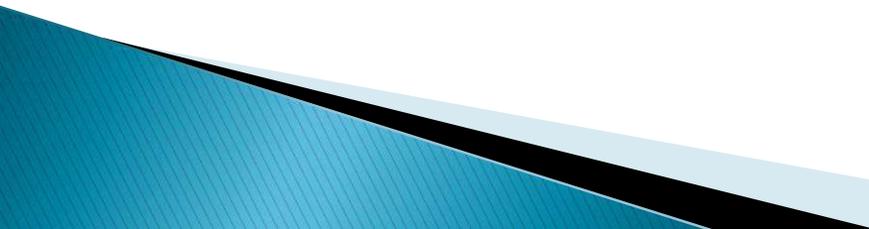
History Taking for the KNEE- Severity

- ▶ How severe is the pain?
- ▶ Patients may **over or under state** their pain level – so the practitioner should also rate the pain



- ▶ Use the pain analog scale 0–10
 - Have the patient to rate their pain where 0 is no pain & 10 is maximal severe pain
 - The practitioner should rate and describe the pain

History Taking for the KNEE– Social

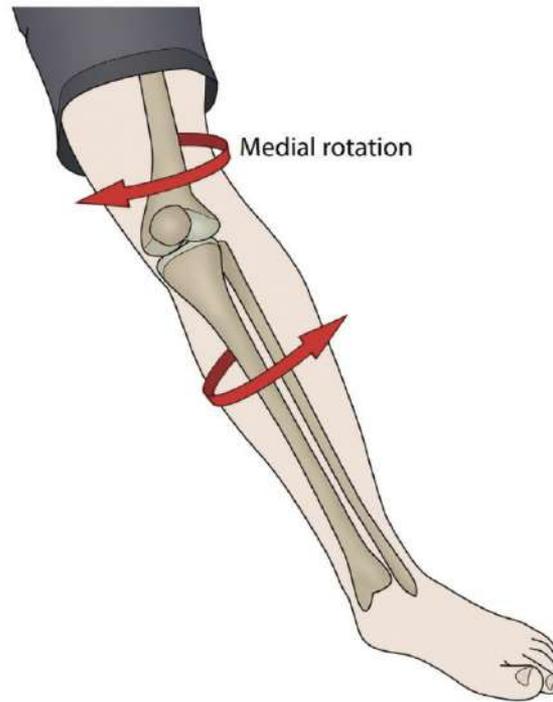
- ▶ It is also good practice to gather additional information other than the knee injury/condition
 - ▶ Social factors include:
 - Marriage/single/children
 - Living arrangement
 - Dietary habits
 - Smoking/alcohol/drug use
 - ▶ Understanding this information may benefit you to further help the patient
- 

History Taking for the KNEE – Mechanism of Injury

- ▶ Gradual onset: Jumper's knee (patella tendonitis), Runner's knee (chondromalacia), osteoarthritis/degenerative joint disease
- ▶ Sudden onset:
 - Twisting: meniscus, ACL or MCL tear/sprain
 - Impact:
 - From front: ACL
 - From lateral: MCL (possible meniscus involvement)
 - From medial: LCL
 - Bent knee: PCL

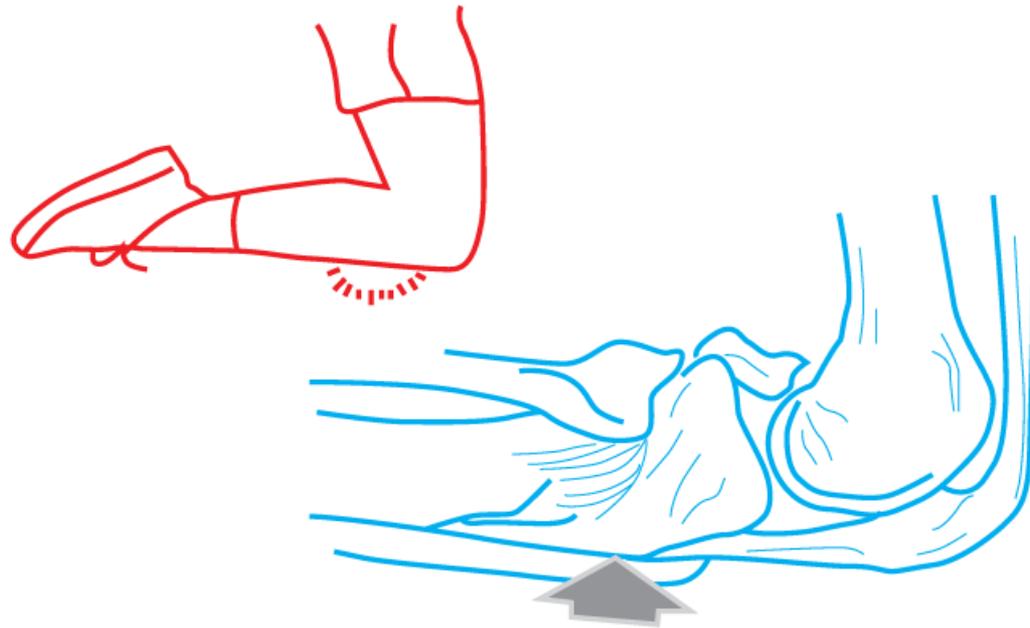
Mechanism of Injury: ACL

Figure 1: Diagram demonstrating the common mechanism of ACL injury



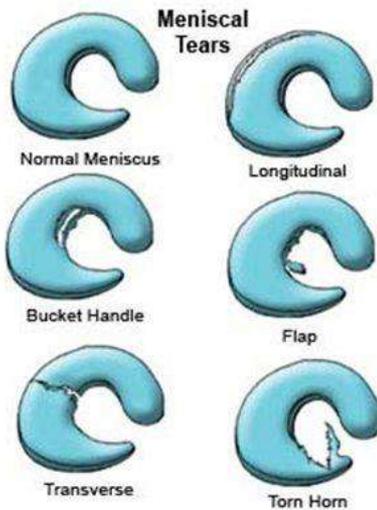
The knee is flexed and rotated inwards (medially) to the hip and ankle and the knee goes over the ankle to the point of no return.

Mechanism of Injury: PCL



Mechanism of Injury: Meniscus

Meniscus Injury Signs/Symptoms



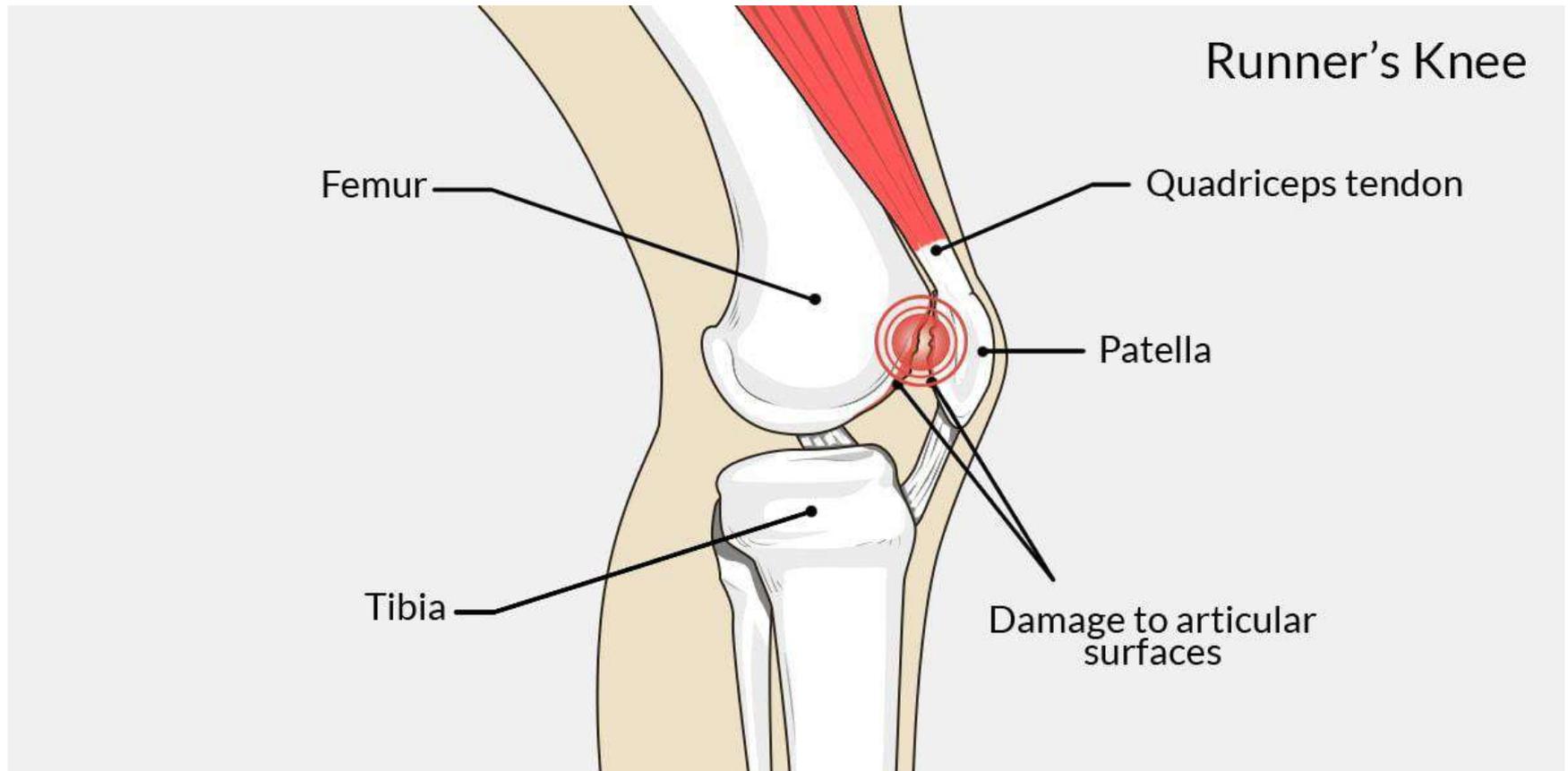
- Mechanism of injury
 - Twisting
 - Squatting
 - Changes in position
- Dependent on:
 - Size of the tear
 - Location of the tear
 - If another knee injury is associated



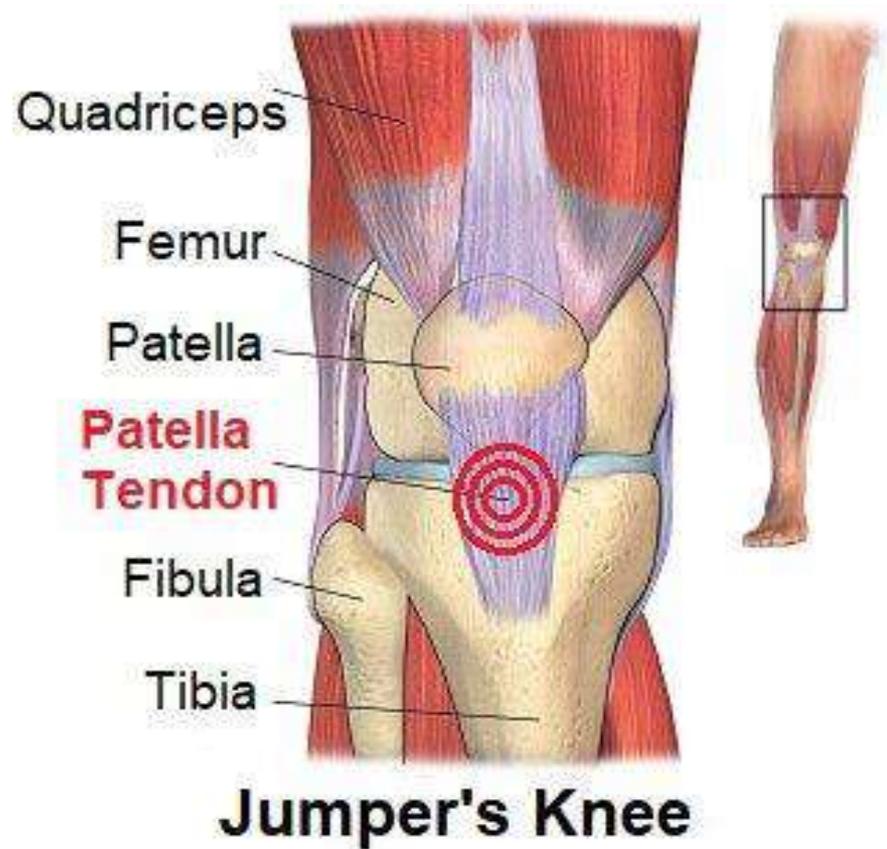
Mechanism of Injury: LCL



Mechanism of Injury: Runner's Knee

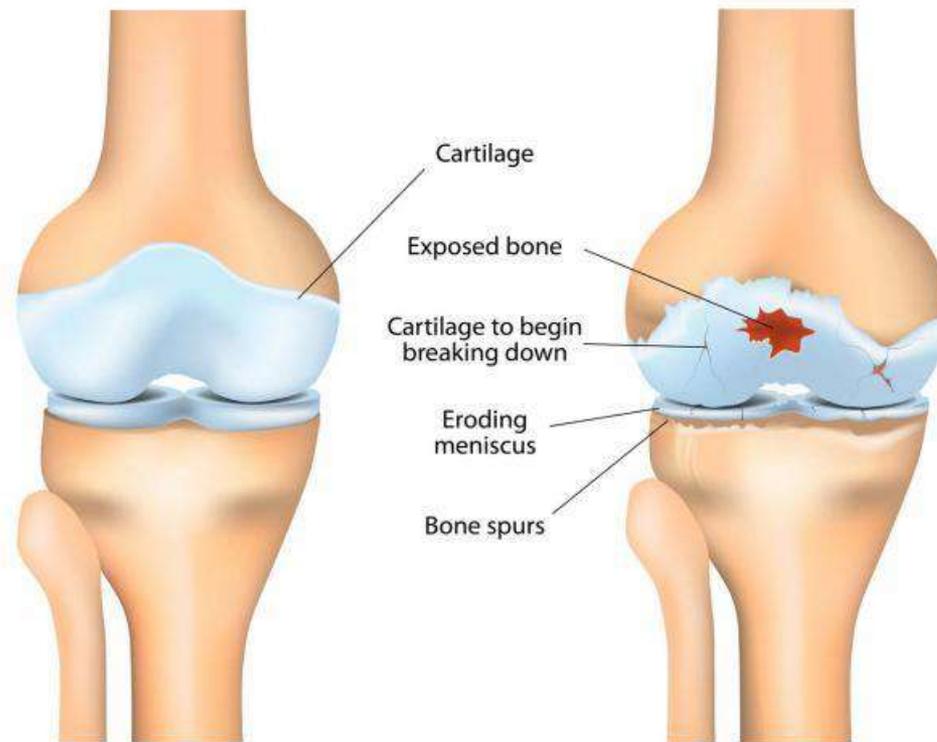


Mechanism of Injury: Jumper's Knee



Mechanism of Injury: Degenerative joint disease

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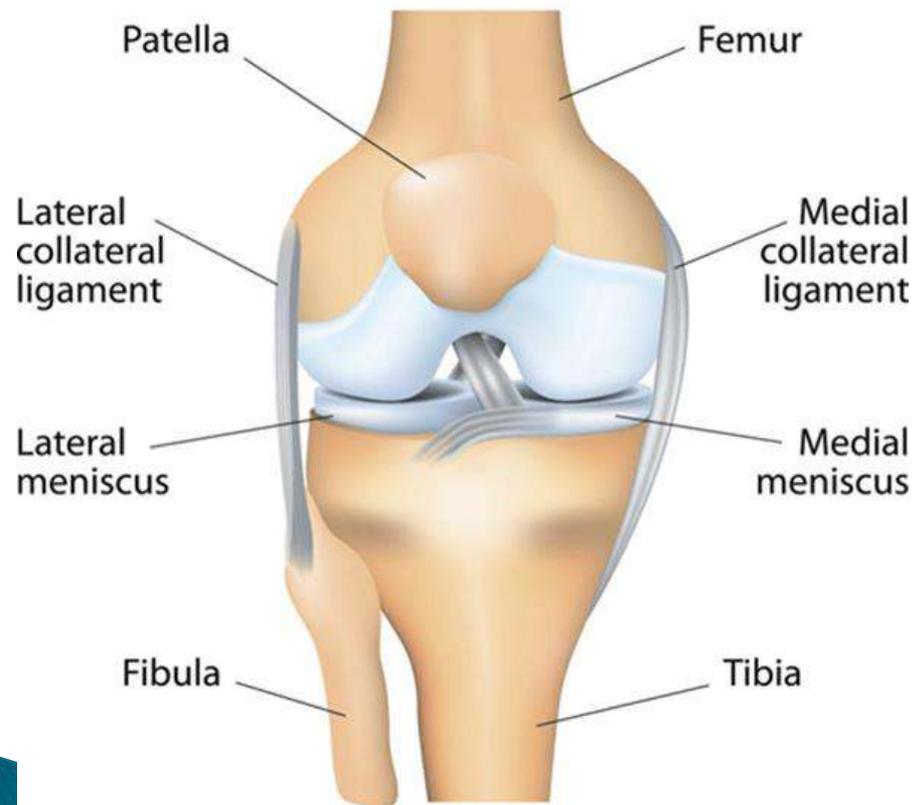


Healthy joint

Osteoarthritis

Anatomy of the Knee

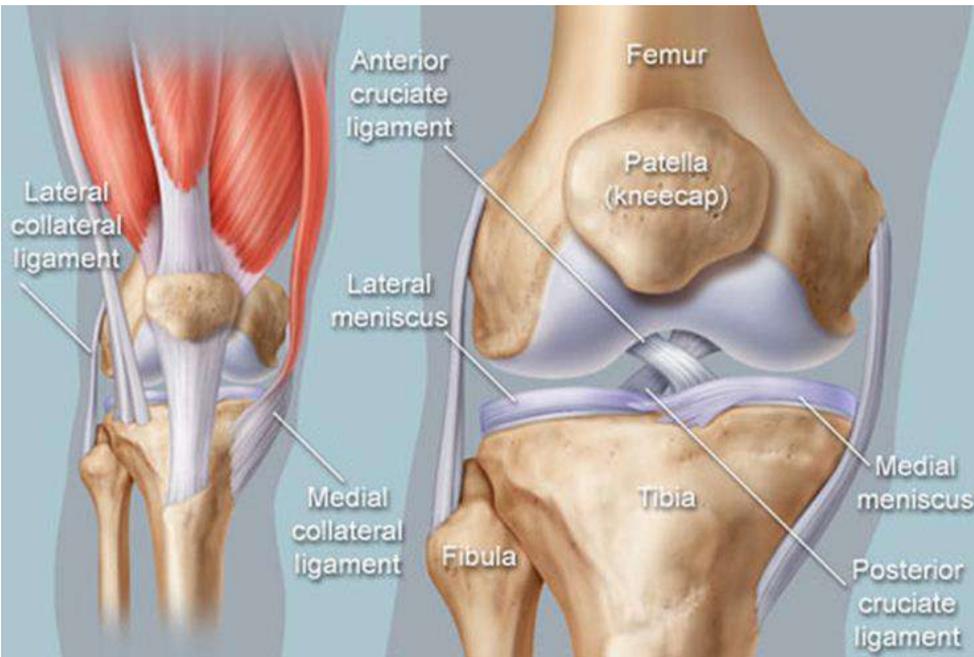
THE HUMAN KNEE



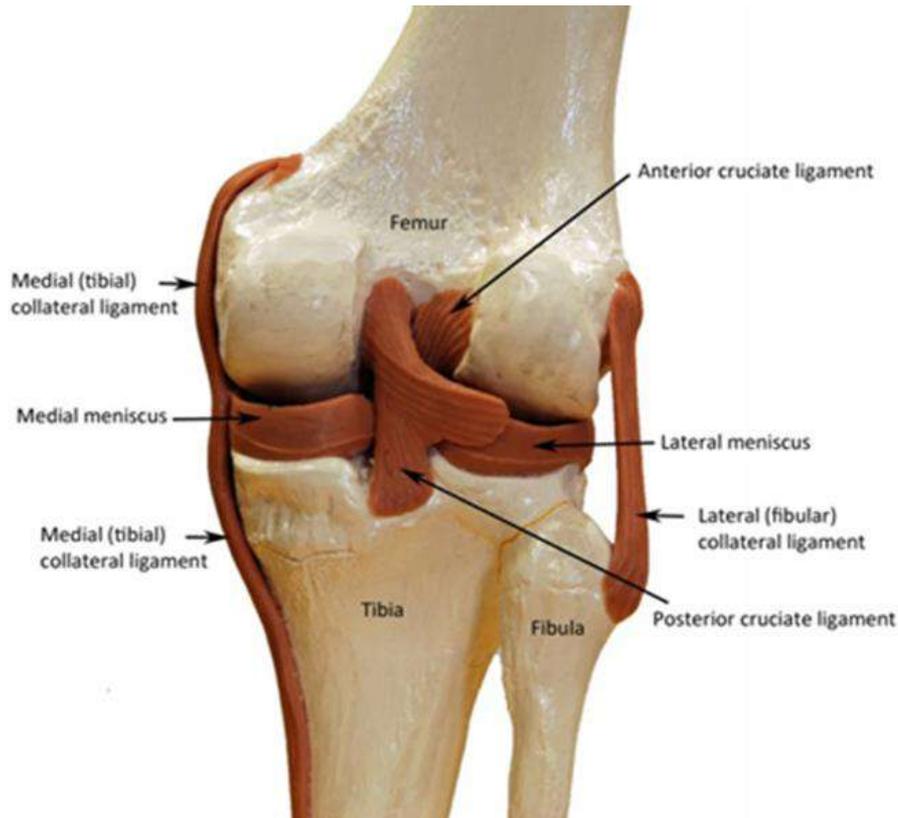
- ▶ The knee consists of the femur, tibia, patella and fibula
- ▶ The main muscle groups associated are the hamstring, quadriceps and calves
- ▶ VMO (vastus medialis oblique) part of the quadriceps – important for correct tracking of the patella
- ▶ The knee can flex, extend and rotate
- ▶ The patella increases the mechanical advantage of the quadriceps

Anatomy of the Knee

- ▶ The ACL (anterior cruciate ligament) supports anterior glide and prevents hyperextension
- ▶ The PCL (posterior cruciate ligament) support posterior glide
- ▶ The MCL (medial collateral ligament) and LCL (lateral collateral ligament) support Valgus and Varus stress
- ▶ The meniscus cushions the femur on the tibia
- ▶ The patella tendon supports the patella



Function of the Knee



- ▶ The knee is the largest joint in the body
- ▶ The knee is a modified synovial hinge joint
- ▶ The knee primarily performs flexion and extension
- ▶ The patella increases the mechanical advantage
- ▶ Range of motion is 130° flexion, 0° extension and 10° internal and external rotation
- ▶ It is susceptible to traumatic injury since it is at the end of two long bones and is not protected by fat or muscle

Examination of the Knee

- ▶ Inspection
- ▶ Palpation
- ▶ Range of motion
- ▶ Joint stability tests
- ▶ Muscle tests
- ▶ Neurologic exam
- ▶ Special tests



Inspection of Knee

- ▶ Observe standing posture
 - antalgic position
 - valgus vs varus or recurvatum
 - redness
 - swelling / bruising
 - position of patella
- ▶ Observe gait for limping or guarding
- ▶ Observe how the patient positions their knees

Palpation of the Knee

- ▶ Bony palpation all around the knee joint & patella
 - tender sites over ligaments or tendon insertions
- ▶ Soft tissue palpation around the knee
 - inflammation, tenderness, warmth

Range of Motion



- ▶ Have the patient squat or lunge
- ▶ Active range of motion – have the patient move the knee – noting range and pain
- ▶ Passive range of motion – the patient may be apprehensive – assure the patient that you will stop when they tell you to – note any difference of range between passive and active ranges
- ▶ Flexion – 130° , Extension – 0° , Internal & External Rotation – 10°

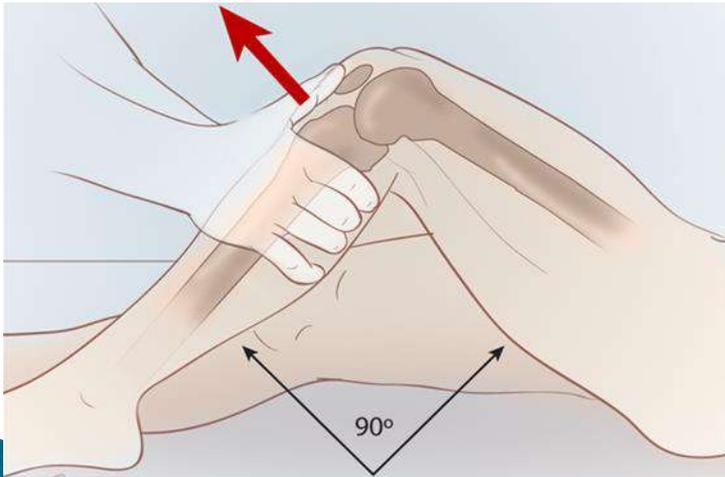
Joint Stability Tests

- ▶ Medial Collateral ligament: apply medial (valgus) stress to the knee joint– at 0° and at 30° flexion
- ▶ Lateral Collateral Ligament: apply lateral (varus) stress to the knee joint – at 0° and at 30° flexion
- ▶ **These tests check for instability and pain. If there is laxity, suspect a sprain or possible tear.**
- ▶ **The medial collateral ligament attaches with the meniscus – which then may also be injured.**

Joint Stability Tests

- ▶ Anterior Cruciate Ligament (ACL):

Draw Test – with the knee flexed to 90° and the foot flat on the table, stabilize the foot & contact the superior, posterior tibia and pull the tibia towards you.



Positive test– if the tibia slides forward

Check the uninjured knee to what is “normal glide” for the patient

Joint Stability Tests

- ▶ Posterior Cruciate Ligament (PCL):

Posterior Draw Test – with the knee flexed to 90° and the foot flat on the table, stabilize the foot & contact the superior, anterior tibia and push the tibia posteriorly

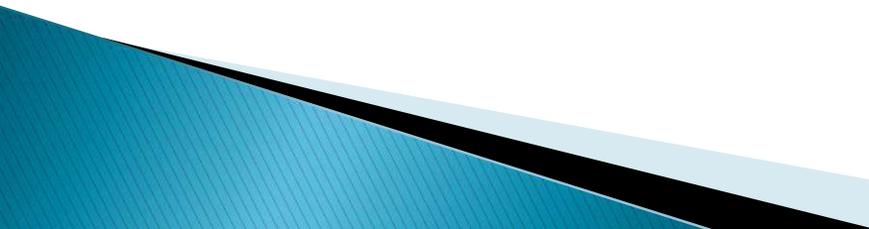


Posterior drawer sign (PCL)

Positive test: If the tibial slides back, posteriorly

Check the other knee for a reference of the motion

Muscle Tests

- ▶ Resistance testing of muscles will provide useful information
 - ▶ For the knee – it is necessary to test the hamstrings, quadriceps, IT Band, adductors, popliteus & calf
 - ▶ To test a muscle, position it halfway thru it's range & gradually add pressure against the resistance of the patient
 - ▶ Pain in the muscle or tendon upon resistance testing often means that the injury involves the muscle or tendon
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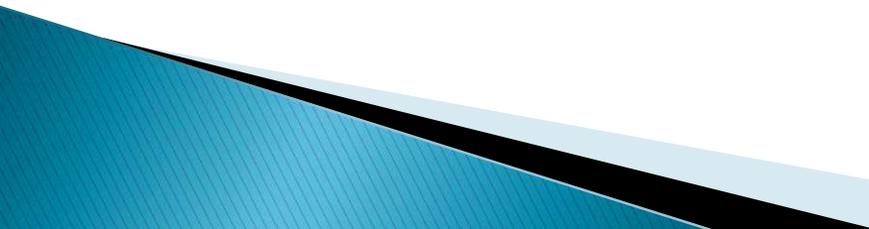
Neurologic Testing

- ▶ Patella Reflex: checking the L4 nerve
 - ▶ Dermatomal testing: checking L3, L4 and L5 levels
 - ▶ Motor testing: L3–L5 levels
 - ▶ Rule out a neurological issue
 - ▶ Review history for possible gout, rheumatoid arthritis
- 

Special Tests

- ▶ **Functional Tests**– squatting or forward lunge to assess meniscus and patellofemoral joint – positive signs are pain & inability
- ▶ **McMurray's Test** – assessing torn meniscus – positive signs are clicking &/or pain,
- ▶ **Apley's Distraction & Compression Tests** – torn meniscus– positive signs are pain
- ▶ **Bounce Home Test** – torn meniscus – positive signs are not able to fully extend knee or rubbery resistance to end feel
- ▶ **Patella Grind** – assesses under surface of patella– positive signs are pain & a crepitus feel
- ▶ **Apprehension Test for Patella** – assesses if the patella is prone to lateral dislocation, tracking disorder & patellofemoral dysfunction

Formulating a DIAGNOSIS

- ▶ Utilize all of S.O.C.R.A.T.E.S.
 - ▶ Consider the following factors:
 - Age
 - Activity level
 - Prior occurrence
 - Mechanism of injury
 - ▶ Combine history information with exam results
- 

Conclusions from History & Exam: SITE

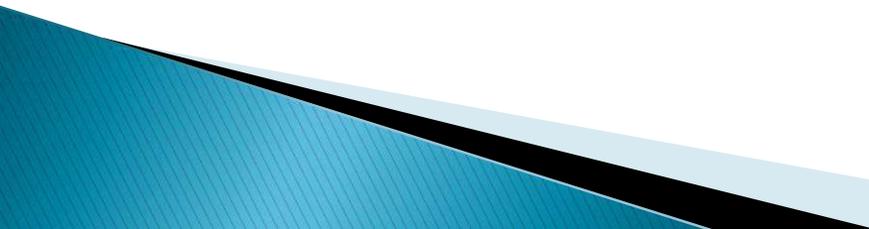
- ▶ Patella: tendonitis, chondromalacia (Runner's knee)
- ▶ Patella tendon: Runner's or Jumper's Knee
- ▶ Tibial tuberosity: Osgood–Schlatter's disease
- ▶ Popliteal fossa: strain, Baker's cyst, DJD
- ▶ Medial aspect: MCL sprain
- ▶ Lateral aspect: LCL sprain, IT band tendonitis
- ▶ Inside / diffuse pain: ACL, PCL sprain, meniscus
- ▶ Quads, Hamstrings, Calf: strain, contusion

Conclusions from History & Exam: ONSET

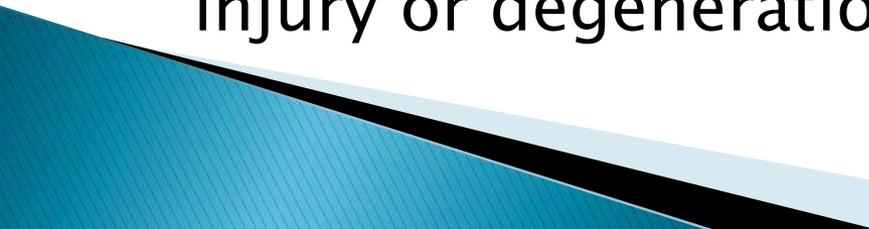
- ▶ Immediate pain
 - an acute strain or tear
- ▶ On going, persistent pain
 - overuse, tendonitis, meniscus
- ▶ Mechanism of injury
 - How the injury occurred
 - How the pain developed
 - Details are important



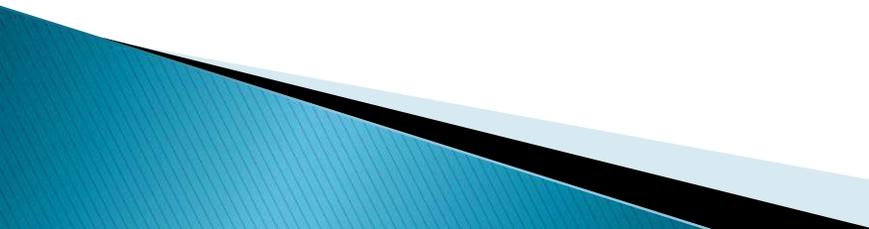
Conclusions from History & Exam: CHARACTER

- ▶ **Sharp:** muscle, cartilage, ligament tear
 - ▶ **Dull:** tendonitis, strain
 - ▶ **Burning:** muscle, tendon tear
 - ▶ **Tight:** muscle strain, ligament or cartilage tear
 - ▶ **Stabbing:** muscle, ligament, cartilage injury
 - ▶ **Cramping:** muscle injury
 - ▶ **Numb:** possible nerve injury
 - ▶ **Tingling:** possible nerve injury
- 

Conclusions from History & Exam: RADIATION

- ▶ **Radiating knee pain:** nerve, muscular, ligament, meniscus injury
 - ▶ **Radiation (neuropathic):** along a nerve pathway (dermatome) that may represent nerve compression
 - ▶ **Radiation following a muscular pain pattern:** from a trigger point in the muscle
 - ▶ **Diffuse radiation:** possible meniscus or ligament injury or degeneration/arthritis flare up
- 

Conclusions from History & Exam: ALLEVIATING

- ▶ If NSAIDs help the pain, then there is likely inflammation from an injury or a recurrence
 - ▶ If the patient wants to maintain a certain pain free position (either bent or straight), then consider meniscus or ligament injury
 - ▶ If there is minimal relief from medications or positions consider fracture
- 

Conclusions from History & Exam:

TIMING

- ▶ Acute pain – occurring less than 3 months
 - Tendonitis
 - Sprains / strains
 - Meniscus / ligament tears

 - ▶ Chronic pain – occurring more than 3 months
 - Arthritis / degeneration joint disease
 - Meniscus / ligament tears
 - Overuse tendonitis
- 

Conclusions from History & Exam: EXACERBATING

- ▶ Meniscus / cartilage and ligament injuries will limit motion
 - Patient avoids bending: possible meniscus tear
 - Patient avoids straightening: possible ACL / PCL tear
- ▶ Pain thru the full range: tendon injury
- ▶ Pain with palpation: muscle / tendon injury
- ▶ Pain with resistance testing: muscle injury
- ▶ Weight bearing pain: cartilage, ligament injury
- ▶ Inability to squat: cartilage, ligament injury

Conclusions from History & Exam: SEVERITY

- ▶ Inability to walk/weight bear: meniscus / ligament injury
 - ▶ Kids / young adults tend to overstate the pain
 - ▶ Meniscus and ligament injuries will stop the patient from performing their sport / exercise
 - ▶ Tendon and muscle pain will limit the patient's ability to perform their exercise or sport
- 

Conclusions from History & Exam

- ▶ Integrate the history with exam findings
 - Trauma + mechanism of injury + exam findings:
 - **CONSIDER:** ACL tear, PCL tear, meniscus tear, strain, MCL sprain, LCL sprain, runner's knee, jumper's knee
 - Gradual onset + mechanism + exam findings:
 - **CONSIDER:** tendonitis, arthritis, runner's knee (chondromalacia), jumper's knee, muscle strain
 - Repetitive trauma + mechanism + exam findings:
 - **CONSIDER:** ACL sprain/tear, meniscus tear, arthritis, chondromalacia, jumper's knee, tendonitis

Conclusions from History & Exam

- ▶ Mechanism of Injury
 - Will provide information as to which structure of knee may be injured or damaged
 - Structure determines function
 - When there is a deficit with the structure, then there will be a deficit with the function

**Structure
determines
function!**

Conclusions from History & Exam

- ▶ Referral to an orthopedist
 - Severe pain
 - Inability to walk or weight bear
 - Moderate swelling
 - For evaluation and pain/anti-inflammation medication
- ▶ Age
 - Adults & seniors may have degenerative joint issues

Conclusions from History & Exam

▶ Activity level

- Determining the extent of a knee condition may relate to the activity level of the patient
 - Moderate to intense activity may result in a more severe injury / condition
 - Degenerative joint disease maybe more advanced
 - Cartilage/ligament injury maybe greater
 - Tendonitis / strains maybe more severe

▶ Prior occurrence

- Recurrent injuries may have underlying tissue damage
- Imaging with x-ray or MRI is recommended

Formulating a DIAGNOSIS

- ▶ Combine the information from the history with the clinical exam findings
- ▶ Re-evaluation on follow up visits and adjust the diagnosis if necessary
- ▶ Base the diagnosis on the history, presenting signs and symptoms and objective examination results

Formulating a DIAGNOSIS

- ▶ When to utilize imaging
 - Trauma
 - Prior occurrence
 - Chronic pain
 - Non-traumatic pain



Formulating a DIAGNOSIS

▶ X-ray or MRI

- X-ray is preferred for evaluating arthritis / degenerative joint disease and fractures
 - X-ray will show bone quality, osteophytes and joint space
- MRI is best to evaluate soft-tissue injuries (meniscal, chondral surface injuries, and ligamentous disruption)
 - MRI can show edema, cartilage tears, ligament tears as well as fractures and bone lesions

Formulating a DIAGNOSIS

- ▶ **MRI of the knee recommendations by the Official Disability Guidelines (Knee and Leg 2018) :**
 - Acute trauma to the knee
 - Nontraumatic knee pain in child or adolescent with normal x-rays with **patellofemoral (anterior) symptoms**
 - Nontraumatic knee pain in child or adult with normal x-rays with **non-patellofemoral symptoms**
 - Nontraumatic knee pain in adult with normal x-rays if internal derangement is suspected.

Formulating a DIAGNOSIS

- ▶ **X-rays of the knee recommendations by the Official Disability Guidelines** (knee and Leg 2018):
 - Acute trauma to the knee, fall or twisting injury, with one or more of following: focal tenderness, effusion, inability to bear weight.
 - Acute trauma to the knee, injury to knee ≥ 2 days ago, mechanism unknown. Focal patellar tenderness, effusion, able to walk.

Formulating a DIAGNOSIS

- ▶ **X-rays of the knee recommendations by the Official Disability Guidelines** (Knee and Leg 2018): (continued)
 - Nontraumatic knee pain, child or adolescent: non-patellofemoral symptoms.
 - Nontraumatic knee pain, child or adult: patellofemoral (anterior) symptoms.
 - Nontraumatic knee pain, adult: nontrauma, nontumor, nonlocalized pain.

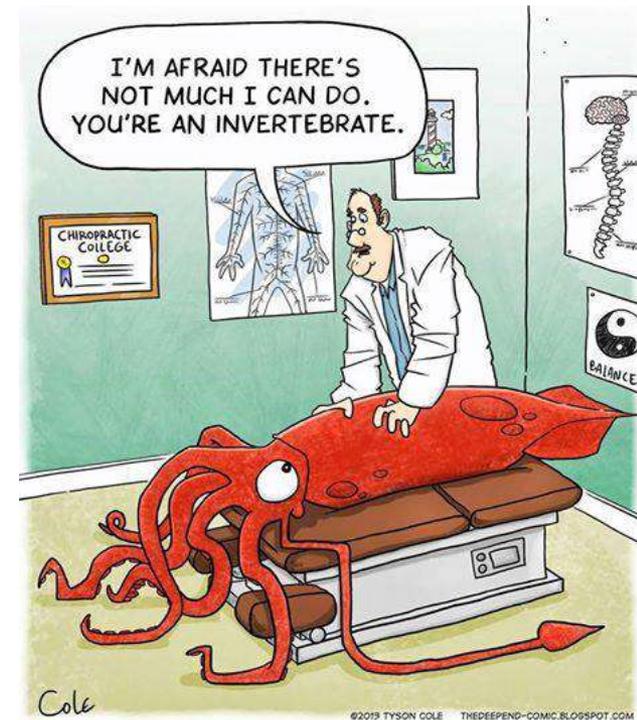
Referral for MRI

- ▶ Severe pain with inflammation
- ▶ Limping or painful gait
- ▶ Inability to squat
- ▶ Marked limited & painful range of motion
- ▶ Positive joint stability & cartilage tests
- ▶ Can follow **Official Disability Guidelines** recommendations



Referral for orthopedic consultation is recommended:

- ▶ Severe pain
- ▶ Patient shows great concern
- ▶ Moderate to severe swelling
- ▶ Limping, painful to walk without support
- ▶ Moderate to severe pain upon weight bearing
- ▶ Markedly positive with joint stability & cartilage tests
- ▶ Patient reports instability with walking
- ▶ MRI shows tears of ligaments, cartilage or tendons



Referral for orthopedic consultation

- ▶ Establish a relationship with several different orthopedic groups / physicians
- ▶ Research on the internet and with the state board about the physician's credibility
 - Go to the **medical board website** to do a license search
 - For California:
http://www.mbc.ca.gov/Breeze/License_Verification.aspx

Referral for orthopedic consultation

- ▶ Call their office to set up a meeting
 - Some offices may hesitate to schedule a meeting due to the physician's busy schedule or to avoid a sales person
 - State that you are want to refer your patients there for consultations /examinations
 - State that you would like a brief encounter
- ▶ Once you have met, then it will be easier to set up a follow up meeting
 - The relationship may lead to the orthopedist referring patients to you

Referral vs Chiropractic summary

- ▶ MRI and orthopedic referral decision based on severity of pain, inability to bear weight and examination findings of instability, positive cartilage tests and marked limitation of range.
 - ▶ Discuss the decision of referral with the patient
 - ▶ Proceed with the appropriate chiropractic care, but upon each visit evaluate the progress
 - ▶ If the patient is not responding, then follow thru with either a MRI or orthopedic referral
- 

Documentation

- ▶ **California Rules and Regulations regarding records** – Each licensed chiropractor is required to maintain all active and inactive chiropractic patient records for five years from the date of the doctor's last treatment of the patient unless state or federal laws require a longer period of retention



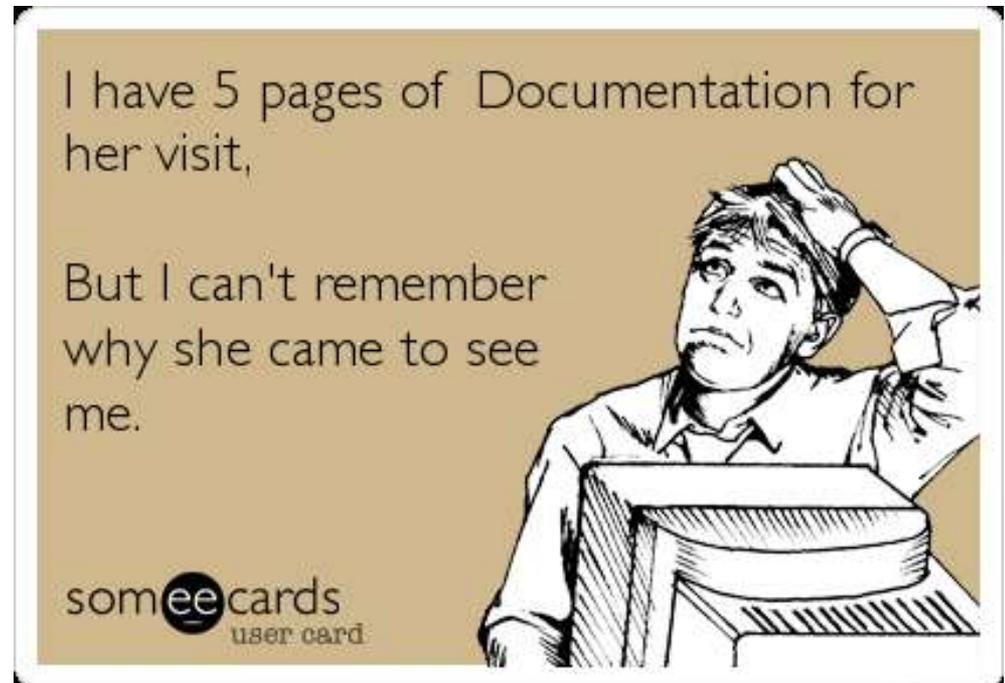
Documentation

- ▶ Documenting the history in the form of S.O.C.R.A.T.E.S.
- ▶ Document exam findings with emphasis on positive or abnormal results
- ▶ Stay consistent with your forms so you can evaluate for improvement on follow up visits



Documentation

- ▶ Keep your initial examination notes **simple**
 - Note the facts that relate to the injury/condition
 - Stick to S.O.C.R.A.T.E.S.
 - Note abnormal/positive examination findings
 - Note your rationale for the diagnosis
 - Note that informed consent was discussed



Documentation – Informed Consent

- ▶ It is recommended that you record a statement such as this on the initial paperwork
 - I did discuss and inform the patient about the risks and complications that could arise regarding their condition, diagnosis and the proposed chiropractic treatment. Alternative treatments were also discussed. The patient gave me their verbal consent to initiate treatment. There is also an informed consent form signed by the patient in their file.

Documentation

- ▶ Note your rationale for determining the diagnosis
 - A brief statement of clinical findings that correlates to the diagnosis
- ▶ Note your rationale for the treatment plan
 - A brief statement that summarizes short term goals and long term goals
 - The expected frequency and duration of care

Importance of the History and Examination

- ▶ Establish a rapport with the patient
- ▶ Allows you to find a way to help the patient heal and return to their exercise, sport and regular activities
- ▶ Allows you to develop a treatment plan



Importance of the History and Examination

- ▶ Formulating an accurate diagnosis to establish a treatment plan
 - Asking the right questions
 - Listening to the patient
 - Understanding the mechanism of injury
 - Correct interpretation of exam findings
 - Utilizing x-ray or MRI imaging
 - Integrating the history with the examination

Importance of the History and Examination

- ▶ A good history with proper interpretation of examination findings will lead to an accurate diagnosis
- ▶ An accurate diagnosis will facilitate the recovery of the patient
- ▶ The patient will be able to return to their activity, exercise or sport



Case Example

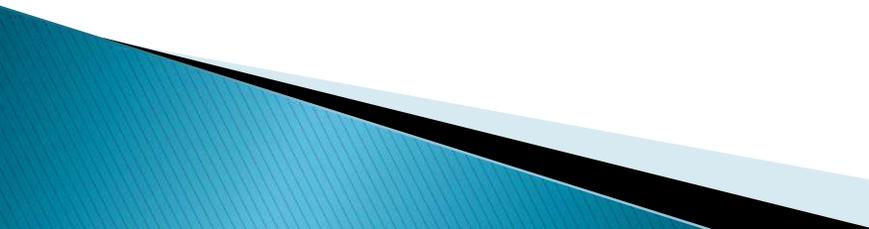
- ▶ 36 year old female presents with right sided knee pain
- ▶ Go thru S.O.C.R.A.T.E.S.



Case Example

- ▶ Site: she points to the patella tendon
 - ▶ Onset: comes on while running; never had this before, hurts more going downhill; runs 5 days per week for about 5 miles and has just started running about 6 months ago
 - ▶ Character: sharp, achy
 - ▶ Radiation: it stays at the front of the knee
- 

Case Example

- ▶ Alleviating: stop running, Ibuprofen, ice
 - ▶ Timing: pain comes on about 10 mins into the run and gets worse; has to stop running
 - ▶ Exacerbating: running, walking downstairs
 - ▶ Severity: intense pain, has to stop running
 - ▶ Social: no prior knee injuries, slightly overweight and started to run for exercise and to get fit;
- 

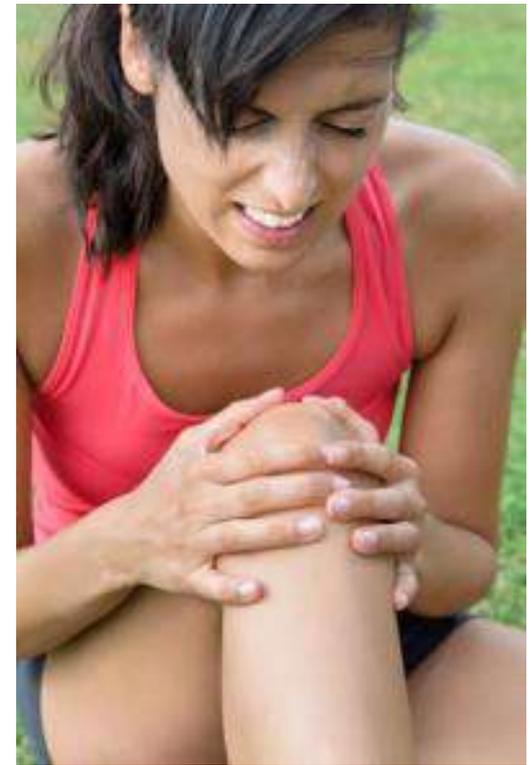
Case Example

▶ Examination:

- No swelling
- Pain with palpation to patella tendon
- Normal range of motion
- Pain at full squat position
- Normal stability and special tests
- Pain at the patella tendon with resistance testing of quads
- Normal neuro findings

X-ray may be performed

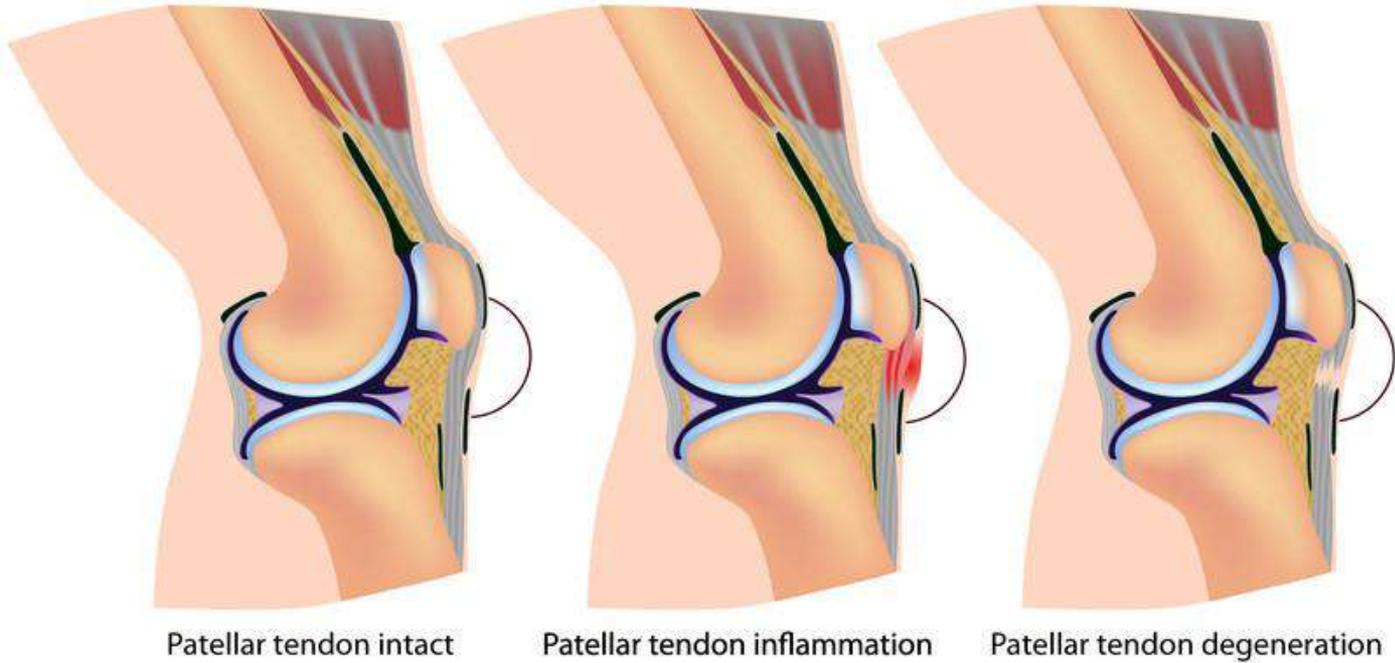
Exam & history show no need for MRI or orthopedic referral



Case Example

- ▶ Patella tendonitis (Jumper's Knee)

Knee injury - Jumper's knee



History and Examination: Knee

- ▶ Thank you for participating in this course!



- ▶ Dr. Richard D. Belsky, DC, CCSP

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