# Patient Care Theory 2

## UNIT 2, PART 7b: Musculoskeletal: Dislocations

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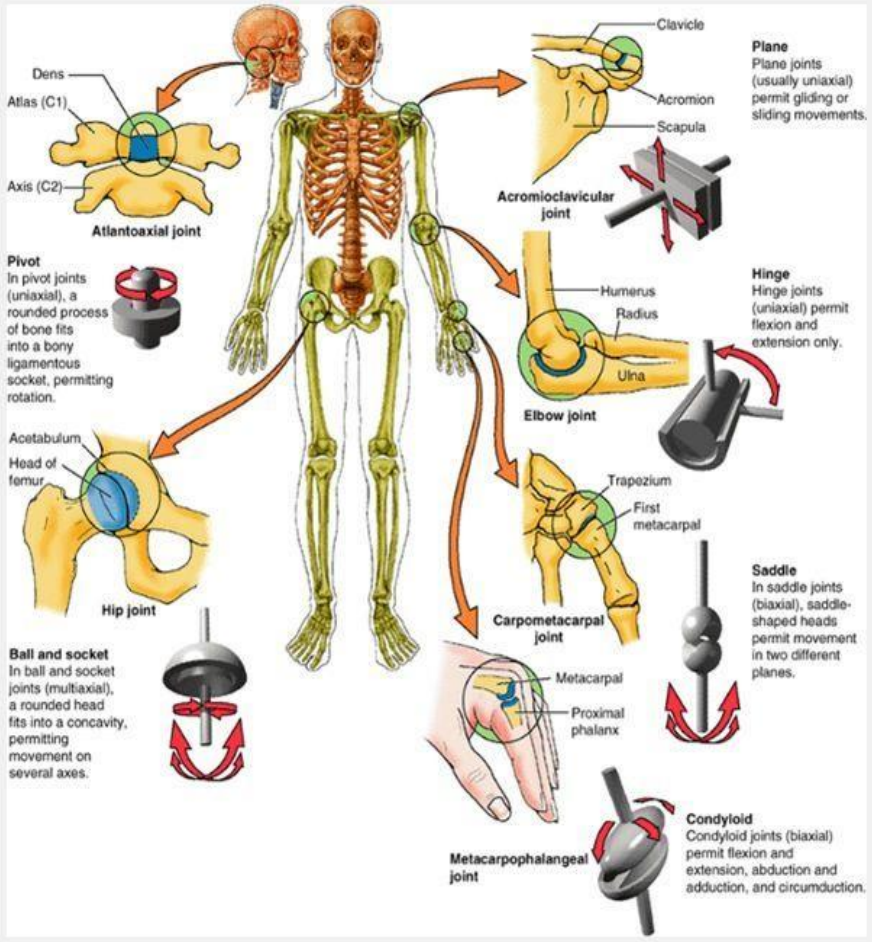
Georgian College Winter 2025

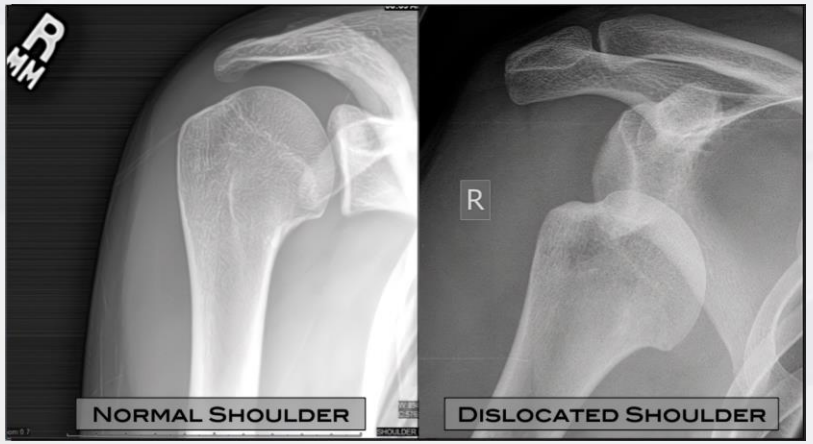
# Dislocations

- **Dislocation** is the complete or total separation of the joint from where it normally rests or articulates
  - Typically damage to the joint capsule and supporting ligaments occurs
- **Subluxation** is when the joint maintains partial contact with its articulation surface
  - Sometimes there is damage to the joint capsule and/or some of the supporting ligaments



# Shoulder dislocation

- Shoulder can dislocate in the anterior, downward, or posterior direction
  - 97% of dislocations are anterior
- Usually following direct contact with a significant force (contact sports, MVC, falls)
- Shoulder appears to “drop” and the acromion is prominent
- Often associated with numbness and/or tingling as the nerves become stretched




# Bandaging

- Arm sling – using triangular
- Appropriate for shoulder, humeral, elbow hand and wrist injuries.  Both soft tissue and MXK
- Patient begins in position of comfort – distal arm injuries, attempt to maintain hand above heart
- Continually monitor distal CSM

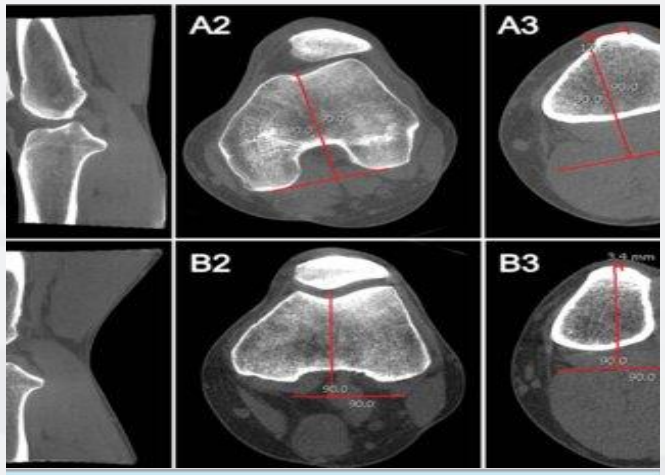
# Knee dislocations

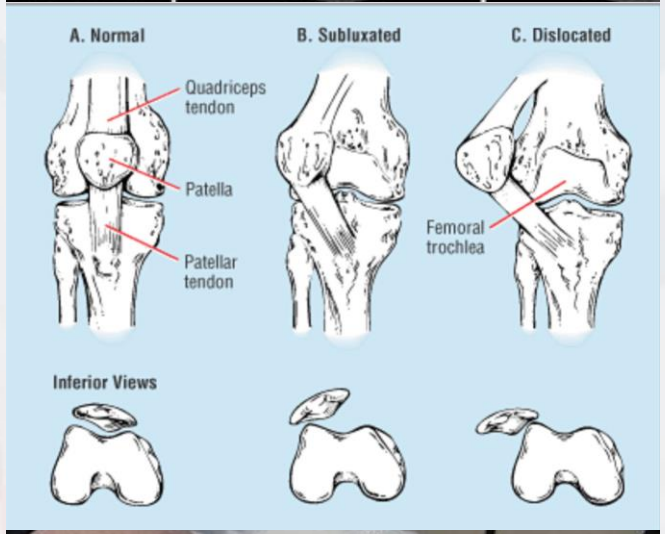
- Knee dislocations are serious and potentially limb threatening injuries
  - Usually requires high energy trauma (MVC, high impact sports, falls)
  - Disruption of one or more of the 4 supporting ligaments is expected (anterior and posterior cruciate ligaments and the medial and lateral collateral ligaments
  - May reduce spontaneously
  - Up to 40% of patients with tibiofemoral disruption will sustain a vascular injury
- Dislocations require prompt evaluation and reduction; usually requires sedation
- Dislocations that resolve spontaneously should still be evaluated for vascular compromise (may not always be obvious; *palpable distal pulses does not rule out vascular injury**)


Dislocated Knee Contributed by Michael Mohseni- StatPearls [Internet].
Treasure Island (FL): StatPearls Publishing; 2024 Jan-.

# Patellar dislocations

- Occur when the patella is forced out of place above the knee joint
  - Most commonly from plant and twist or pivot motions
  - Less often from a blow to the medical aspect of the knee
  - Some patient suffer from chronic laxity that leads to recurring subluxations and dislocations
- Typically present with obvious deformity and inability to extend the knee



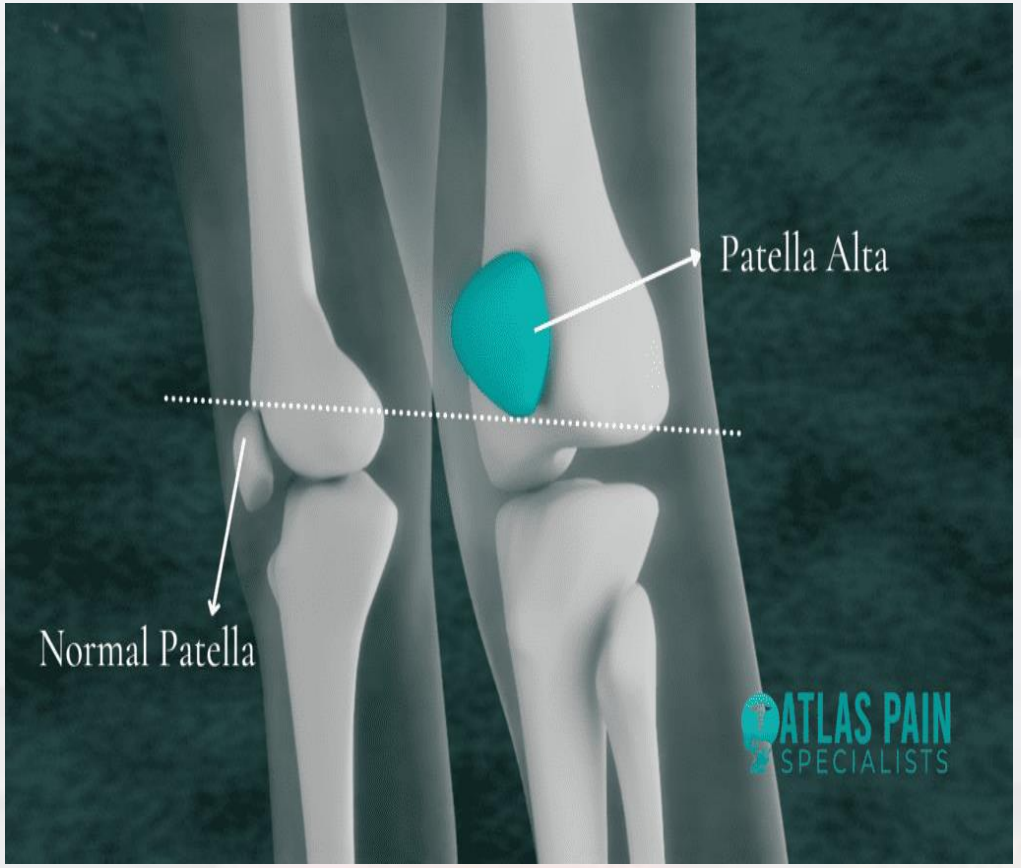




# Common risk factors

- Any unbalanced or underdeveloped MSK system can increase the risk for LPD
- Genu valgum or “knock knees”
  - Knees tilt inward while ankles remain apart
  - Leads to increased foot pronation
  - More common in young females due to the increased Q angle

# Common Risk Factors

- Patella alta – high riding patella
  - Refers to the abnormally high patella position on the femur
  - The grove is more shallow at this point allowing the patellar to move out of place more easily

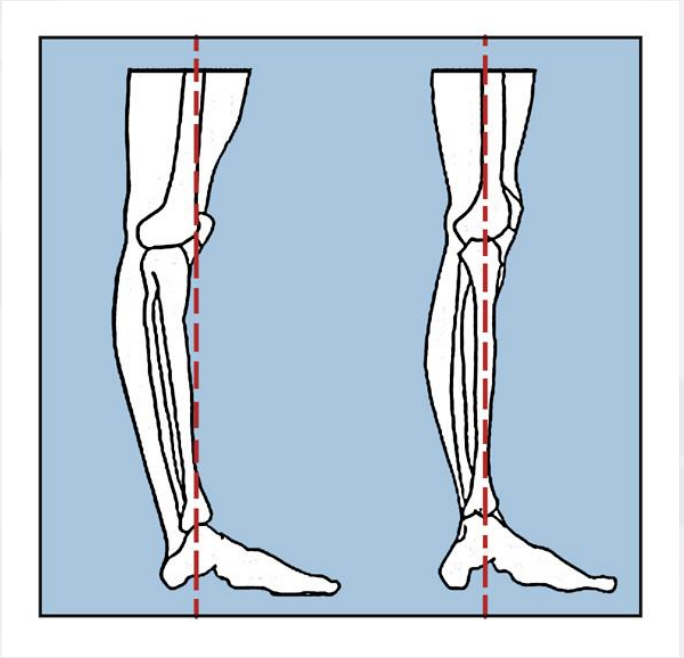


# Common Risk Factors

- **Hypoplasia or dysplasia** of the patellar or trochlear grove
- Generalized joint laxity
  - Increased length and elasticity of the joint ligaments
    - Increased ROM
- JHS (Joint hypermobility syndrome)
    - Genetic condition causing excess flexibility leading to increased pain and swelling

# Common Risk Factors

- Genu Recurvatum
  - Hyperextension of the knee joint
  - Common causes
    - Previous injury
    - Muscle weakness
    - Natural shape of the bones at the knee



# New Medical Directive

- ***Lateral Patellar Dislocation***
  - 900 Paramedics participated in a research study from HSN to determine the efficacy and safety of reducing lateral patellar dislocations in the prehospital environment
- Epidemiology
  - LPD account for most patellar dislocations and ~ 3% of all knee injuries
  - 12-20 year old athletic age group
    - With 75% of LPD occurring for a first time under 25yrs
  - Generally NOT a result of direct trauma
    - Superior, medial and intraarticular dislocations are far less common and have more complications

# Differentials

- There are several injuries that can appear similar to a patellar dislocation:
  - Rupture of the quadriceps tendon
  - Fractured patella
  - True knee dislocation (rare and true emergency)

These injuries often present with extra swelling and MOI may help identify

# ALS PCS Medical Directive

- ONLY TO BE PERFORMED ON ISOLATED LATERAL PATELLAR DISLOCATION
- Will be a CORE directive FEB 2025

| Conditions \| Patellar Reduction | |
|---|---|
| Age | ≥ 10 years to ≤ 50 years |
| LOA | Unaltered |
| HR | N/A |
| RR | N/A |
| SBP | N/A |
| Other | N/A |

| Contraindications \| \| Patellar Reduction |
|---|
| High Velocity Trauma |
| Direct Knee Trauma |

# Patellar Reduction Directive

**Treatment | Patellar Reduction**

With the patient in a seated or lying position, gently extend the knee while lifting up on the patella and placing medial pressure to the edge of the patella.

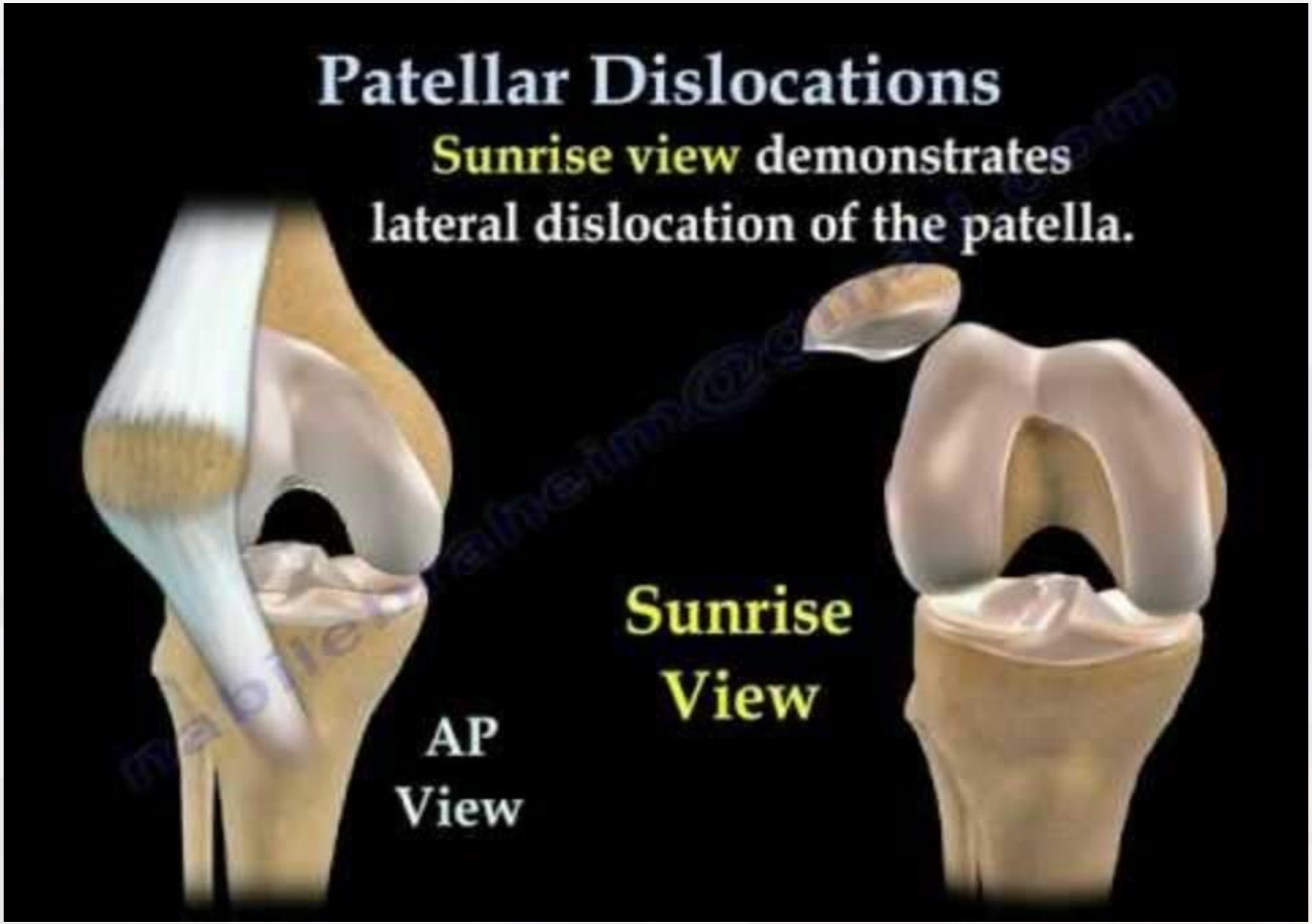
The maximum number of attempts of Patellar Reduction per patient is 2.

**Clinical Considerations**

N/A

# Patellar Dislocation

- If the patient is contraindicated for the directive or other injuries exist:
  - Treat as per the BLS PCS Extremity Injury Standard
    - Assess Neurovascular status (CSM)pre and post procedure or splinting (and continually throughout transport as required)
    - Splint
      - Joints; always immobilize from above to below the injured joint
      - If CSM is compromised post procedure/ splint then attempt to gently reposition or manipulate to retore
    - Elevate extremity if practical and able to do so
    - Apply ice packs to areas of pain and/or swelling


Patellar Dislocations
Sunrise view demonstrates
lateral dislocation of the patella.
Sunrise
View
AP
View

# Lateral Patellar Reduction Procedure

- Assess distal neurovascular status and pain scale pre and post reduction as well as at TOC. Document
- From a lateral position (standing at the side of the patient) Place your thumb on the lateral side of the patella and your forefinger on the medial side cupping the patella
- Grasp the lower leg near the ankle with your other hand
- Gently extend the knee (without lifting the leg) while lifting the patella up over the edge of the femoral groove while placing medial pressure to the edge of the patella

# Procedure

# Lateral Patellar Reduction Procedure

- Only 2 attempts will be permitted
- Patients that have sustained direct trauma or high velocity trauma are contraindicated
- Post reduction splint in position of comfort (whether successful or not)
- Neurovascular assessments performed with frequency
- Ice PRN
- Analgesia PRN
- Transport*

# QUESTIONS?