

# STEVEN CHUDIK MD

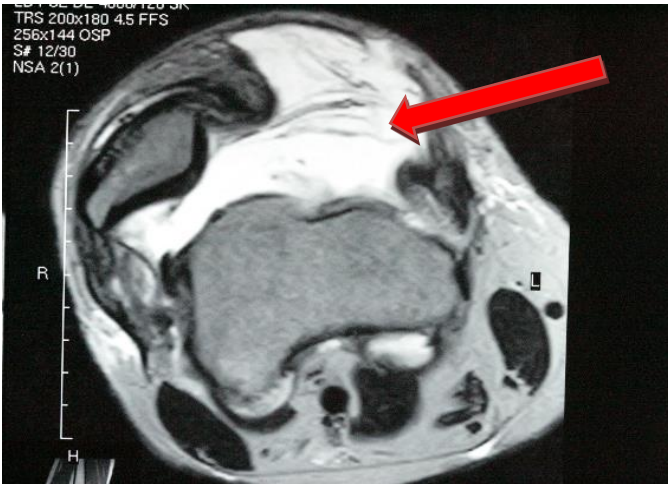
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## SHOULDER, KNEE & SPORTS MEDICINE

### Patellar Dislocation and Subluxation

Patellar dislocation and subluxation are injuries to the patella (kneecap) affecting the joint it forms with the femur (thigh bone). The patella is a V-shaped convex bone that sits within a V-shaped concave groove of the femur, known as the trochlea. Patellar dislocation is an injury where the patella is displaced from its normal position and no longer sits in the trochlea. Patellar subluxation is an injury where the patella shifts but does not completely dislocate from the trochlea.



Severe patellar dislocation with disruption of all restraining tissue and ligaments



MRI of the knee following a dislocation revealing swelling (white area) in the femur bone at the site of impact with the patella during the dislocation.

### Frequent Signs and Symptoms

- Severe pain and a feeling of the knee giving way
- Tenderness, swelling, and bruising of the knee
- The patella dislocation causes an obvious deformity and relocates on its own when the knee is straightened, correcting the deformity

### Etiology (Causes)

- Direct blow to the knee
- Twisting or pivoting injury to the lower extremity, such as with cutting (rapid change of direction)
- Powerful muscle contraction
- Congenital abnormalities (condition from birth), such as a shallow or malformed joint surfaces
- Loose ligaments, valgus (knock-kneed) alignment, shallow trochlea (patella groove)



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## SHOULDER, KNEE & SPORTS MEDICINE

### Risk Factors

- Participation in contact sports (football, soccer), sports that require jumping and landing (basketball, volleyball), or sports in which cleats are worn on shoes
- People with loose ligaments, wide pelvis, valgus alignment (knocked knees), or shallow or malformed joint surfaces
- Previous patella dislocation
- Poor physical conditioning (strength and flexibility)

### Prevention

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Thigh, leg, and knee strength
  - Flexibility and endurance
  - Cardiovascular fitness
- For jumping (basketball, volleyball) or contact sports, protect the patella with supportive devices, such as elastic bandages, tape, braces, knee sleeves with a hole for the patella and a built-up outer side or straps to pull the patella inward, or knee pads.
- For sports that require cleats or spikes on the athletic shoe, use cleats or spikes of appropriate length for the sport and the turf or field conditions.

### Outcomes

We expect a good prognosis with appropriate reduction (repositioning of the joint) and proper treatment.

### Potential Complications

- Associated fracture or joint cartilage injury due to the dislocation or reduction (repositioning) of the patella
- Damage to nearby nerves or major blood vessels (rare)
- Prolonged healing
- Recurrent dislocation
- Excessive bleeding within the knee due to dislocation
- Patella pain and giving way, usually due to inadequate or incomplete rehabilitation
- Unstable or arthritic joint following repeated injury or delayed treatment



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### Treatment Considerations

After immediate reduction (repositioning of the bones of the joint), treatment consists of ice and medications to relieve pain. Reduction can be performed without surgery, although surgery may be necessary to remove loose fragments of bone or cartilage caused by the dislocation or reduction or to help prevent further dislocation. Elevating the injured knee at or above heart level helps in reducing swelling. Your doctor may drain blood from your knee to relieve pain and expedite recovery. Recovery is focused on stretching and strengthening of the injured, stiff, and weakened joint and surrounding muscles. These may be done with or without the assistance of a physical therapist or athletic trainer. For patients that continue to experience dislocations, surgery is recommended to rebuild the restraining ligaments.

### Possible Medications

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Strong pain relievers may be prescribed as necessary. Use only as directed and only as much as you need.

### Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

### Notify My Office If Symptoms Worsen

