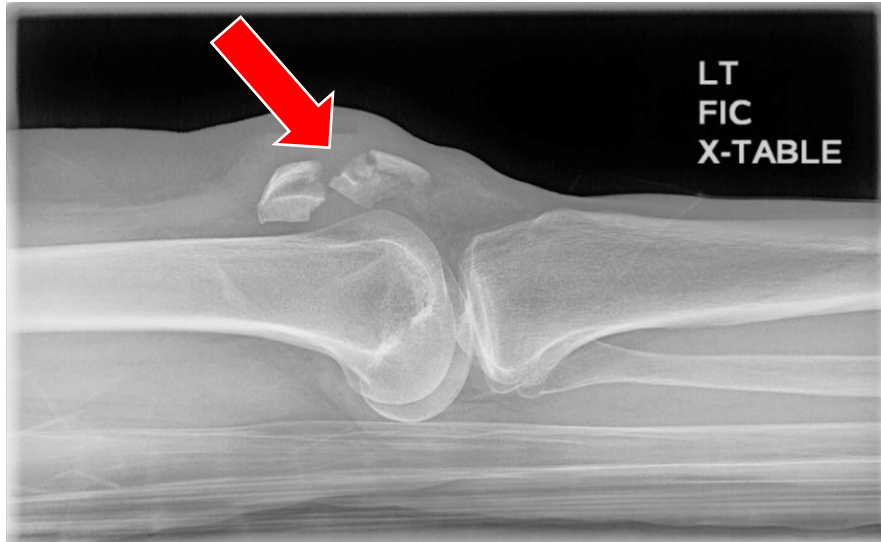


STEVEN CHUDIK MD

SHOULDER, KNEE & SPORTS MEDICINE

Patellar Fracture

Patellar fracture is a complete or incomplete break of the patella (kneecap). Most fractures of the patella are accompanied by sprain or rupture of ligaments, ligament-like tissue (retinaculum), or tendons attached to the patella.



X-ray image of a displaced, comminuted patella fracture.

Frequent Signs and Symptoms

- Severe pain in the knee at the time of injury
- Tenderness and swelling in the knee
- Pain when trying to move the knee
- Inability to straighten a bent knee under its own power
- Catching or locking of the knee
- Bleeding and bruising in the knee
- Difficulty in bearing weight on the injured extremity, especially when trying to get up from a sitting position, go up or down stairs, or jump
- Visible deformity if the fracture is complete and the bone fragments separate enough to distort normal leg contours

Etiology (Causes)

- Typically results from a fall directly on the patella and the front of the knee



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Risk Factors

- Contact sports, especially football, hockey, or soccer
- Basketball
- Motor sports
- Osteoporosis or other bone abnormalities
- Metabolic disorders, hormone problems, and nutritional deficiencies and disorders
- Poor physical conditioning (strength and flexibility)
- Poor balance

Prevention

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
 - Strength, flexibility, and endurance
 - Cardiovascular fitness
- Wear proper protective equipment (knee pads).
- Eliminate trip and fall risks such as rugs and uneven surfaces

Outcomes

Outcomes for patella fractures depend on the severity of the fracture, the injury to the surrounding soft-tissue and cartilage, and the ability of the patient to recover their strength and function. Nondisplaced (well-aligned and stable) fractures are treated without surgery and generally have a better prognosis than high energy displaced separated unstable fractures. Patella fractures generally heal well and have good outcomes. Post-traumatic arthritis of the patellofemoral compartment of the knee joint develops commonly following patella fractures.

Potential Complications

- Failure to heal (nonunion)
- Healing in a poor position (malunion)
- Avascular necrosis (bone death) due to interruption of blood supply to bone
- Risks of surgery including infection, bleeding, injury to nerves (numbness, weakness, paralysis), need for further surgery, and pain from the wires or screws used to fix the fracture
- Infection especially when the skin broken over fracture site
- Post-traumatic arthritis
- Prolonged healing time if activity is resumed too quickly
- Persistent pain with sitting, rising from a sitting position, going up or down stairs or hills, jumping, and running
- Stiff knee



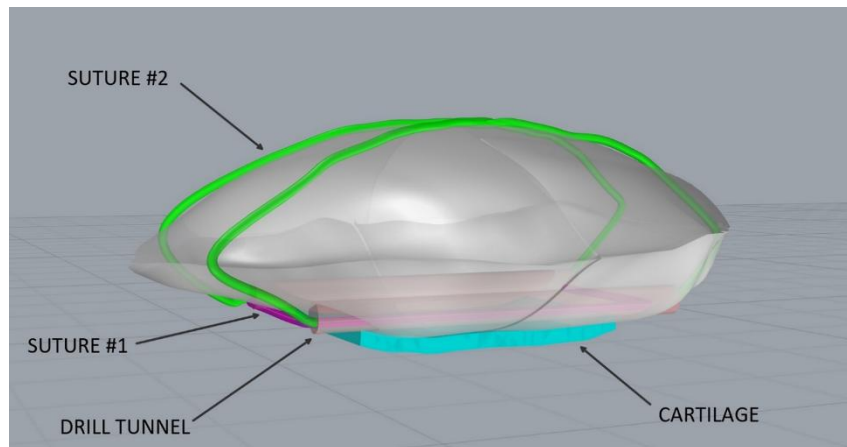
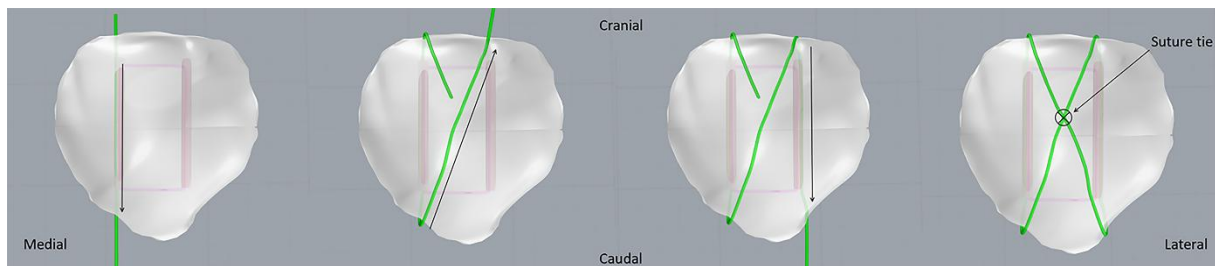
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- Muscle atrophy and weakness

Treatment Considerations

Initial treatment consists of elevation of the leg, ice to relieve pain and reduce swelling. Four to six weeks of brace immobilization is appropriate for non-displaced fractures in proper alignment. For displaced fractures that are out of alignment, surgery is usually recommended to reduce and fix the fracture fragments in proper position to best restore the smooth cartilage surface of the patella. Surgical fixation uses sutures, wires, screws or plates to stabilize the fracture fragments. After immobilization (with or without surgery), stretching and strengthening of the injured joint and weakened surrounding muscles (due to immobilization and the injury) are necessary. This may be done with or without the assistance of a physical therapist or athletic trainer. When possible, Dr. Chudik prefers to use suture fixation to avoid complications of painful hardware.



Suture repair configuration for
patellar fracture repair



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Suture only surgical fixation
of fractured patella by Dr.
Chudik



Surgical fixation of fractured
patella with traditional hardware
by another surgeon

Possible Medications

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within seven 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.
- Your physician for severe pain may prescribe narcotic pain relievers. Use only as directed and only as much as you need.

Notify My Office If Symptoms Get Worse



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