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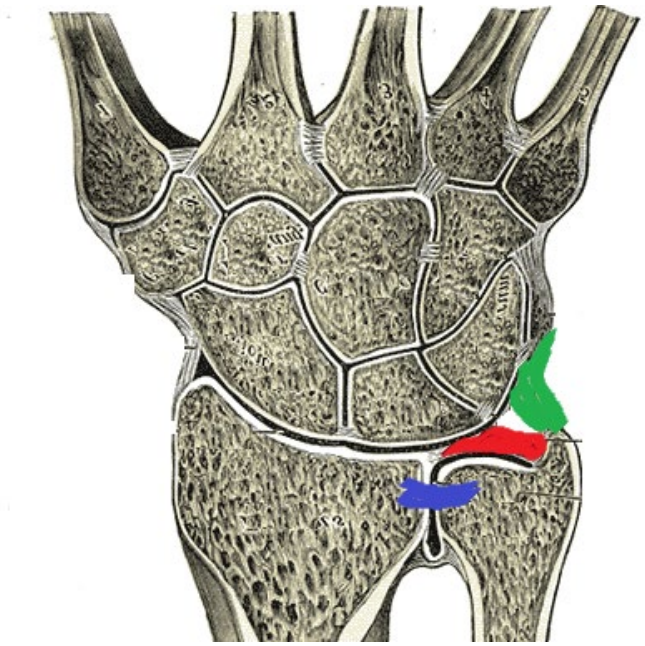
TFCC INJURY

What is it?

- Triangular Fibro-Cartilage Complex (TFCC) is a series o ligaments between the radius, ulna, and carpal (wrist) bones – seen below.
- The TFCC stabilizes, cushions, and protects the wrist.
- The TFCC includes a shock-absorbing disc (red) – similar to the meniscus in the knee.
- The blood supply is quite poor – so when an injury occurs, it is difficult for the body to naturally heal the TFCC.
    - Patients will have tenderness along the ulnar side of the wrist.
        - This is the bump on the back on the wrist – on the small finger side of the wrist
- Injuries to the TFCC can lead to wrist instability and pain.



Who gets it?

- Younger, active patients after an athletic or work injury – fall onto an outstretched wrist.
- With age, all patients will have a TFCC tear.
- A long ulna, which can bump into the wrist bones, may increase the risk for injuring the TFCC.

What can you do about it?

- X-Rays are usually obtained and can be helpful evaluating the length of the ulna.
    - X-Rays are also important to rule out other, more important injuries – like tearing more structurally critical ligaments or a distal radius or scaphoid fracture.
- For many patients, with 4-6 weeks of rest and immobilization, your wrist may feel good enough to return to full activities.
- If not, a MRI may be considered.
    - MRI are not routinely obtained unless symptoms persist and the diagnosis is not clear.

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- Injections can be helpful.
  - Steroid injection – will reduce inflammation and return to activity.
  - Platelet Rich Plasma – may be beneficial in healing injured structures. Its efficacy is not proven in the wrist – but has shown promise in other parts of the body.
- Surgery is reserved for the TFCC injury that is causing long-term debilitating pain or instability.
  - Non-operative management is attempted for 3 months.
  - Surgery for the condition is minimally invasive wrist arthroscopy.
    - Arthroscopy aids in diagnosing and treating the TFCC injury.
  - Up to 40% patients with a TFCC injury may elect for surgical treatment.

Review

HAND
1–5

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Surgical Repair of Acute TFCC Injury

John C. Dunn[1], Michael M. Polmear[1], and Leon J. Nesti[2,3]

Abstract

Triangular fibrocartilage complex tears are a common source of ulnar-sided wrist pain and distal radioulnar joint instability. Symptoms recalcitrant to conservative management or injuries in high-demand athletes may indicate surgical management. Both open and arthroscopic techniques offer improvements in objective measures, patient-centered outcome scores, and return to work, but may be complicated by nerve irritation, persistent wrist instability, and pain. Recently developed knotless arthroscopic techniques are not well studied but may limit morbidity.

Surgery:

- The minimally invasive arthroscopic surgery is done with a few small poke holes in the skin.
  - A small camera and instruments work inside the wrist to identify, “clean up,” or repair damaged structures in a minimally invasive fashion.
- The TFCC will either be repaired (which may require an additional incision) or “cleaned up” to reduce pain and improve function.
  - For most patients, there is no difference in outcomes between these surgical techniques
- If the ulna bone is “too long” the surgeon may need to shorten the bone and hold this in place with plate and screws.
  - This way, the ulna will not “bump into” or “impinge” upon the TFCC.

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Post-operative course

- Pain pills may be needed for the first 1-2 nights – but most people will be fine with just Tylenol.
    - If the ulna bone is shortened, pain pills will be needed for 5-7 days and after surgery you may receive a nerve block from anaesthesia.
- The black nylon sutures are removed at the first post-operative visit in 2 weeks.
- This suture is inert (does not react with your body) and is sturdy.
- You can text, type, and do light duties with the hand before the sutures are removed while the dressing is in place.
- Weight bearing and activity will depend on what is found inside the wrist. For most cases, you can return to full activity at two weeks if the wrist is only "cleaned up."
- Therapy may be beneficial.

Outcomes

- In a study reviewing TFCC ligament arthroscopy surgery:
    - Surgery improved motion, grip strength, and pain.
    - 87% went back to their original work.
- In a military study, after surgery:
    - 93% returned to active duty after surgery.
    - Patients performed an average of 72 pushups.
    - Servicemembers rated their operative wrist at 87.3/100.

Complications

- Risk to arthroscopic surgery include damage to ligaments, tendons, and cartilage and wrist stiffness.

Arthroscopic image of torn TFCC*