

Triangular Fibrocartilage Complex (TFCC) Injury - Wrist Sprain

Introduction

The **Triangular Fibrocartilage Complex (TFCC)** is a structure that is made of cartilage and ligaments. It is located on the ulnar side of the wrist (side toward the little finger). The TFCC stabilizes the bones in the wrist, acts as a shock absorber and enables smooth movements. The TFCC may be injured during a fall, sports, or on the job. An injured TFCC causes pain and may produce a clicking noise when the wrist is moved in certain ways. TFCC injuries are treated with anti-inflammatory and pain medication, splinting, casting, or surgery.

Anatomy

The TFCC is located on the ulnar side of the wrist. It consists of ligaments and two cartilage structures called the triangular fibrocartilage (also referred to as the radioulnar disk) and the meniscus homolog. Ligaments are strong tissues that connect bones. Cartilage acts as a cushion and is a smooth surface for the bones in the wrist joint to glide on during movement. The TFCC stabilizes the radiocarpal joint, the distal radioulnar joint, and the ulnar carpus.

Causes

The cartilage and ligaments composing the TFCC are prone to degeneration and tearing. They do not have a good blood supply and therefore, injuries do not heal well.

The TFCC can be torn as the result of a wrist injury. The wrist can be injured during a fall on an outstretched hand. Forceful twisting and pulling movements can injure the wrist. This may occur in sports, such as when swinging a bat or hitting a ball with a racquet. These movements may also take place at work when using tools and equipment.

Symptoms

TFCC injury causes wrist pain, particularly when moving your hand to the little finger side (ulnar deviation), or turning the wrist to face the hand upward (supination). Your wrist may feel weak and unstable. Your wrist may catch or not be able to produce smooth movements. You may hear a clicking noise when you move your wrist.

Diagnosis

Your doctor can diagnose TFCC injury by reviewing your medical history and examining your wrist. Imaging tests such as an X-ray or MRI scan will be ordered. An arthrogram may be conducted in conjunction with an X-ray. An arthrogram uses a dye injected into the wrist to outline the injured structures on an X-ray.

Your doctor may use an arthroscope to diagnose a TFCC injury when physical examinations or imaging scans are not conclusive. An arthroscope is a very small surgical instrument. An arthroscope contains a lens and lighting system that allows a surgeon to view inside a joint. The surgeon only needs to make small incisions and the joint does not have to be opened completely. The arthroscope is attached to a miniature camera. The camera allows the surgeon to view the

magnified images on a monitor screen or take photographs and record videotape. The diagnostic accuracy of arthroscopy is highly precise.

Surgery

Arthroscopic surgery is performed as an outpatient . The anesthesia necessary will be decided by you and your surgeon. Your surgeon will make a few small incisions near your wrist to insert the arthroscope and thin surgical instruments. The arthroscope is used to remove torn tissues or to repair the TFCC when possible. As arthroscopy uses small incisions and is less invasive than traditional surgeries, it has a shorter recovery time with less bleeding, swelling, and pain than open procedures. Open surgery for TFCC repair is becoming less common with the refinements in arthroscopic techniques.

Treatment

The treatment that you receive for a TFCC injury depends on your symptoms and the extent of your condition. Some injuries can be treated with protective supports, such as splints or casts. Cartilage tears may produce less pain over time even though they do not actually heal. Your doctor may recommend medication, cortisone injections, or therapy modalities, such as icing, to ease pain. Arthroscopic surgery is recommended if nonoperative treatments do not provide symptom relief.

It is common to participate in hand therapy following surgery or cast treatment. At first your wrist and fingers may feel stiff and sore from being immobilized. Your therapist will move your joints to improve your circulation, reduce swelling, and ease discomfort. You will learn exercises to regain movement, strength, flexibility, coordination, and function of your wrist. Initially, you may need to wear a supportive splint during your daily activities to optimize your hand positioning during tasks. Your therapist can also make recommendations on how to protect your joints during activities or job duties to prevent future injuries.

Recovery

Recovery is very individualized and your doctor will let you know what to expect. Your recovery time will depend on the extent of your condition, how it was treated, and when it was treated.

Prevention

You may be able to reduce the likelihood of TFCC injuries during sports by using correct techniques and the appropriate size racquet or equipment. If you work in construction or manufacturing, an occupational therapist can make recommendations at your job site to help prevent injuries.

This information is intended for educational and informational purposes only. It should not be used in place of an individual consultation or examination or replace the advice of your health care professional and should not be relied upon to determine diagnosis or course of treatment.