What can I do to prevent it?

- Review the suggestions on Carnegie Mellon's Environmental Health and Safety website.
  These suggestions will help you create an ergonomically safe worksite. If the recommendations fail to produce the desired results, then contact the Environmental Health and Safety department for further information. http://ehs-alert.fms.bap.cmu.edu/EEHSWebSite/WorkplaceSafety/Ergonomics.htm.

- Talk to your doctor
  Your doctor may be able to suggest things you can do to prevent tendinitis.

- Take ten minute breaks every hour when completing tasks that are repetitive.
  You should give your body a rest from specific motion that is repeated. Your doctor can suggest stretches to do during these breaks.

- Use both hands to hold heavy tools.
  This will prevent too much strain from being placed on just one extremity.

- Increase your gripping surface on tools to cushion your joints that you apply pressure on.
  You can do this by applying grip tape to your tools, if permitted, or wearing gloves with padding.

- Warm up or stretch before starting physical activity.
  This includes physical activity done both for enjoyment and for work. If you are starting a new exercise program, be especially careful to ease into it and warm up and stretch properly.

- Gradually adjust your body to any new tasks or exercises
  You should do this for any tasks that could irritate your tendons and lead to injury.

Where can I get more information?

- National Institute of Arthritis and Musculoskeletal and Skin Diseases
  National Institutes of Health
  1 AMS Circle
  Bethesda, MD 20892-3675
  Phone: 301-565-2966
  www.niams.nih.gov

- American Academy of Orthopaedic Surgeons
  P.O. Box 2058
  Des Plaines, IL 60017
  Phone: 800-824-2663
  www.aaos.org

- American College of Rheumatology
  1800 Century Place, Suite 250
  Atlanta, GA 30345-4300
  Phone: 404-633-3777
  www.rheumatology.org

- Carnegie Mellon's Department of Environmental Health and Safety
  5000 Forbes Avenue
  Facilities Management Building, 3rd Floor
  Pittsburgh, PA 15213-3890
  Phone: 412-268-8182
  www.cmu.edu/ehs

Carnegie Mellon

Provided by Carnegie Mellon's Department of Environmental Health and Safety
What is tendinitis?

Tendinitis, also known as tendonitis, is inflammation and swelling of the soft tissue, or tendons, that connect your muscles to your bones and cause movement. Tendinitis can affect your tendons anywhere in the body, but in the upper body it is most common in your hands, wrists, elbows, and shoulders. With the pain and swelling that tendinitis causes around your joints, it limits your movement and ability to complete certain tasks.

Tendinitis is caused by repetitive motion or high impact motion of the tendons surrounding a joint. It can develop over time or suddenly. As you age, these tendons are more likely to become injured, so although anyone is at risk for tendonitis, older people are more likely to develop tendinitis. People beginning a new job or returning to work after an extended period of time away are also at a higher risk, as are people with arthritis, gout, thyroid disease, and diabetes. Finally, some people may experience tendinitis as a result of taking certain medications (such as fluoroquinolones).

What are the signs?

The signs of tendinitis vary depending on what area you have injured. Some of the more common signs are:

- Pain in the shoulder, elbow, or forearm
- Weakness in the joint
- Tenderness around your shoulder, elbow, wrist, or hand
- Swelling, redness, or warmth in the injured area

How can I know if I have it?

You will need to visit your doctor, or a specialist recommended by your doctor, and he/she may do the following:

- **Physical Examination**
  Your doctor will first ask about the signs of tendinitis that you are experiencing and may inquire about when they occur, whether the signs change, and what decreases or increases the pain. In discussing this information with your doctor, you should also provide a list of any medications you are currently taking since some are known to cause tendinitis. In the diagnosis process, he/she may use tests called selective tissue tension tests to decide if the tendon is actually causing the pain and discomfort you are experiencing.

- **Anesthetic-Injection Test**
  Your doctor may inject an anesthetic into the injured area and see if the pain decreases or goes away. If the pain goes away temporarily, it suggests that tendinitis was the cause.

- **Blood/Fluid Test**
  Because the swelling that is seen with tendinitis can be caused by an infection, your doctor may remove some of the fluid from the swollen area and test it. He/she may also test your blood for an infection.

- **X ray**
  To make sure that the signs are not being caused by arthritis or an injury to the bone, you doctor may order an x ray.

- **MRI (Magnetic Resonance Imaging)**
  Your doctor may also order an MRI to see if there is a tear in the tendon or if there is a more serious injury to the bone or other tissues. MRIs are more expensive and less accessible than x rays, but since x rays do not show tendons, MRIs may provide more information.

How is it treated?

Non-Surgical treatments are used first and include:

- **Splinting, Icing, and Stretching**
  The first step in treating tendinitis is to rest the injured tendon and prevent it from being overused. This may be done by restricting the joint in a splint or brace. Additionally, the injured area may be iced each day and your doctor may suggest certain stretches to help with recovery.

- **Non-Steroidal Anti-Inflammatory Drugs**
  In addition to splinting and bracing, your doctor may advise that you take an over-the-counter drug such as aspirin, ibuprofen, or naproxen to reduce the swelling and ease any pain.

- **Ultrasound**
  Your doctor may use an ultrasound on the deep tissue to warm it and improve the blood flow. The ultrasound is often together with massage therapy on the soft tissue.

- **Iontophoresis**
  If ultrasound treatments do not work, your doctor may use iontophoresis. This pushes corticosteriod drugs through the skin, generally over the injured area. This is done using electrical currents and is often used along with stretching exercises.

Because surgical treatments may not successful, they may only be considered if the above treatments do not improve the injured area after a period of time. They include:

- **Open Surgery**
- **Arthroscopic Surgery**

In both types of surgery the goal is to repair any damage to the tendon and release any pressure on it. When surgery occurs, an exercise program may be used afterwards to help heal the tendon. These programs vary depending on the severity of your tendinitis, but they can last up to 6 months.