

PATIENT EDUCATION RESOURCE

Pulley Injury



"Working with a knowledgeable hand therapist can make the difference between success and failure in complex hand surgical cases. The therapist extends the continuum of our care, as well as functioning as coach and trainer for our patients."

MARYBETH EZAKI, MD, PAST PRESIDENT, AMERICAN SOCIETY FOR SURGERY OF THE HAND

What is a pulley injury?

A pulley injury happens when one or more of the pulleys in the finger are stretched, partly torn or fully torn. Finger pulleys are strong bands of tissue on the palm side of each finger. They help hold the finger tendons close to the bone when you bend your finger. You can think of them like small tunnels that guide the tendons.

If a pulley is injured, the tendon may pull away from the bone. This is called bowstringing. Bowstringing can cause pain, weakness, swelling and trouble moving the finger.

What causes a pulley injury?

Pulley injuries are common in rock climbers because climbing puts a lot of stress on the fingers. These injuries often happen when a climber uses a grip called a full crimp. In a full crimp, the fingertips bend backward and the middle finger joints bend sharply. This puts a lot of force on the finger pulleys. Crimp holds and pocket holds, which use only one or two fingers, can also increase the risk of a pulley injury.



Pulley injuries often happen when a rock climber uses a full crimp grip, wherein the fingertips bend backward and the middle finger joints bend sharply.

What are the symptoms of a pulley injury?

- A sudden "pop" in the finger
- Pain on the palm side of the finger
- Pain when pressing on the injured area
- Pain with gripping or climbing
- Swelling or stiffness/trouble bending or using the finger

What is the treatment for a pulley injury?

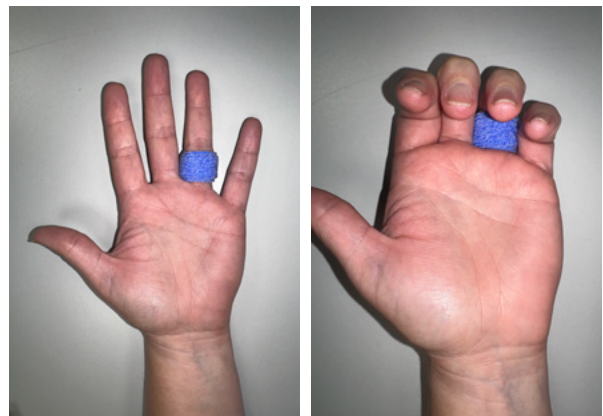
Most pulley injuries do not need surgery. Mild or moderate injuries are usually treated with rest, activity changes, splinting and hand therapy. More serious injuries may need surgery. This is more likely if several pulleys are torn or if there is also damage to a tendon or muscle. Because pulley injuries can range from mild to serious, it is important to see a doctor for the right diagnosis. A doctor can confirm the injury with an ultrasound or MRI.

What can a hand therapist do for me?

A hand therapist can make a custom splint, such as a pulley ring orthosis. This puts gentle pressure over the injured pulley and helps hold the tendon close to the bone. It works like an outside pulley while the finger heals. It may be worn during climbing or other gripping activities once it is safe to return. Your therapist will help decide when that is safe.

A hand therapist can also help you:

- Reduce pain and swelling
- Protect the injured pulley
- Improve finger motion
- Build strength safely
- Learn ways to lower the risk of another injury



A hand therapist can make a custom pulley ring orthosis to help heal the injury.

To locate a hand therapist in your area, visit the American Society of Hand Therapists at www.asht.org or call 856-380-6856.