INTERSECTION SYNDROME

Description

Intersection syndrome is characterized by pain and inflammation in the forearm, on the thumb side, due to irritation where the two tendons that extend the wrist (extensor carpi radialis longus [ECRL] and extensor carpi radialis brevis [ECRB]) cross over the two tendons that extend and move the thumb (extensor pollicus brevis [EPB] and abductor pollicus longus [APL]). The two groups of two tendons are covered by a lining that secretes a fluid that lubricates the tendon. When the lining becomes inflamed from irritation as the tendons cross over each other, the tendon cannot glide smoothly within its covering (sheath). The EPB tendon is the anchor of the EPB muscle, which is important for straightening the thumb; the APL tendon is the attachment for the APL muscle, which is important to move the thumb away from the index finger; and the ECRL and ECRB are the tendons that attach the respective muscles to the wrist and extend (straighten) or pull back the wrist.

Common Signs and Symptoms

- Pain, tenderness, swelling, warmth, or redness where the tendons cross each other on the thumb side of the forearm about 2 inches above the wrist
- Pain that is worse moving the wrist or thumb against resistance
- Limited motion of the thumb or wrist
- Crepitation (a crackling sound like walking in fresh snow) when the tendon or wrist is moved or touched

Causes

- More likely with repetitive motions of the hand and wrist due to friction of the two groups of tendons within the sheath (lining)
- Sudden increase in activity or change in activity

Risk Increases With

- Sports that involve repetitive hand and wrist motions, including rowing, weightlifting, and racquet sports
- Heavy labor
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up before practice or play

Preventive Measures

- Appropriately warm up and stretch before practice or competition.
- Allow time for adequate rest and recovery between practices and competition.
- Maintain appropriate conditioning:
  - Forearm, wrist, and hand flexibility
  - Muscle strength and endurance
- Use proper technique.

Expected Outcome

This condition is usually curable within 6 weeks if treated appropriately with conservative treatment and resting of the affected area.

Possible Complications

- Prolonged healing time if not appropriately treated or if not given adequate time to heal
- Chronically inflamed tendon, causing persistent pain with activity that may progress to constant pain, restriction of motion of the tendon within the sheath, and potentially rupture of one or more tendons
- Recurrence of symptoms, especially if activity is resumed too soon
- Risks of surgery, including infection, bleeding, injury to nerves, continued pain, incomplete release of the tendon sheath, recurrence of symptoms, cutting the tendons, tendons sliding out of position, and weakness of the wrist or thumb

General Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain and reduce the inflammation, stretching and strengthening exercises, and modification of the activity that initially caused the problem. These all can be carried out at home, although referral to an athletic trainer or physical therapist may be recommended. Occasionally a cast, brace, or splint may be prescribed to reduce motion, helping to relieve inflammation. An injection of cortisone to the area around the tendon (within the sheath) is often attempted. Rarely, corticosteroids by mouth may be prescribed. Surgery to release or remove the inflamed tendon lining may be necessary.

Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 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.
- Pain relievers usually are not prescribed for this condition. If prescribed, use only as directed and only as much as you need.
- Cortisone injections reduce inflammation. However, this is done only in extreme cases, because there is a limit to the number of times cortisone may be given; it may weaken muscle and tendon tissue. Anesthetics temporarily relieve pain.

Cold Therapy

Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every 2 to 3 hours

for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.

Notify Our Office If

- Symptoms get worse or do not improve in 2 to 4 weeks despite treatment
- You experience pain, numbness, or coldness in the hand
- Blue, gray, or dusky color appears in the fingernails
- Any of the following occur after surgery: increased pain, swelling, redness, drainage, or bleeding in the surgical area or signs of infection
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

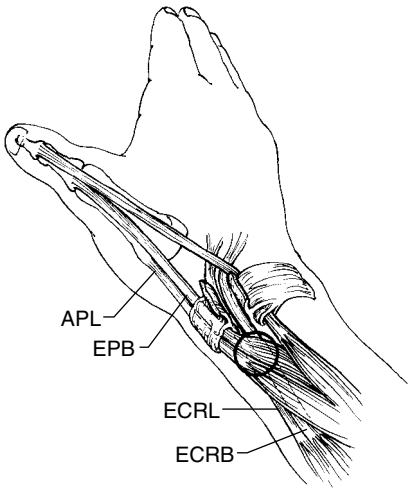

Figure 1

From Jobe FW: Operative Techniques in Upper Extremity Sports Injuries. St. Louis, Mosby Year Book, 1996, p. 647; modified from Richardson et al: Clinical Orthopaedic Physical Therapy, Philadelphia, WB Saunders, 1994, p. 232.

Notes: (Up to 4400 characters only)

Notes and suggestions