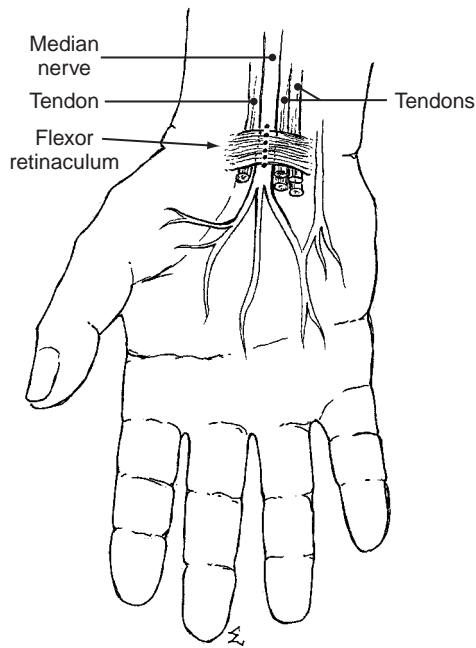


## △ GENERAL INFORMATION

Carpal tunnel syndrome is caused by compression (squeezing) of the *median nerve* as it passes through a canal or tunnel through the wrist and palm along with nine tendons (Fig. 1). The median nerve is one of the main nerves providing sensation to the hand. When the nerve is even slightly compressed (such as from swelling of the tendons) symptoms such as tingling or numbness result.



**Figure 1.** The median nerve, along with a number of tendons, passes through the crowded carpal tunnel. Under the tunnel are bones and over it is a band of tough tissue (the flexor retinaculum). In this operation, the flexor retinaculum is divided (*dotted line*) to relieve the squeeze on the median nerve.

## COMMON SIGNS AND SYMPTOMS

- There is numbness or a “pins-and-needles” feeling in the thumb, index, and middle fingers, especially at night or early in the morning. This is sometimes relieved by shaking or moving the hand.
- There can be a feeling of weakness or fatigue with use, and possibly clumsiness of the hand.

## DIAGNOSIS

- Usually, the diagnosis can be made by taking a detailed history and doing a thorough physical examination.
- A pins-and-needles sensation is usually noted in the fingers when the nerve is tapped or pressed at the wrist.
- Special electrical studies (nerve and conduction tests or *electromyogram*) of the median nerve and the muscles in the hand can be used to confirm the diagnosis.

## ○ TREATMENT

- Decrease activities that can aggravate the condition (such as prolonged typing).
- Wear a wrist splint, especially during sleep. This keeps the wrist from bending downward through the night, which can further pinch the nerve.
- Take a nonsteroidal medicine or receive a cortisone injection into the wrist to reduce any swelling of the tendons.
- An operation can be used to release the ligament on top of the nerve to give it more room to “breathe.” This is required if
  - The previously suggested treatments help for short periods of time only.
  - The muscles of the hand at the base of the thumb show any shriveling (*atrophy*) from severe compression of the nerve.

## PREOPERATIVE PREPARATION

- Do not eat or drink anything for 8 hours before the operation.
- Shower as usual before the operation.
- You may be given medicine that will make you feel drowsy before you are brought to the operating room.

## □ OPERATION

- The operation generally is preceded by injection of an anesthetic that will make only the arm or hand numb. You can request medicine to make you feel drowsy during the operation.
- The nerve can be freed from the snug tunnel in several ways:
  - The surgeon can make an incision over the nerve in the wrist and palm. This lets the surgeon see the nerve clearly. The scar can range from 1 to 2½ inches.
  - The surgeon can insert a special optical instrument with a light at its tip through a smaller incision. This also allows sectioning of the ligament on top of the nerve so that the compression can be relieved.
- The recommended operation and the reason for it will be explained to you in the office.
- The operation generally takes less than 1 hour.

## POSTOPERATIVE CARE

- You will be taken to a recovery room. When your blood pressure, pulse, and breathing are stable and you are completely alert, you will be able to go home that same day with a responsible adult.
- Pain can be controlled with medicine.
- Arrangements will be made for your follow-up office visit and stitch removal.
- As with any operation, complications are always possible. Although they are uncommon with your type of operation, they can include damage to the nerves in this area, bleeding, separation of the incision, and infection. Also, it is always possible that

some or all of your symptoms might not be completely relieved.

#### ⊕ **HOME CARE**

- Keep the hand elevated as much as possible for the first 1 to 2 days. When sitting or sleeping, place the arm and hand on one or two pillows.
- Try to keep your fingers moving if they are left out of the dressing. This keeps the tendons gliding past the nerve in the canal and helps reduce stiffness of the fingers.
- You may sponge bathe as you wish. If you would like to take a shower, the hand and entire lower arm must be protected so they do not get wet. This

precaution is necessary only until the first dressing change. After that you may shower with the dressings on or off.

- Driving your car may be important to you, but driving with your operated, bandaged hand is not advisable and using only one hand can be dangerous. During your follow-up visit let's discuss when you can resume driving.

#### 📞 **CALL OUR OFFICE IF**

- The incision becomes red or swollen, or there is drainage from it.
- You develop a temperature higher than 100°F.
- You have any questions.