

Radial Tunnel Syndrome

Radial tunnel syndrome isn't as well-known as its counterpart carpal tunnel syndrome, but it can cause pain and muscle weakness in the fingers and hands. The common causes of the nerve compression is an increase in pressure, which is often from the connective or bone tissue. In the majority of cases, radial tunnel syndrome can easily be managed using conservative treatments. For severe cases, surgery might be needed to reduce pressure on the nerve affected.

Sometimes radial tunnel syndrome can be confused with tennis elbow, as both occur closely. Also it should not be confused with carpal tunnel syndrome which is a compression of the median nerve in the wrist. Radial tunnel syndrome typically does not cause numbness or tingling in the fingers.

The radial tunnel nerve compression takes place at the elbow, compared to the wrist for carpal tunnel syndrome.

Radial Tunnel Syndrome Anatomy

As the name suggests, the nerve that becomes trapped or compressed is the radial nerve. To be specific, it is actually a branch of the radial nerve called the posterior interosseous nerve. . Day to day activities that can contribute or cause this are repetitive hand and wrist movements, forceful chopping of food or vegetables, using power drills repeatedly, and poor posture using a computer and keyboard.

Pressure is applied to the radial nerve in the upper forearm. The nerve passes through the radial tunnel and under the supinator muscle. If there is thickening around the supinator muscle, the nerve could become compressed. The compression takes place within 5cm of the elbow in most circumstances.

The radial tunnel is located between the upper arm bone (humerus) and the head of the radius, being one of two forearm bones. The radius connects the thumb to the elbow, and the part which connects to the elbow is known as the radial head.

How to Treat Radial Tunnel Syndrome:

1. Posture and Work Ergonomics

Checking your work position and desk set-up can be very beneficial at correcting the compression.

2. Stop Repeated Activities

Look at your work or hobbies and see if there is anything you are doing repeatedly which might be causing the compression.

3. Physical Therapies

In mild cases of radial tunnel syndrome, they often respond well to a number of different physical therapies, such as physiotherapy, osteopathy, and acupuncture.

It also helps to:

- Avoid unnecessary pressure on the elbow when going about your regular daily activities.
- Wearing a splint when you are sleeping to prevent bending the elbow too much.
- Wearing a protective pad on the elbow during your regular activities throughout the day.

4. Surgery

In cases where splinting doesn't alleviate the problem or the compression is more severe, 85 percent of individuals will end up responding well to some decompression surgery to alleviate pressure on the nerve. Surgeries often include:

- Shifting the nerve to the elbows' front.
- Moving the nerve underneath the fat layer, underneath the muscle or in the muscle itself.
- Trimming the bump from the inner part of the elbow, which is where the nerve passes.

Tips:

- Corticosteroid injections can help to relieve some of the pressure and inflammation on the radial nerve.
- Using a wrist or elbow splint will help with reducing irritation on the radial nerve.
- Apply an ice pack to the affected area for 5-10 minutes at a time three to five times per day. Make sure to wrap the ice in a thin towel to prevent an ice burn from occurring. Discuss with your RMP therapist if ice would work for you.



- Various strengthening, stretching and nerve-gliding exercises can help to reduce some of the effects caused from repeated stress.