

Ulnar Nerve Compression at the Elbow

The “funny bone” on the inside of the elbow is not a bone at all, but instead is a nerve, called the ulnar nerve. In some people, the nerve can be compressed at the elbow, causing tingling in the little and ring fingers, loss of sensation in those fingers, weakness of some of the muscles in the hand, and decreased coordination of the hand.

In some ways, the location of the ulnar nerve at the elbow is a poor design feature of the human body. The nerve passes through a tunnel on the back of the elbow, so when the elbow is rested on a table or other object, pressure is put right on the nerve. Also, when the elbow is bent, especially if it is done in a repetitive fashion, the nerve gets stretched around the inside bone of the elbow. This pressure and stretching of the nerve can damage the nerve, causing the above symptoms. Technically this is called a compression neuropathy (a disease of the nerve caused by pressure). If this problem is not corrected, it will eventually cause complete loss of the nerve function.

This problem can be treated either non-operatively or with surgery. The non-operative treatment consists of not doing the things that disturb the nerve. This means not resting the elbow on a table, armrest, or other object, and by avoiding bending of the elbow. This requires a change in behavior. Sometimes people use a neoprene (skin-diving suit material) elbow sleeve to remind them not to flex the elbow and to pad the elbow if it should be rested on something. Non-operative treatment is most likely to be successful when the problem is still early or mild.

When the problem is more severe, surgery is the usual treatment. Several operations have been designed to correct this problem; which of those operations is performed depends on the severity of the nerve compression. When the problem is not too severe, the tunnel through which the nerve passes can just be “unroofed” to relieve the compression. This is a relatively short operation with an easier recovery period. In more severe cases, the nerve is moved from the tunnel behind the elbow and placed in a tunnel under the muscles on the front of the elbow. If the nerve is just “unroofed”, a light dressing is applied to the elbow and elbow motion is resumed shortly after surgery, but full activities cannot be resumed until about a month after surgery. If the nerve is relocated to the front of the elbow, the elbow is immobilized in a splint for about two weeks, and it is usually about 6 weeks before full activities can be resumed.

Like all operations, there are some risks associated with this surgery as described below. Of course, we cannot predict all the risks, and there may be some other possible problems that could arise.

- Infections can develop after any operation. Fortunately this happens quite infrequently. If an infection occurs, you may need to be treated with antibiotics, or further surgery could be required to correct the problem.
- Bleeding problems can arise. This may cause blood to accumulate inside the incision, which may require further surgery to remove the accumulated blood.
- There are small “skin nerves” just under the skin that provide sensation to the skin on the inside of the arm, and these nerves need to be gently retracted out

of the way to get to the deeper ulnar nerve. These nerves could be injured by this retraction, which could lead to numbness, pain, or unpleasant sensations on the inside of the arm.

- The elbow or other joints of the arm could lose some range of motion after the operation, but usually people are able to regain the motion that was present before the operation.
- It is possible that the ulnar nerve could be damaged by the operation, causing loss of nerve function. Fortunately, this is quite a rare complication, but it is not impossible for it to occur.
- The symptoms of nerve compression may persist postoperatively. Ulnar nerve surgery is designed to take the pressure off the nerve. It is up to your nerve to recover from its preoperative compressed condition. Hopefully the nerve will recover well, but sometimes it may not be able to recover.
- Some elbow range of motion can be lost. We will recommend that you do elbow exercises postoperatively to help restore elbow motion.
- This surgery is done under general anesthesia, so there are risks such as pneumonia, blood clots, heart attack, and even death. Of course, these risks are quite small.