

Neck Fracture

There are seven vertebrae in the neck. They provide support to the head and connect it with the body and the shoulders. Fractures in one of the cervical vertebrae is referred to as a broken neck. Most of the time, these injuries are the result of a high-energy trauma, such as that of a big sports collision or car accident. Neck fractures can occur when:

- Football players spear opponents with their head.
- Ice hockey players are struck from the back and rammed into the boards.
- Gymnasts miss the high bar when performing a release move and end up falling.
- Divers strike into the bottom of a shallow pool.
- Rugby players in the front row of the scrum get the neck bent forwards forcibly when the scrum goes down.

Injuries to the vertebrae can have detrimental consequences to the spinal cord, which is the main connection for the central nervous system. It runs through the center of the vertebrae. Any damage to the spinal cord could cause death or paralysis.

However, not all neck fractures are dangerous to the spinal cord. The ones that tend to affect the spinal cord usually involve a large amount of speed or force to the neck. It is quite possible to fracture the vertebra with a small crack or to break one of the projections of the vertebra. What is dangerous is displacement. When the fracture causes the vertebrae to displace into the spinal cord, this is when paralysis can occur.

It is also possible to have a small fracture to the vertebra at the top of the neck from a small fall if the patient is elderly and osteoporotic. Generally these fractures do not displace the vertebrae and do not cause risk to the spinal cord.

Neck Fracture Anatomy

The neck is known medically as the cervical spine. Sometimes this condition is called cervical fracture. Inside of the spinal column, there is a tube for the spinal cord. This thick bundle of nerves starts at the base of the brain. It relays information between the brain and the body. Nestled between the vertebrae are the discs. Each individual disc is attached to the bottom of the vertebra that lies above it and the top of the one below it. Muscles and strong ligaments keep the column together. All of the structures work together to surround, protect and support the spinal cord.

Each vertebra has a number of bony projections that come off it, two of them are called the transverse processes, and one is called the spinous process. It is possible to fracture these ends of the bones.

How to Treat Neck Fractures:

1. Immobilization

Whenever there is the chance of a broken neck, immobilizing the neck is imperative. In athletes, leaving the shoulder pads and helmet on while the spine is immobilized.

2. Collar or Brace

Less serious fractures can be treated using a collar or brace. It will have to be worn for a minimum of 8-12 weeks while the spine heals. Medications might also be used to help reduce swelling and pain.

3. Surgery

Severe fractures might require surgery to get the bones back into alignment. The neck might have to be placed into traction prior to the surgery. Metal plates with screws, or other fixation methods, might be used for holding the bones in their proper position.

4. Exercises

When it is deemed appropriate, begin with strengthening and motion exercises. Physical therapists should assist with performing these exercises. Talk to your provider before you return to any of your previous physical activities, as well as any lifting restrictions and other necessary precautions you need to take.

Tips:

- Never dive into a shallow pool. Children should be supervised at all times.
- When playing sports, make sure you have the necessary equipment in place and you are adhering to the safety regulations of the sport.
- Avoid engaging in any physical altercations.
- As you grow older, your bones weaken, which leaves you more susceptible to getting a fractured neck from falling down. Maintain good nutrition as you get into old age.