

Compartment Syndrome - Chronic

Compartment syndrome happens when there is an excessive amount of pressure that builds up within an enclosed space of the body. It often results from swelling or bleeding following an injury. Due to the dangerously high amount of pressure within the compartment, it impedes the blood flow to the tissues that are affected. In this situation, it becomes an emergency that needs surgery to prevent a permanent injury from occurring.

The condition begins when the pressure in the muscles begins to build to a dangerous level. Due to the pressure, the blood flow decreases, which will prevent oxygen and nourishment from reaching the muscle and nerve cells. The condition can either be chronic or acute. Acute conditions are a medical emergency that is often caused by a severe injury. If the condition is not treated, it can cause permanent muscle damage.

Chronic compartment syndrome, which is often known as exertional compartment syndrome, is normally not an emergency. Most of the time, this condition is attributed to athletic exertion.

Compartment Syndrome Chronic Anatomy

Compartments are groups of muscles, blood vessels and nerves within your legs and arms. A tough membrane covers the tissues known as the fascia. The fascia's role is to keep all of the tissues where they are supposed to be, so it doesn't expand or stretch easily.

How to Treat Compartment Syndrome Chronic:

1. Fasciotomy

Anterior (front) compartment fasciotomy's tend to have a far better outcome than those of the posterior (back) compartment. Rehabilitation is longer for those who have deep posterior compartment surgery than those looking at an anterior fasciotomy. The reason for the difference in the outcomes is still unknown. Newer techniques are being developed to help make the incision smaller and maximize the amount of release from the fascial procedure.

2. Conservative Therapy

Conservative treatment of chronic compartment syndrome involves decreasing the load to the compartment that's affected. Activities are slowly increased, based upon the symptoms of the individual patient. Running in water can help to improve strength and mobility without causing an undue amount of load on the compartment affected. Stretching and massaging exercises are proven to be effective.

3. Pre-surgical Therapy

Embarking on a pre-surgical therapy routine means reducing activities while encouraging cross-training exercises and muscle stretching before beginning any exercise program. This particular approach is helpful for preventing compartment syndrome, but there is not a lot of information on this particular topic. Some of the other procedures before surgery are shoe modification, rest and the use of an anti-inflammatory medication to help reduce some of the inflammation. Avoid splinting, casting and compression of the limb that is affected.

Tips:

- Swelling and pain is often attributed to exercise.
- For those who participate in activities that have repetitive motions, such as swimming, biking and running, chronic compartment syndrome can develop over the course of time.
- Discontinuing the exercise that caused the injury is imperative.
- Steroid use is attributed to the development of compartment syndrome.
- Avoid using bandages and casting on the affected limb during exercise.