Treatment for Compartment Syndrome

This handout explains what compartment syndrome is and what you can expect.

Compartment Syndrome

Compartment syndrome happens when there is an increased amount of pressure in one of the four compartments in your lower leg. The increased pressure squeezes the nerves and vessels causing decreased blood flow in the lower leg. As a result, less oxygen gets to the muscles and causes pain. While it most often occurs in the calf, it may also occur in the foot, thigh, forearm or hand.

Types of Compartment Syndrome

- Acute compartment syndrome (ACS)
- Chronic exertional compartment syndrome (CECS)

Acute Compartment Syndrome (ACS)

- Often caused by trauma.
- Creates sudden swelling and pain in the lower leg.
- The pressures in your lower leg increase fast squeezing your nerves and vessels. You will notice weakness, numbness and/or pain when trying to flex and extend your foot or toes.
- Skin may look black and blue.
- **This is a medical emergency.**

Chronic Exertional Compartment Syndrome (CECS)

- Most often located in the lower legs and often seen in athletes and runners with vigorous training regimens.
- Caused by rising pressures in your lower leg.
- Linked to pain with exercise.
- Cramping, burning, pain, tightness or aching
- Numbness or tingling to your lower leg with exercise
- Symptoms start after a certain amount of time, distance or force of exertion
- Symptoms get worse the longer you exercise
- Symptoms stop when the activity is stopped
- Severe tightness of the limb to touch

Tests for ACS

If you think you have ACS, you should **go to nearest emergency room** for tests.

Tests for CECS

Some of the tests for CECS include:

- **Popliteal entrapment study:** This is an imaging study that looks for narrowing of the vessel behind your knee. A narrowed vessel limits blood flow to your calf muscles.
- **Ankle brachial index (ABI):** This measures the blood pressure in the vessels of your arms and ankles. You will be asked to point and flex your feet. Blood pressures are taken in each position.
- **Compartment pressure measurement:** This uses a needle placed in your leg to measure the pressure in a compartment. This test is done at rest. It may be done again after exercise so we can compare the pressures.
- **Watching you walk:** A physical therapist will watch how you walk to see if it causes symptoms.
- **Magnetic resonance imaging (MRI):** A strong magnet, radio

signal, and a computer take pictures of your organs and vessels. It looks for defects such as scarring, tumors, etc.

- **Venous ultrasound:** This imaging study uses sound waves to create pictures of your veins and valves. It may show blockages or faulty valves which could be the cause of your symptoms.

Treatment

Treatment for ACS

You should go to the emergency room right away if you suspect acute compartment syndrome further testing and possible surgery.

Treatment for CECS

Physical therapy: This is often the first treatment. A walking test may help us figure out if shoe insert(s) or extra support would help.

Reduce training amount: if you are highly active you may be encouraged to reduce running and add in swimming or cycling to maintain fitness and gradually increase running once symptoms get better.

Compartment release (or fasciectomy): If symptoms fail to get better with the above treatment you may need a fasciectomy. This is a type of surgery to open the compartments of the lower leg to make space for the tissues to expand.

Surgery

Getting Ready for Surgery

You will have a pre-op visit where a vascular surgery NP/PA will answer any questions you have.

Day of surgery, you will not be able to eat or drink for at least 6 hours before surgery.

During Surgery

Surgery may include removing part of the tissue to relieve the pressure on your vessels. You may also have drains placed. The incision will be closed with sutures under the skin. Small pieces of tape called Steri-Strips are put over the incision, followed by a bandage. This needs to stay on your leg until your first post-op visit.

After Surgery

Pain: Your leg(s) will be sore and swollen. You will be prescribed pain medicine. Severe pain is uncommon. If you have pain not controlled by ice, rest, elevation, and pain medicine call your doctor.

Discharge: Most patients can go home on the day of surgery or the next day.

Incision drain: If you have a drain(s) in your incision, your nurses will show you how to care for it.

Crutches: You will need to use crutches for the first few days. A physical therapist will show you how to walk with crutches.

Driving: Do not drive while taking prescription pain pills.

Physical therapy: You will have several visits with physical therapy. They help you gain strength back and return to your normal activities.

Home Care

After surgery, it is important that you watch for pain and swelling. If you have either of these, you are doing too much and you are not ready to move onto the next step.

Days 1-3 After Surgery

- Keep the bandage and ACE wrap on until your first post-op visit. The ACE wrap should be wrapped snugly. You should feel support on

your leg. It should not cause swelling or pain in your foot. If it feels too tight or too loose, re-wrap the ACE bandage. Wrap the ACE snugly, starting at the bottom or your toes up to your knee.

- You may have a dressing called a Profore boot. This helps with swelling.
- Decrease your activity. Use crutches when you move around.
- Keep your legs up when at rest.
- Ice surgical area 6-8 times per day for 20-30 minutes at a time.
- **Do not** drive.
- **Do not** shower until you have had your first post-op visit.
- Strip drains as you were taught.
- After 48 hours, you can start range of motion exercises.

Range of Motion Exercises

1. Move the top of your foot toward your leg, stretching the back of the leg.
2. Move the top of your foot away from your leg, relaxing the back of the leg and stretching the front of the leg.
3. Move your toes and foot outward at the ankle (away from the center of your body).
4. Move your toes and feet toward each other at the ankles.

Tips When Taking a Shower

- Take off dressing to shower.
- Take short showers.
- Pat the incisions dry.
- **Do not** take off the strips of tape over the incisions. You may cut off the edges of the tape if they peel up.
- **Do not** use ointments, creams, or powders on the incisions.
- Rewrap your legs with the ACE wrap after your shower.
- **Do not** shower with a Profore boot or with a drain in place.
- **Do not** take baths until the incision is fully healed.

Weeks 1-2 After Surgery

- Keep wrapping your leg(s) daily with the ACE wrap.
- Slowly increase your activity. Use crutches when you walk.
- **Avoid** activities that cause pain or swelling. **No** impact, strenuous or repetitive activity.
- Keep your legs up when at rest.
- Ice the surgical area 4-6 times per day for 20-30 minutes at a time.
- **Do not** drive.
- You may start range of motion activities. This may include a few quad sets, leg lifts, calf pumps, but NO reps.

Weeks 3-4 After Surgery

- Wear compression socks if you can or wrap your leg daily with an ACE wrap.
- Increase walking and gentle exercises to help you stretch/strengthen your leg. You may also start doing light no-load stationary biking, treadmill or track walking. You can walk in a pool if your incision is fully healed.
- **Avoid** activities that cause pain or swelling. No impact, strenuous or repetitive activity.
- Keep your legs up when at rest.
- Ice the surgical area after exercise.
- Start physical therapy.
- You may start scar tissue massage. Do this by rubbing baby oil or lotion onto the incisions. This helps prevent scar tissue from forming. You can ask your physical therapist for tips on how to do this.

Weeks 5-7 After Surgery

- Keep wearing compression socks daily.
- Increase walking keep doing gentle exercises to help stretch/strengthen your leg. You may start light impact and more strenuous exercising. **Do not run.** You can use a stationary bike, treadmill for walking, and elliptical trainer as tolerated. You can also swim or walk in the pool with short flippers if your incision is fully healed.
- **Avoid** activities that cause pain or swelling.
- Ice the surgical area after exercise.
- Keeping working with physical therapy.
- Work on scar massage.

Weeks 8-12 After Surgery

- Keep wearing compression socks daily.
- You may start light running. Advance as tolerated.
- **Avoid** pain with activities. You may advance as tolerated with impact, strenuous and repetitive exercises.
- Keep working with physical therapy.
- Get clearance from your surgeon before returning to normal sport and work activities.

Follow-Up

It is very important that you follow up with your Vascular Surgery team. If you live near UW Health, you will have many visits after surgery to check your progress and make sure you are improving.

Follow Up for Out-of-Town Patients

If you live far from UW Health, plan to stay in town for at least 1 week after surgery. This will allow you to attend two follow up visits at the Vascular Surgery Clinic (around day 2 and around day 6 after surgery). We will help to set up visits with your local physical therapist and work closely with them to watch your progress.

When to Call

Call your doctor if you have:

- Redness and/or warmth at the incision site.
- Foul-smelling or pus-like drainage (green or yellow) from the incisions.
- A fever over 101.5 degrees taken by mouth for 2 readings, 4 hours apart.
- A sudden increase in pain that is not controlled by your pain medicine.
- Bleeding or drainage along with pain and swelling.
- New symptoms that affect your daily routine.
- Questions or concerns.

Who to Call

Vascular Surgery Clinic
Monday through Friday, 8:00 am to 5:00 pm
(608) 263-8915

After hours, please call **(608) 263-6400** and ask for the "vascular surgery doctor on call." Give your name and phone number with area code. The doctor will call you back.

Toll-free number: **1-800-323-8942**.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 10/2026 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#8061.