Edema

Edema is an abnormal build-up of fluids in tissues. Because this is partly dependent on gravity (water flows to the lowest place), it is more common in the *lower extremities* (legs and thighs). It is also common in the looser tissues, like around the eyes. Painless swelling of the feet and ankles is common and increases as a person ages. It may affect both legs and may include the calves or even thighs. When squeezed, the fluid may move out of the affected area and may leave a dent for a few moments.

CAUSES

- Prolonged standing or sitting in one place for extended periods of time. Movement helps pump tissue fluid into the veins, and absence of movement prevents this, resulting in edema.
- Varicose veins. The valves in the veins do not work as well as they should. This causes fluid to leak into the tissues.
- Fluid and salt overload.
- Injury, burn, or surgery to the leg, ankle, or foot, may damage veins and allow fluid to leak out.
- Sunburn damages vessels. Leaky vessels allow fluid to go out into the sunburned tissues.
- Allergies (from insect bites or stings, medications or chemicals) cause swelling by allowing vessels to become leaky.
- Protein in the blood helps keep fluid in your vessels. Low protein, as in malnutrition, allows fluid to leak out.
- Hormonal changes, including pregnancy and menstruation, cause fluid retention. This fluid may leak out of vessels and cause edema.
- Medications that cause fluid retention. Examples are sex hormones, blood pressure medications, steroid treatment, or anti-depressants.
- Some illnesses cause edema, especially congestive heart failure, kidney disease, or liver disease.
- Surgery that cuts veins or lymph nodes, such as surgery done for the heart or for breast cancer, may result in edema.

DIAGNOSIS

Your caregiver is usually easily able to determine what is causing your swelling (*edema*) by simply asking what is wrong (*getting a history*) and examining you (*doing a physical*). Sometimes x-rays, EKG (*electrocardiogram or heart tracing*), and blood work may be done to evaluate for underlying medical illness.

TREATMENT

General treatment includes:

- Leg elevation (or elevation of the affected body part).
- Restriction of fluid intake.
- Prevention of fluid overload.
- Compression of the affected body part. Compression with elastic bandages or support stockings squeezes the tissues, preventing fluid from entering and forcing it back into the blood vessels.
- Diuretics (also called water pills or fluid pills) pull fluid out of your body in the form of increased urination. These are effective in reducing the swelling, but can have side effects and must be used only under your caregiver's supervision. Diuretics are appropriate only for some types of edema.

The specific treatment can be directed at any underlying causes discovered. Heart, liver, or kidney disease should be treated appropriately.

HOME CARE INSTRUCTIONS

- Elevate the legs (or affected body part) above the level of the heart, while lying down.
- Avoid sitting or standing still for prolonged periods of time.
- Avoid putting anything directly under the knees when lying down, and do not wear constricting clothing or

garters on the upper legs.
- Exercising the legs causes the fluid to work back into the veins and lymphatic channels. This may help the swelling go down.
- The pressure applied by elastic bandages or support stockings can help reduce ankle swelling.
- A low-salt diet may help reduce fluid retention and decrease the ankle swelling.
- Take any medications exactly as prescribed.

SEEK MEDICAL CARE IF:
- Your edema is not responding to recommended treatments.

SEEK IMMEDIATE MEDICAL CARE IF:
- You develop shortness of breath or chest pain.
- You cannot breathe when you lay down; or if, while lying down, you have to get up and go to the window to get your breath.
- You are having increasing swelling without relief from treatment.
- You develop a fever over 102° F (38.9° C).
- You develop pain or redness in the areas that are swollen.
- You notice a weight gain of 5 pounds/2.3 kilograms or more over several days.

MAKE SURE YOU:
- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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