

Fluid retention

Fluid regularly leaks into body tissues from the blood. The lymphatic system is a network of tubes throughout the body that drains this fluid (called lymph) from tissues and empties it back into the bloodstream. Fluid retention (oedema) occurs when the fluid isn't removed from the tissues.

The two broad categories of fluid retention include generalised oedema, when swelling occurs throughout the body, and localised oedema when particular parts of the body are affected. The wide range of causes includes the body's reaction to hot weather, a high salt intake, and the hormones associated with the menstrual cycle. However, it's recommended that you see your doctor rather than self-treat, because oedema can be symptomatic of serious medical conditions such as heart, kidney or liver disease.

Symptoms

Symptoms of fluid retention can include:

- Swelling of affected body parts
- Feet, ankles and hands are commonly affected
- The affected body parts may ache
- The joints may feel stiff
- Rapid weight gain over a few days or weeks
- Unexplained weight fluctuations
- When pressed, the skin may hold the indent for a few seconds (pitting oedema)
- In other cases, the skin may not indent when pressed (non-pitting oedema).

A wide range of common causes

Some of the many common causes of fluid retention include:

- **Gravity** - standing up for long periods of time allows fluid to 'pool' in the tissues of the lower leg.
- **Hot weather** - the body tends to be less efficient at removing fluid from tissues during the summer months.
- **Burns** - including sunburn. The skin retains fluid and swells in response to burn injuries.
- **Menstrual cycle** - some women experience oedema in the two weeks prior to menstruation.
- **Pregnancy** - hormones encourage the body to hold onto excess fluid.
- **The Pill** - oral contraceptives that include oestrogen can trigger fluid retention.
- **Dietary deficiency** - such as insufficient protein or vitamin B1 (thiamine) in the diet.
- **Medications** - certain drugs, including high blood pressure medication (antihypertensives), corticosteroids and nonsteroidal anti-inflammatory drugs (NSAIDs) are known to cause fluid retention.
- **Chronic venous insufficiency** - weakened valves in the veins of the legs fail to efficiently return blood to the heart. The pooling of blood can result in varicose veins.

Medical conditions

Fluid retention may be a symptom of serious underlying conditions, including:

- **Kidney disease** - such as nephrotic syndrome and acute glomerulonephritis.
- **Heart failure** - if the heart does not pump effectively, the body compensates in various ways. It starts to retain fluid and increase the volume of blood. This results in congestion of the veins, enlargement of the liver, and the accumulation of fluid in body cavities like the abdominal cavity (ascites) and in subcutaneous tissues, causing swelling (oedema) of the legs.
- **Chronic lung diseases** - such as severe emphysema, which put excessive pressure on the heart's right ventricle, leading to its failure.

- **Liver disease** - such as severe cirrhosis that triggers liver failure.
- **Malignant lymphoedema** - cancerous tumours that block structures of the lymphatic system, such as the lymph nodes.
- **Thyroid disease** - such as hypothyroidism.
- **Arthritis** - joints affected by some types of arthritis tend to swell with fluid.
- **Allergic reaction** - in susceptible people, the body tends to swell in response to particular allergens: for example, an insect bite. In some cases, the reaction is severe (anaphylaxis) and requires urgent medical attention. This swelling is short-lived rather than ongoing.

Diagnosis methods

The underlying cause of the oedema must be found before treatment can begin. Diagnostic tests may include:

- Physical examination
- Medical history
- Detailed questioning about the fluid retention, such as when it started, any factors that worsen the swelling and whether it is constant or intermittent
- Blood tests
- Urine tests
- Liver function tests
- Kidney function tests
- Chest x-ray
- Heart function tests, such as electrocardiogram (ECG).

Treatment options

Depending on the cause, treatment may include:

- A low salt diet
- Diuretics (water pills)
- Treatment for the underlying medical condition: for example, hormone replacement (thyroxine) in the case of hypothyroidism
- Lifestyle changes in response to the underlying medical condition: for example, avoidance of alcohol if liver disease is the cause
- Changes to medication or dosage, if drugs are the cause
- Dietary adjustments, if malnutrition is the cause
- Ongoing medical supervision
- Aids such as support stockings.

Self-care options

Mild fluid retention can be helped in the following ways:

- Reduce the amount of salt in your diet; for instance, don't add salt during the cooking process and stop salting your meals at the table. Avoid foods like potato chips and salted peanuts. Be wary of processed foods such as manufactured meats, which tend to contain 'hidden' salt.
- Vitamin B6 (pyridoxine) is thought to help in cases of mild fluid retention. Good sources of vitamin B6 include brown rice and red meat.
- Vitamin B5 (pantothenic acid), calcium and vitamin D help the body to excrete excess fluids. Include fresh fruits and low fat dairy foods in your daily diet.
- Supplements may help in the case of fluid retention caused by the menstrual cycle: for example calcium, magnesium, manganese, evening primrose oil and chaste tree.
- Herbal diuretics include dandelion leaf, corn silk and horsetail.
- Make sure to discuss the use of supplements with your doctor or health care professional, particularly if you are on any type of medication.
- Drink plenty of water. It may sound contradictory, but a well-hydrated body is less likely to retain fluid.
- Cut back on dehydrating drinks such as tea, coffee and alcohol.
- Cranberry juice has a mild diuretic action.
- Lie down with your legs higher than your head, when possible.
- Exercise regularly.
- Wear support stockings.

Where to get help

- Your doctor
- Chemist

Things to remember

- The two broad categories of fluid retention include generalised oedema, when swelling occurs throughout the body, and localised oedema when particular parts of the body are affected.
- Always see your doctor, because oedema can be symptomatic of serious medical conditions such as heart, kidney or liver disease.
- Self-care options for mild fluid retention include a low salt diet, supplements and drinking plenty of water.

This page has been produced in consultation with, and approved by:

Australasian Society of Clinical Immunology and Allergy (ASCIA)

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