HEALTH BASICS

Lymph system

The lymph system is a network that manages tissue fluid, absorbs fats, and supports immune defence.

WHAT IT IS
A network of vessels, nodes, tissues, and organs

WHERE IT COMES UP
Swollen nodes, limb swelling, infections, cancer care, and imaging

WHY IT MATTERS
Returns tissue fluid, absorbs fats, and supports immune defence

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Primary care clinician or relevant specialist

HOW IT IS CHECKED
Examination, imaging, blood tests, or biopsy when needed

Overview

The lymph system, also called the lymphatic system, is part of your circulation and immune defence. It is not a disease or a diagnosis.

The system includes lymph, lymph vessels, lymph nodes, and several organs and tissues. These structures help manage fluid around your cells, absorb certain fats from food, and provide places where immune cells can respond to infection and other threats.

Lymph is a clear or pale fluid. It begins as some of the fluid that leaves small blood vessels and enters body tissues. Most of that fluid returns directly to the bloodstream. The rest enters tiny lymph vessels and is then called lymph.

Lymph nodes are small structures found along lymph vessels. Groups of nodes are concentrated in areas such as the neck, armpits, chest, abdomen, pelvis, and groin. Nodes contain immune cells that examine material carried in lymph.

Other parts of the system include:

The spleen is part of the lymph system, but it filters blood rather than lymph.

- Bone marrow , where blood cells are made

- Thymus , where certain immune cells called T cells mature
- Spleen , which filters blood and supports immune responses
- Tonsils and related tissues , which help monitor material entering through the mouth and nose
- Lymph tissue in the intestines , which helps respond to material in the digestive tract

How it works

Blood vessels deliver oxygen, nutrients, and fluid to tissues. Some fluid moves through the walls of tiny blood vessels into the spaces around cells. Lymph vessels collect fluid that does not return directly to the blood.

Tiny lymph vessels join into larger vessels. One-way valves help keep lymph moving in the right direction. Unlike the bloodstream, the lymph system does not have a central pump like the heart. Movement of nearby muscles, breathing, pressure changes, and contractions in lymph vessel walls help move lymph.

Lymph passes through lymph nodes on its way back toward the bloodstream. Inside a node, immune cells can respond to bacteria, viruses, damaged cells, or other unfamiliar material. A node may enlarge while this response is taking place.

Most lymph eventually enters large ducts near the upper chest. These ducts empty into veins, returning the collected fluid to the blood circulation.

The lymph system also helps absorb dietary fats. Tiny lymph vessels called lacteals are found in the lining of the small intestine. They take up fats and fat-soluble vitamins after digestion. This fat-rich lymph is sometimes called chyle.

You may hear claims that the lymph system needs to be "flushed" or "detoxed." The system normally moves and processes fluid without a special cleanse. Lymph nodes do not act as general-purpose filters for vaguely defined toxins.

Why it matters for your health

Returning tissue fluid to the bloodstream helps limit fluid build-up. If lymph vessels or nodes are damaged, blocked, or did not develop normally, fluid can collect in nearby tissues. This is called lymphoedema , or lymphedema.

The lymph system also connects circulation with immune defence. Enlarged nodes often reflect immune activity near the affected area. For example, neck nodes may enlarge during a

throat infection. Node size alone does not show what caused the change.

Because lymph vessels connect different parts of the body, some cancer cells can enter them and reach nearby lymph nodes. Clinicians may examine, scan, sample, or remove selected nodes to help find out whether a cancer has spread. An affected node does not by itself show that cancer has spread everywhere.

Treatment involving lymph nodes can affect future fluid drainage. Surgery or radiotherapy near lymph nodes may increase the chance of lymphoedema in the connected limb or body area. Your care team can explain whether this is relevant after a particular treatment.

What can go wrong

Several conditions and situations can involve the lymph system:

Swollen lymph nodes are commonly linked to an immune response, but their cause cannot be confirmed from touch alone. Arrange routine medical follow-up for a node that persists, grows, feels hard or fixed, or has no clear explanation. Follow-up is also appropriate for repeated swelling or swelling accompanied by ongoing fever, drenching night sweats, or unexplained weight loss.

New one-sided arm or leg swelling needs timely assessment, particularly if it is painful, red, or warm. Possible causes include lymphoedema, infection, inflammation, or a blood clot.

Seek urgent care for rapidly spreading redness, red streaks, fever with a swollen limb, or quickly increasing swelling. Seek emergency help for trouble breathing or swallowing, severe breathing difficulty, or rapidly increasing swelling around the neck or face.

- Lymphadenopathy means enlarged lymph nodes. Causes include infections, immune conditions, medicine reactions, and some cancers.
- Lymphadenitis is inflammation of a lymph node, often related to infection. A node may be tender, and nearby skin may become red or warm.
- Lymphangitis is inflammation or infection affecting lymph vessels. It can cause painful red streaks, fever, or rapidly spreading redness and needs prompt medical assessment.
- Lymphoedema is swelling caused by reduced lymph drainage. It may arise from a developmental difference or after damage from surgery, radiotherapy, infection, injury, or another condition.
- Lymphoma is cancer that begins in lymphocytes, a type of white blood cell. It is a disease of immune cells, not another name for the lymph system.

What you can do

There is no routine home test or screening test for the whole lymph system. If you have no concerning change and no known risk from treatment, there may be nothing specific you need to do.

If you notice a swollen node, record where it is, when you first noticed it, whether it is changing, and whether you recently had an infection, skin injury, vaccination, or dental problem. Do not repeatedly squeeze or press it, because this can make the area sore.

Ask a clinician about persistent or unexplained nodes. Depending on the situation, assessment may include an examination, blood tests, ultrasound, CT or MRI imaging, or a biopsy. A biopsy removes cells or tissue for laboratory examination. Not everyone needs these tests.

If you have lasting limb or body-area swelling, ask whether lymphoedema could be involved and whether you need referral to a lymphoedema service. Assessment often includes measurements of the affected area and checks for other causes of swelling. Special imaging, such as lymphoscintigraphy, is used only in selected cases.

After lymph node surgery or radiotherapy, keep a record of the areas treated. Ask your care team which changes to report and whether you need guidance on skin care, activity, compression garments, or specialist therapy. Compression should be properly assessed and fitted rather than started as a treatment for unexplained swelling.

Common questions

Are lymph nodes the same as glands?

People often call them "lymph glands," but lymph nodes do not make hormones or other secretions in the way true glands do. They are immune structures positioned along lymph vessels.

Does a swollen lymph node mean cancer?

No. Nodes can enlarge for many reasons, including nearby infections and immune reactions. A clinician considers the node's location, duration, texture, associated changes, and your health history before deciding whether testing is needed.

Can I feel normal lymph nodes?

Some small nodes can sometimes be felt, especially in the neck or groin. What matters is the full context, including whether a node is new, changing, painful, persistent, hard, or fixed in place.

Does exercise move lymph?

Muscle movement and breathing help lymph travel through its vessels. Normal physical activity supports this movement, but exercise is not a treatment for every cause of swelling. If you have lymphoedema or swelling without a known cause, ask what activity is appropriate.

Do lymphatic massage or detox products clean the system?

There is no established need for a general lymph detox. Manual lymph drainage is a specific technique sometimes included in specialist lymphoedema care. It is not the same as a spa detox massage and should not replace assessment of new swelling.

Sources

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- National Cancer Institute: Lymphedema and cancer treatment
- MedlinePlus Medical Encyclopedia: Swollen lymph nodes
- NHS: Swollen glands
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- NCBI Bookshelf, StatPearls: Anatomy, Lymphatic System