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Wolters Kluwer

Patient education: Lymphedema after cancer surgery (Beyond the Basics)

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LYMPHEDEMA OVERVIEW

Lymphedema is swelling caused by a buildup of fluid and fat that happens most commonly in the arms, legs, or face in people who have been treated for cancer. Lymphedema is one of the most troubling complications that can develop after cancer surgery. Many people find that lymphedema worsens the physical and emotional strain of living with (or following treatment for) cancer.

The risk of developing lymphedema depends upon the type of surgery performed, individual factors such as obesity or weight gain after surgery, treatment factors such as radiation or some types of chemotherapy, and complications after surgery, including infections or fluid collections (called "seromas").

More detailed information about lymphedema, written for health care providers, is available by subscription. (See '[Professional level information](#)' below.)

WHAT IS LYMPH?

Lymph is a clear fluid that contains mostly protein and white blood cells (the blood cells that fight infection). Lymphatic vessels drain lymph fluid from the body's tissues and organs. The

fluid is filtered through lymph nodes (also called glands) and eventually drains into the bloodstream ([figure 1](#) and [figure 2](#)).

WHO GETS LYMPHEDEMA?

Generally speaking, people who undergo more extensive surgery that includes removal of lymph nodes or who have radiation therapy to the area where lymph nodes are located are more likely to develop lymphedema. However, even the removal of a single lymph node (eg, "sentinel lymph node" biopsy) comes with a risk. Also, some people can develop lymphedema even when lymph nodes are not removed if the lymphatic system in the skin is injured from extensive surgery or from radiation treatments. People who do develop lymphedema do so within two to three years after their surgery, but it is important to note that the risk remains over a person's lifetime and increases with trauma or injury to a limb.

LYMPHEDEMA SYMPTOMS

The most noticeable symptom of lymphedema is swelling. Early symptoms of lymphedema may include any or all of the following in the treated limb or tissues:

- A heavy sensation or an aching discomfort
- Fatigue with use
- Numbness or tingling

In some cases, these symptoms develop before swelling is noticeable. Let your doctor or nurse know as soon as possible if you have any of these symptoms; recognizing and treating lymphedema in the early stages can help prevent worsening of these symptoms over time and may help reduce its severity.

Impact of lymphedema — While lymphedema is usually not a life-threatening condition, it can have a major impact on your quality of life. A change in how your limb looks can be distressing as well as painful.

- After breast cancer surgery, having a swollen or misshapen arm may increase the worry about how it looks.
- If lymphedema affects the ability to use your arm or leg, this can affect your quality of life, particularly if it is your dominant arm (eg, right arm if you are right-handed).

- Lymphedema can reduce tissue healing and occasionally causes chronic pain. For these reasons, early recognition and treatment of lymphedema are recommended.
- The limb with lymphedema can develop cellulitis, a skin infection that requires antibiotics and possible hospitalization.

If you develop lymphedema many years after surgery or have worsening lymphedema, contact your doctor or nurse immediately.

Monitoring for lymphedema — If you have not yet developed lymphedema, monitor your limb by taking arm or leg measurements as instructed by your doctor. Although there are no measures that will prevent lymphedema with certainty, there are some things you can do to that can help reduce severity if it develops. (See '[General measures](#)' below.)

TREATMENT OF ESTABLISHED LYMPHEDEMA

If you notice symptoms of lymphedema, contact your doctor or nurse. Other causes of limb swelling, such as deep vein thrombosis or cancer recurrence, need to be excluded before lymphedema therapy can begin. There is no cure for lymphedema once it is established. The main goals of treatment are relieve symptoms and control swelling. A therapy program that combines massage, skin care, exercise, and compression garments (compression bandages or a lymphedema sleeve or stocking) is recommended. Rarely, devices that automatically compress the affected limb may be used.

Treatment should begin as soon as possible. A health care provider or program with expertise in treating lymphedema can be especially helpful.

General measures — To avoid trauma and/or injury to the affected limb:

- Keep your skin clean. Wash with a mild soap every day.
- Be careful with your nails. Don't pick at the skin around your nails or cut your cuticles.
- Use lotion to keep your skin from getting dry and cracked.
- Use an electric razor instead of a razor blade to shave.
- Always use sunscreen when you go outside.
- If an arm is affected, wear gloves when gardening, cooking, or doing other things that could hurt your skin.
- If a leg is affected, wear hard-soled shoes when outside.
- If you do get a small cut, scrape, or bite on your arm, hand, leg, or foot, clean it well with soap and water and apply an antibiotic cream. Contact your doctor or nurse as soon as

possible if it does not heal quickly or if you have signs of an infection.

In addition to these measures, there are things you can do to help keep lymphedema from getting worse over time. Below are the most important things you can do.

- To limit swelling:
 - Do not wear clothing that restricts flow to and from the limb, and avoid activities that could interfere with lymph flow (eg, using a pelvic harness for rock climbing could constrict flow from the lower limb).
 - Wear compression garments (special sleeves or stockings) to limit swelling. Garments that are made to measure and prescribed by your doctor or physical therapist are most effective.
 - Keep your weight under control – Excessive weight gain or being overweight can worsen lymphedema and may limit the effectiveness of compression garments.
 - Visit a lymphedema therapist – Some physical therapists are trained in a special kind of massage that can help with lymphatic drainage.
- Try to do some aerobic exercise and lift some weights – These activities have been shown to reduce the severity of lymphedema, improve overall fitness, and help with weight control. Even gentle forms of physical activity, such as walking, have health benefits.
- If one of your arms is affected, avoid medical procedures that puncture the skin, if at all possible, in that arm. In addition, avoid continuous blood pressure monitoring on the affected arm. Blood pressure can be taken in the opposite arm or, if both arms are affected, in one of your legs.
- Contact your doctor or nurse if the affected arm or leg develops a rash; becomes red, blistered, painful, or warm to the touch; or if you get a fever (temperature greater than 100.4°F or 38°C). These symptoms could signal a possible infection that could cause the beginning or worsening of lymphedema.

Surgical treatment — There are several surgical procedures that can treat lymphedema in certain situations:

- Lymphedema surgery – In some cases, a surgical procedure can help improve lymphatic drainage or remove excess fatty tissue. Options may include:

- Lymph node transplantation – This is an operation in which healthy lymph nodes are removed from one area of the body and transplanted to the limb with lymphedema. These lymph nodes can reestablish the lymphatic circulation of the limb and improve symptoms.
- Lymphovenous bypass – This is another type of surgery in which lymphatic vessels are connected to small adjacent veins, bypassing the area where the lymphatic vessels were damaged. Lymphovenous bypass can also be performed at the time of lymph node dissection (ie, prophylactically) to prevent lymphedema.

These two types of procedures are most useful in people with early-stage lymphedema and require consultation with a qualified and experienced lymphatic surgeon.

- Liposuction – This is a procedure in which excess fatty tissue is removed from the limb with lymphedema using a cannula (a thin tube). This procedure is most useful for people with advanced disease in whom large amounts of excess fat have been deposited in the limb.

Your doctor or nurse can talk to you about what your treatment options might be based on your individual situation.

WHERE TO GET MORE INFORMATION

Your health care provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our website (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for health care professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient education: Peripheral lymphedema after cancer treatment \(The Basics\)](#)

[Patient education: Seroma \(The Basics\)](#)

Beyond the basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

Patient education: [Breast cancer guide to diagnosis and treatment \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Clinical features and diagnosis of peripheral lymphedema](#)

[Clinical staging and conservative management of peripheral lymphedema](#)

[Surgical treatment of primary and secondary lymphedema](#)

The following organizations also provide reliable health information.

- National Lymphedema Network

(<https://lymphnet.org/>)

- National Cancer Institute

1-800-4-CANCER

(www.cancer.gov/)

- Cancer.Net: The official patient information website of the American Society of Clinical Oncology

(<https://www.cancer.net/>)

- American Cancer Society

1-800-ACS-2345

(www.cancer.org)

- National Library of Medicine

(<https://medlineplus.gov/healthtopics.html>)

[1-6]

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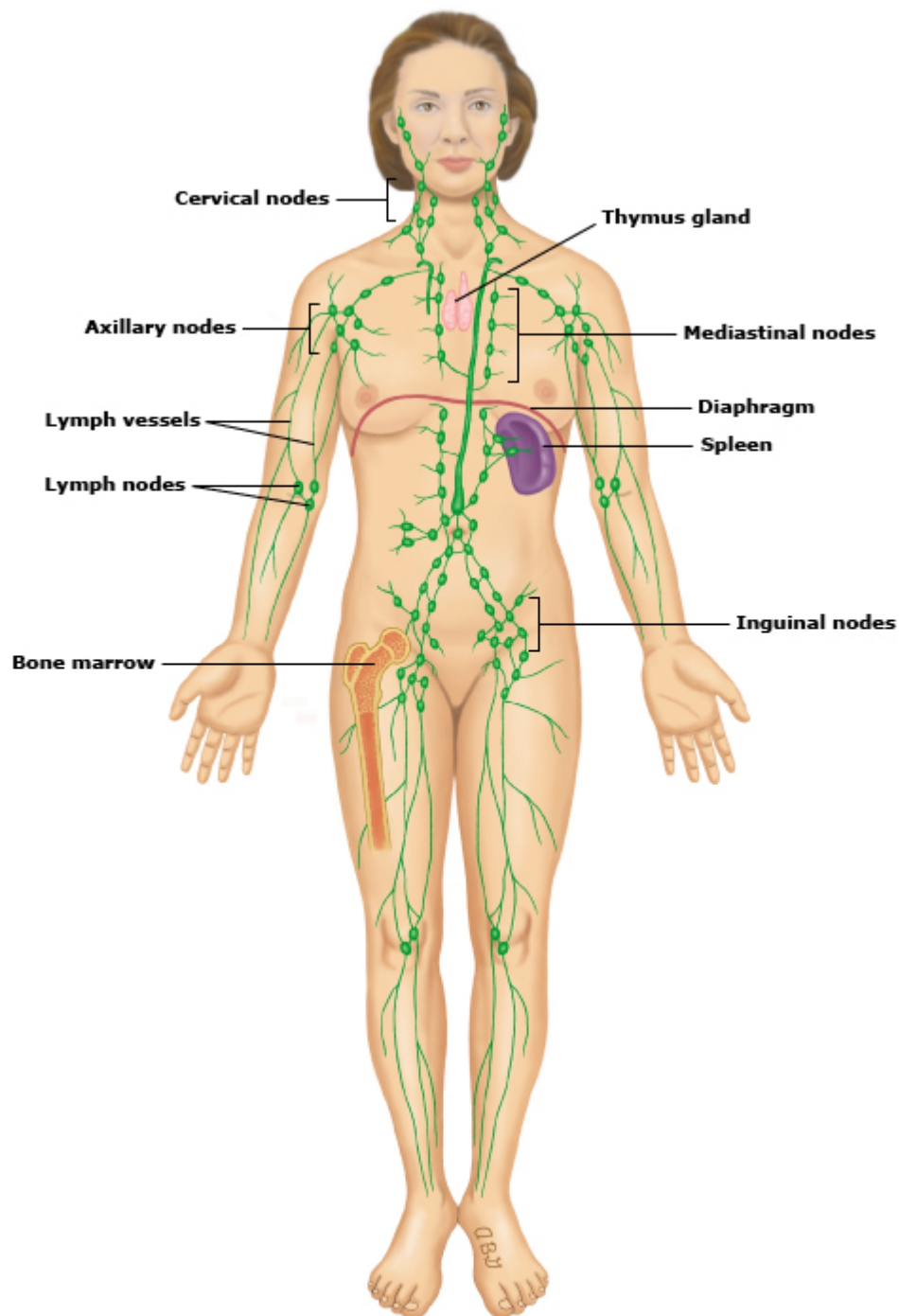
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GRAPHICS

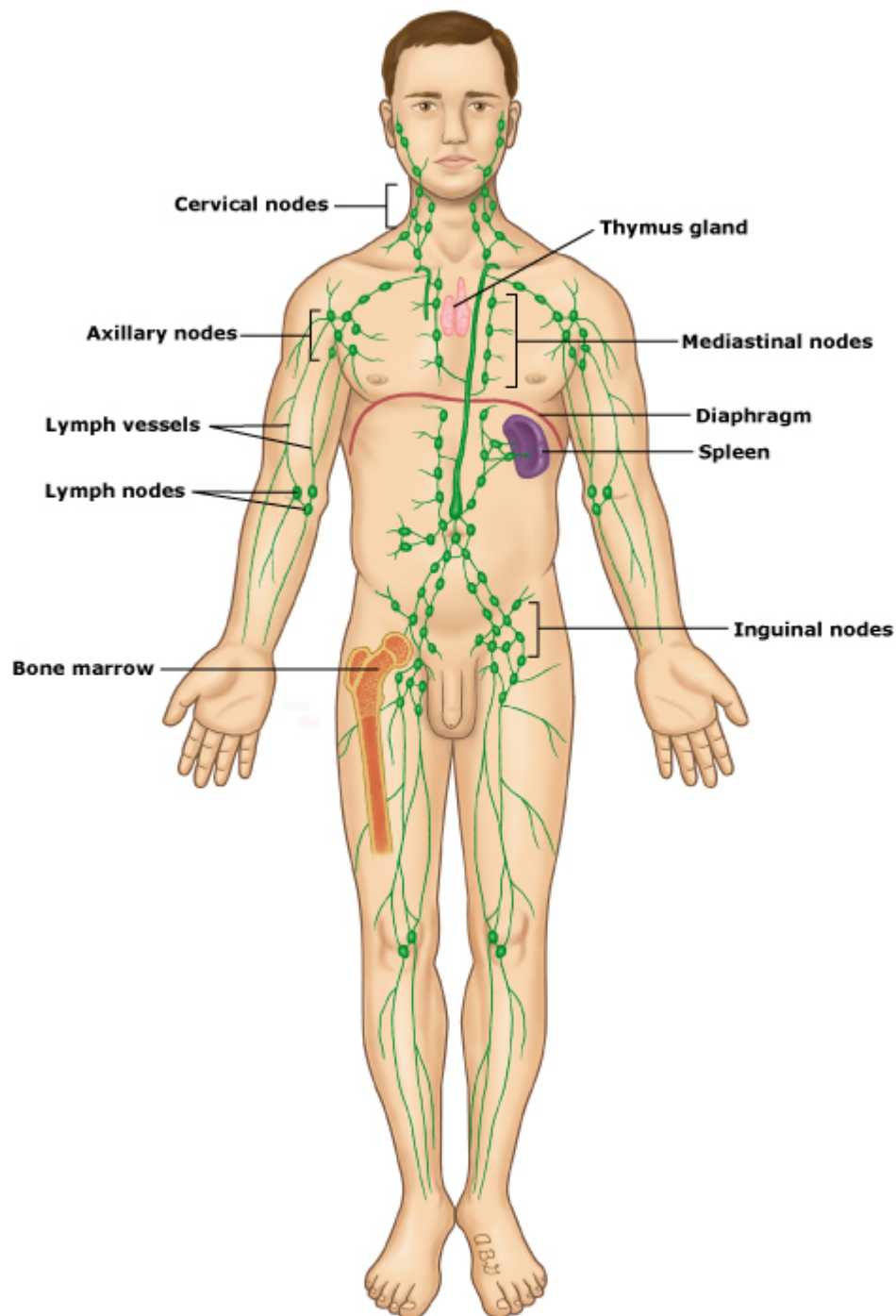
Lymphatic system in females



This figure shows the organs of the lymphatic system, which include the bone marrow, thymus, spleen, and lymph nodes. These organs are connected by lymph vessels.

Graphic 86801 Version 3.0

Lymphatic system



This figure shows the organs of the lymphatic system, which include the bone marrow, thymus, spleen, and lymph nodes. These organs are connected by lymph vessels.

Graphic 63854 Version 4.0

Contributor Disclosures

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