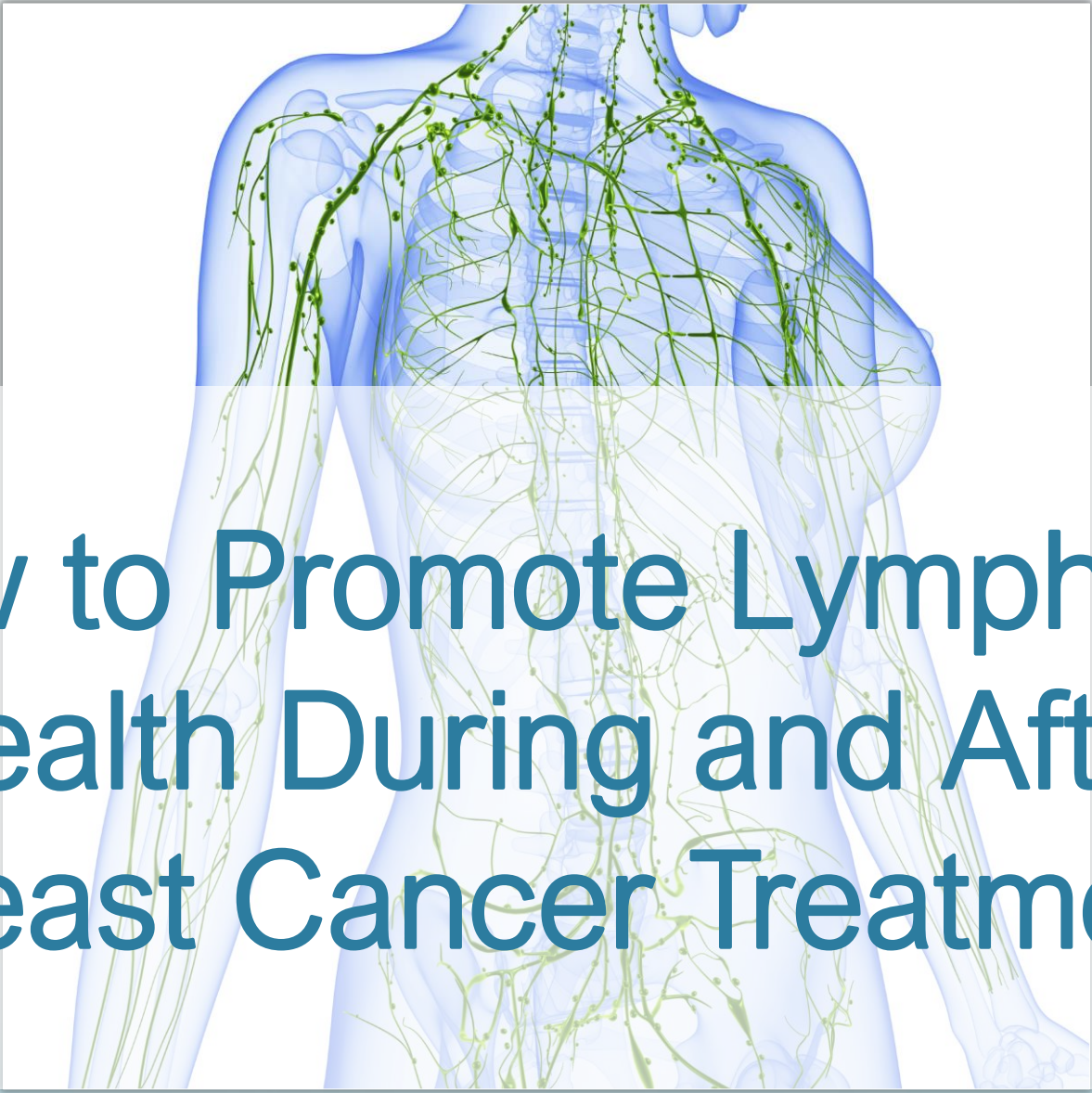




How to Promote Lymphatic Health During and After Breast Cancer Treatment





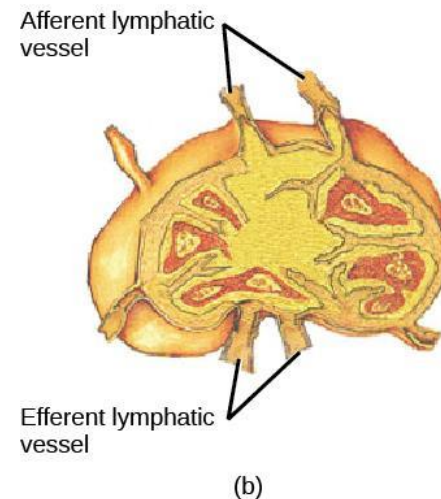
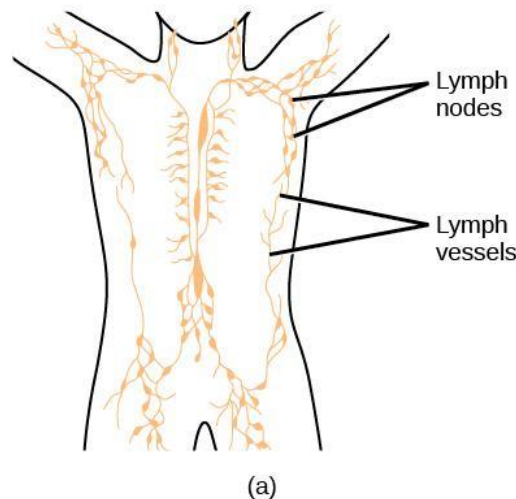
Dr. Angela Wicker-Ramos PT, DPT, CLT- LANA

Angela is the owner, certified lymphedema therapist, oncology physical therapist at Cancer Rehab and Integrative Medicine and co-founder of the Moving Beyond Cancer Collaborative in Austin, TX. She has been treating lymphatic disorders and oncology clients for over a decade.

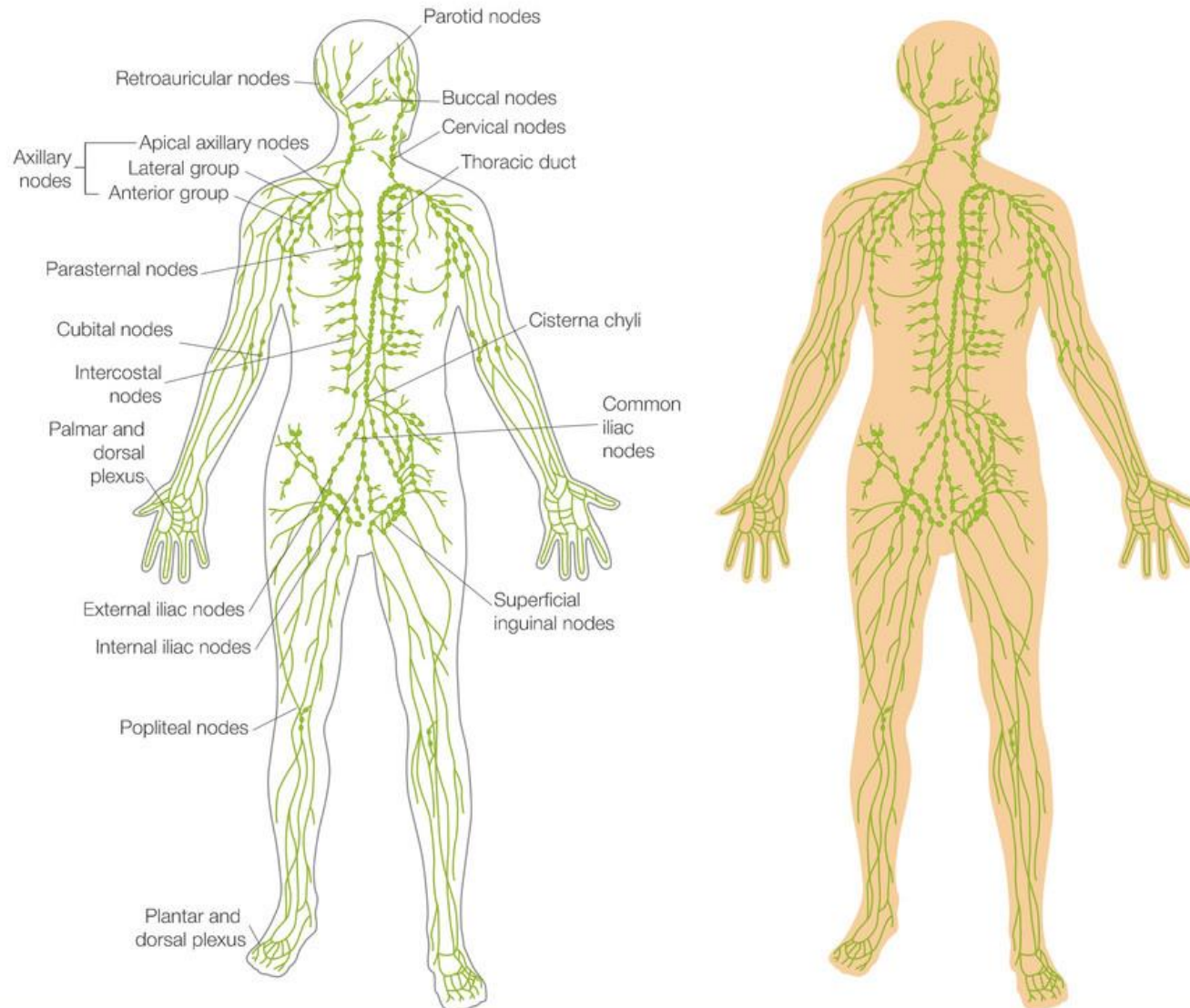
Angela has lymphedema certifications from both the Academy of Lymphatic Studies (ACOLS) and the Lymphology Association of North America (LANA). Angela participated in the Survivorship Training and Rehabilitation (STAR) program from 2012–2015 and is Oncology Rehab Certified through the Physiological Oncology Rehabilitation Institute (PORi).

What is the lymphatic system's job?

- Removes waste.
- Kills pathogens and fights infections.
- Delivers nutrients to your cells.
- Maintains fluid balance in your body.



LYMPHATIC SYSTEM



Regional lymph nodes

- **Cervical Lymph Nodes (~ 300)**

- Located throughout the head and neck

Drains fluid from the head and neck

- **Inguinal Lymph Nodes (~ 12)**

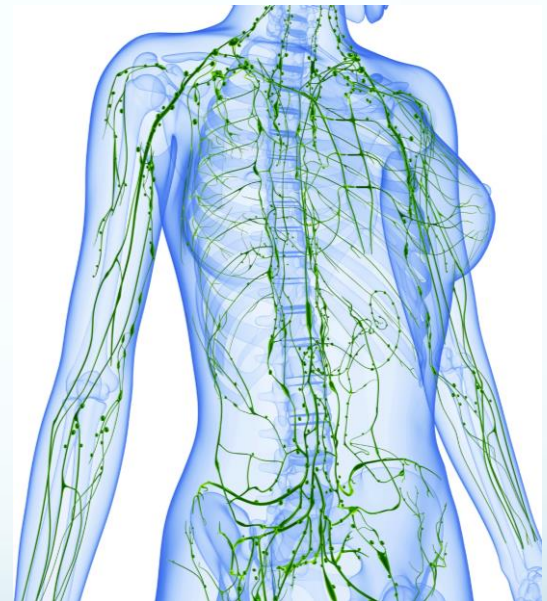
- Located in the panty line region

Drains fluid from the legs, external genitalia and lower quadrants

- **Axillary Lymph Nodes (~ 30)**

- Located around the armpit region

Drains fluid from the upper quadrants and upper extremities



Lymphatic System Structures

- **Lymph Nodes**
 - Filter toxins
- **Lymphatic Vessels**
 - Straw like vessels that move lymphatic fluid
- **Thoracic Duct**
 - Returns clean lymph to blood supply



Cross section of skin

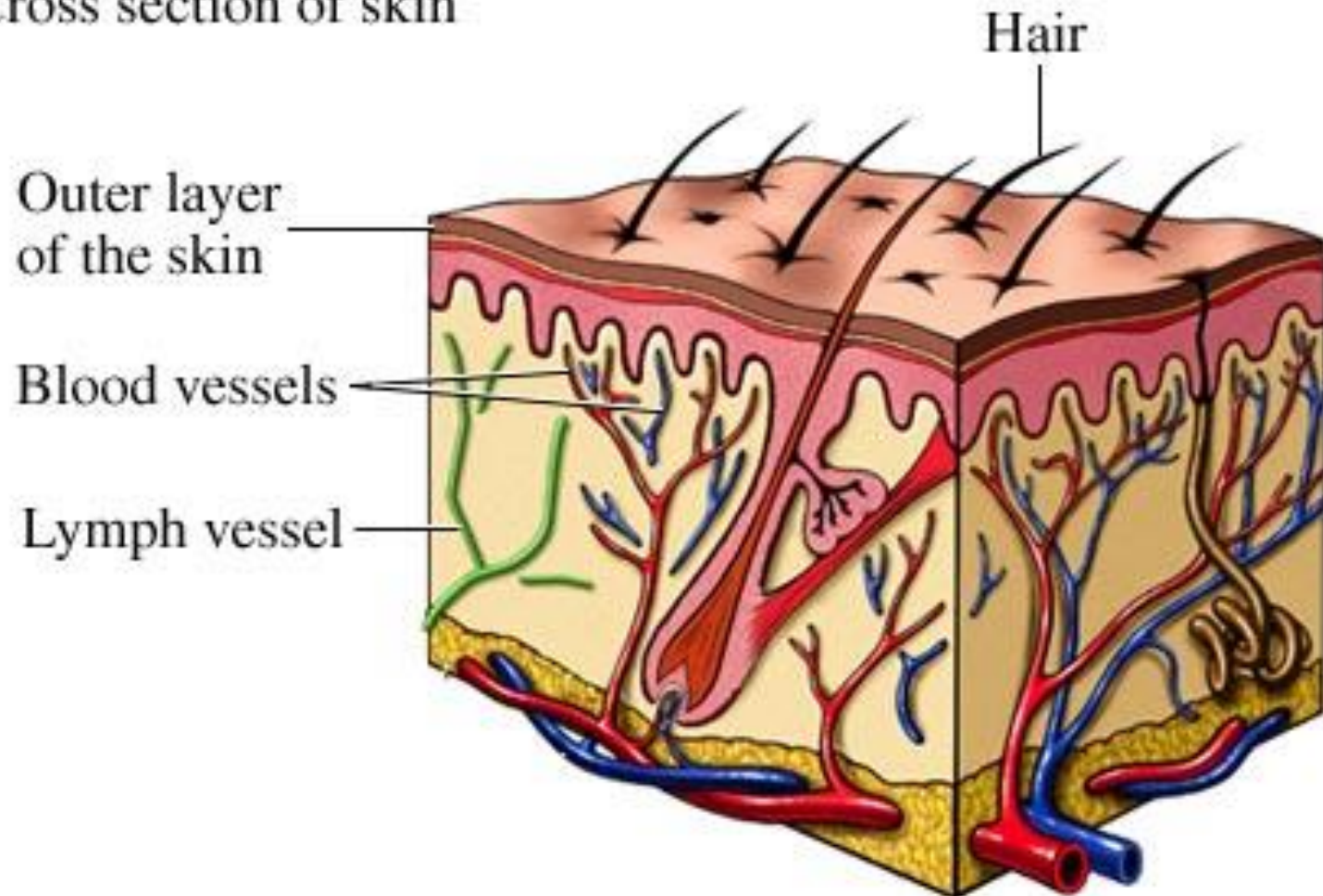
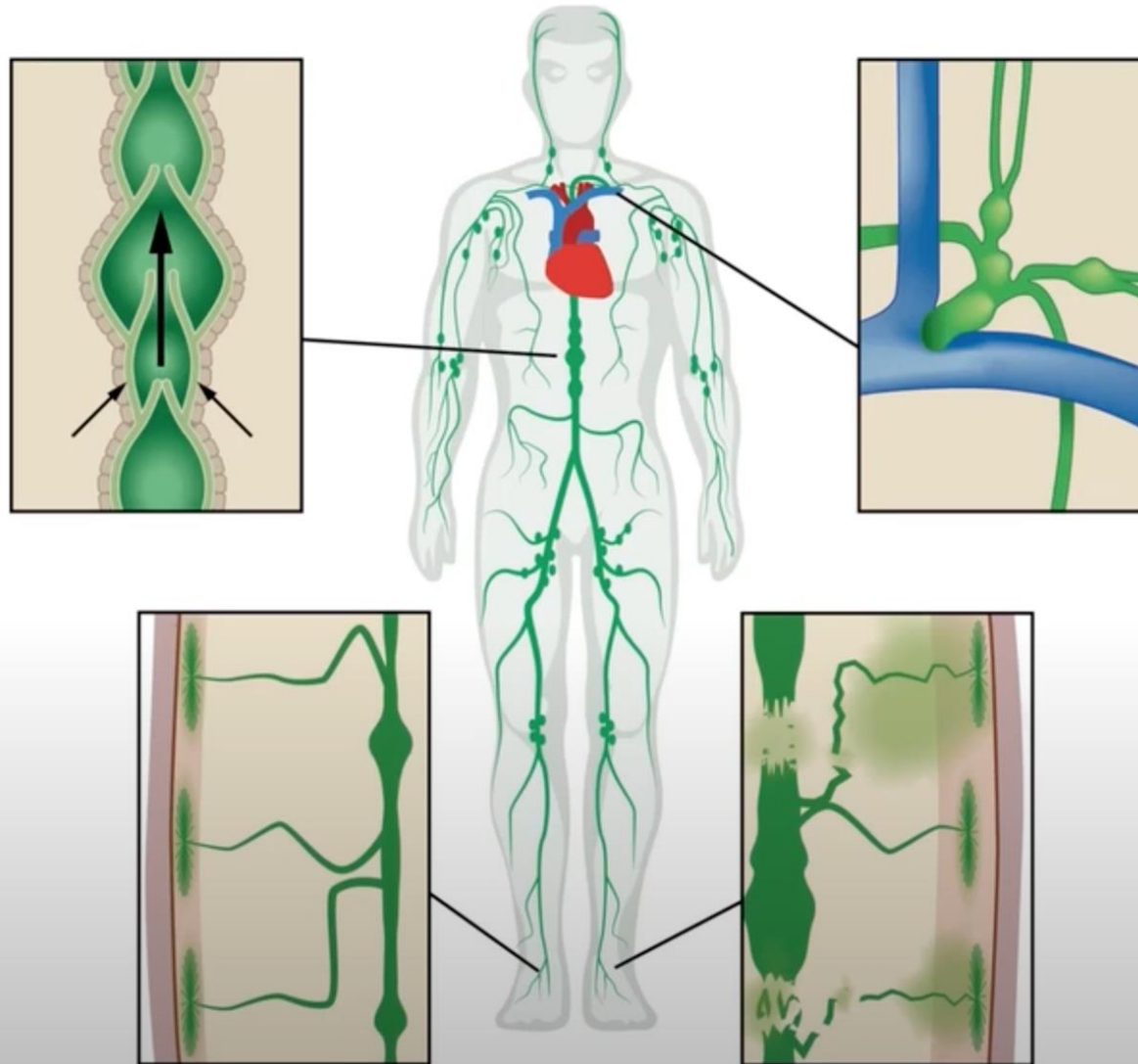


Image from <http://www.lymphedemablog.com/>

The unidirectional lymphatic vasculature



From O'Donnell, Rasmussen, Sevvick-Muraca, J. Vasc. Surg., 2017

MUSCLE PUMP EFFECT

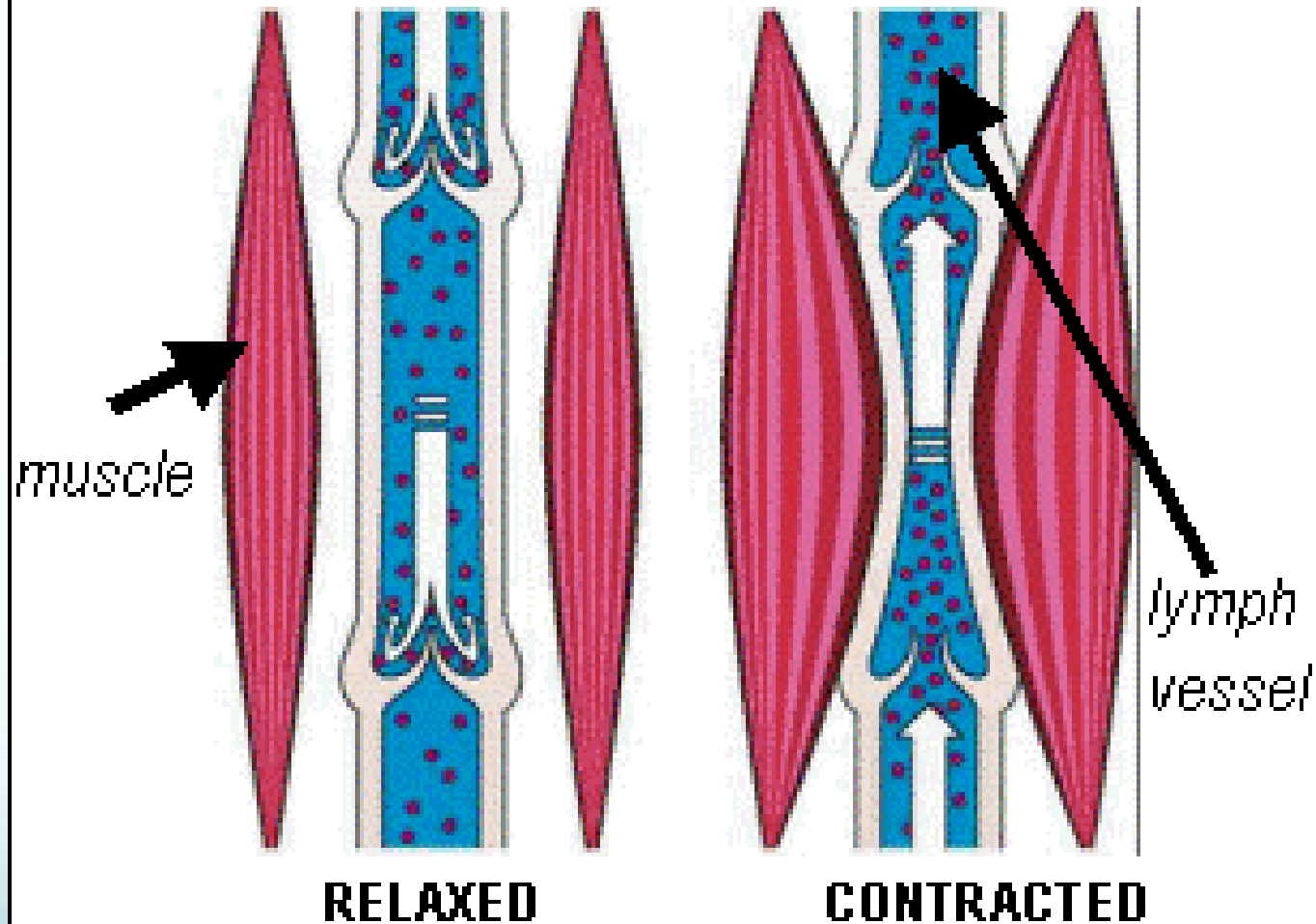
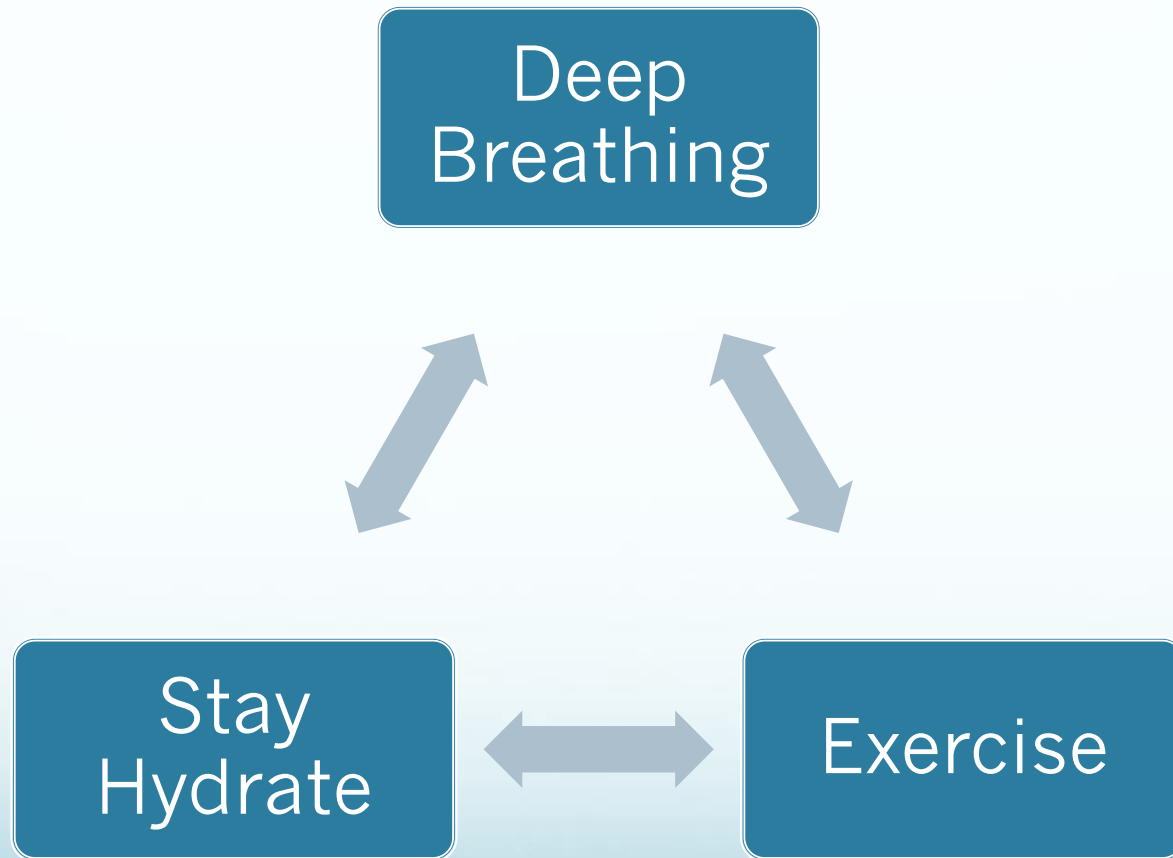


Image from <https://www.lymphoedemasupport.com/>

3 Easy Ways to Promote Lymphatic Health



Basic Diaphragmatic Breathing



This can be performed seated or standing.

- Place one hand on your chest and another on your stomach.
- Breathe in through your nose making your stomach rise.
- Slowly breathe out through your mouth scooping your belly button in towards your spine.
- Your hand on your chest should have little to no movement. The movement should be mainly in the belly.
- Perform 5-10 repetitions multiple times per day.



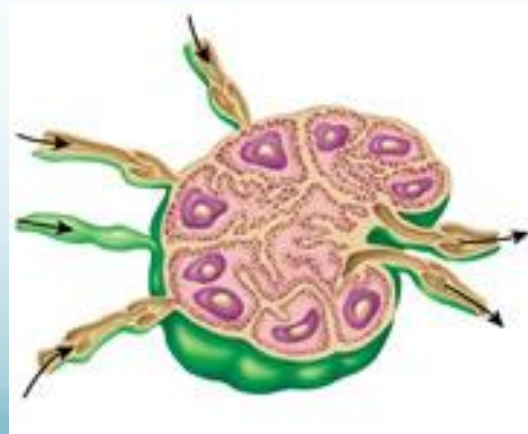
Know the signs of Lymphedema

An injured lymphatic system



Lymphatic system can be compromised by

- Removal of lymph nodes
 - Lymph Node Dissection
- Damage to lymphatic vessels
 - Can occur from radiation or surgery



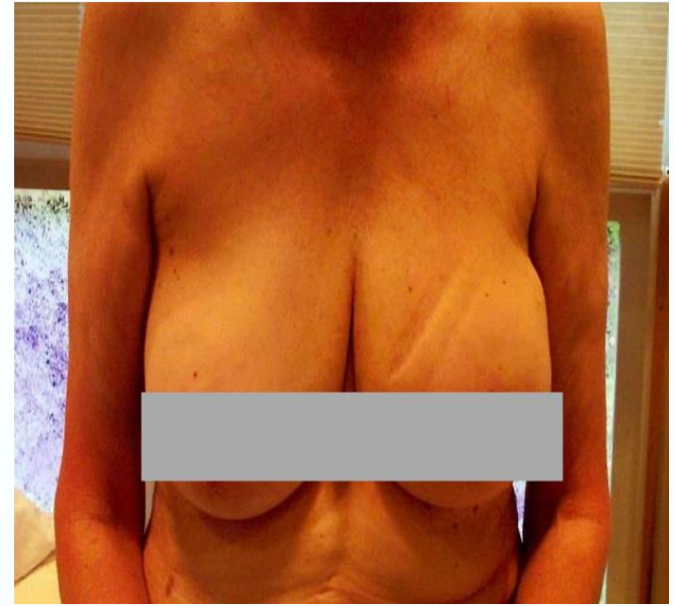
SIGNS OF LYMPHEDEMA

- Swelling
- A feeling of heaviness or tightness
- Aching or discomfort

Swelling after surgery or radiation is normal.
However it should:

- Last no greater than 3-6 months after treatment.
- Gradually decrease.
- Once gone it should not return.





Images from medicinenet.com,
stepup-speakout.org, and CRIM

The most common cause of lymphedema in the U.S.A. is cancer treatment.

- Greatest risk of getting lymphedema is in the first 5 years after cancer treatment.
- However the risk is a lifelong.

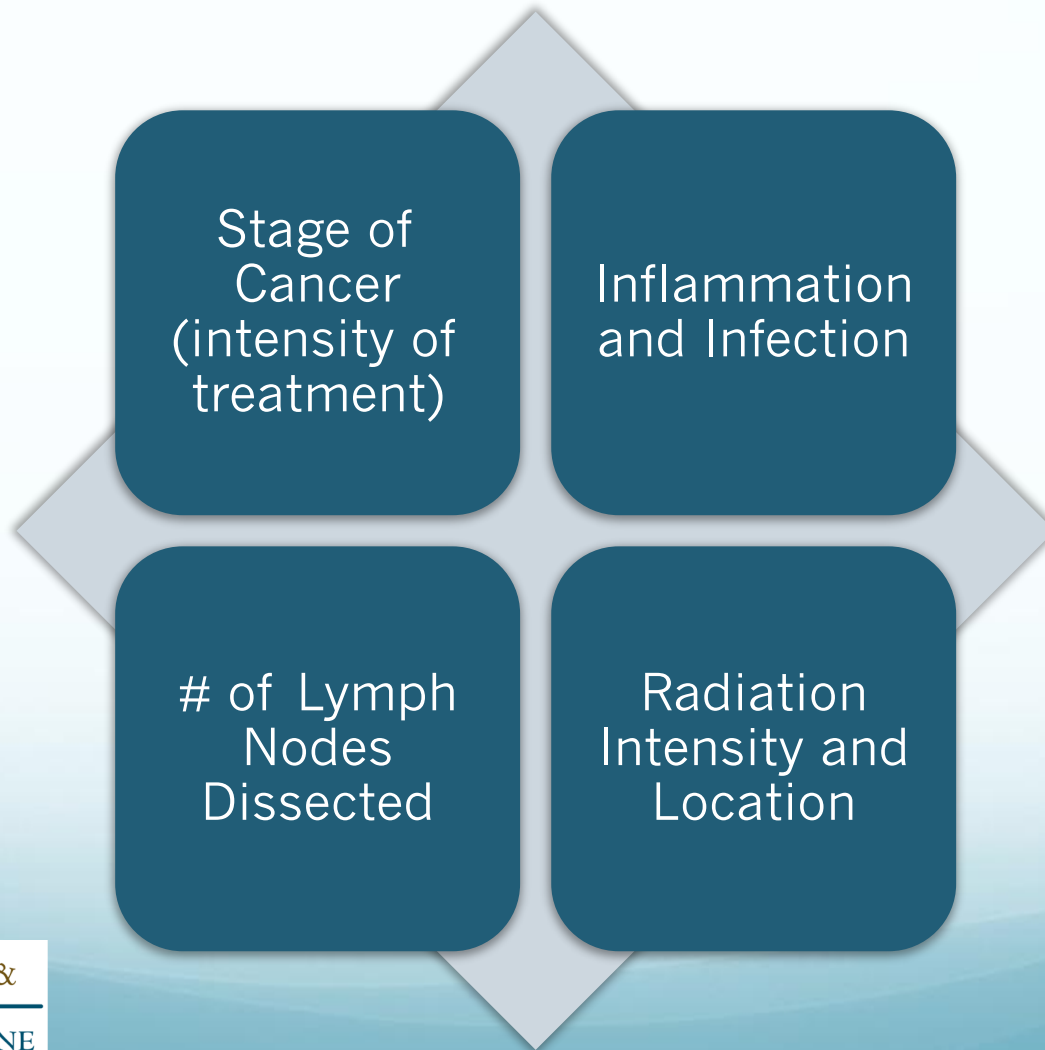


Prognosis

- Currently there is no cure for lymphedema
- It is a progressive condition if not treated and well managed.
- The earlier treatment is initiated the better the prognosis.
- **Lymphedema can be well managed with treatment!!!**



Factors that increase the risk of lymphedema:



How Can I Reduce My Risk of Lymphedema?

- Maintain a healthy body weight
- Regular Exercise
- Use your at risk arm normally (after recovered from surgery)
- Reduce your risk for infection

Obesity Increases Risk of Lymphedema

Maintain a healthy body weight through exercise and diet.

- Obesity increases your risk for developing lymphedema (BMI >25-30)



Lymphatic System and Obesity

- Fat cells produce hormones (adipokines) that damage lymph vessels and lymphatic leakage. (Rutowsky, 2009)
- Adipokines impair the ability for lymphatic vessels to contract. (Blum, 2014)
- When lymph fluid is static it also stimulates more fat cell growth (adipogenesis). (Zambel, 2012)



Reduce Your Risk of Infection

- Moisturize your skin daily to avoid cracks in the skin
- Use sunscreen and insect repellent
- Use gloves when cooking and gardening
- Keep any cuts or injury the skin clean, use antiseptic cream and watch for signs of infection.
- Signs of Infection (get treated immediately)
 - Redness
 - Heat
 - Swelling
 - Pain or tenderness
 - Flu like symptoms

HOW DO I FIND A CERTIFIED LYMPHEDEMA THERAPIST?

- In order to treat lymphedema a practitioner must be certified.
- The credential **CLT** behind their name means **Certified Lymphedema Therapist**

Search for certified therapists at:

- www.clt-lana.org
- www.lymphnet.org
- www.acols.com
- www.klosetraining.com



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