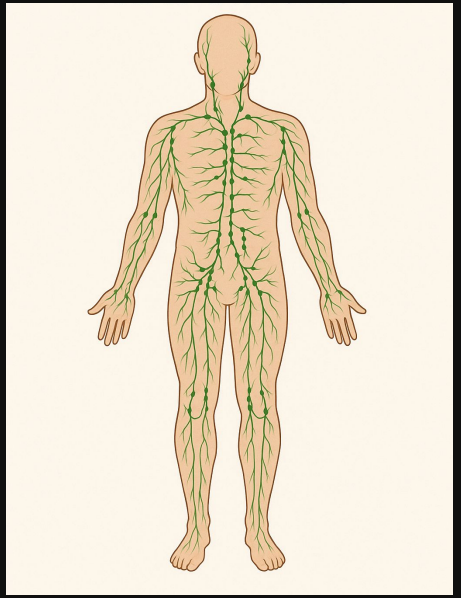
Lymphatic Drainage

What is the Lymphatic System?

Network of vessels and lymph nodes

Supports immune function

Removes waste, toxins and excess fluid



What is Lymphatic Drainage?

- Gentle massage technique
- Stimulates flow of lymph
- Helps reduce swelling, detoxify, and support immune health


Reduces stress and fatigue
Improves cellulite and stretch marks
Speeds up healing from cold and flu
Aids digestion and scar tissue healing
Reduces skin swelling and acne
Benefits of
Lymphatic Drainage Massage
Helps fight off infection
Reduces water retention
Helps with post-exercise recovery
Boosts weight loss
Improves cellulite and stretch marks

Lymphatic System: Structure and Function

Second circulatory system: Runs parallel to the blood circulatory system

Components:

- **Lymph**
- **Lymphatic vessels**
- **Lymph nodes**
- **Organs**

Primary functions:

- **Fluid balance**
- **Immune defense**
- **Waste removal**
- **Fat absorption**

Lymphatic System: Structure and Function

- The lymphatic system is sometimes called the “garbage disposal” of the body.
- It plays a role in preventing infections, managing inflammation, and ensuring tissue fluid levels stay balanced.
- Unlike blood, lymph does not have a central pump like the heart. It relies on muscle contraction, breathing, and manual techniques to move.
- Lymph nodes act like security checkpoints, trapping pathogens and presenting them to immune cells for destruction.

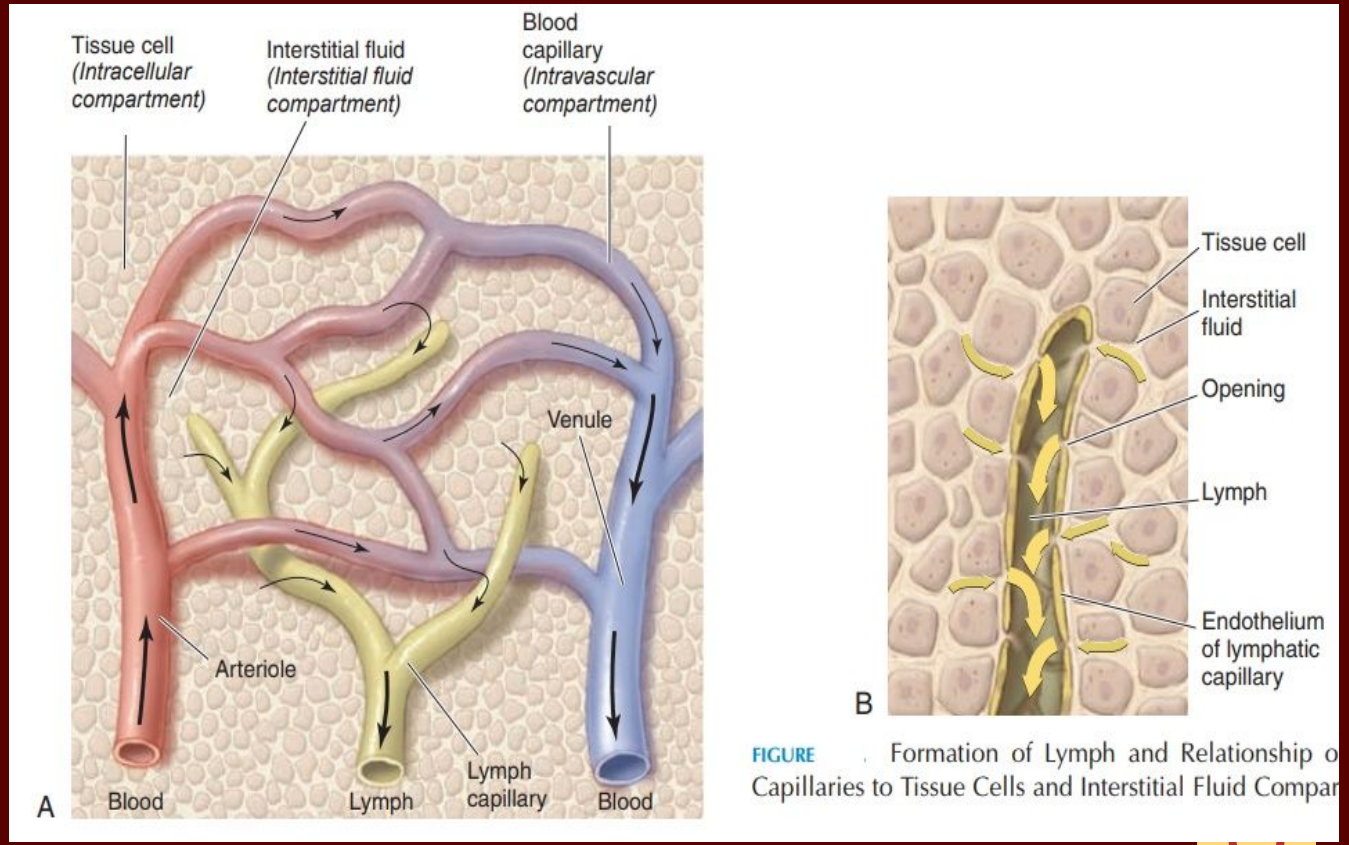
Structure

The lymphatic system is a network of tissues, vessels, and organs that works alongside the cardiovascular system to:

1. Drain interstitial fluid (fluid between cells)
2. Filter and destroy pathogens
3. Support immune function
4. Absorb and transport fats

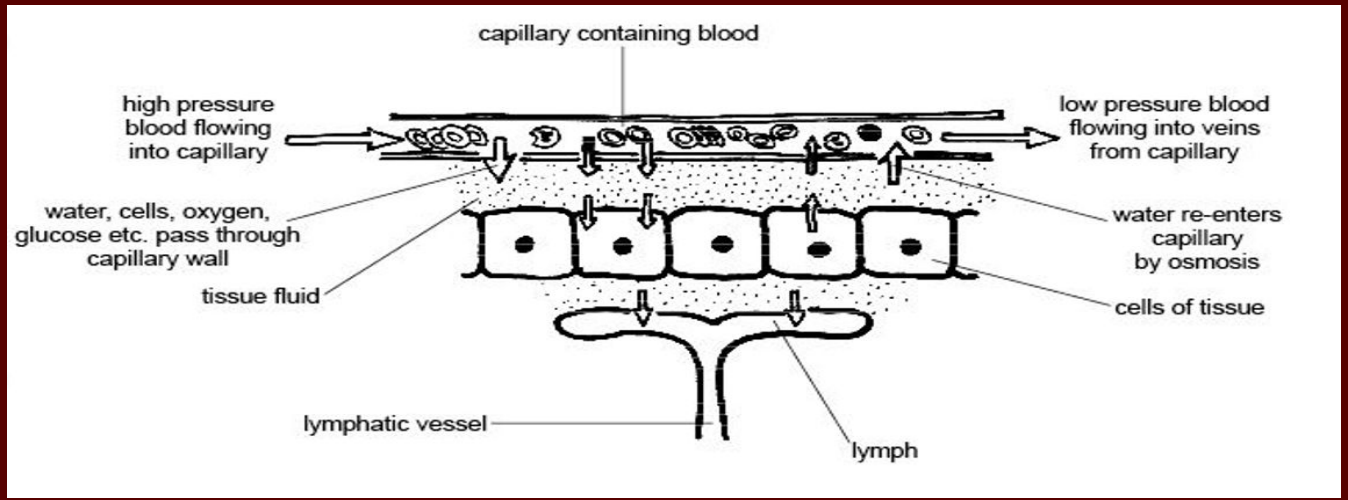
1. Lymph Fluid (Lymph)

- Clear, colorless fluid originating from blood plasma that leaks into tissues.
- Contains **white blood cells**, especially **lymphocytes** (T cells and B cells), **proteins**, **fats**, **toxins**, and **cellular debris**.



2. Lymphatic Vessels

- Thin-walled vessels that run throughout the body, **parallel to blood vessels**.
- Begin as **capillaries** in tissue spaces → merge into **larger vessels** → drain into the **thoracic duct** or **right lymphatic duct**, which empty into the **subclavian veins** near the collarbones.
- These vessels have **one-way valves** that prevent backflow, similar to veins.



3. Lymph Nodes

- Small, bean-shaped structures located along lymphatic vessels.
- Act as **filtration hubs**: they trap bacteria, viruses, and debris.
- Contain immune cells (T cells, B cells, macrophages) that destroy invaders.
- Swell during infection or inflammation due to increased immune activity.

4. Lymphoid Organs

- **Spleen:** Filters blood, recycles red blood cells, and stores immune cells. Located in the upper left abdomen.
- **Thymus:** Site of T cell maturation. Located behind the sternum.
- **Tonsils & Adenoids:** First line of immune defense in the throat/nasal area.
- **Bone Marrow:** Produces lymphocytes and other blood cells.
- **Peyer's Patches:** Small lymphatic tissue in the small intestine (gut immunity).

Major Lymph Nodes and Regions

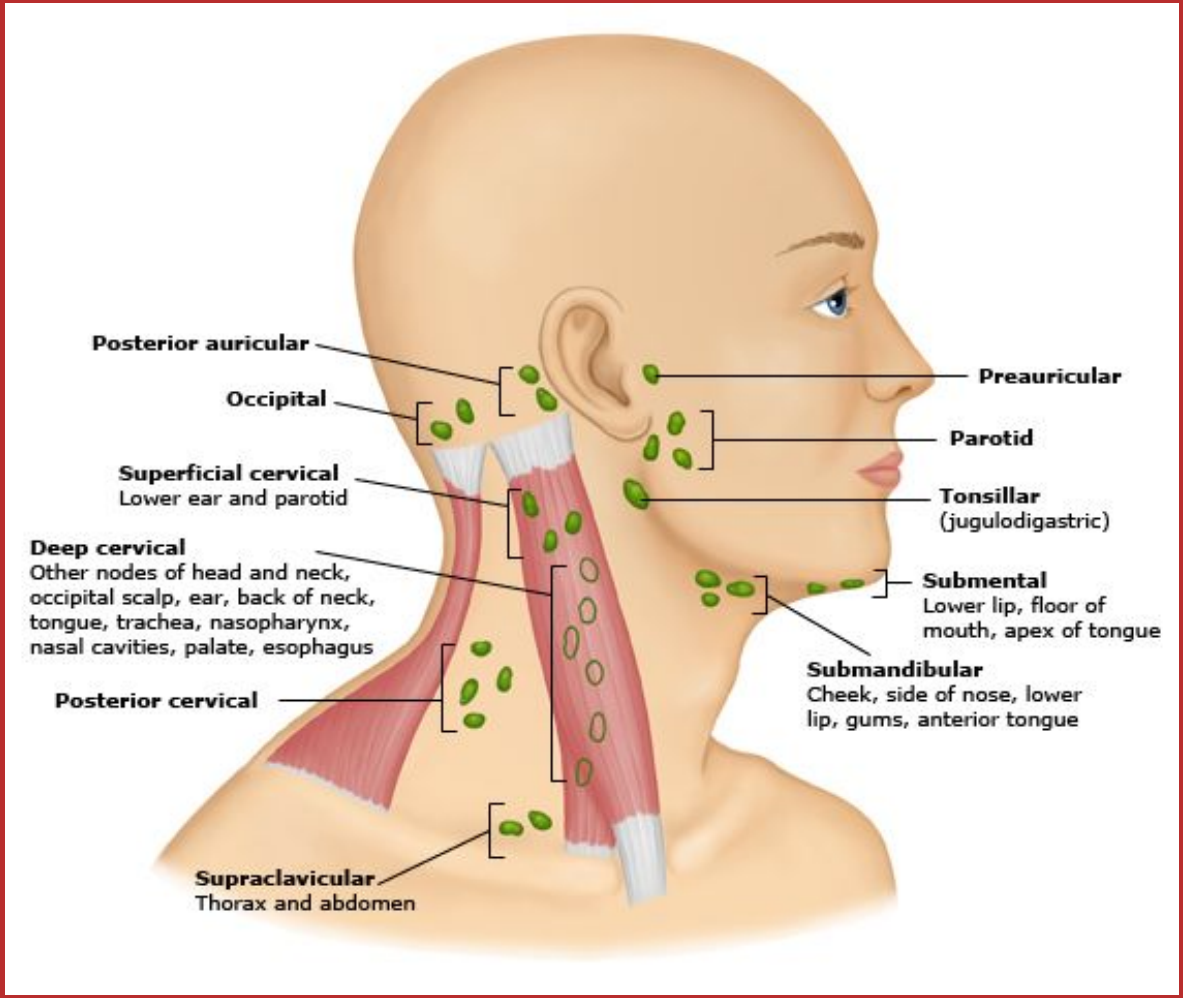
- Head & Neck
- Upper Body
- Thoracic & Abdominal
- Lower Body

Head and Neck

Cervical Nodes: Along the sides of the neck.

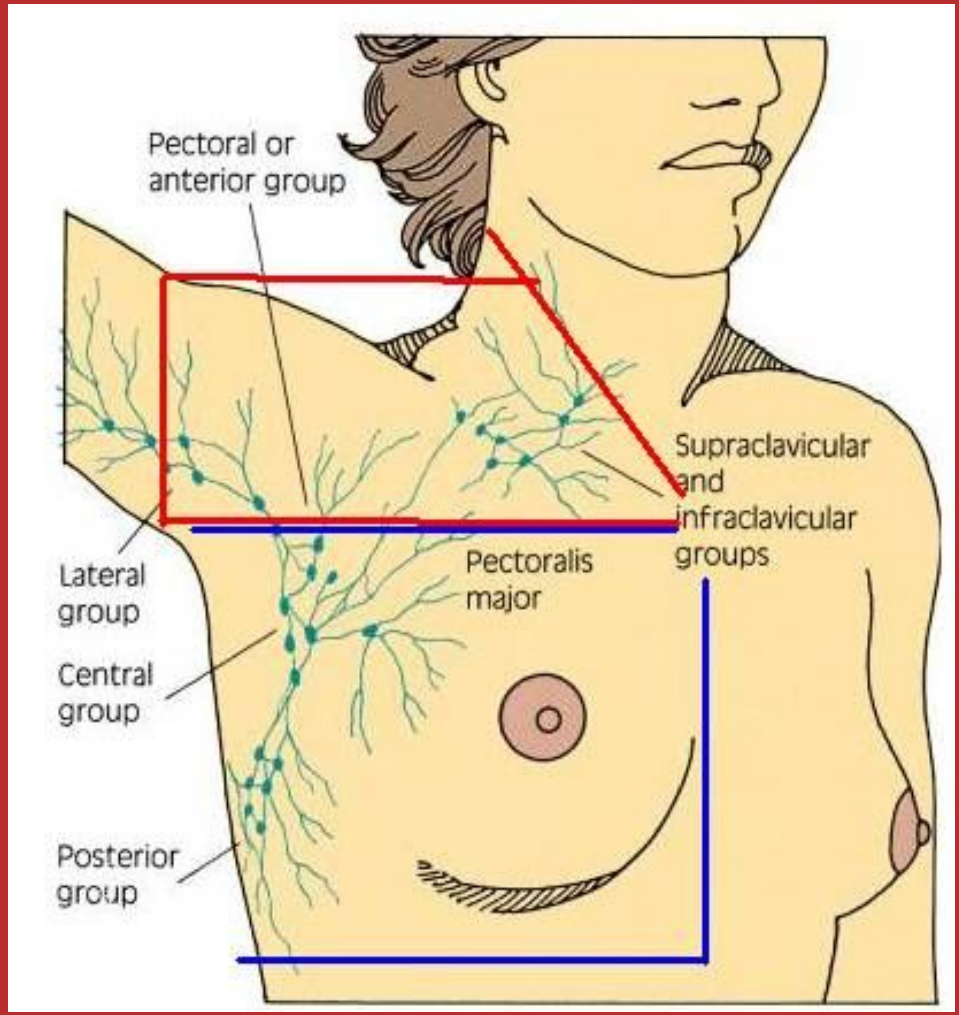
- *Submental:* Beneath the chin
- *Submandibular:* Under the jaw
- *Preauricular/Postauricular:* In front of and behind the ears
- *Deep cervical:* Along the internal jugular vein

Function: Drain the scalp, face, mouth, throat, and ears.



Upper Body

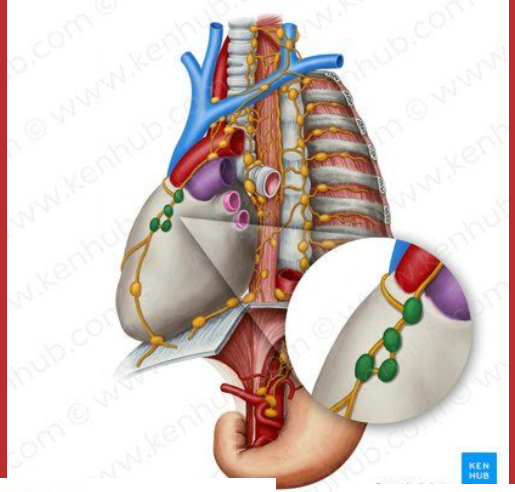
- **Axillary Nodes**: In the armpits
    - Drain the arms, upper chest, and breast tissue (especially important in breast cancer)
- **Supraclavicular Nodes**: Just above the collarbone
    - Drain the upper chest and abdomen
    - *Note:* Enlargement here can indicate serious underlying conditions.

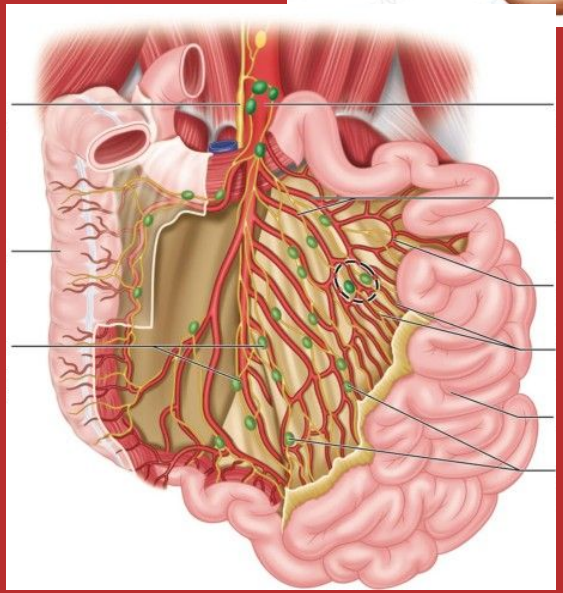


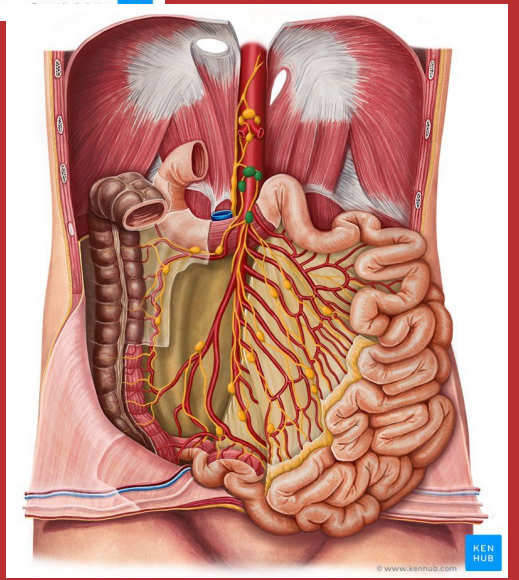
Thoracic & Abdominal

- **Mediastinal Nodes**: Located between the lungs
- **Mesenteric Nodes**: In the intestinal mesentery
- **Retroperitoneal Nodes**: Behind abdominal organs

- These nodes filter lymph from the lungs, GI tract, liver, and other internal organs.



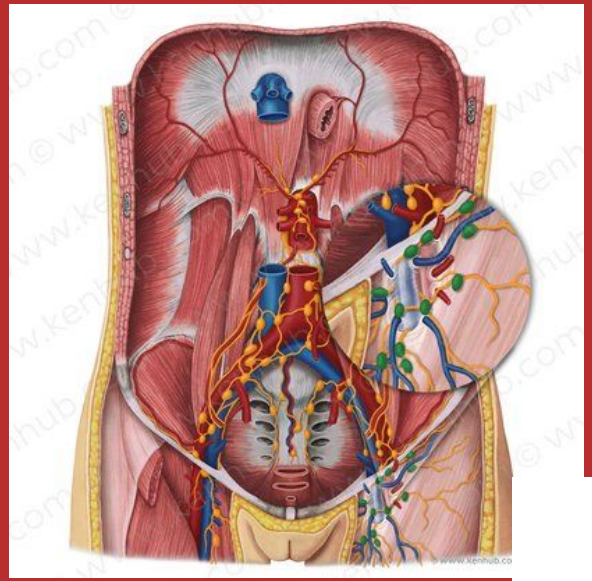




Lower Body

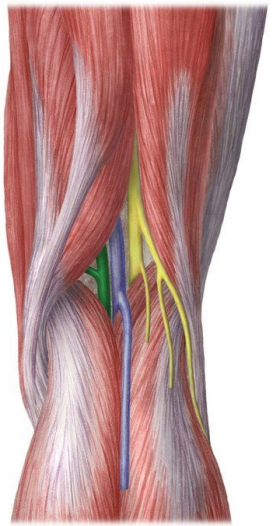
Inguinal Nodes: In the groin

- Drain the lower abdomen, buttocks, external genitalia, and legs



Popliteal Nodes: Behind the knees

- Drain the lower legs and feet

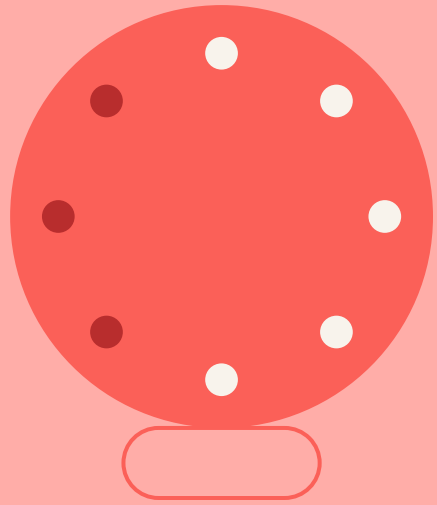


MLD Instructions

Gentle, rhythmic movements to encourage lymph flow toward the major lymph nodes.

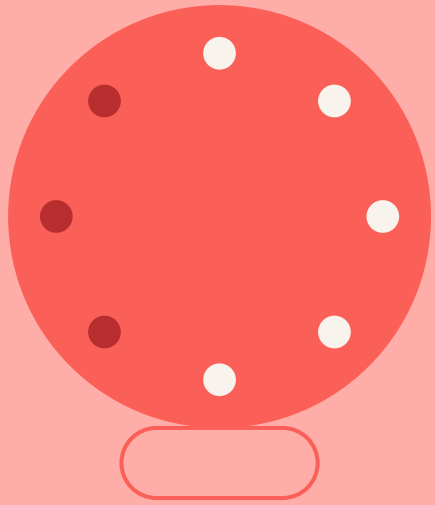
⚠️ *Always clear proximal areas (near the heart)* ***before*** *working distally (farther from the heart). This "creates space" for lymph to flow.*

⚠️ *Use feather-light pressure (skin-stretch only)—too much pressure collapses lymphatic capillaries.*



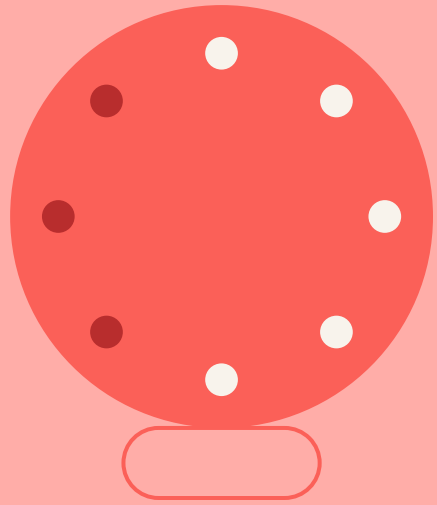
Key Tips for Practicing MLD

- **Pressure:** Use only enough pressure to move the skin, not the muscle
- **Speed:** Very slow (1 stroke per second or slower)
- **Breath:** Encourage deep, diaphragmatic breathing to support drainage
- **Hydration:** Drink water before and after to support toxin removal
- **Posture:** Keep the body relaxed and supported during the session



General Flow Sequence

1. **Terminous** (Supraclavicular area)
2. **Neck & Face** (if applicable)
3. **Axillary region**
4. **Abdomen**
5. **Extremities** (arms → hands, legs → feet)
6. **Inguinal region**
7. **Back region**

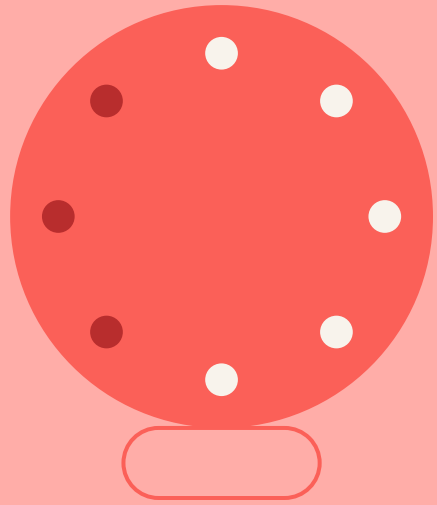


1. Stimulate the Terminus (*Always begin here*)

- Location: Just above the collarbones, beside the sternum

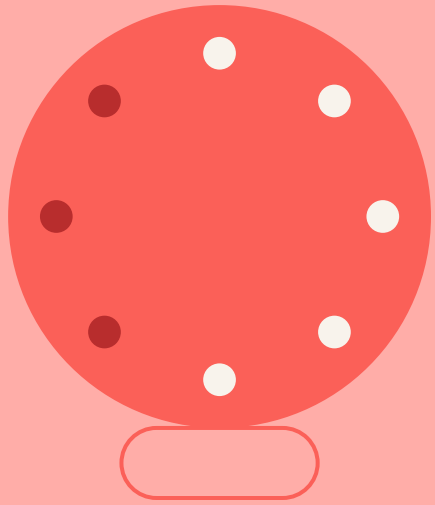
- **Technique:**

    - Use gentle circular or pumping motions with fingers
    - Repeat 5–10 times
    - Stimulates drainage into the subclavian veins



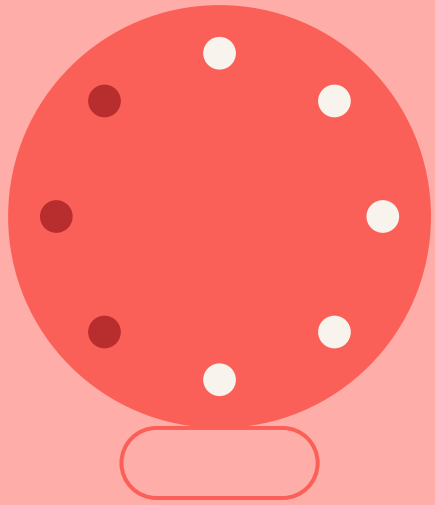
2. Neck (If working on head or face)

- Clear the **cervical nodes** on the sides of the neck
- Use slow, circular strokes moving **toward the collarbone**
- Always stroke in the direction of lymph flow (downward on sides)



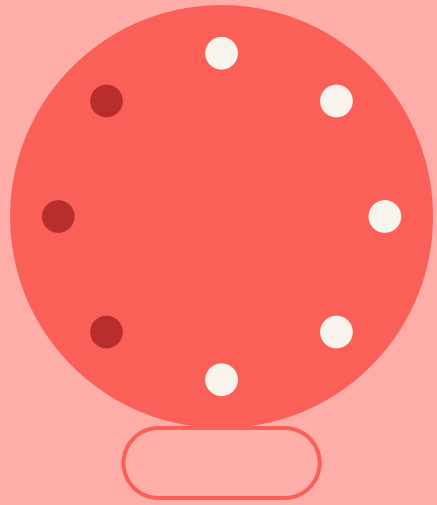
3. Axillary Nodes (*Armpits*)

- Gently stretch skin into the armpit using flat hands
- Use rhythmic, circular movements
- Repeat 5–10 times per side



4. Abdominal Drainage

- Focus on the **cisterna chyli** (above navel)
- Use slow clockwise circular motions around the belly button
- Combine with deep belly breathing:
    - Inhale deeply (belly expands)
    - Exhale slowly (gently compress with hands)

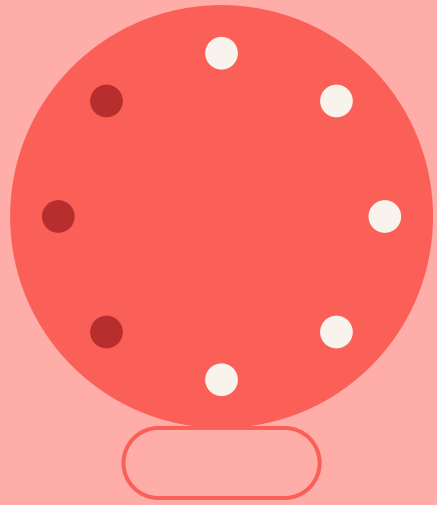


5. Arm Drainage (Right or Left)

- Start **high near the shoulder**, working **downward** in sections:

    1. Upper arm → axilla
    2. Forearm → elbow
    3. Hand → wrist

- **Technique:** Light strokes moving lymph proximally (toward the armpit)
- **Support arm** and work with the tissue, not against it

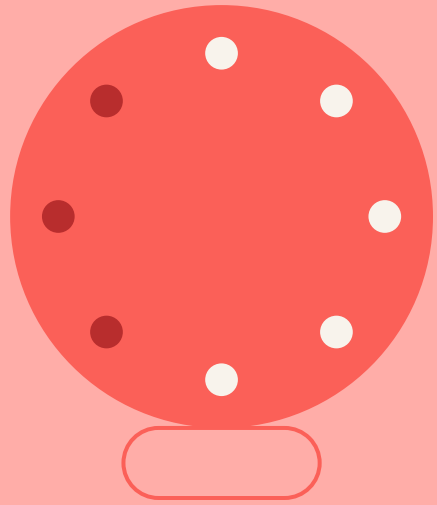


6. Leg Drainage (Right or Left)

- Start **high on the thigh**, working **downward** in sections:

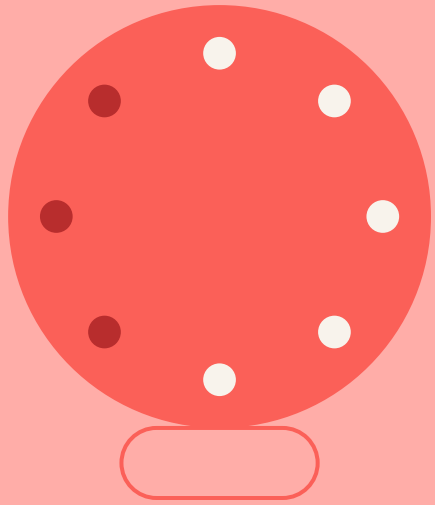
    1. Thigh → inguinal nodes
    2. Knee → popliteal fossa
    3. Calf → ankle
    4. Foot → ankle

- Repeat strokes 5–10 times per area
- Always move lymph **toward groin (inguinal nodes)**



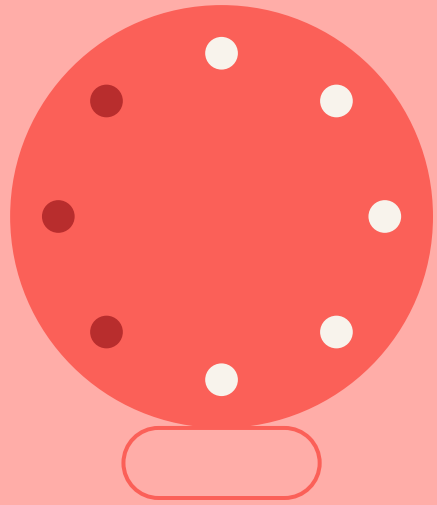
7. Inguinal Nodes (Groin Area)

- Use gentle pumping motions inward and upward
- Located in the creases between the thighs and pelvis

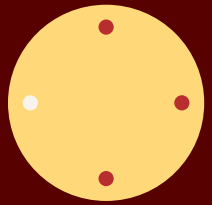


8. Back

- Stimulate flow toward the axillary (armpit) and inguinal (groin) nodes
- Clear the posterior (spinal) watershed
- Support drainage from the back, shoulders, and lower spine



5 Primary Watersheds



Sagittal (Midline)

Clavicular (Horizontal Upper Body)

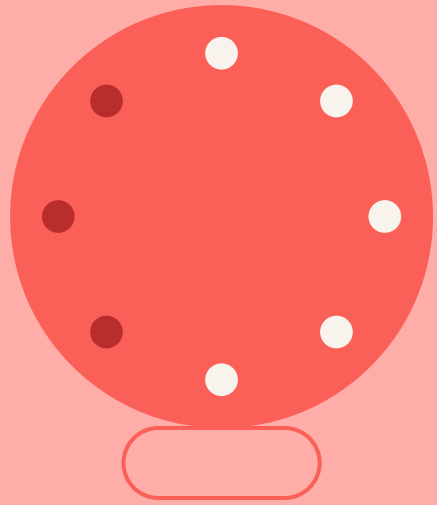
Transverse (Abdominal)

Spinal (Posterior)

Gluteal

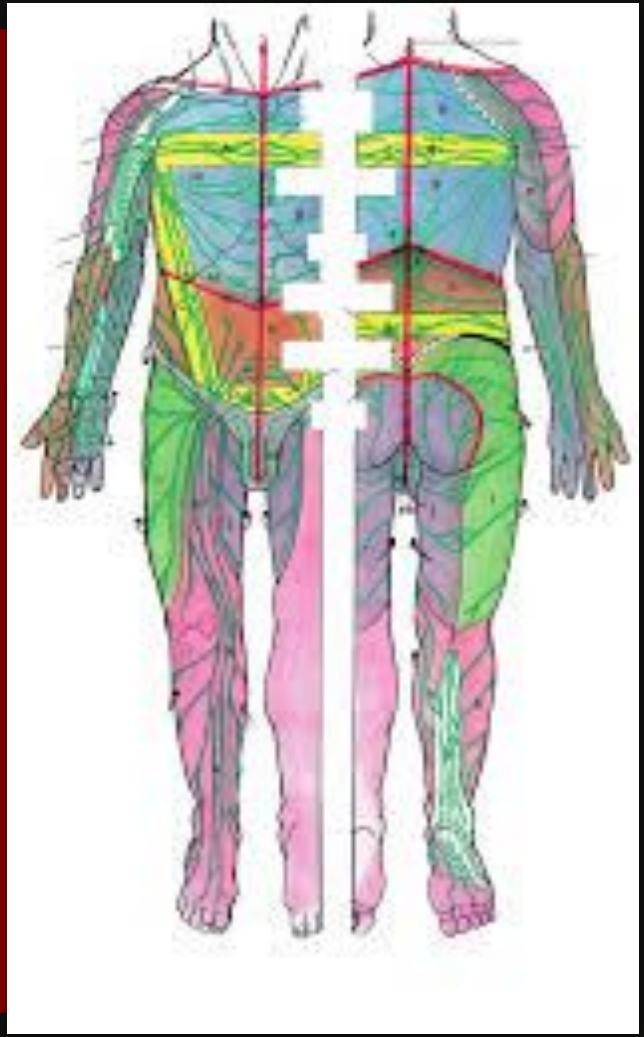
Lymphatic Watersheds

- **Lymphatic watersheds are anatomical dividing lines that separate lymph drainage territories.**
- Each region drains toward its nearest group of lymph nodes and does not typically cross into another territory unless rerouted manually (e.g., after surgery or trauma).
- Watersheds guide the direction of manual strokes and help avoid congestion.



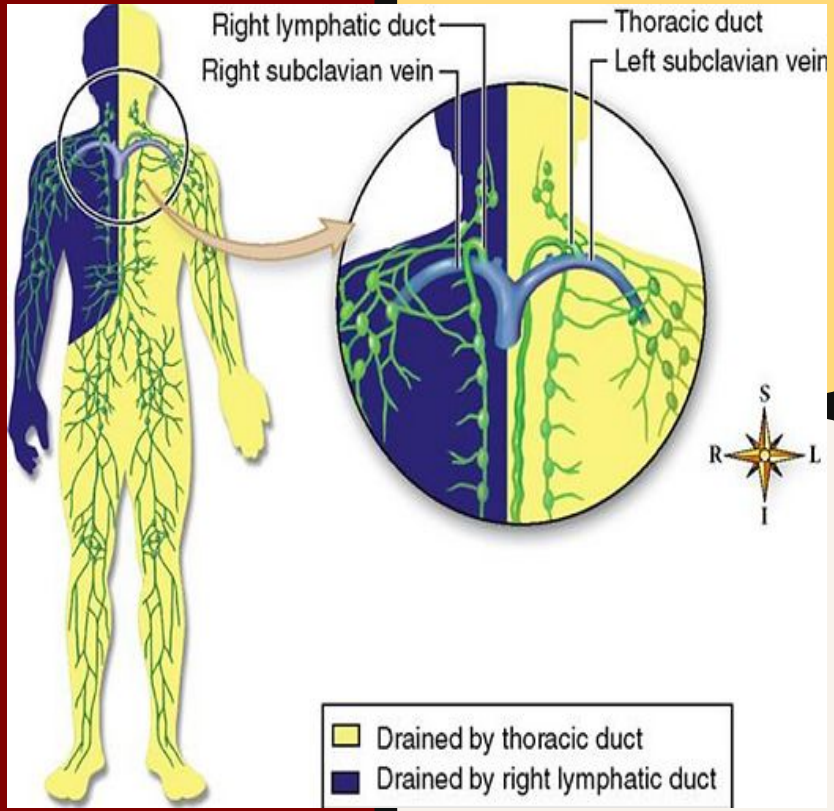
Sagittal (Midline) Watershed

- **Location:** Runs vertically down the center of the body (forehead → chin → sternum → pubic bone)
- **Divides:** Right and left sides of the body
- **Drainage Direction:**
    - Right side → right lymph nodes (e.g., right axillary, inguinal)
    - Left side → left lymph nodes (e.g., left axillary, inguinal)



Clavicular (Horizontal Upper Body) Watershed

- **Location:** Runs horizontally below the clavicles
- **Divides:** Head/neck from the torso
- **Drainage Direction:**
  - Above → drains into **cervical nodes**
  - Below → drains into **axillary nodes**



Transverse (Abdominal) Watershed

- **Location:** Runs horizontally across the waist (umbilicus level)
- **Divides:** Upper torso from lower torso
- **Drainage Direction:**
  - Above → drains to **axillary nodes**
  - Below → drains to **inguinal nodes**

Spinal (Posterior Midline) Watershed

- **Location:** Runs along the spine from skull to sacrum
- **Divides:** Left and right posterior body
- **Drainage Direction:**
    - Similar to sagittal watershed, but for the back
    - Left → left axillary/inguinal nodes
    - Right → right axillary/inguinal nodes

Gluteal Watershed

- **Location:** Runs horizontally across the gluteal fold (top of buttocks)
- **Divides:** Lower back/buttocks from upper thigh
- **Drainage Direction:**
    - Upper buttocks → drain to **lumbar or sacral nodes**
    - Lower buttocks → drain to **inguinal nodes**

Application in MLD

When performing lymphatic drainage:

- Always **work proximal to distal**: start by clearing the terminus (collarbone area), then open lymph nodes in the area.
- **Follow watershed boundaries** unless you're intentionally using anastomoses (bypass routes).
- If nodes are removed or damaged, you can **reroute lymph across watersheds** using trained techniques.

Anastomoses (Bypass Pathways)

- Naturally occurring overlap between lymph territories
- Examples:
    - **Axillo-axillary anastomosis:** Across the chest
    - **Axillo-inguinal anastomosis:** Between armpit and groin
    - **Inguino-inguinal anastomosis:** Across the lower pelvis

What Happens After MLD?

- All manual lymphatic drainage techniques aim to move lymph **back into the bloodstream**. This final step happens via two major ducts:
  i. Thoracic Duct
  ii. The Right Lymphatic Duct

The Thoracic Duct (Main Drainage Highway)

- **Drains lymph from:**
  - The **entire left side** of the body (head, neck, chest, arm, abdomen, leg)
  - The **right lower body** (abdomen, leg)
- **Pathway:**
  - Starts in the **cisterna chyli**, a lymph collection sac in the abdomen (near L2 vertebra)
  - Travels upward through the chest
  - Empties into the **left subclavian vein**, just beneath the left collarbone
- **Function:**
  - Carries ~75% of all lymph fluid back into blood circulation
  - Includes fat-rich lymph (chyle) from the digestive system

The Right Lymphatic Duct

- **Drains lymph from:**
  - The **right upper quadrant** of the body:
    - Right side of head and neck
    - Right arm
    - Right chest
- **Pathway:**
  - Empties into the **right subclavian vein**, just under the right collarbone
- **Function:**
  - Handles the remaining ~25% of the body's lymph load

Final Return to Circulation

- Once lymph enters the **subclavian veins**, it mixes with **venous blood** and re-enters systemic circulation
- From there, waste is processed by the liver and kidneys for elimination
- This return pathway is why MLD begins **proximally (near the clavicles)** — to open the “drains”

Why This Matters in MLD

- The **thoracic duct must be cleared first** for lymph to have somewhere to go
- Deep **abdominal breathing** stimulates the cisterna chyli and enhances drainage
- A **blockage near the clavicles** can cause fluid to back up through the whole system

Contraindications

Do **not** perform MLD without physician clearance in cases of:

- Acute Infections
- Active Cancer
- DVT (Deep Vein Thrombosis)
- Congestive Heart Failure
- Kidney Failure

What Is Edema?

Edema is an abnormal accumulation of fluid in the interstitial space (between cells). It can occur from inflammation, poor circulation, lymphatic blockage, trauma, or surgery.

1. Pitting Edema

- **Test:** Press a fingertip into the swollen area (typically on the shin, ankle, or forearm) and hold for 5 seconds.
- **Positive Sign:** If a visible indentation (“pit”) remains for several seconds after release.
- **Indicates:** Fluid-rich swelling; often linked to:
    - Venous insufficiency
    - Congestive heart failure
    - Kidney or liver disease
- **Approach with caution:** MLD may be helpful but only **after medical clearance**.

2. Non-Pitting Edema

- **Test:** Same fingertip press does **not leave a lasting indentation**
- **Texture:** Often feels firm, rubbery, or fibrotic
- **Indicates:** More chronic or lymph-based cause (lymphostatic or lymphedema)
  - Lymph node damage
  - Surgical removal (e.g., mastectomy)
- **MLD is highly indicated** for this type

Tip:

- Always observe the **symmetry**, **skin texture**, **temperature**, and **pain** response
- Teach the **Stemmer's Sign:** Try pinching a skin fold on the top of the second toe or finger. If you **can't lift the skin**, it may indicate lymphedema

How to Work Around Scars or Surgery Sites

1. Work Proximally First

- Always start by **clearing the lymphatic space above the surgical site** (e.g., axilla before working on mastectomy site)
- This creates “room” for drainage

2. Use Gentle Techniques Over Scar Tissue

- Techniques:
    - **Flat hand skin-stretch**
    - **Light spirals or scooping motions**
    - **Skin rolling (if fully healed)** to reduce fibrosis
- Never stretch or pull on fresh scar tissue

3. Reroute Across Watersheds If Needed

- If drainage paths are blocked (e.g., axillary nodes removed), **train fluid across to opposite axilla or down to inguinal nodes**
- Use **anastomosis techniques** (body's natural crossover routes

4. Support Scar Mobility and Fascia

- Once healed, MLD can help reduce:
  - Scar adhesions
  - Fascial restrictions
  - Fibrotic hardening
- May be combined with **myofascial release** or **cupping** (with training)

Avoid:

- Aggressive massage on or near fresh scars
- Triggering pain, heat, or redness
- Dislodging surgical drains or sutures