

3: LYMPHATICS

Thoracic and right lymphatic ducts 58

Lymph glands:

Head and neck 60

Thorax 62

Abdomen 64

Upper limb 66

Lower limb 68

Note: Deep lymphatics follow arteries and superficial ones follow veins.

THORACIC & RIGHT LYMPHATIC DUCTS

From: Cisterna chyli

To: Left subclavian V

Thoracic duct

Receives:

- Left jugular trunk
- Left subclavian trunk
- Cisterna chyli
- Most thoracic lymphatics

Drains:

- All body tissue below the diaphragm
- Left arm
- Left head and neck
- Left thorax
- Lower right thorax

It originates from the upper cisterna chyli on the right anterolateral side of the body of T12, lying lateral to the abdominal aorta. It passes posterior to the right crus of the diaphragm and ascends on the right posterior intercostal arteries with the aorta on its left and the azygos vein on its right. It slopes to the left in the mid thorax crossing the vertebral column posterior to the oesophagus at the level of T5. It continues superiorly to the left of the vertebral column,

posterolateral to the oesophagus and then posterior to the dome of the cervical pleura as it passes anterior to the inferior cervical (stellate) ganglion. It arches anteriorly over the vertebral and subclavian arteries and over the pleura to reach the posterosuperior aspect of the left subclavian vein as the latter joins the left internal jugular vein.

Right lymphatic duct

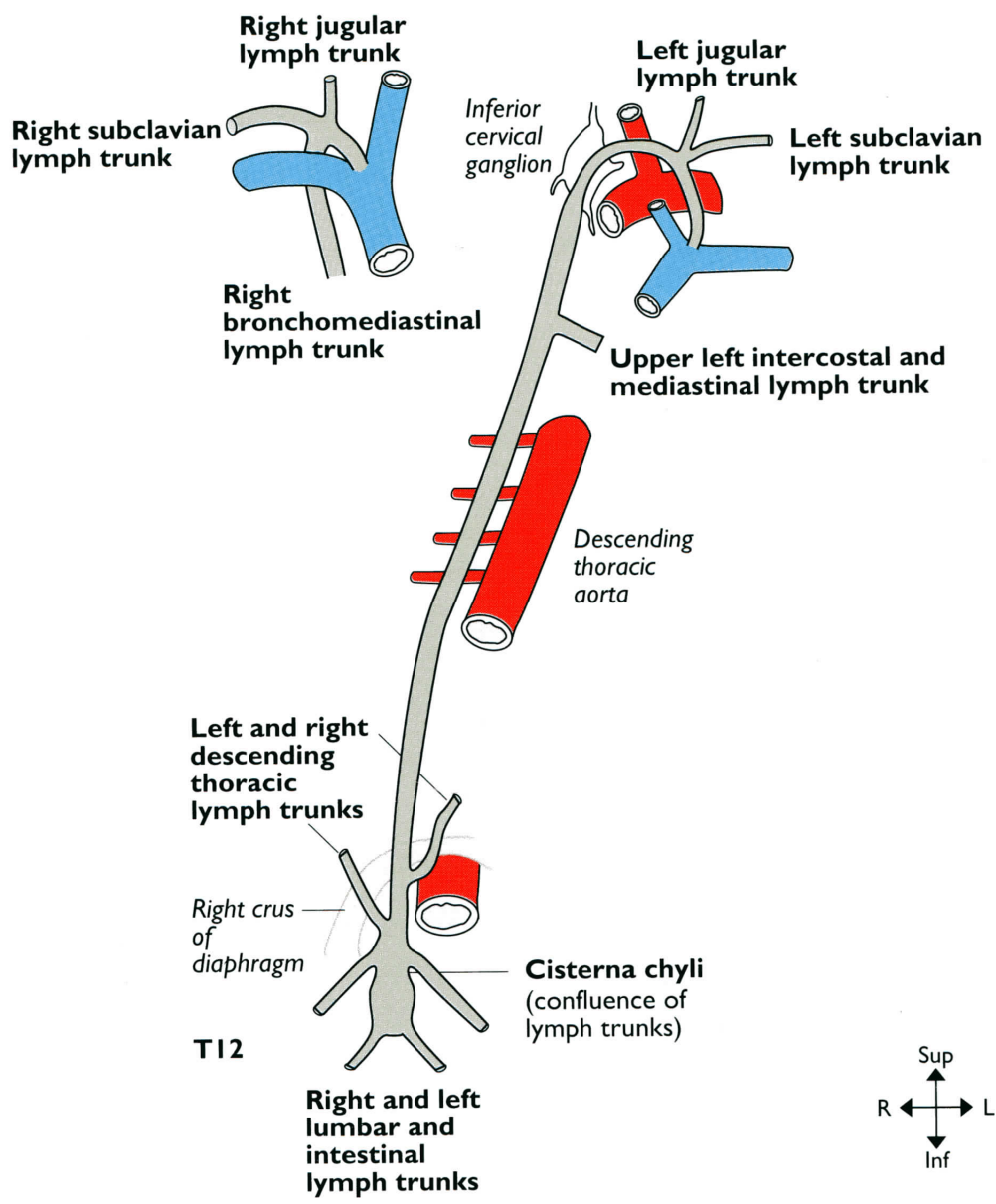
Receives:

- Right subclavian trunk
- Right jugular trunk
- Right bronchomediastinal trunk

Drains:

- Right head and neck
- Right arm
- Right upper thorax

The three trunks usually drain separately but the first two often join to give a right lymphatic duct which ends in the right subclavian vein. In which case it has a very short course from its formation anterior to scalenus anterior, passing over the dome of the cervical pleura to reach the right subclavian vein as the latter joins with the right internal jugular vein.



Thoracic & right lymphatic ducts

**LYMPH GLANDS — HEAD
& NECK****Circular nodal chain**

Submental (bilateral)

Anterior tongue

Floor of mouth

Lower incisor and canine teeth

Lower lip

Skin of anterior chin

Submandibular

Upper lip

Cheek

Nose

Forehead and anterior scalp

Middle tongue

Lower molar and premolar teeth

All upper teeth

Sublingual gland

Submandibular gland

Anterior half of nasal cavity and nasal
sinuses

Deep and superficial pre-auricular (parotid)

Middle scalp

Skin of temple

Pinna

Parotid gland

Posterior orbit

Retro-auricular (mastoid)

Pinna

Posterior scalp

Occipital

Posterior scalp

Deep cervical chain

Jugulodigastric

Palatine tonsil

Upper pharynx

Posterior tongue

Jugulo-omohyoid

Posterior half of nasal cavity and nasal
sinuses

Palate (hard and soft)

Retropharyngeal

Pharynx

Paratracheal

Hypopharynx

Larynx

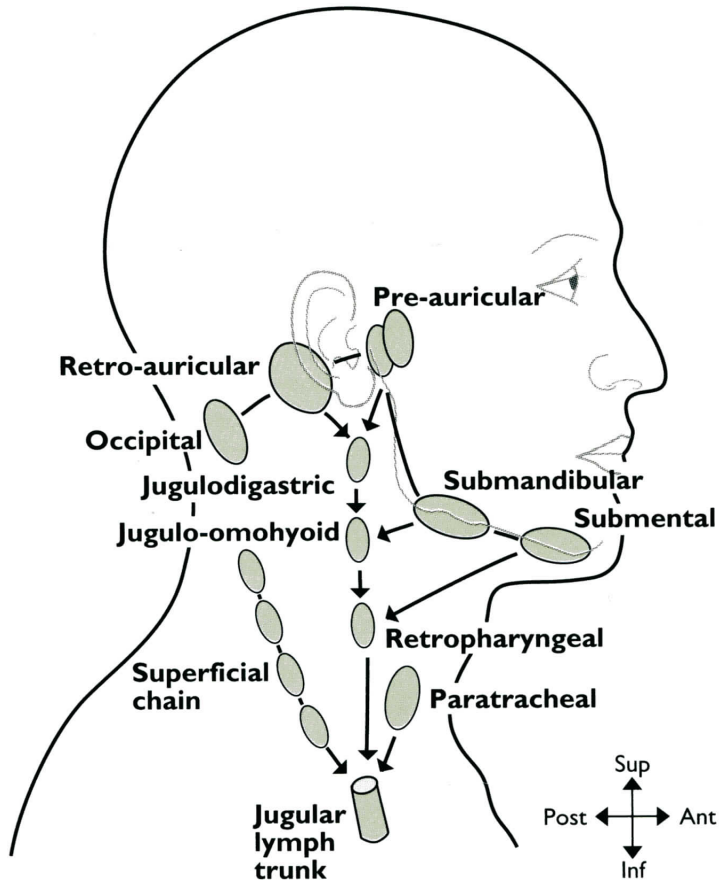
Trachea

Thyroid

Parathyroids

Superficial cervical chain

Skin of neck



LYMPH GLANDS – THORAX

Pre-aortic

- Middle third of oesophagus

Supradiaphragmatic

- Diaphragm

- Subphrenic spaces

- Bare area of liver

Tracheobronchial

- Heart and all layers of pericardium

- Lungs and visceral pleura

- Extrapulmonary bronchi

- Trachea

- Thymus (occasionally thyroid isthmus)

Para-aortic

- Thoracic wall

- Parietal pleura

- Anterior abdominal wall

Internal thoracic

- Breast

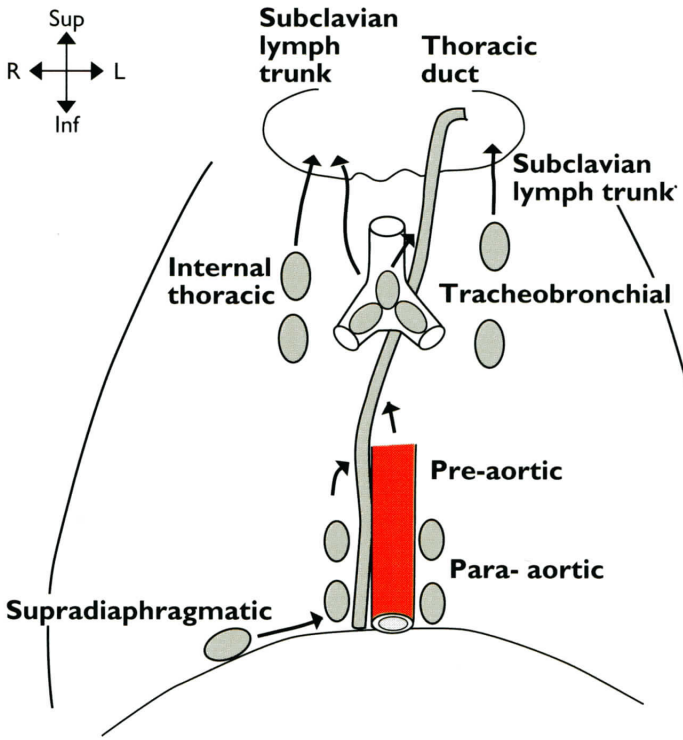
- Anterior thoracic wall

- Upper abdominal muscles

- Diaphragm

Left and right lower thoracic nodes drain directly to the thoracic duct or via a separate left bronchiomediastinal trunk which joins the thoracic duct in the posterior superior mediastinum. Upper right thoracic nodes drain via the right bronchomediastinal trunk which either drains into the right lymphatic duct or directly into the right subclavian vein.

Note: Normal drainage from breast is to anterior and posterior axillary, infra-clavicular and internal thoracic groups. With pathological blockage from disease the spread can be to opposite side, cervical, peritoneal cavity and liver, and inguinal glands.



LYMPH GLANDS – ABDOMEN

Coeliac

- Lower third of oesophagus
- Stomach and greater omentum
- First and upper second part of duodenum
- Spleen
- Pancreas
- Liver
- Gallbladder

Superior mesenteric

- Lower second, third and fourth parts of duodenum
- Jejunum
- Ileum

- Caecum and appendix
- Ascending colon
- Transverse colon

Inferior mesenteric

- Distal transverse colon
- Descending colon
- Sigmoid colon
- Upper rectum and rectal mucosa to dentate line

Para-aortic

- Inferior surface of diaphragm
- Suprarenal gland
- Kidney
- Gonad (plus fallopian tube in female)
- Superior lateral uterus

- Ureter
- Bare area of liver
- Posterior abdominal wall
- Lateral pelvic nodes
- Lower rectum and dentate line
- Bladder
- Urethra
- Lower ureter

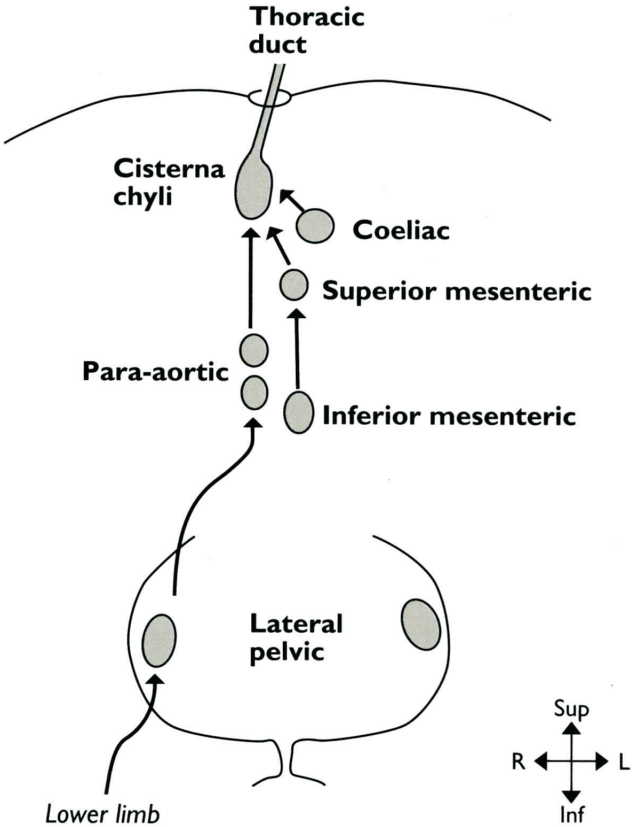
Female

- uterus
- cervix
- upper vagina
- clitoris
- labia minora

Male

- vas deferens
- seminal vesicles
- prostate
- bulk of penis

Endodermal (gut-tube/gut-derived) structures drain to lymph nodes lying along their arteries of supply which are named according to the artery with which they are associated and are not listed individually. Their number and exact position are variable. However, the position and drainage of the highest node groups (listed above) are constant.



LYMPH GLANDS – UPPER LIMB**Axillary groups**

Anterior (pectoral)

Breast

Anterior thoracic wall

Upper anterior abdominal wall

Posterior (subscapular)

Posterior thoracic wall

Tail of breast

Upper posterior abdominal wall

Lateral

Arm

Forearm

Hand

Central

Apical

Supratrochlear

Skin of anterior forearm and hand

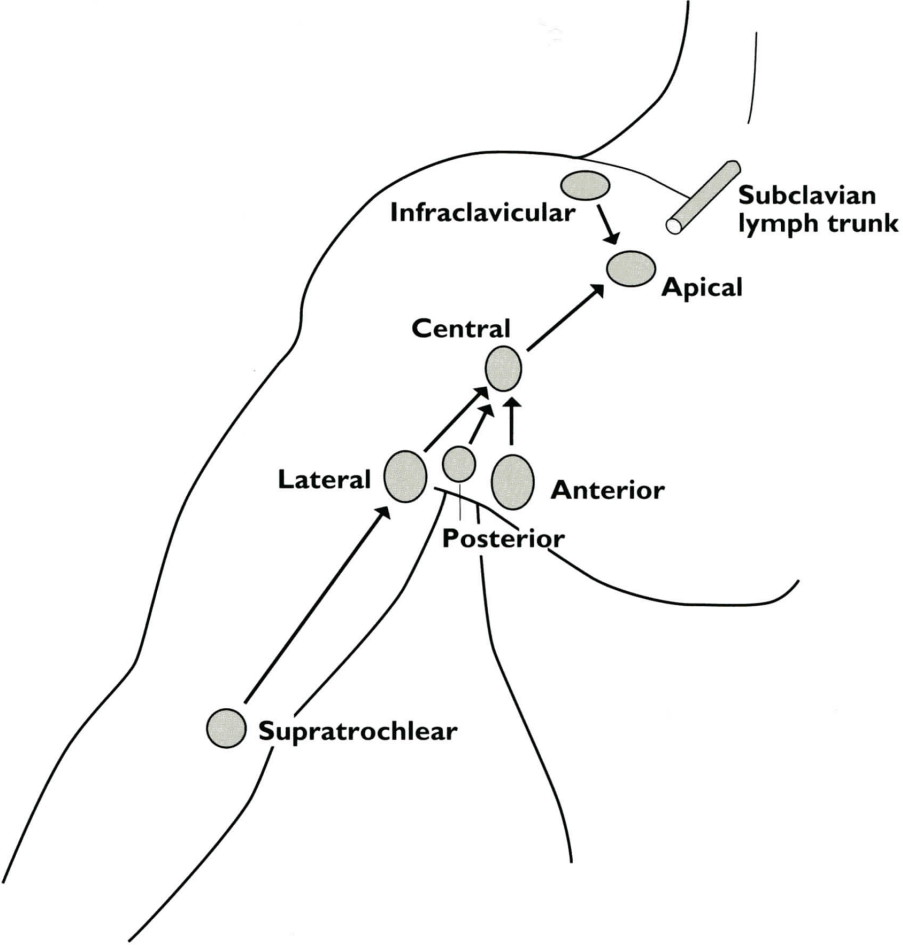
Infraclavicular

Skin of shoulder

Skin of lower neck

Skin of anterior upper thoracic wall

Breast



LYMPH GLANDS – LOWER LIMB

Superficial inguinal

Uterine fundus/skin of penis

Labia minora/scrotum

Skin of buttock

Skin of lower abdominal wall to
umbilicusSkin of thigh, anterior skin of calf and
dorsum of foot

Skin of anterior perineum

Deep inguinal

Anterior perineum

Thigh

Leg

Foot

Popliteal

Skin of sole of foot

Skin of posterior calf

Note: Cloquet's node is the highest node of the lower limb and usually lies within the femoral canal beneath the inguinal ligament, medial to the femoral vein and lateral to the lacunar ligament.

