CARDIOVASCULAR SYSTEM

HEART - in: thoracic cavity
mediastinum
pericardial cavity - pericardial fluid
parietal pericardium = pericardial sac
fibrous layer (outer)
serous layer (inner) ---

- visceral pericardium = epicardium

- myocardium

- endocardium

CHAMBERS:

ATRIUM (ATRIA) - right & left
auricle
musculi pectinati
interatrial septum
fossa ovalis (foramen ovale)

VENTRICLE(S) - right & left
interventricular septum
trabeculae carneae

VALVES:
chordae tendinae

papillary muscles

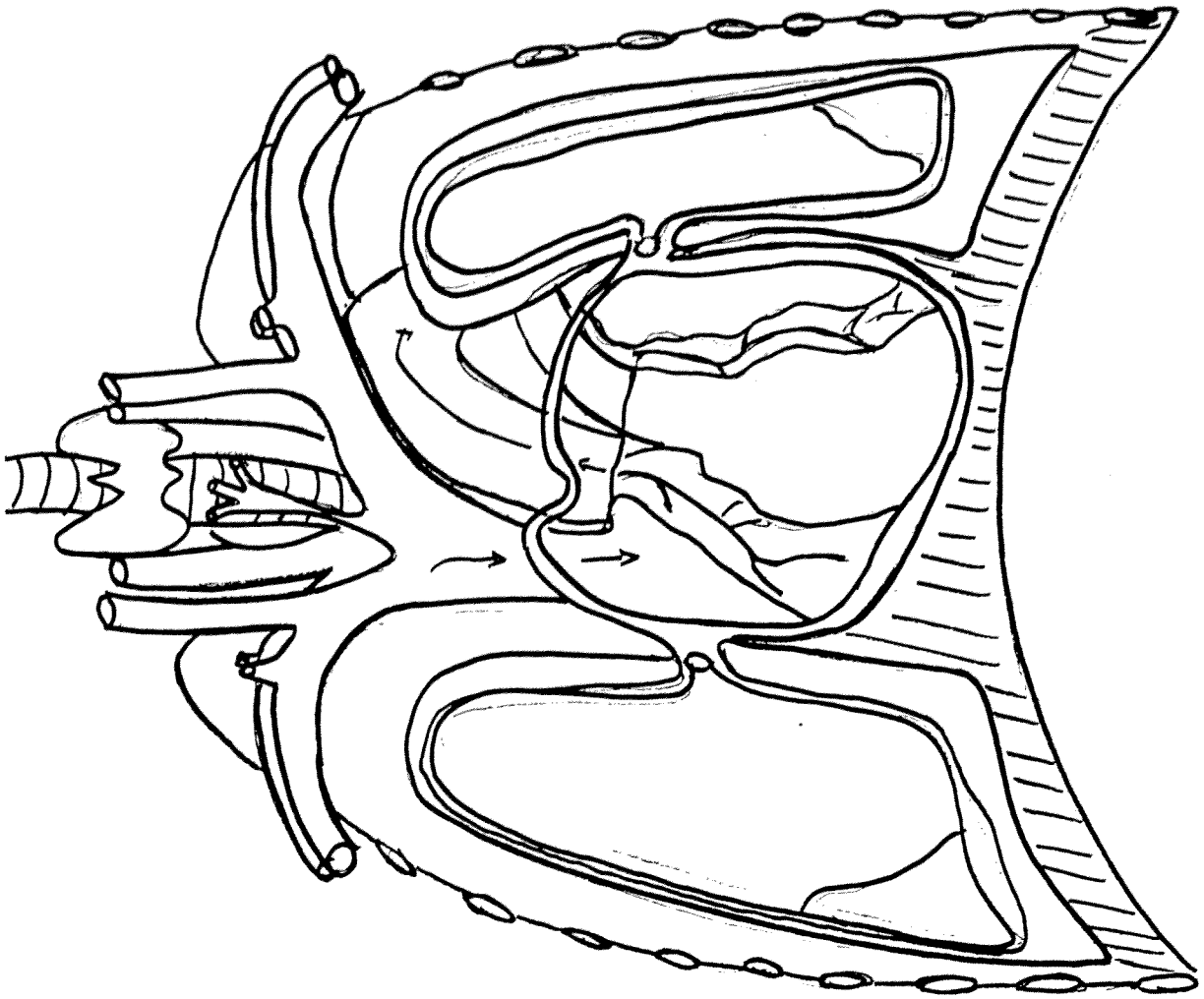
cusp(s)

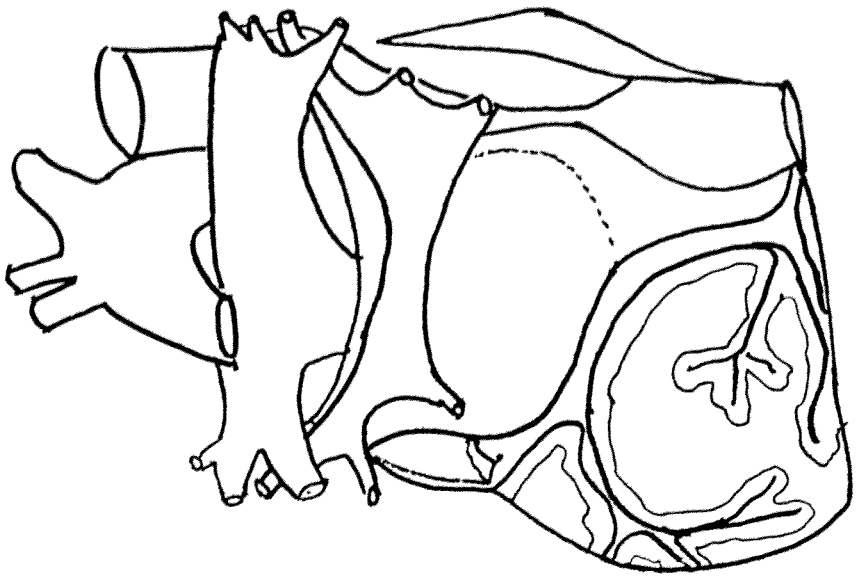
atrioventricular:
tricuspid
mitral

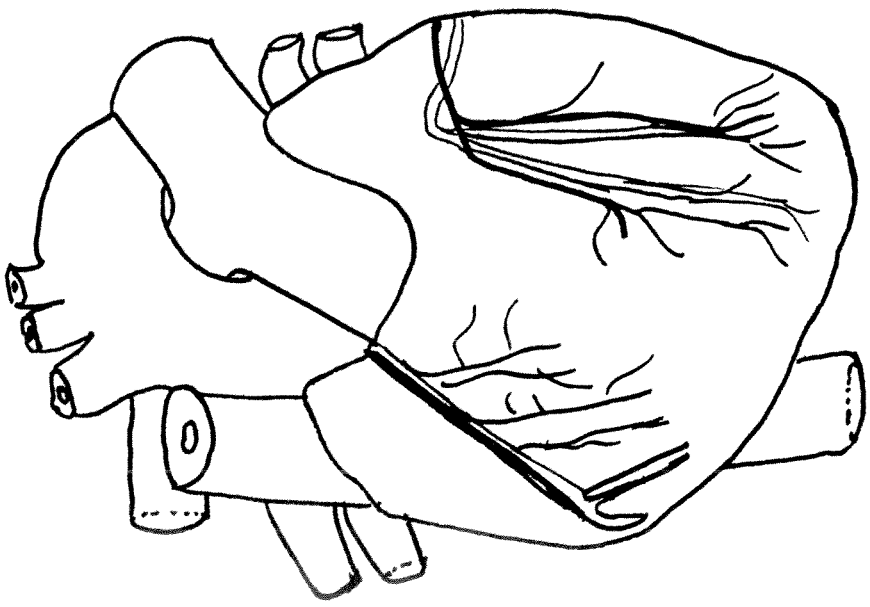
to great vessels:
pulmonary semilunar
aortic semilunar

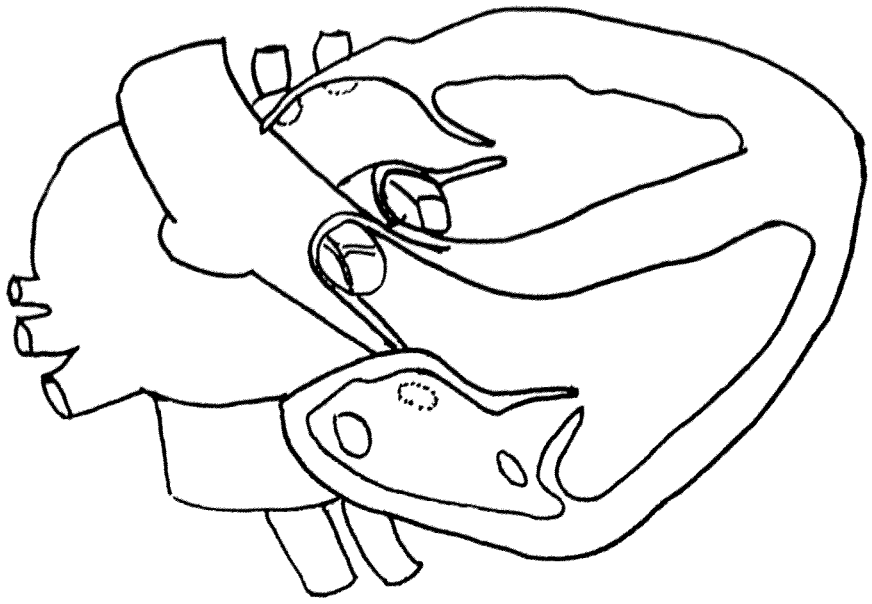
EXTERNAL STRUCTURES:
anterior interventricular sulcus
posterior interventricular sulcus
coronary sulcus = atrioventricular sulcus

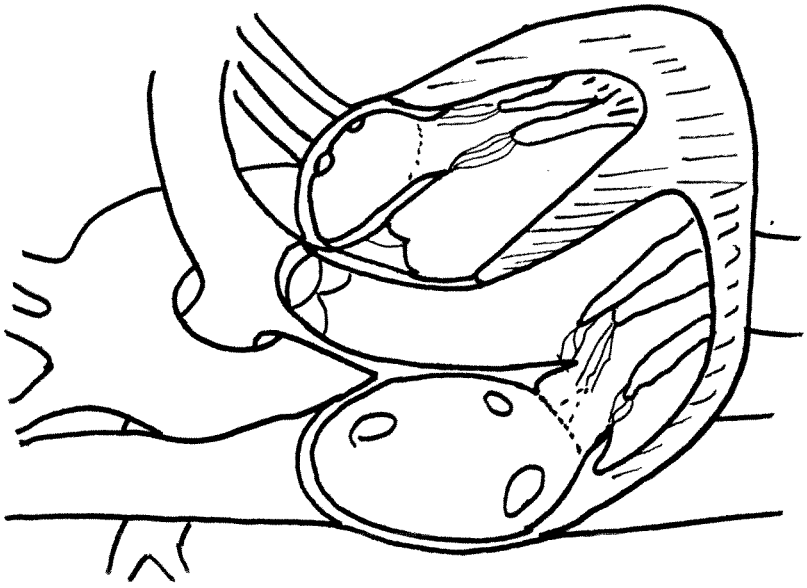
heart sounds:
"lubb" = atrioventricular valves closing - ventricular systole
"dup" = semilunar valves closing - ventricular diastole
valvular auscultatory areas:
aortic area - right 2nd intercostal space near sternum
pulmonic area - left " " " (directly opposite)
tricuspid area - 5th intercostal space
bicuspid (mitral) area - " " " but further out

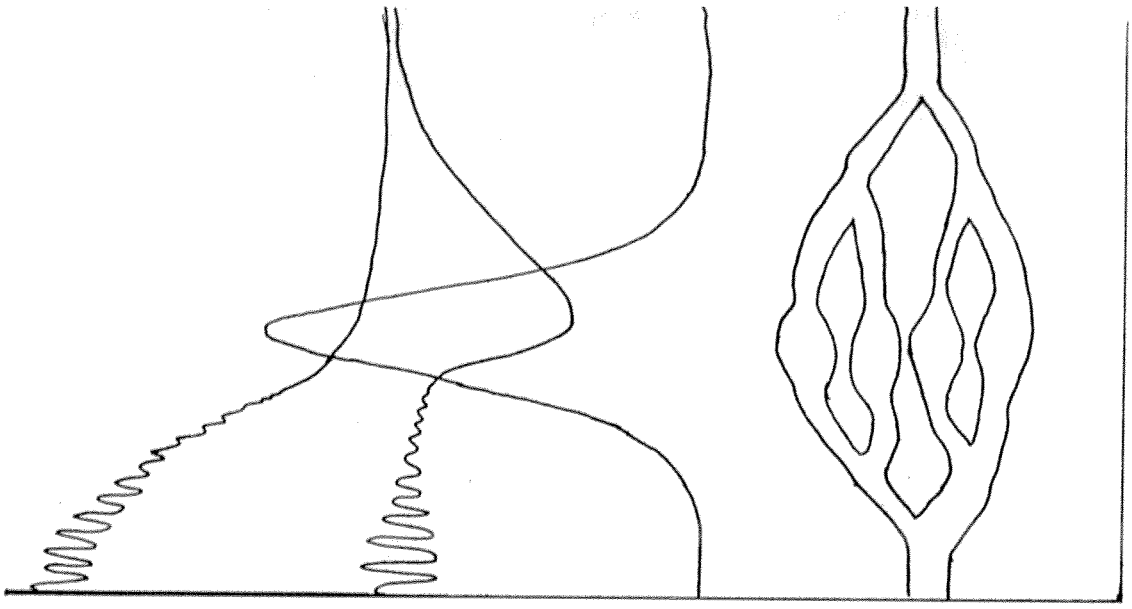


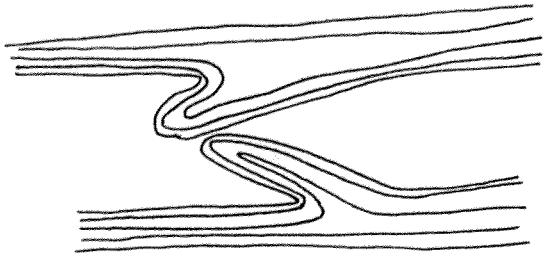


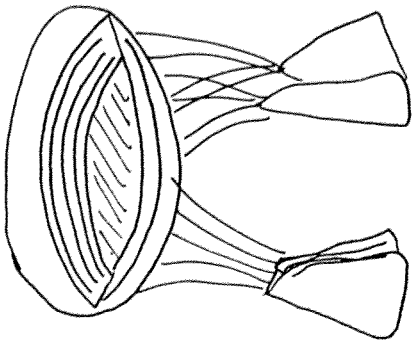


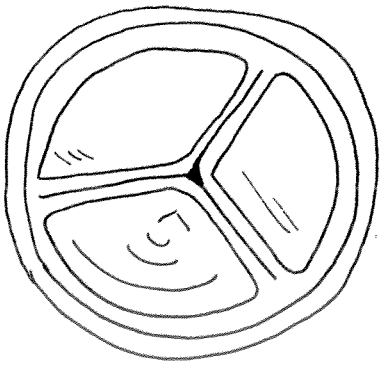


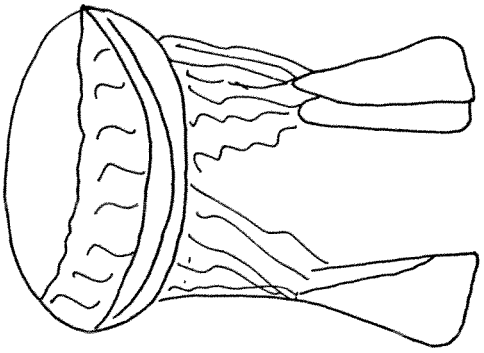


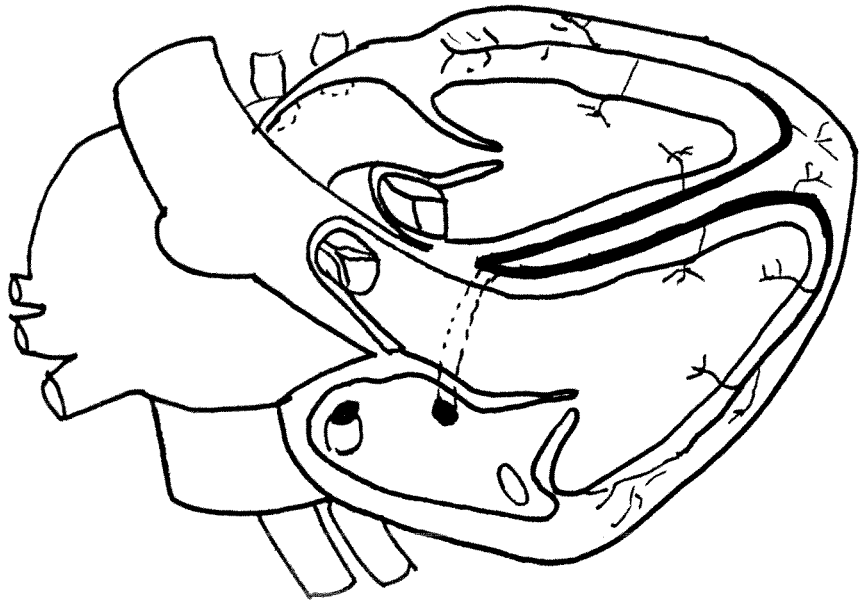












CIRCULATORY ROUTES

-> ARTERY* --> CAPILLARY NETWORK --> VEIN* --> ATRIUM --> VENTRICLE ->

(PORTAL: \--> ARTERIOLE --> CAPILLARY NETWORK --> VEIN --> ...)

1. CORONARY:
    - right coronary artery -->
        - posterior interventricular artery
        - interior interventricular sulcus
        - marginal artery
    - left coronary artery -->
        - anterior interventricular artery
        - in " " sulcus
        - circumflex artery
    - great cardiac vein
    - middle cardiac vein
    - coronary sinus

2. PULMONARY:
    - pulmonary trunk --> pulmonary arteries
    - pulmonary veins

3. SYSTEMIC:

ARTERIAL

- ascending aorta
    - coronary arteries: right & left
- AORTIC ARCH
    - brachiocephalic a.
        - right common carotid a.
        - right subclavian a.
    - left common carotid a.
    - left subclavian a.
        - external carotids (r & l)
        - internal carotids (r & l)
        - vertebral (r & l)
        - axillary (r & l)
        - brachial (r & l)
        - radial (r & l)
        - ulnar (r & l)
        - palmar arch (r & l)
        - digitals (each digit)
- descending aorta: thoracic & abdominal
    - intercostals (at each segment) (r & l)

celiac trunk
common hepatic
left gastric
splenic

superior mesenteric
renal (r & l)
suprarenal (r & l)
gonadal (r & l)
inferior mesenteric
lumbar (r & l)
common iliac (r & l)
external iliac (r & l)
internal iliac (r & l)
femoral (r & l)
deep femoral (r & l)
popliteal (r & l)
anterior tibial (r & l)
posterior tibial (r & l)

VENOUS

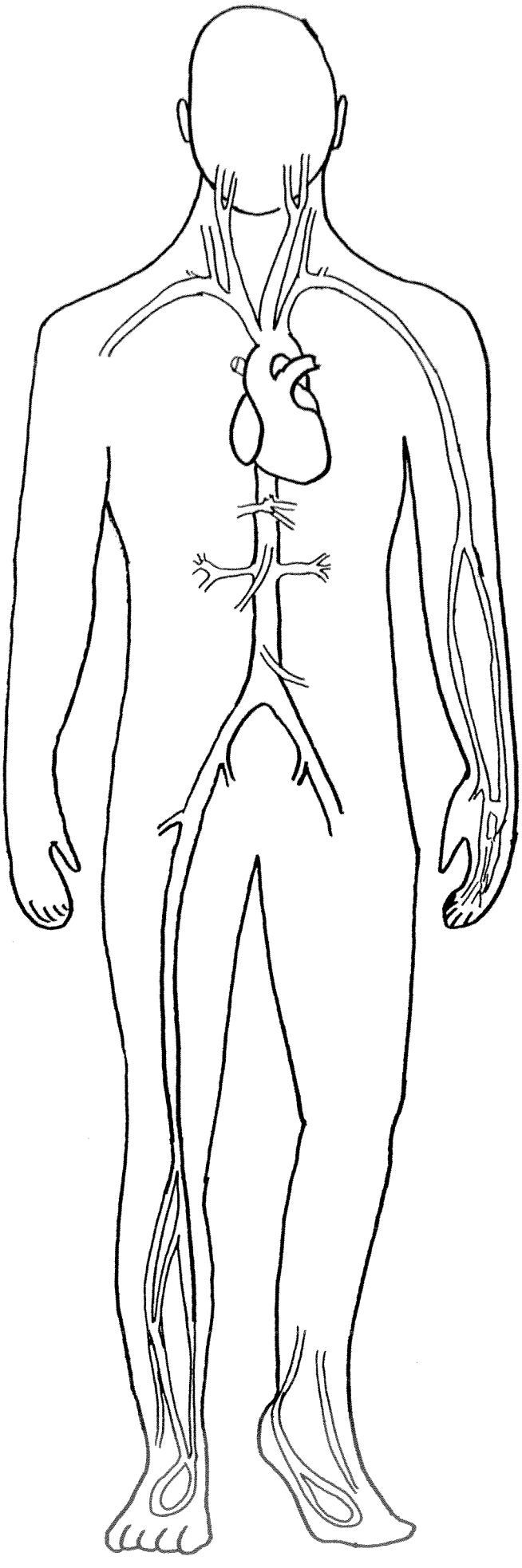
superior vena cava

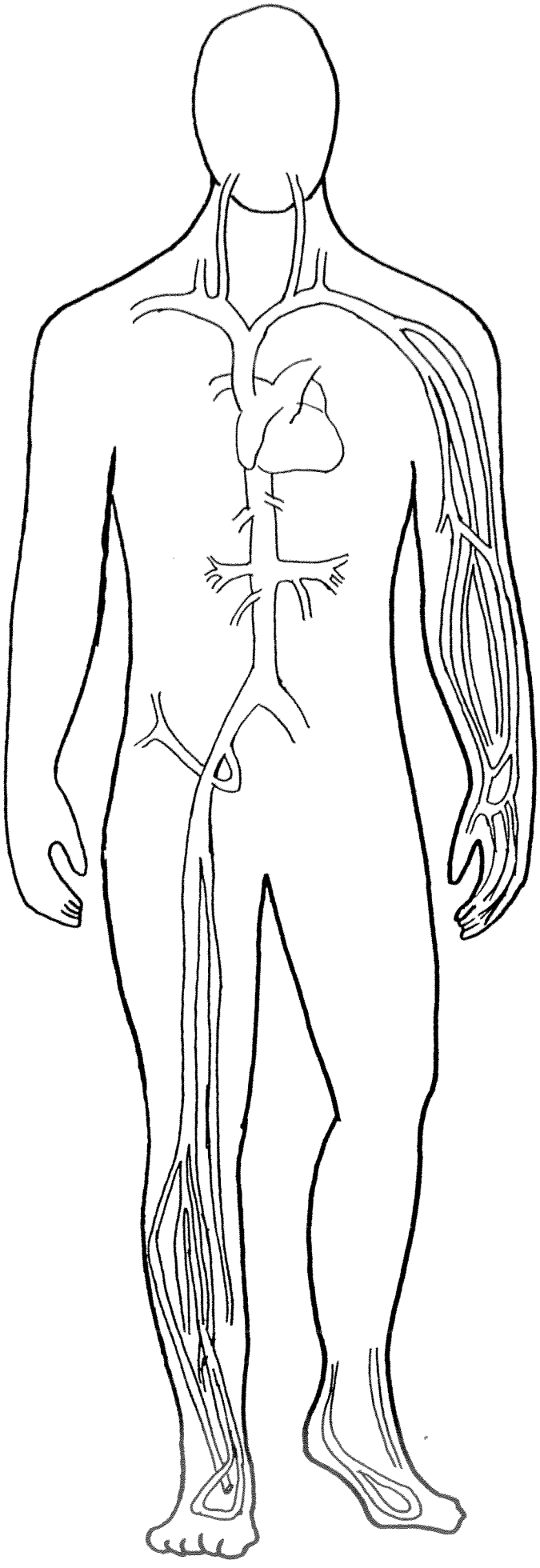
external jugular (r & l)
internal " (r & l)
vertebral (r & l)
cephalic (r & l)

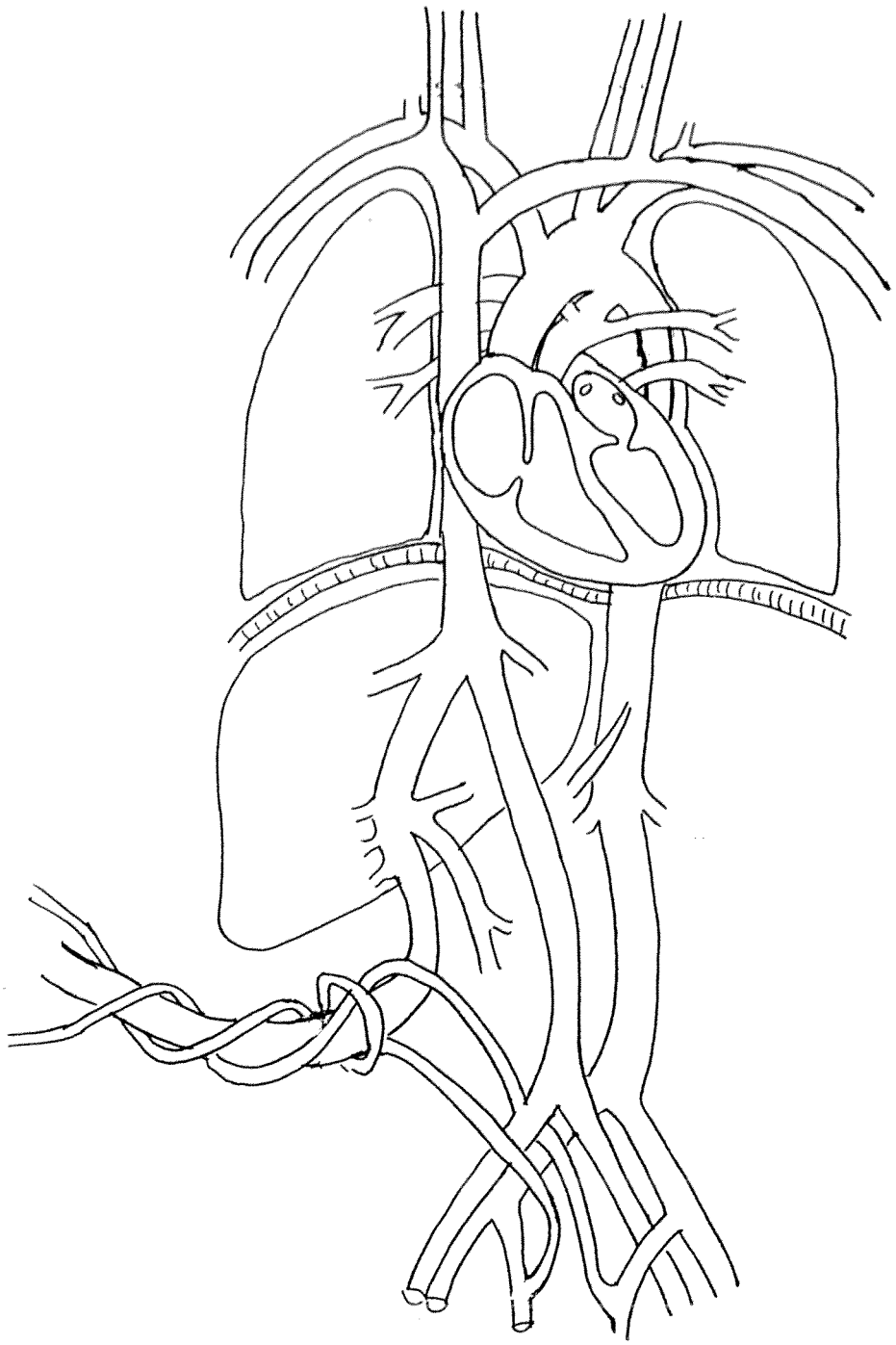
brachiocephalic (r & l)
subclavian (r & l)
axillary (r & l)
brachial (r & l)
radial (r & l)
ulnar (r & l)
basilic (r & l)
median cubital (r & l)
azygos
hemiazygos

inferior vena cava

renal (r & l)
suprarenal (r & l)
gonadal (r & l)
lumbar (r & l)
common iliac (r & l)
external iliac (r & l)
internal iliac (r & l)
femoral (r & l)
deep femoral (r & l)
great saphenous (r & l)
popliteal (r & l)
anterior tibial (r & l)
posterior tibial (r & l)







LYMPHATIC SYSTEM

Functions:

return interstitial fluid & protein to circulation

edema

lipid absorption

protection - immune system

Component structures:

lymph

lymph capillaries

lacteals

lymph ducts

thoracic duct

right lymphatic duct

lymph nodules
-- Peyer's patches
-- tonsils

lymph nodes

-- popliteal
-- inguinal
-- lumbar
-- cubital
-- axillary
-- cervical

capsule

trabeculae

afferent lymphatic vessels

efferent " "

cortical sinuses in cortical tissue

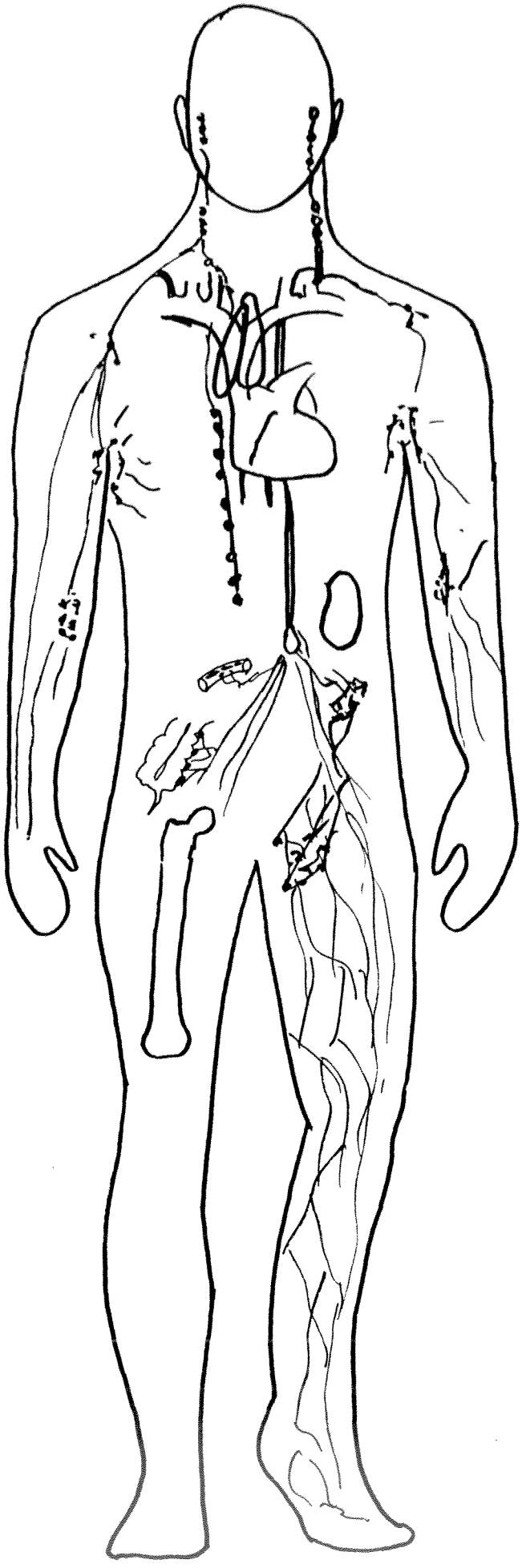
hilus

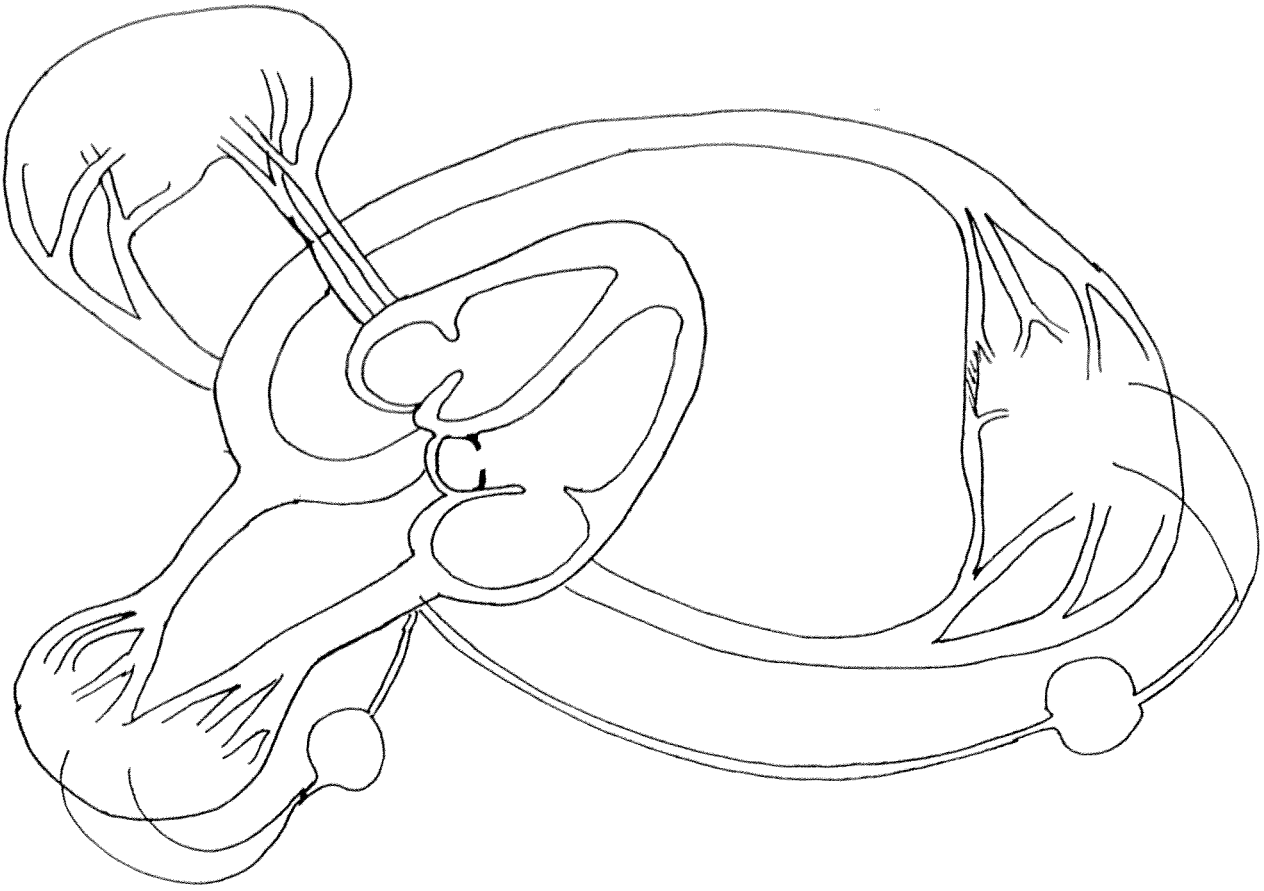
germinal centers

lymphoid organs:

spleen

thymus





RESPIRATORY SYSTEM

- ventilation - external respiration - internal respiration -

conducting division

NOSE:
- nostril = external naris (nares)
- internal nasal cavity = vestibule
- -- nasal hairs = vibrissae
  - paranasal sinus (4)
  - nasolacrimal duct (2)
  - bones: ethmoid
    - vomer (--> cartilage)
    - maxilla
    - inferior conchae
    - palatine bones
    - hard palate = process of maxilla
- nasal septum = perpendicular plate of ethmoid

PHARYNX:

NASOPHARYNX
- Eustachian = auditory tube (2)
- uvula
- adenoid = pharyngeal tonsil

OROPHARYNX
- palatine tonsil
- lingual tonsil

LARYNGOPHARYNX - LARYNX

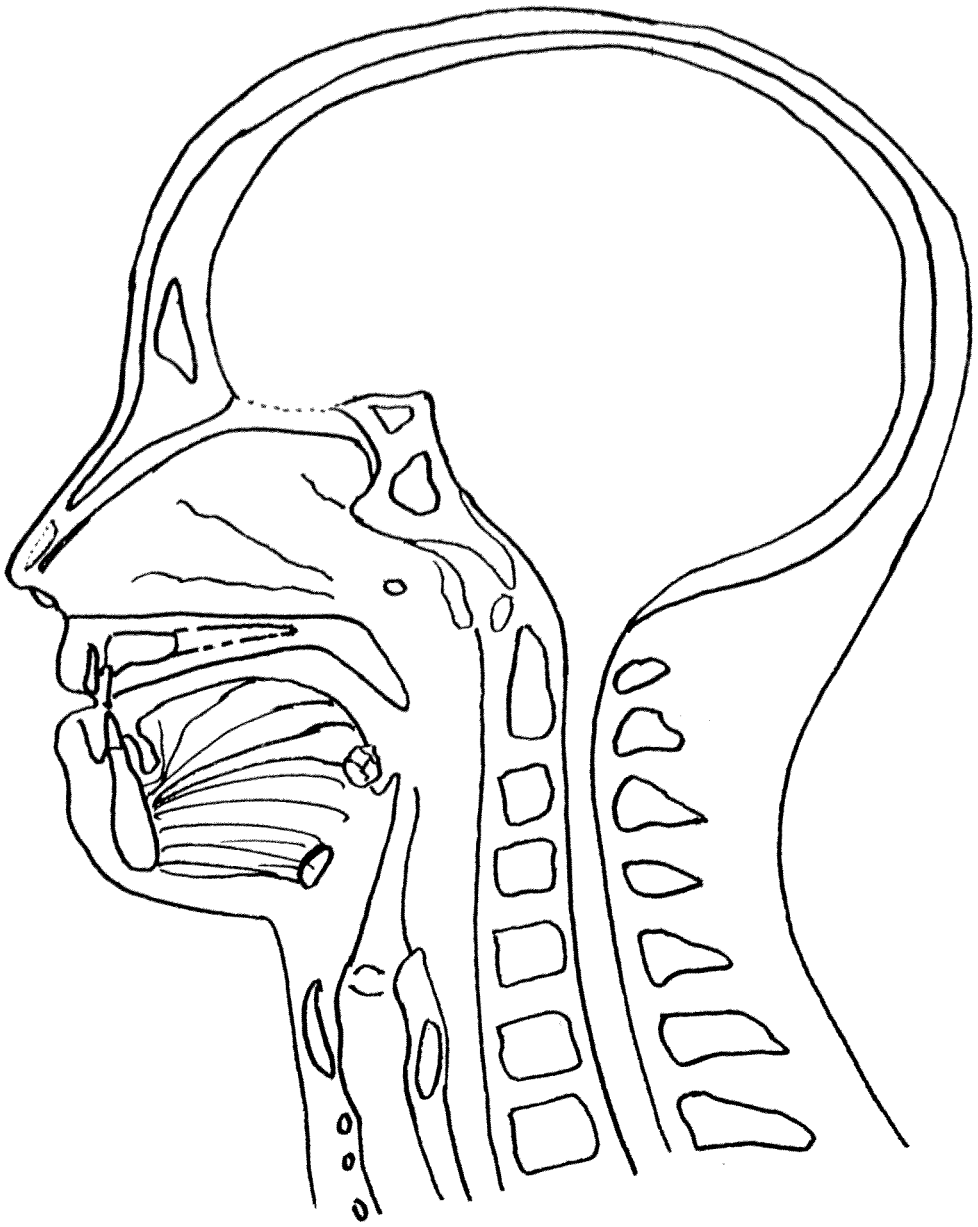
9 cartilages:
- 3 single: thyroid cartilage
  - epiglottis
    - -- glottis
  - cricoid cartilage
- 3 paired: arytenoid
  - cuneiform
  - corniculate

laryngeal muscles:
- extrinsic

- intrinsic
  - vocal folds = "true vocal cords"
  - ventricular folds = "false vocal cords"

TRACHEA
- cartilage "C-rings" (16-20)

BRONCHI (bronchus = sing.)
- primary (r & l)
- secondary = lobular
- tertiary = segmental
- bronchioles
- respiratory bronchioles
- alveoli



respiratory division

LUNGS
- pleural cavity
- pleura = pleural membrane
  - parietal
  - visceral
- hilum
- apex = cupola
- mediastinal surface
- costal surface
- base

right lung: 2 fissures / 3 lobes
- superior lobe
- middle lobe
- inferior lobe

left lung: 1 fissure / 2 lobes
- superior lobe
- inferior lobe

- cardiac notch

innervation:
- respiratory center in brainstem:
- -- medullary rhythmicity area in medulla
- -- apneustic area in pons
- -- pneumotaxic area in pons

inspiration:
- diaphragm
- external intercostals
  - -- phrenic nerve
  - -- intercostal nerves
  - -- accessory, cervical, thoracic nerves

expiration: (forced):
- internal intercostals (<-- intercostal nerves)
- abdominal muscles (<-- lower spinal nerves)

cleft palate
tracheotomy
tracheostomy
- -- recurrent laryngeal nerve
- -- carotid artery

pleurisy
hyaline membrane disease
cystic fibrosis
epistaxis
pneumothorax
pneumonia
apnea - dyspnea - eupnea - hyperpnea - tachypnea
tuberculosis
asthma
emphysema
cancers