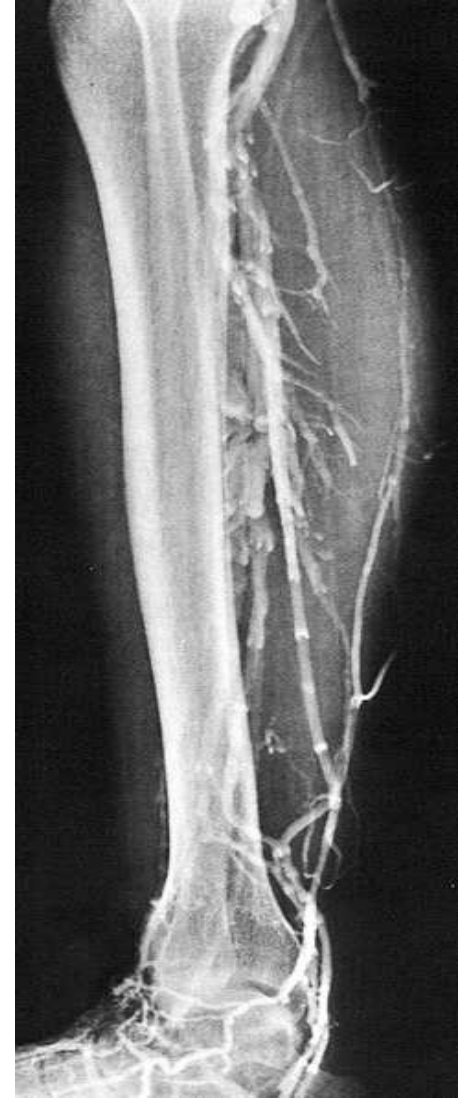
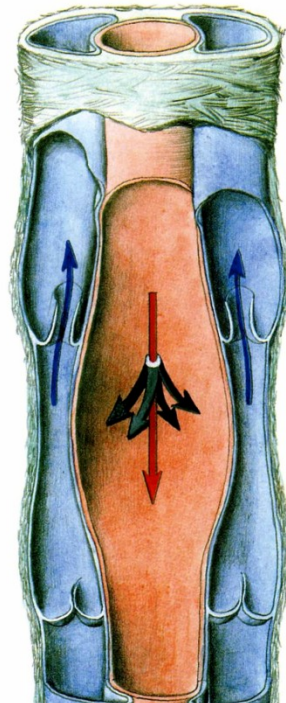
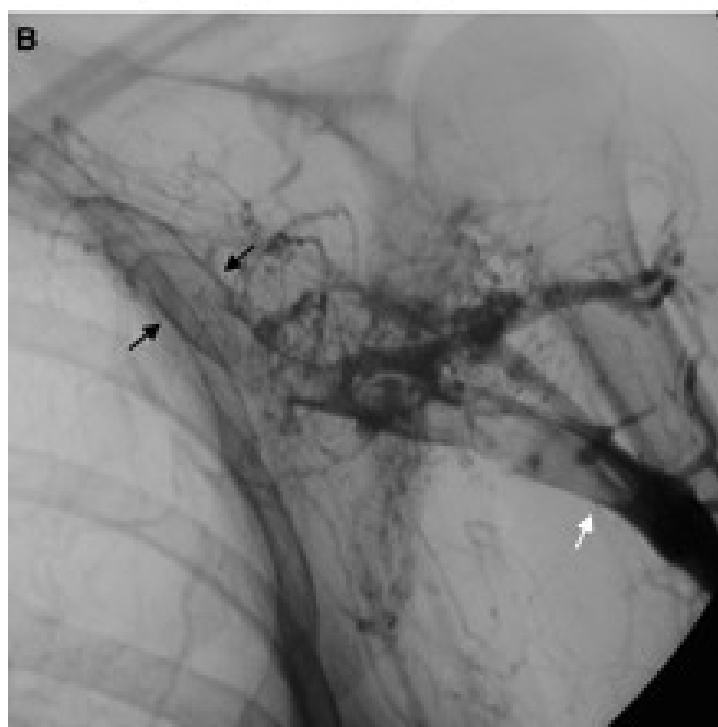


VEINS

- **CAPILLARIES, SINUSOIDS, POSTCAPILLARY VENULES**
- **VENULES, VEINS**
- **TUNICA INTIMA, MEDIA, ADVENTITIA**
- **VASA VASORUM, SYMPATHETIC AND AFFERENT NERVES**
- **VALVES, SINUS**
- **PHLEBOGRAPHY**
- **VENAE COMITANTES**



PHLEBOGRAPHY (VENOGRAPHY)



V. JUGULARIS INT.

1

2

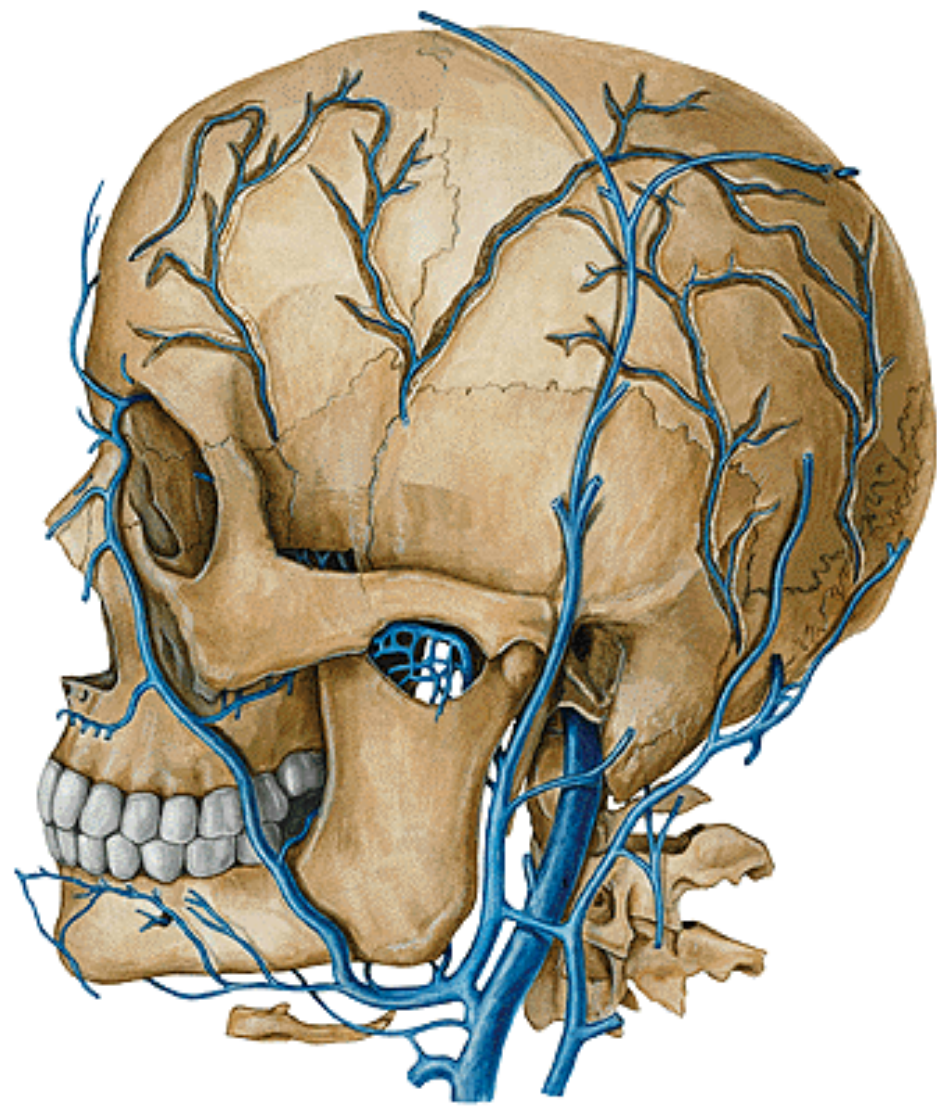
17

16

15

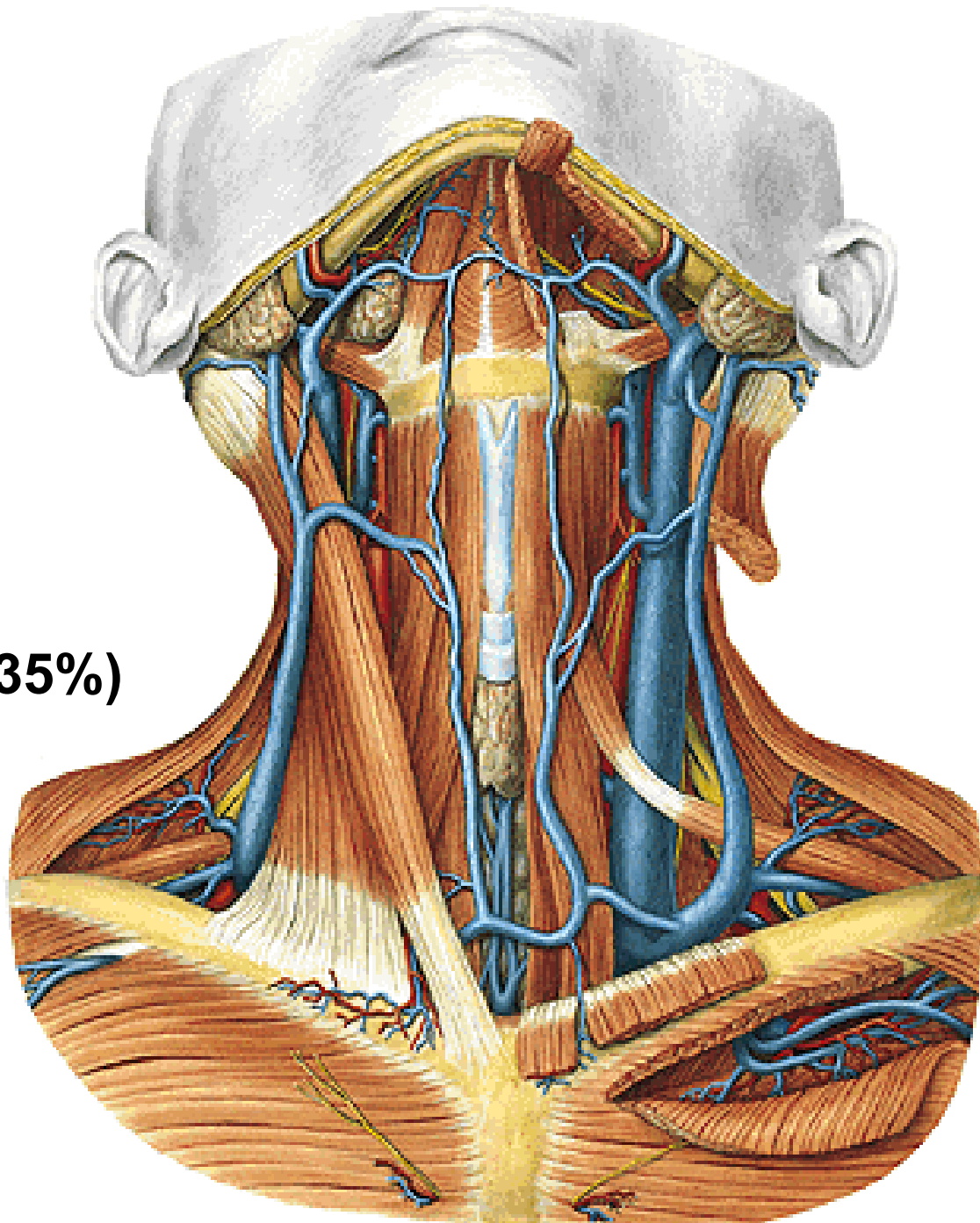
14

SINUS DURAE MATRIS



V. JUGULARIS INT.

- vv. pharyngeae
- v. facialis
- v. lingualis
- v. thyroidea sup.
(tr. thyrolingualis,
tr. thyrolinguofacialis)
- v. thyroidea media
- v. retromandibularis (35%)

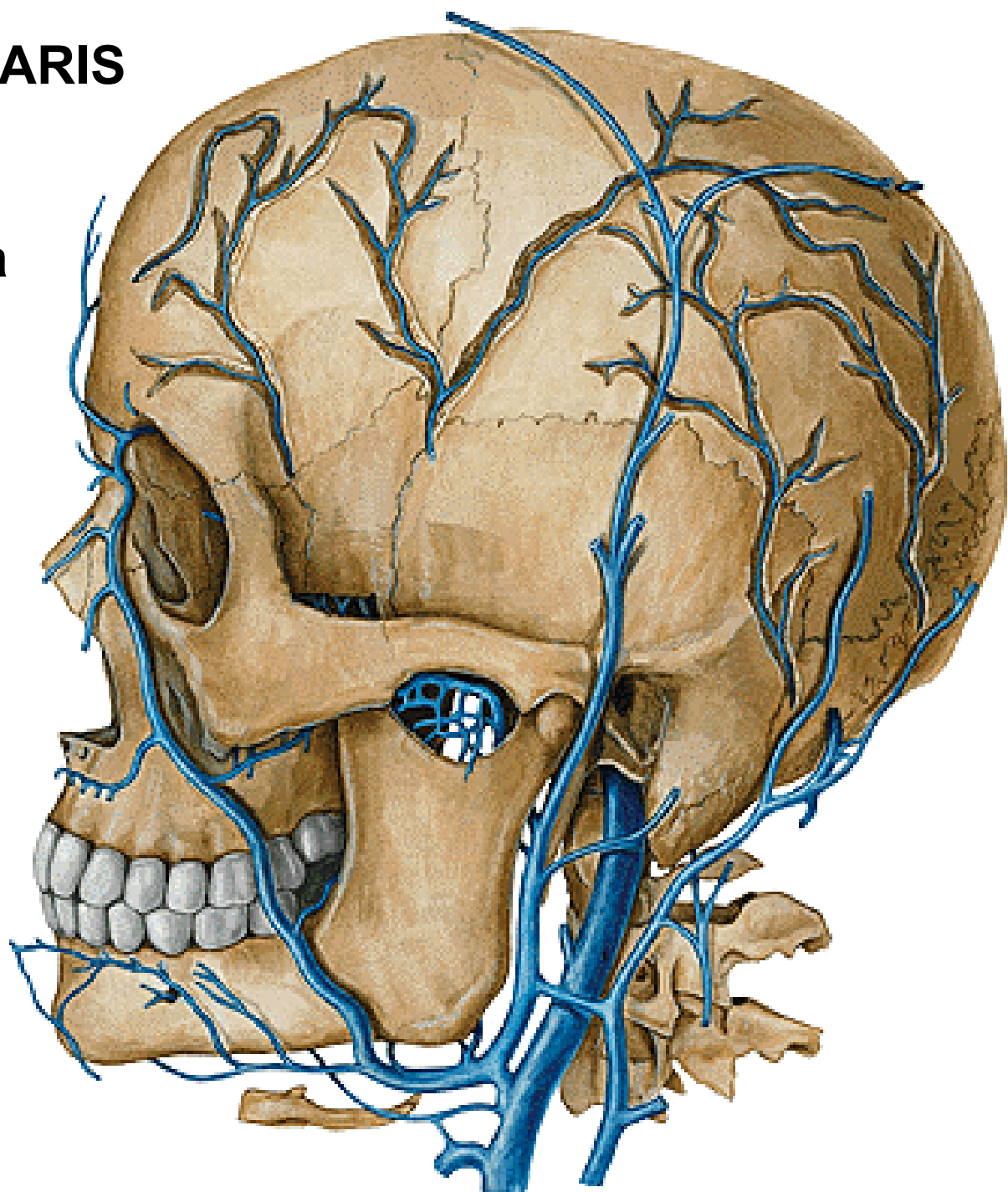


V. RETROMANDIBULARIS

- v. temporalis spf.
- v. maxillaris
- v. temporalis media
- v. transversa faciei

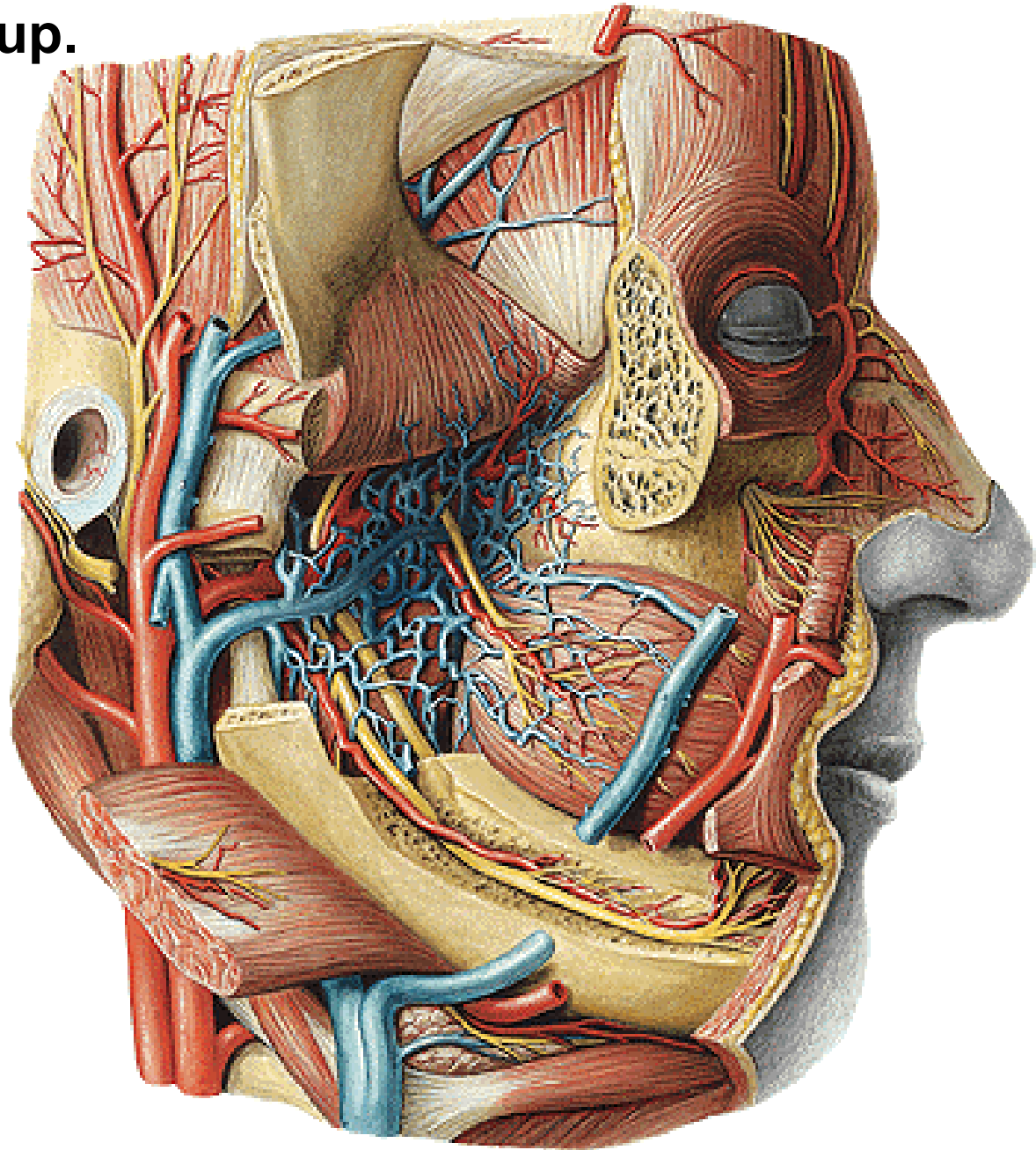
V. FACIALIS

- v. angularis
- v. prof. faciei
- v. palatina ext.

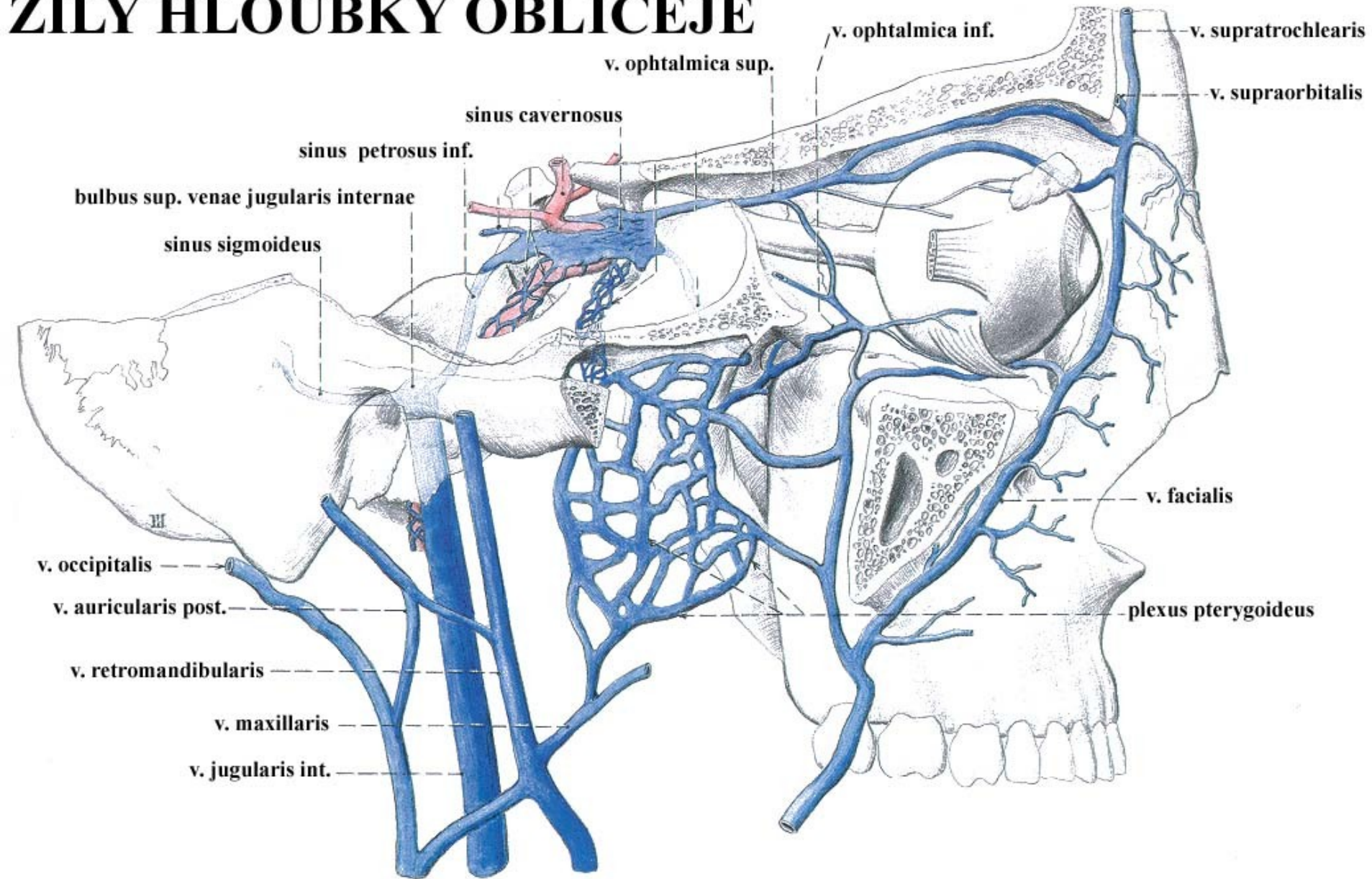


PLEXUS PTERYGOIDEUS

- v. alveolaris inf. et sup.
- v. sphenopalatina
- vv. palatinae

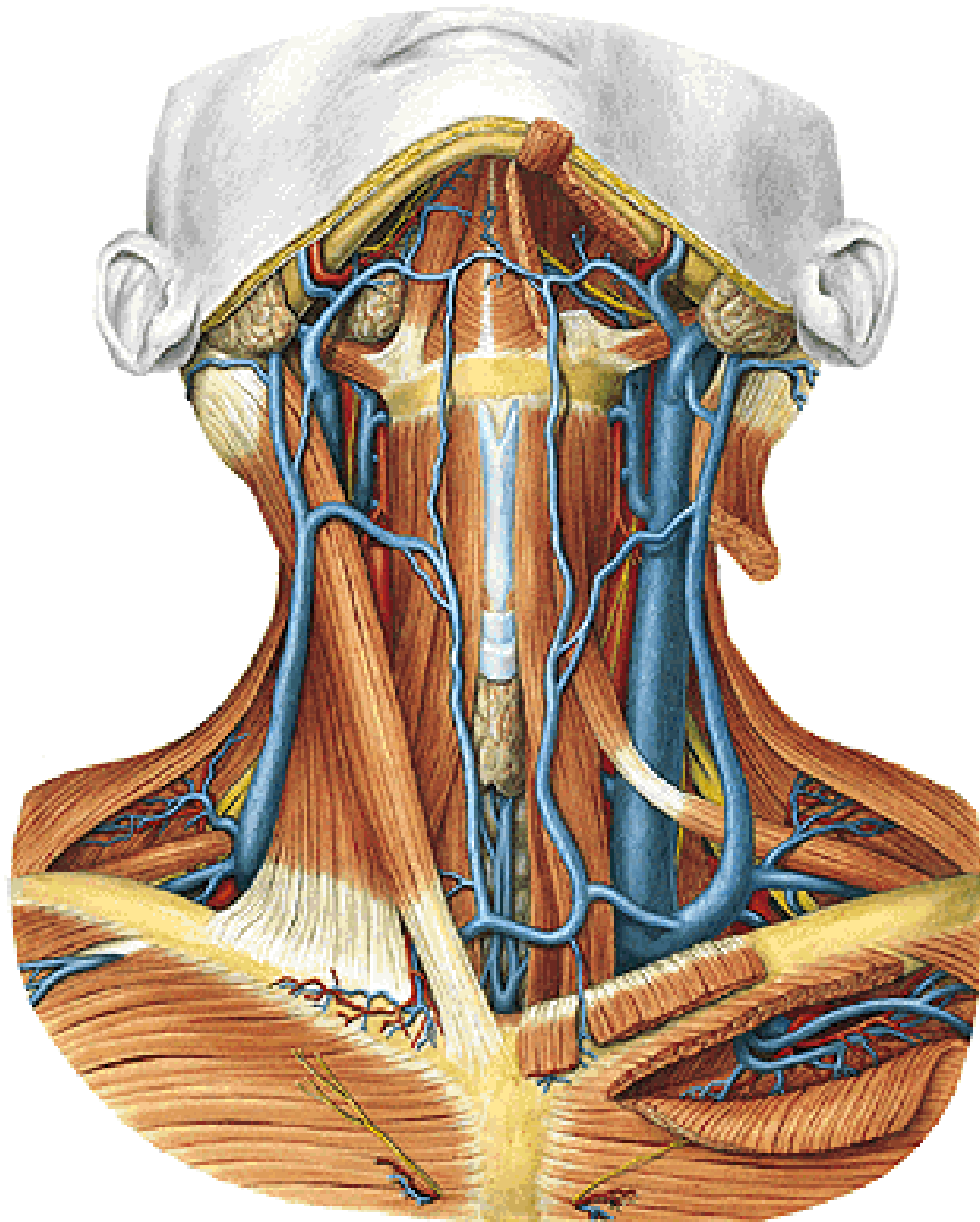


ŽÍLY HLOUBKY OBLIČEJE



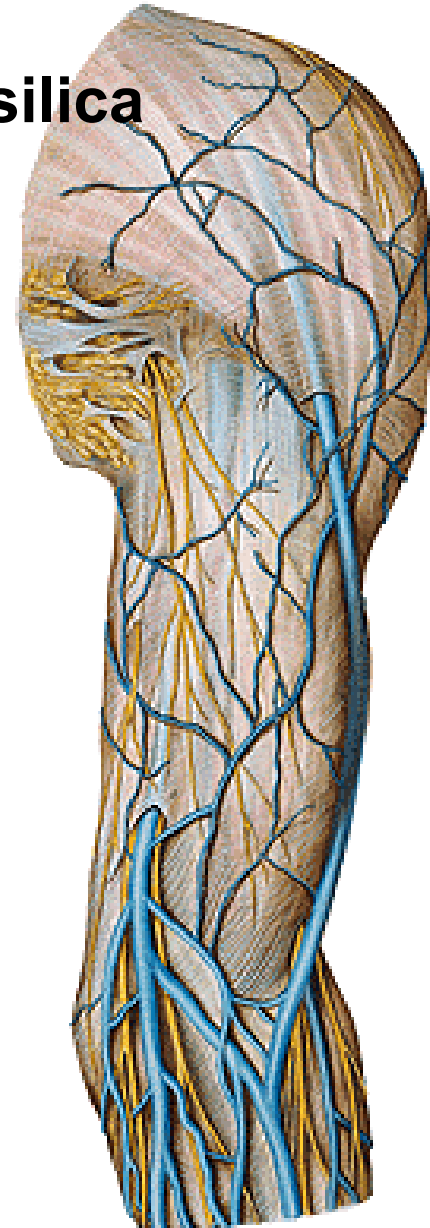
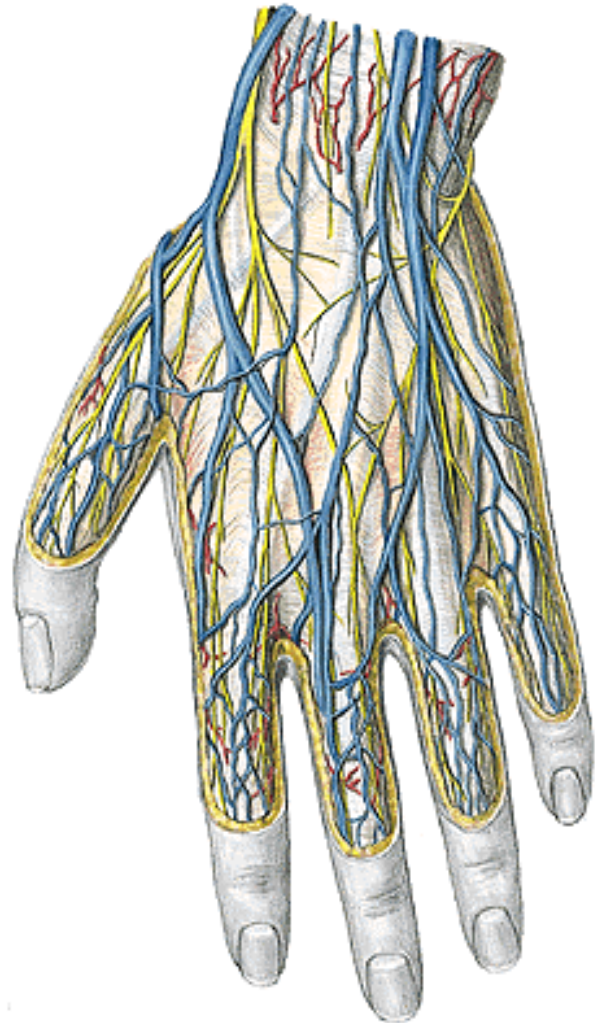
V. JUGULARIS EXT.

- v. retromandibularis
 - v. auricularis post.
 - v. occipitalis
 - v. jugularis ant.
- arcus venosus juguli**
(- v. mediana colli)
- v. transversa colli
 - v. suprascapularis



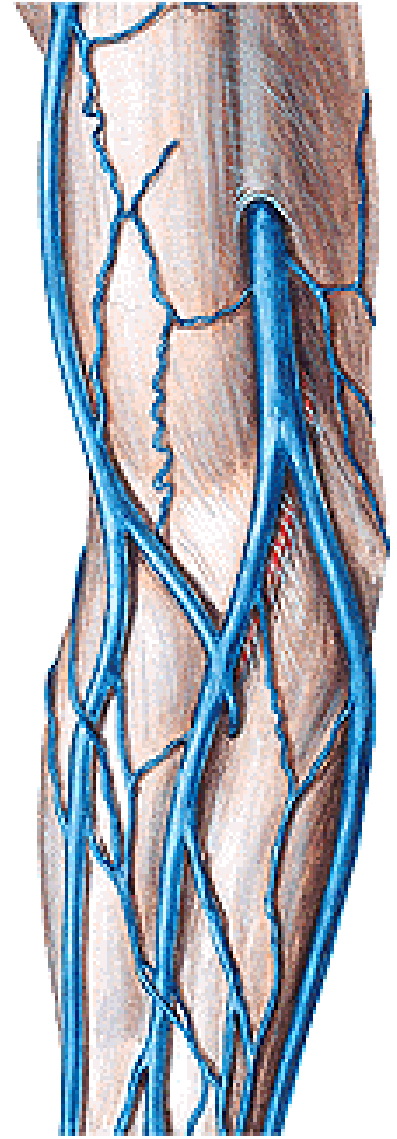
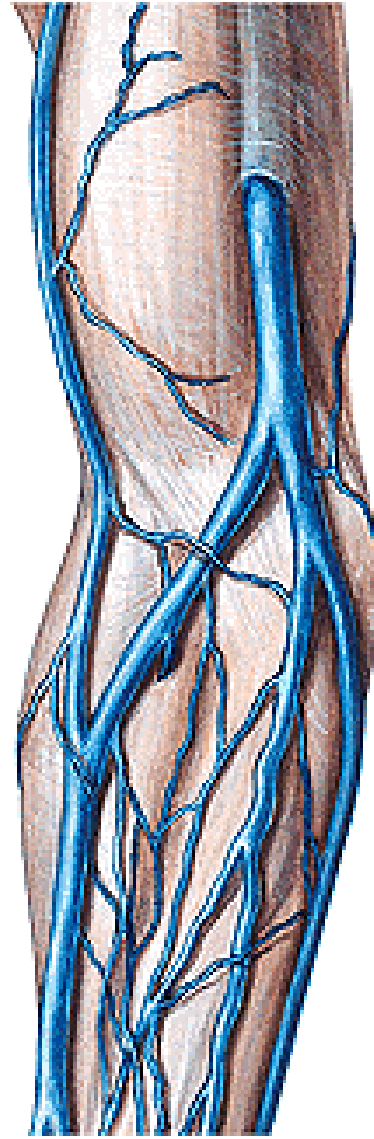
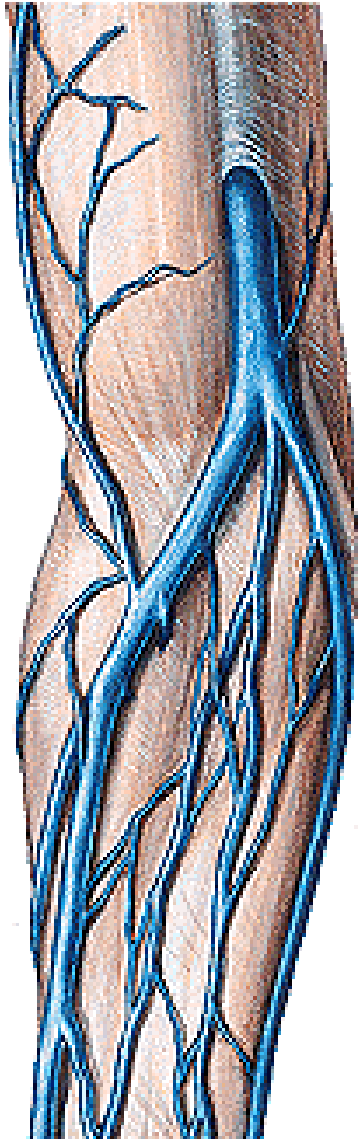
Rete digitale dorsale – vv. metacarpales dorsales – rete venosum dorsale manus (rete venosum palmare manus – vv. intercapitulares)

**v. basilica antebrachii (hiatus basilicus) – v. basilica
v. cephalica antebrachii – v. cephalica**



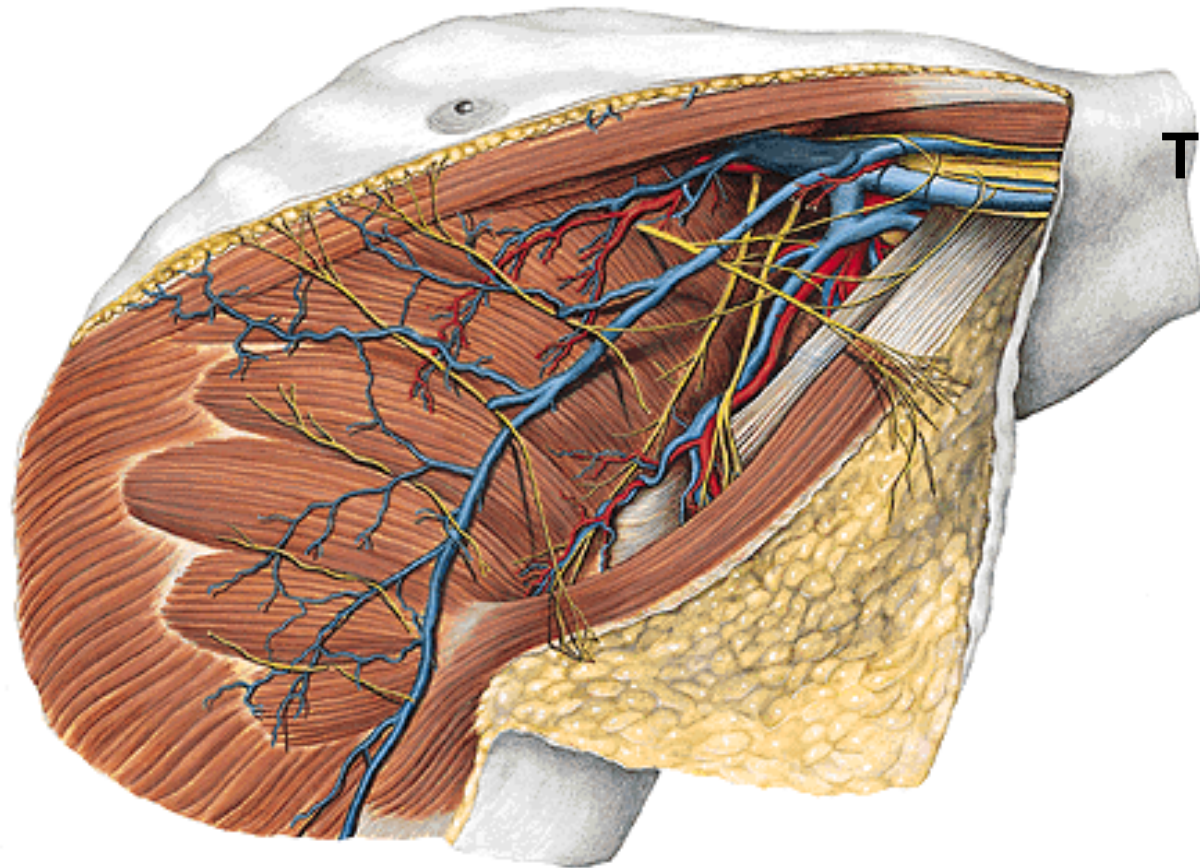
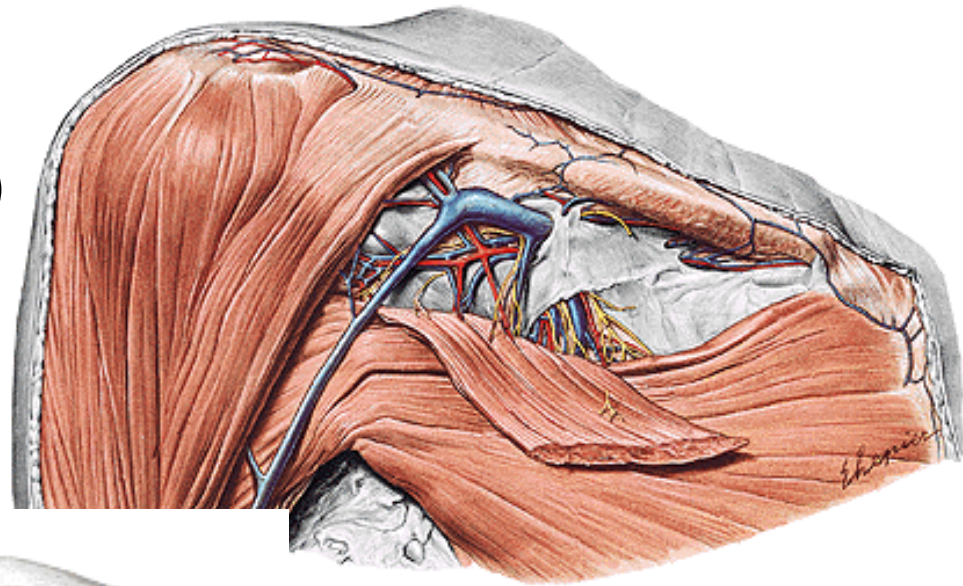
V. mediana cubiti

V. mediana antebrachii – v. mediana cephalica et basilica



V. AXILLARIS

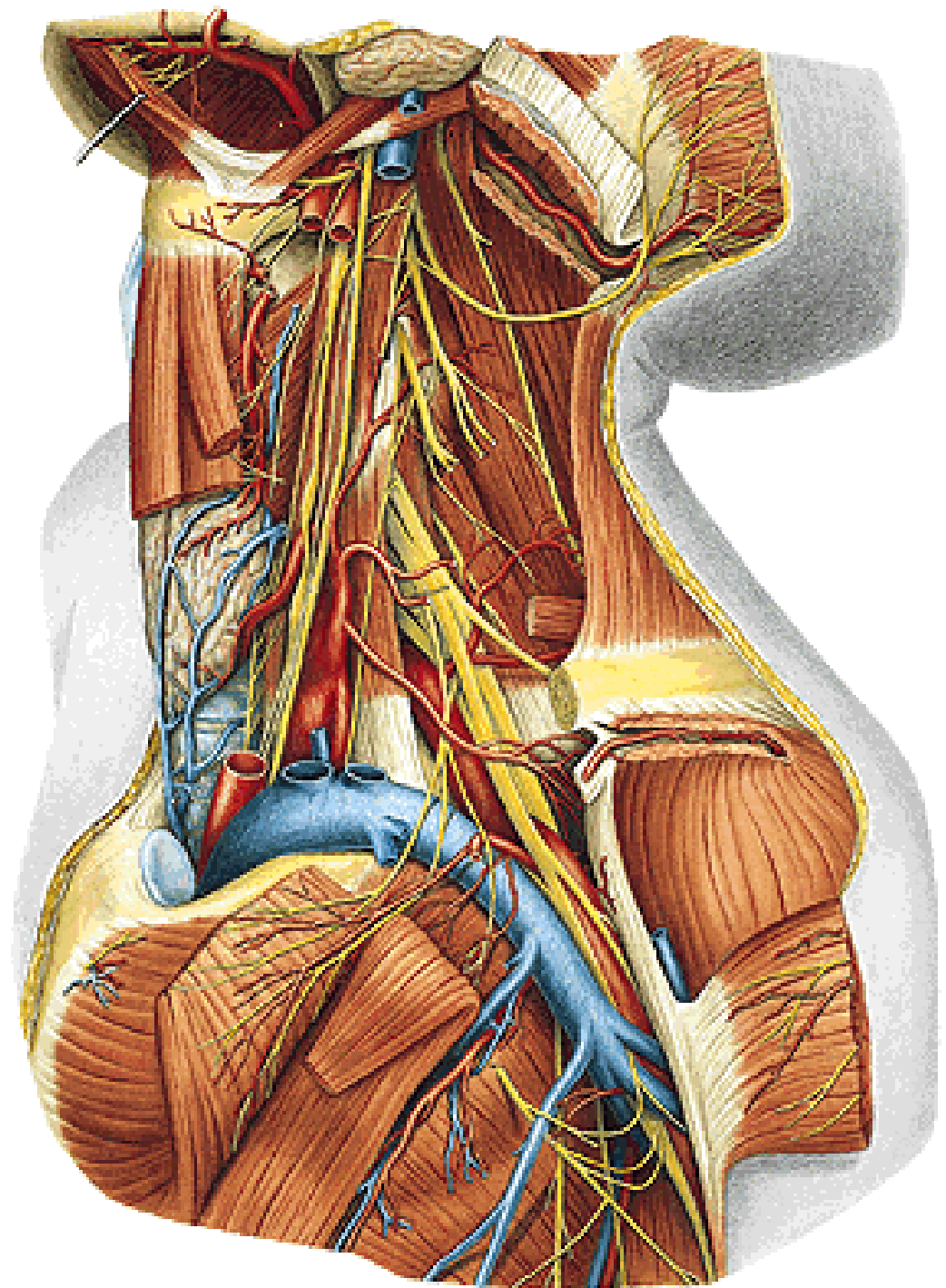
- v. basilica
- vv. brachiales (deep veins)
- vv. thoracoepigastricae
- v. cephalica



**Trig. clavipectoriale
(deltoideopectoriale)**

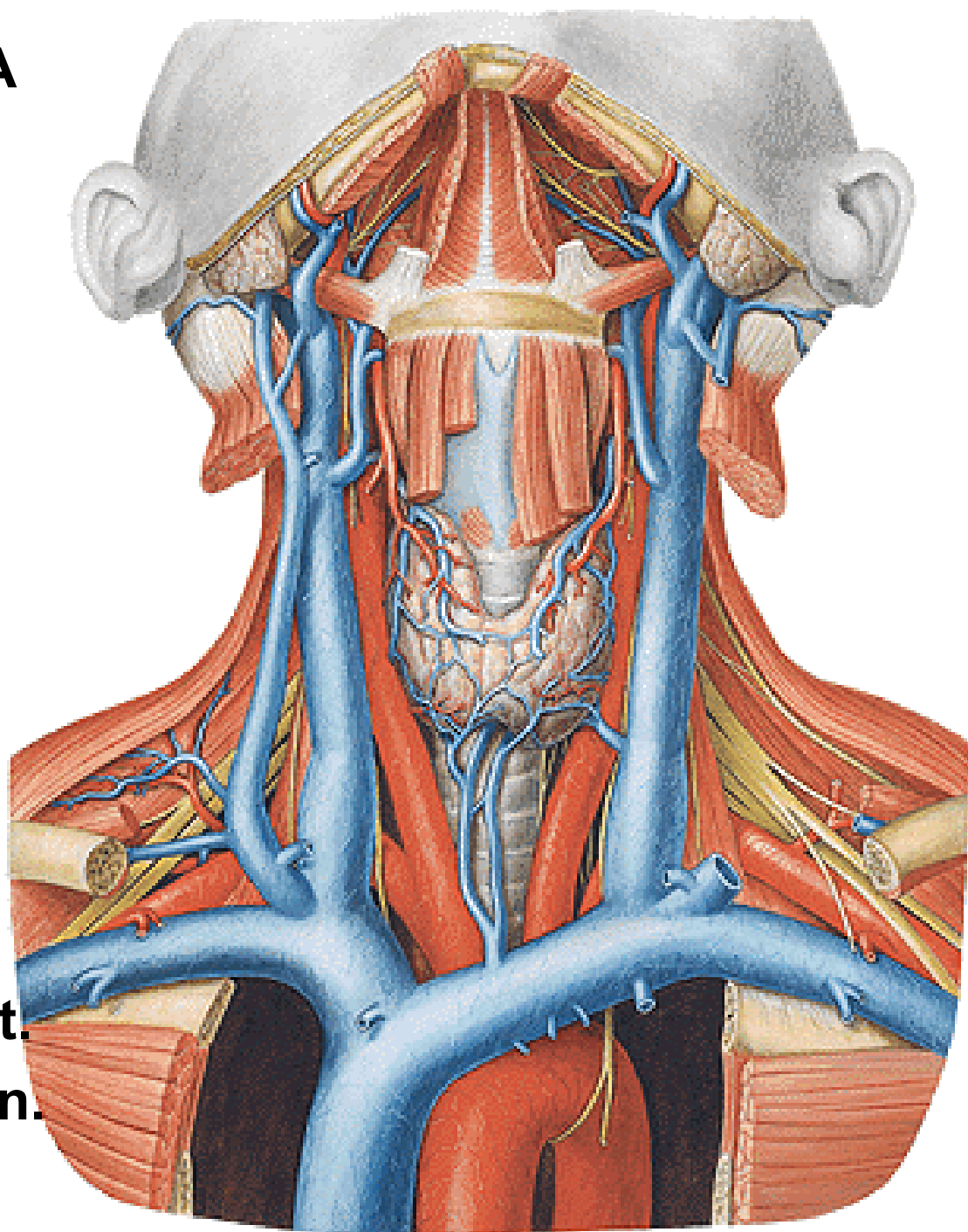
V. SUBCLAVIA

- v. axillaris
- vv. pectorales
- v. scapularis dorsalis



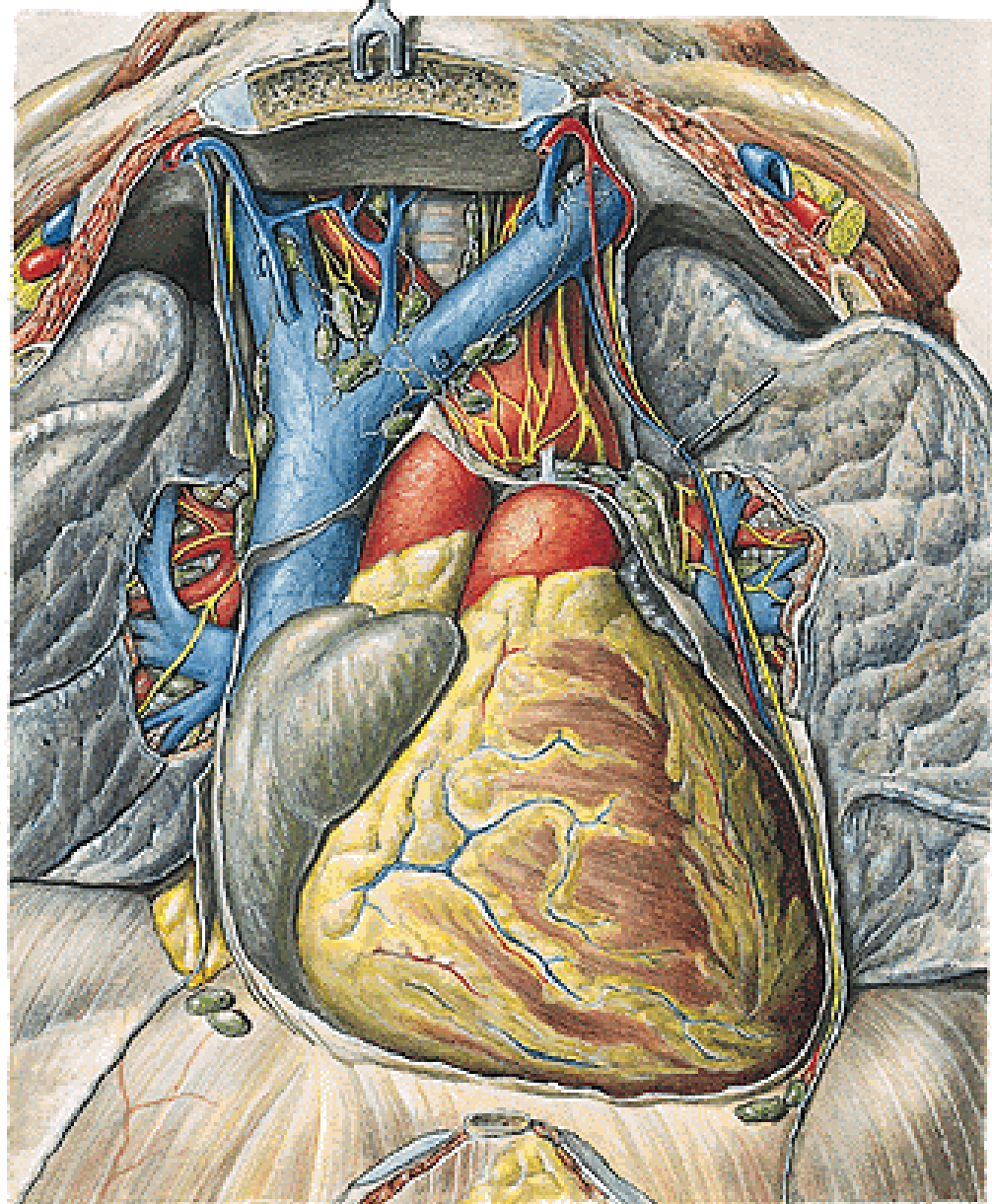
V. BRACHIOCEPHALICA

- v. jugularis int.
- v. subclavia
(angulus venosus)
- v. jugularis ext.
- vv. thyroideae inf.
(v. thyroidea ima)
- vv. thymicae
- vv. tracheales
- vv. mediastinales
- vv. bronchiales
- vv. pericardiacae
- v. vertebralis
- v. thoracica int.
- 1st v. intercostalis post.
- v. intercostalis sup. sin.



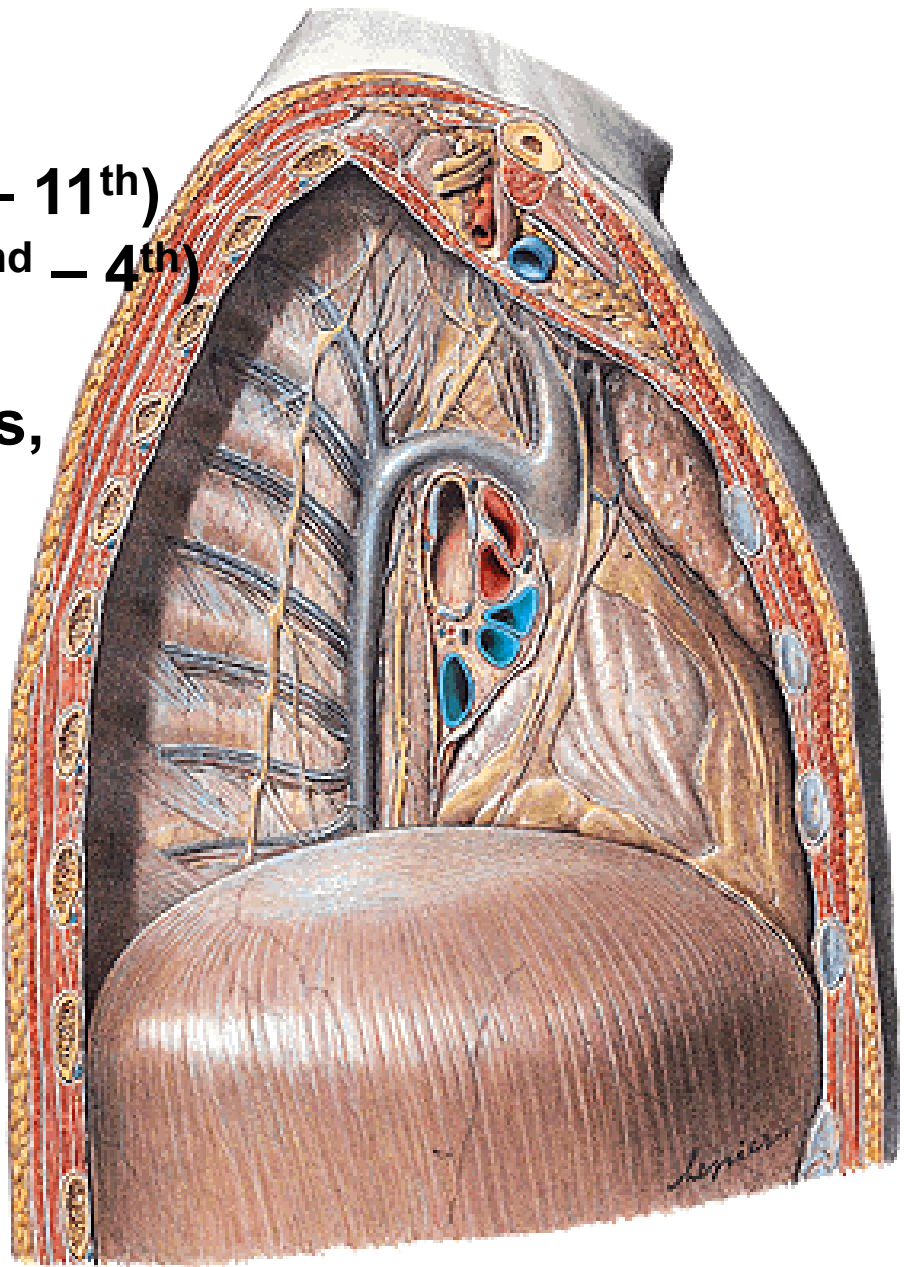
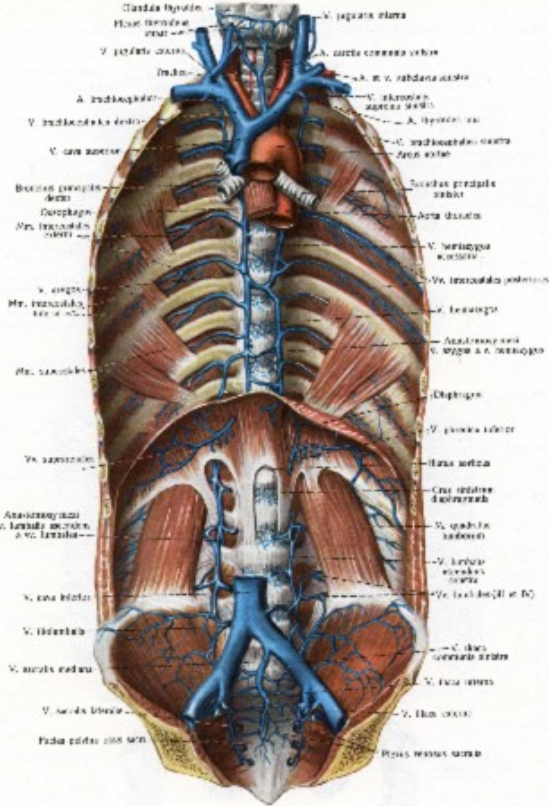
V. CAVA SUP.

- v. brachiocephalica dx. et sin.
- v. azygos



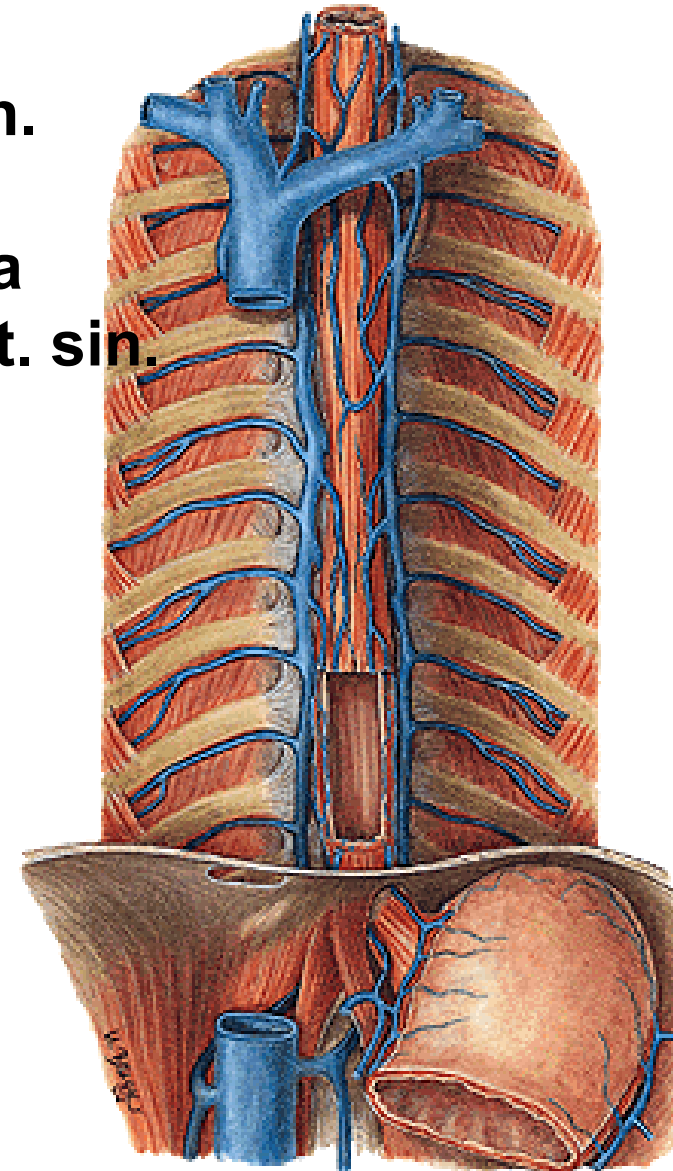
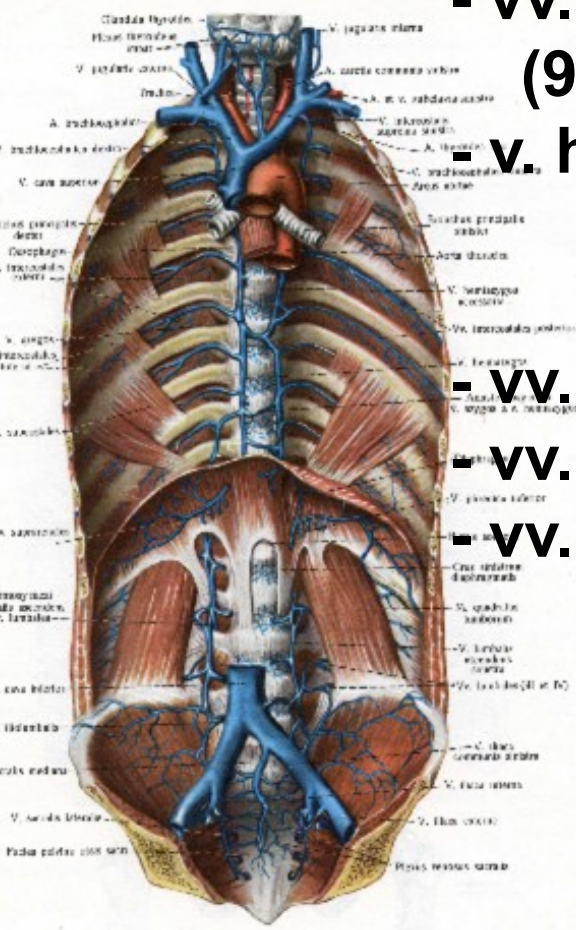
V. AZYGOS

- v. lumbalis ascendens dx. + v. subcostalis dx. (vv. lumbales dx.)
- v. phrenica sup. dx.
- vv. intercostales post. dx. (5th – 11th)
- v. intercostalis suprema dx. (2nd – 4th)
- v. hemiazygos
- vv. oesophageales, bronchiales, mediastinales



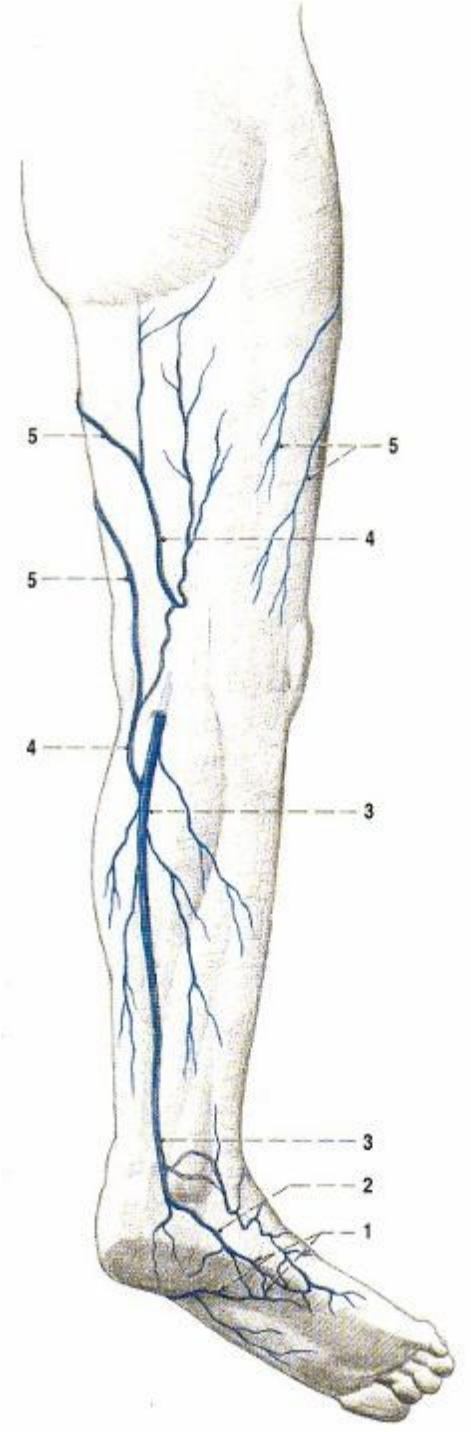
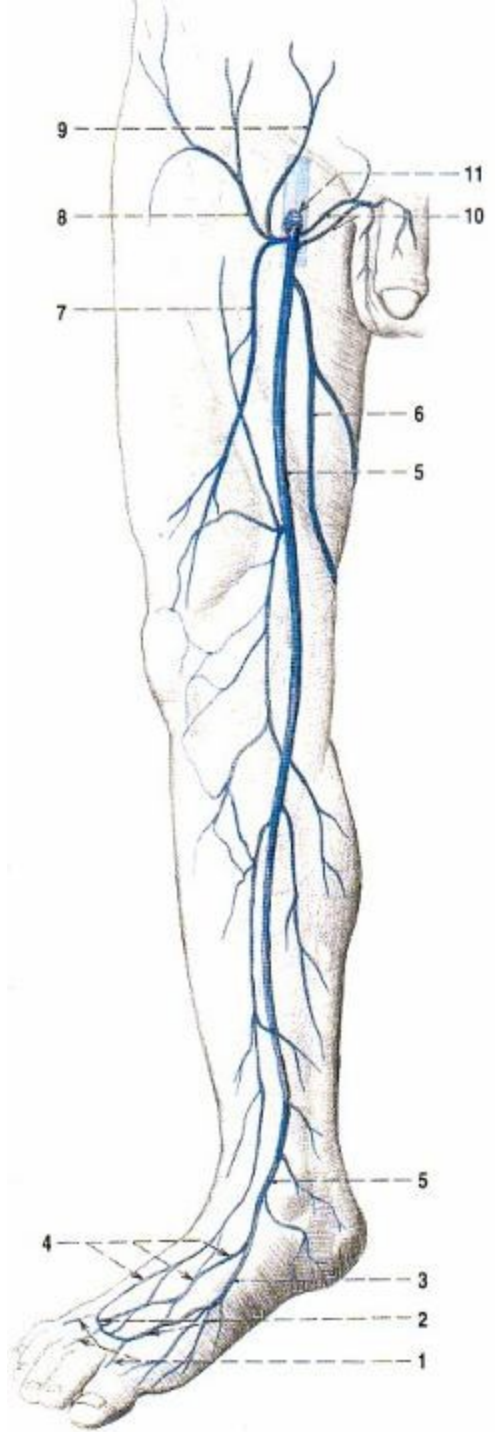
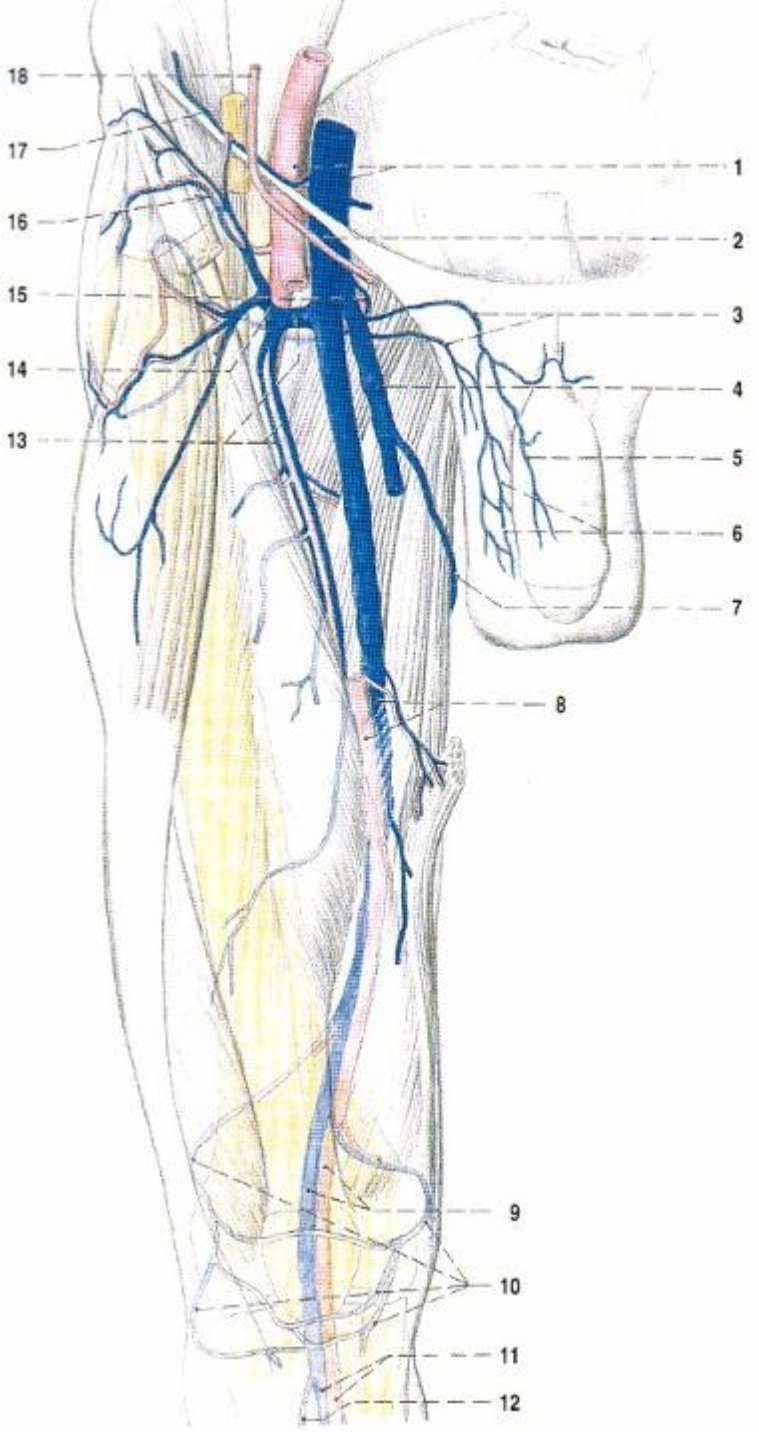
V. HEMIAZYGOS

- v. lumbalis ascendens sin. + v. subcostalis sin.
(vv. lumbales sin.)
- v. phrenica sup. sin.
- vv. intercostales post. sin.
(9th-11th)
- v. hemiazygos accessoria
(vv. intercostales post. sin.
5th – 8th)
- vv. oesophageae
- vv. bronchiales,
- vv. mediastinales



Vv. digitales dorsales – vv. metatarsae dorsales – arcus venosus dorsalis (rete venosum dorsale pedis)
arcus venosus plantaris (rete venosum plantare pedis)
– vv. intercapitulares
v. marginalis med. – v. saphena magna
v. marginalis lat. – v. saphena parva (v. femoropoplitea)





v. saphena magna

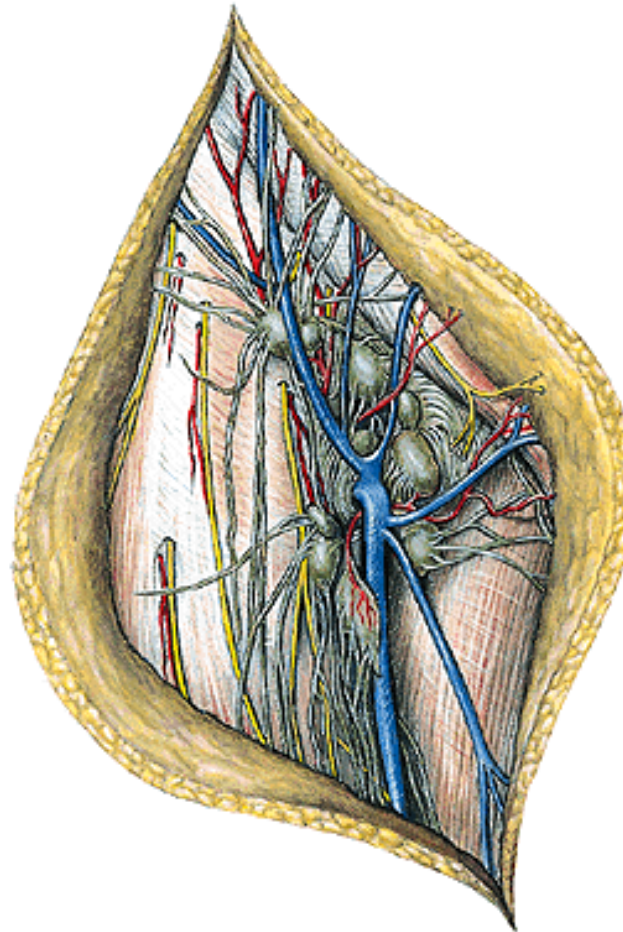
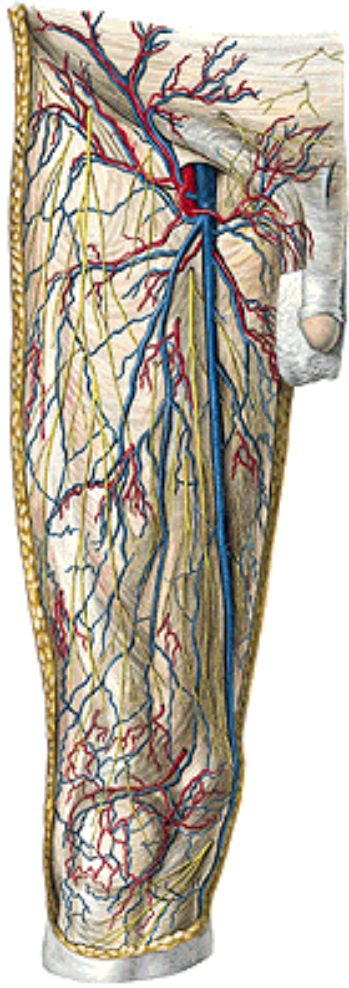
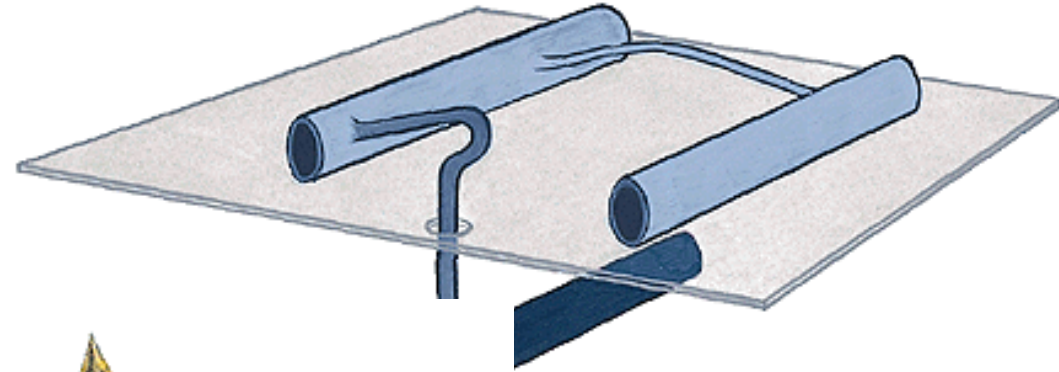


femur

V. SAPHENA MAGNA

- v. saphena accessoria
- v. epigastrica spf.
- v. circumflexa ilium spf.
- vv. pudendae ext.

vv. perforantes

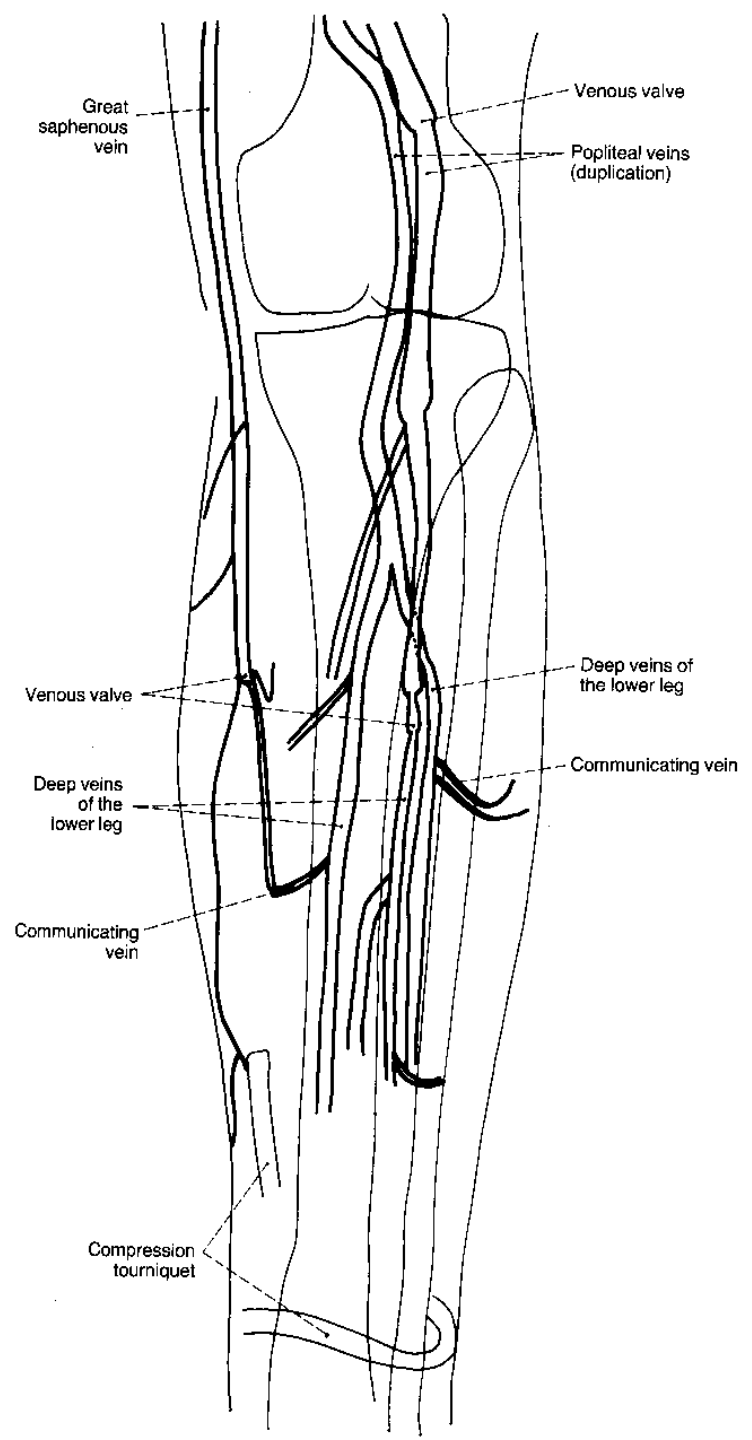
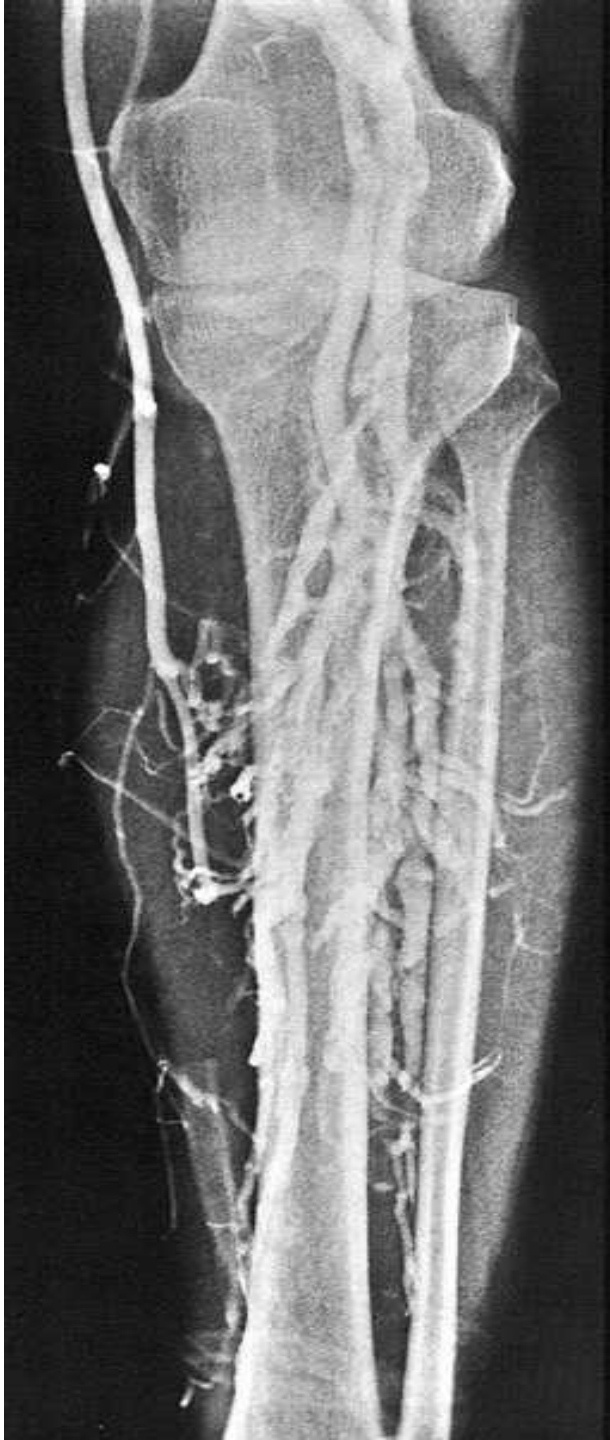


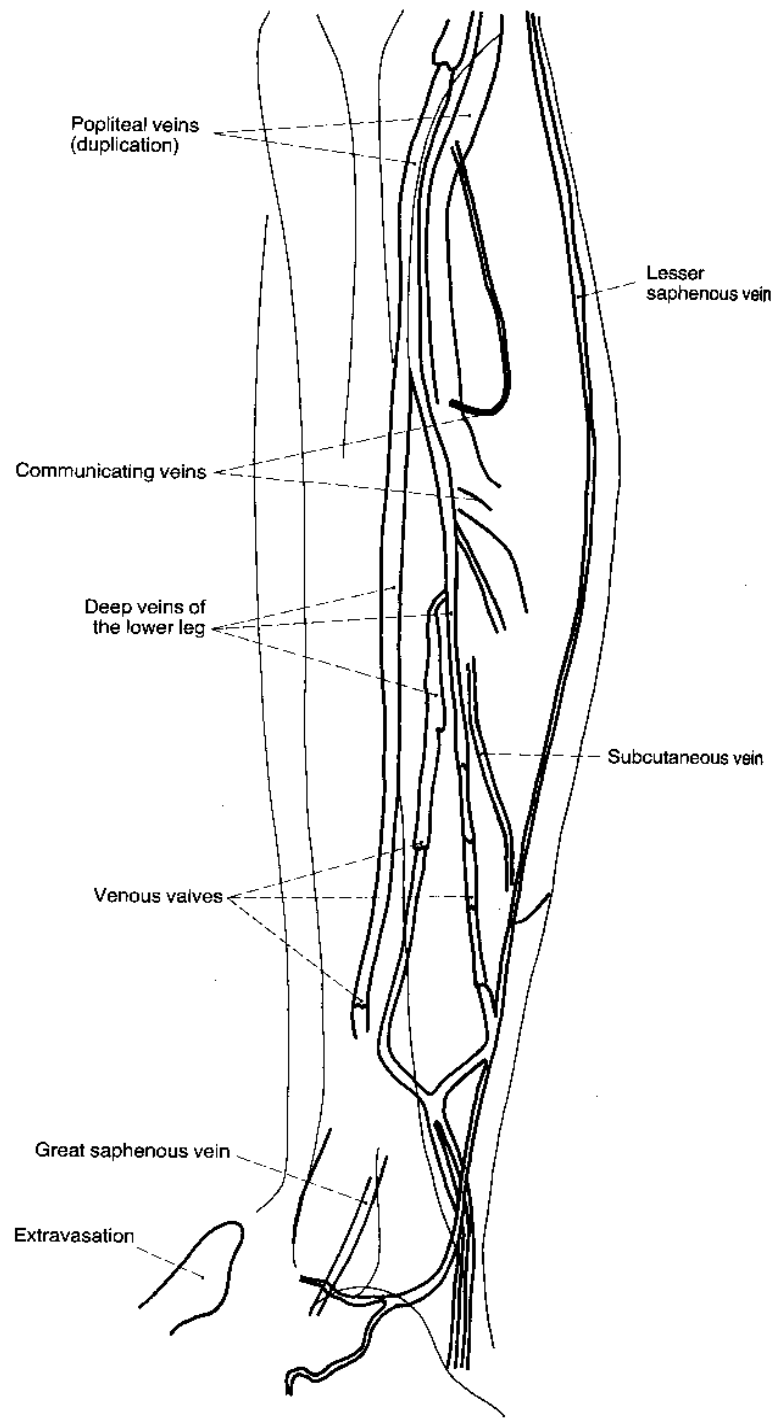


ULCUS CRURIS



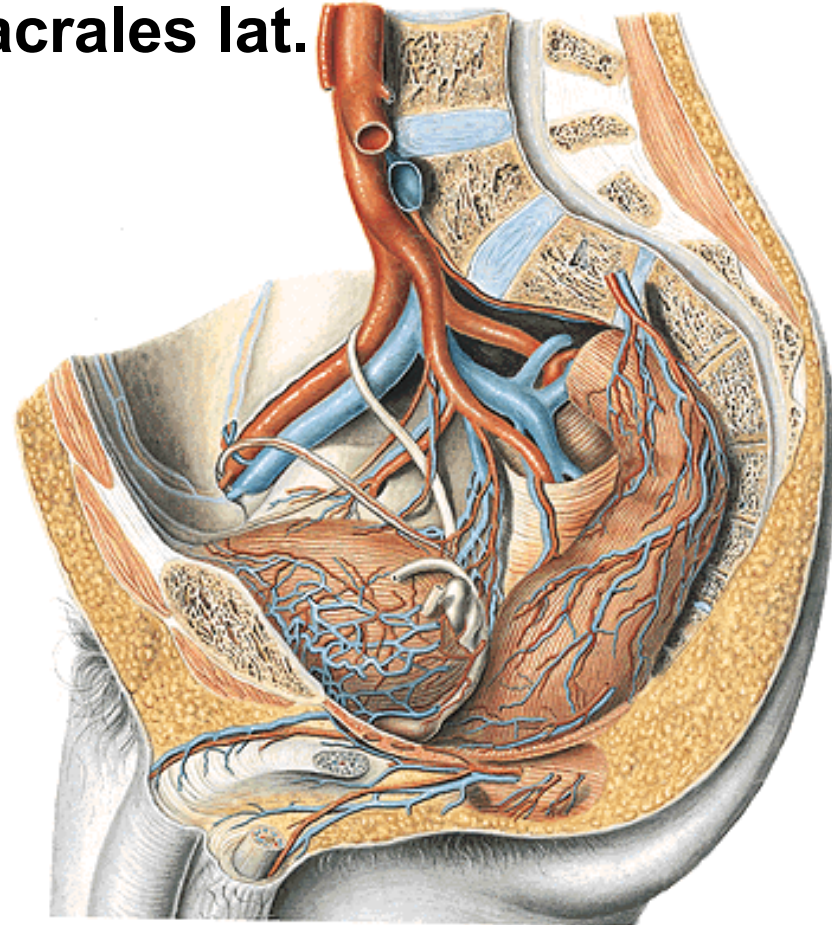
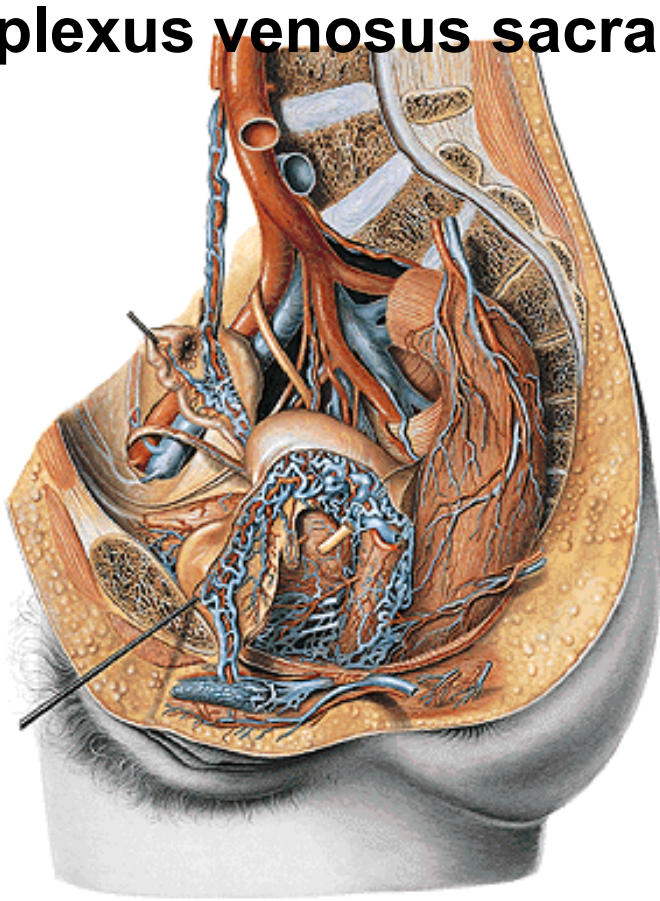






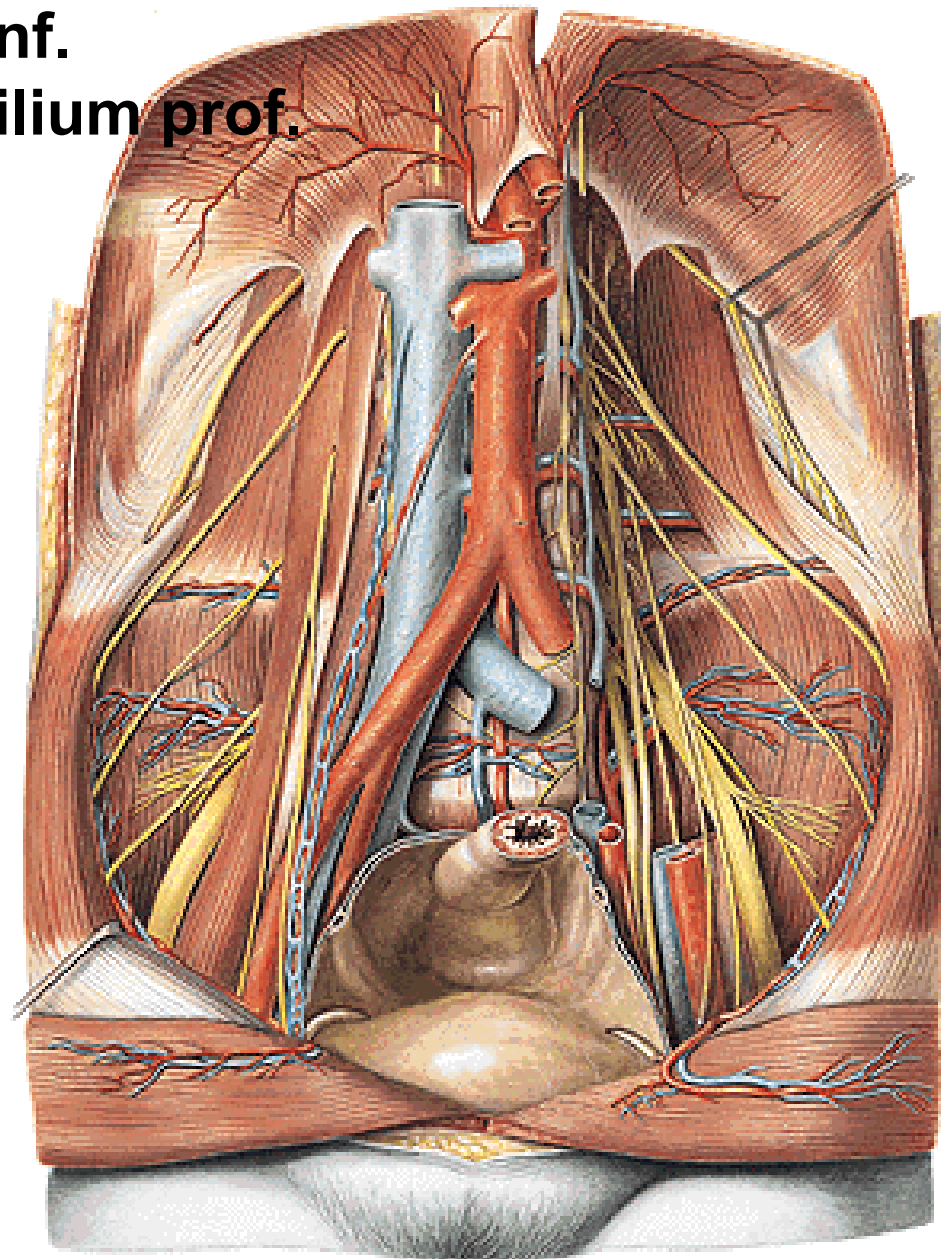
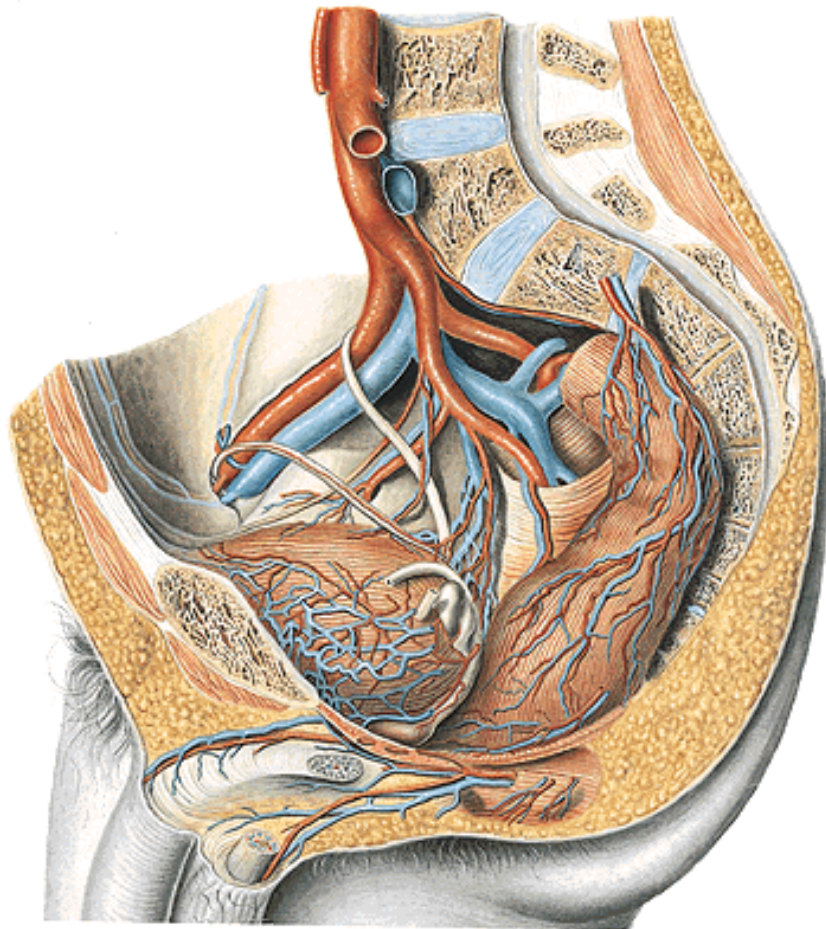
V. ILIACA INTERNA

- plexus venosus vesicalis – vv. vesicales
- plexus venosus prostaticus – v. dorsalis penis prof.
- plexus venosus vaginalis – v. dorsalis clitoridis prof.,
- plexus venosus uterinus – vv. uterinae
- plexus venosus rectalis – v. rectalis sup., media, inf.
- plexus venosus sacralis – vv. sacrales lat.



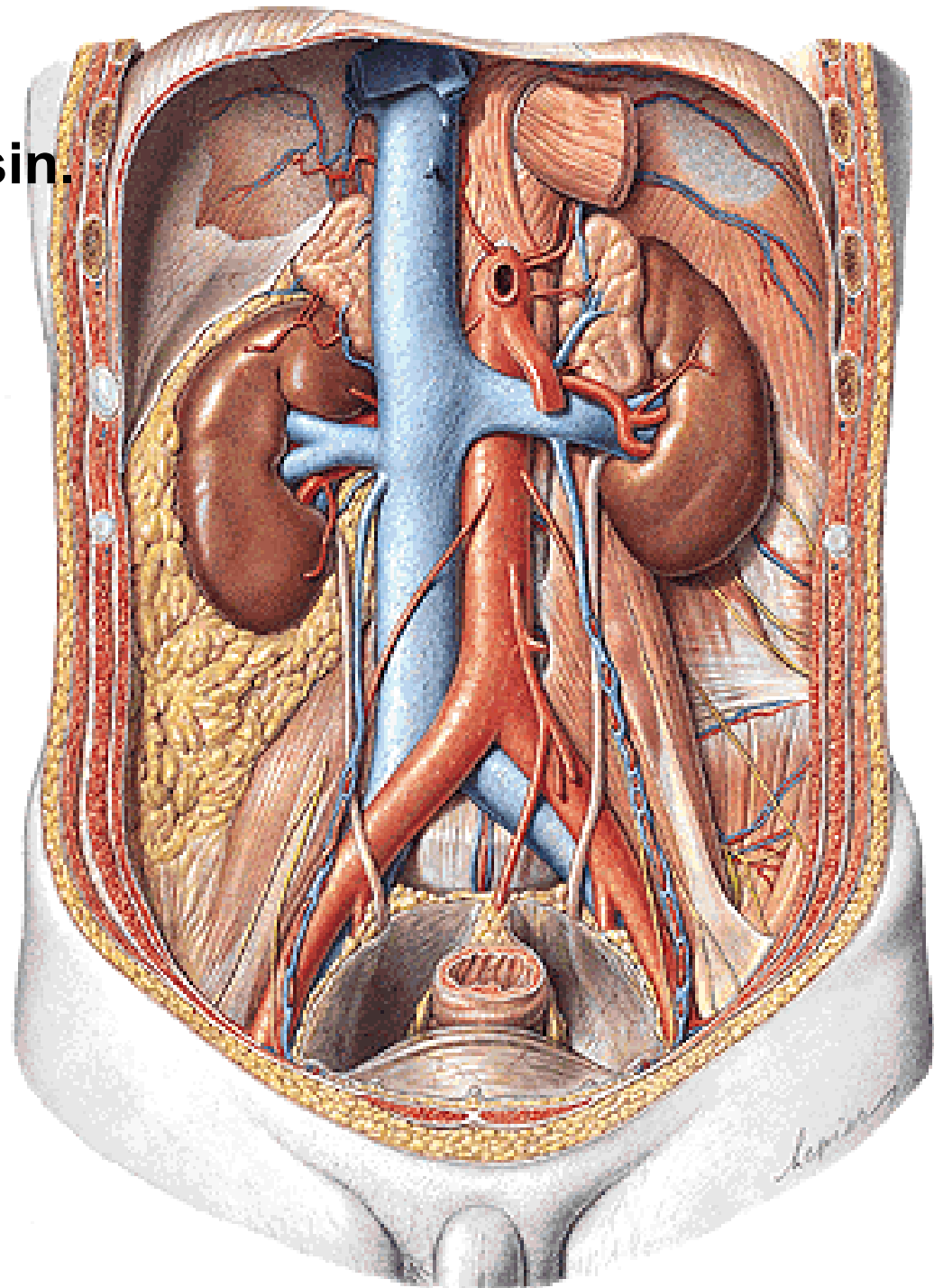
V. ILIACA COMMUNIS

- v. iliaca ext - v. femoralis
- v. epigastrica inf.
- v. circumflexa ilium prof.
- v. iliaca int.



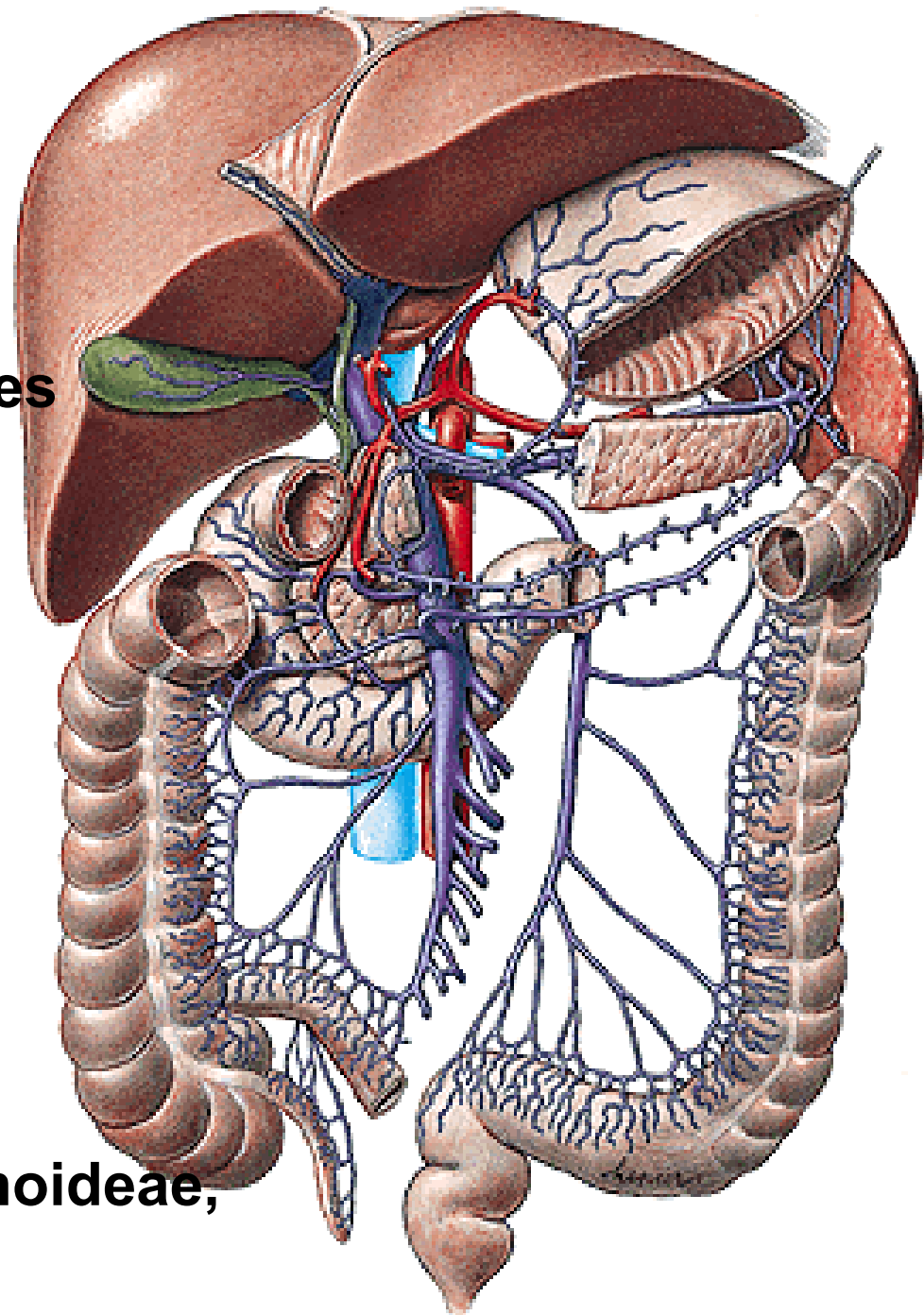
V. CAVA INF.

- v. iliaca communis dx. et sin.
- vv. lumbales
- vv. phrenicae inf.
- v. sacralis mediana
- v. testicularis dx.
(- v. ovarica dx.)
- vv. renales
- v. suprarenalis dx.
- vv. hepaticae



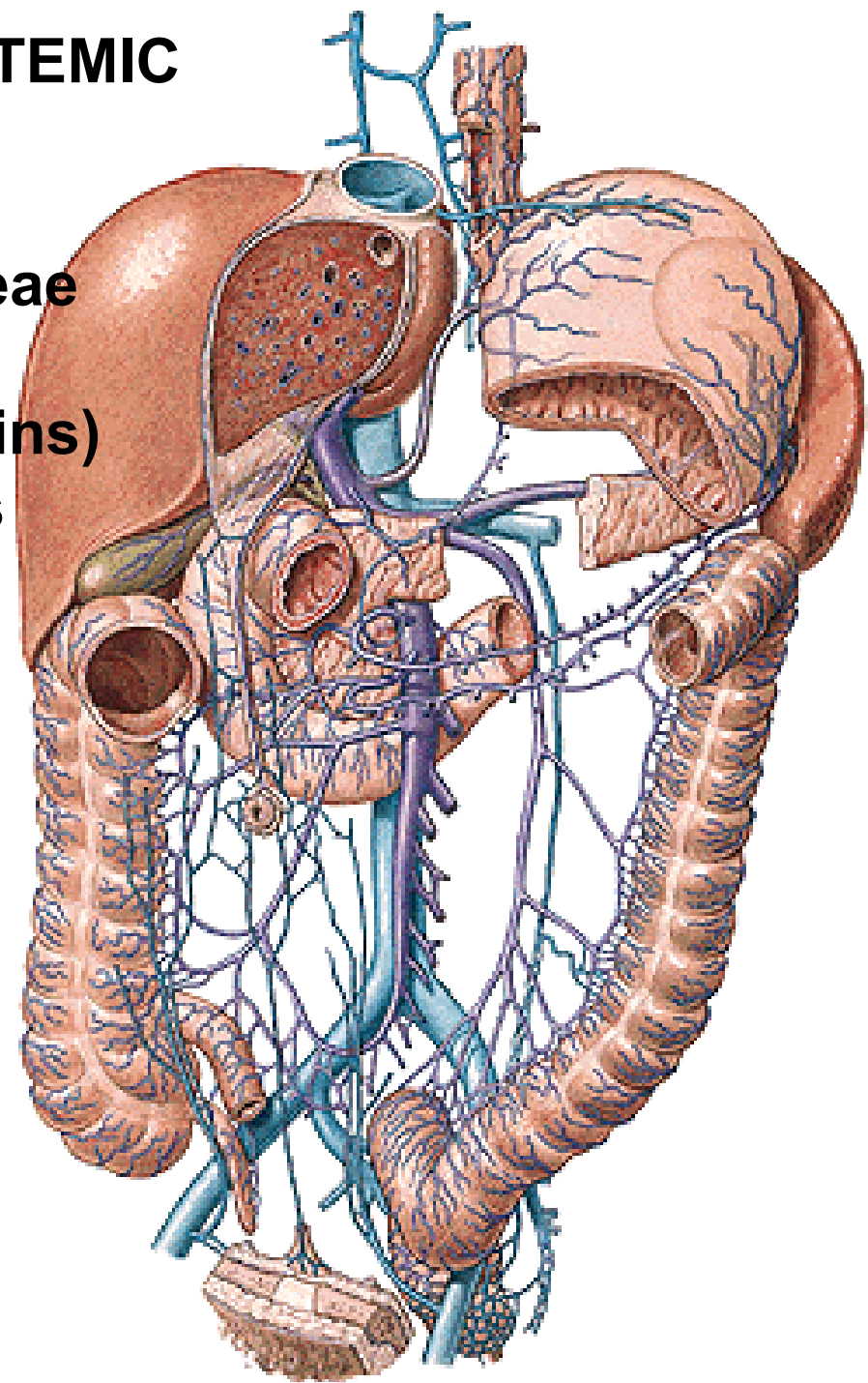
V. PORTAE

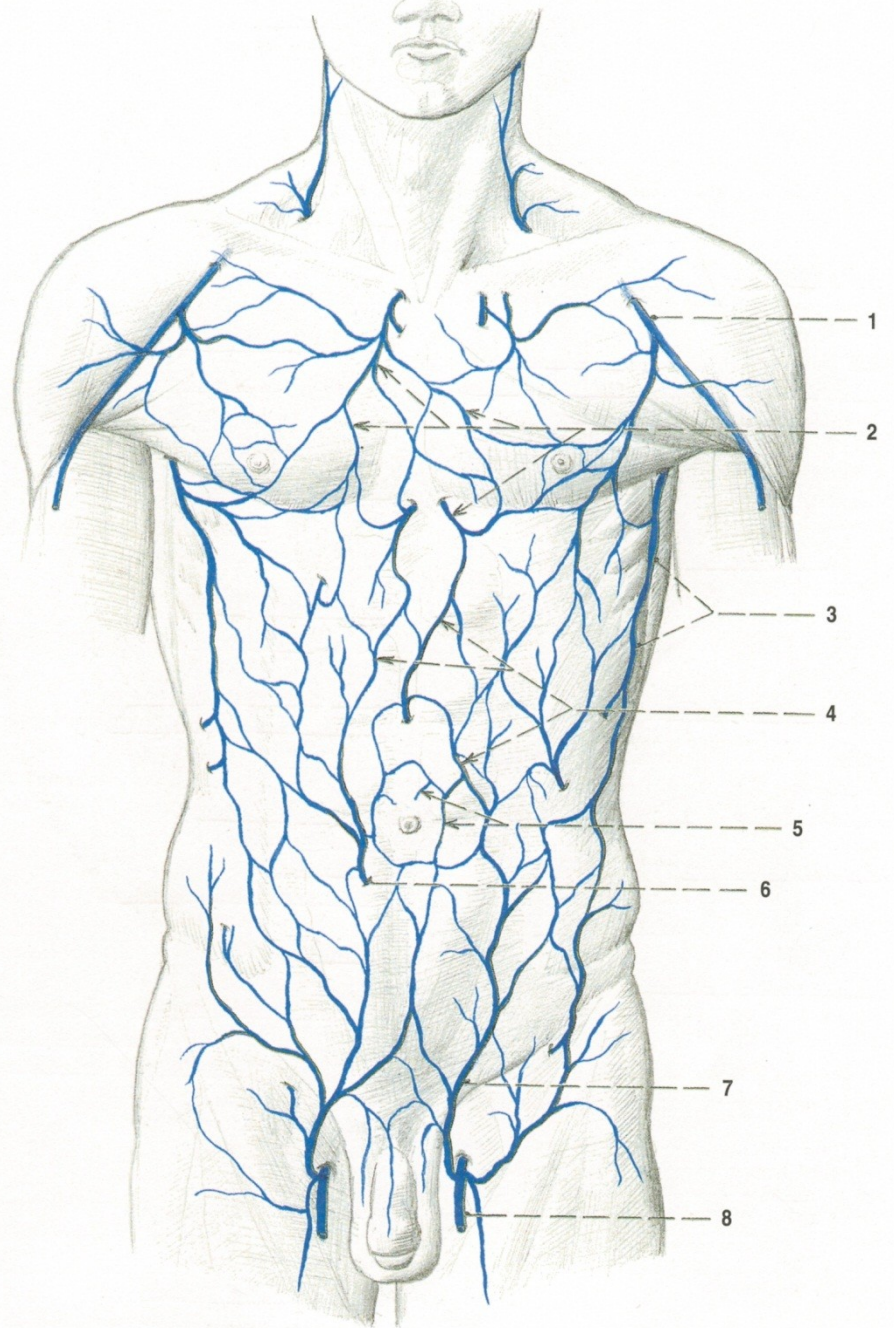
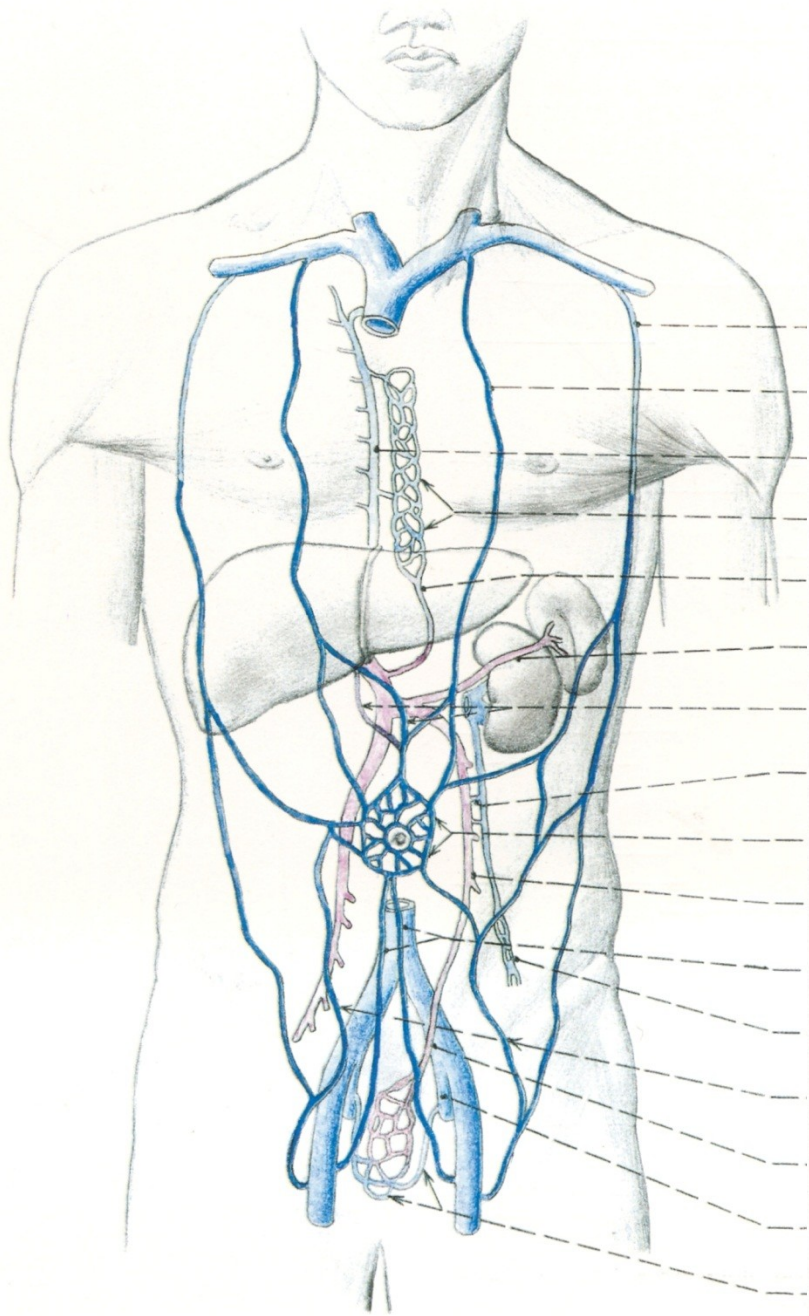
- vv. cysticae
- v. gastrica sin.
- v. gastrica dx.
- v. mesenterica sup.
 - vv. pancreaticoduodenales
 - vv. pancreaticae
 - v. gastromentalis dx.
 - vv. jejunales et ileales
 - v. ileocolica
 - v. colica dx. et media
- v. splenica/lienalis
 - vv. gastricae breves
 - v. gastromentalis sin.
 - vv. pancreaticae
- v. mesenterica inf.
 - v. colica sin., vv. sigmoideae,
v. rectalis sup.



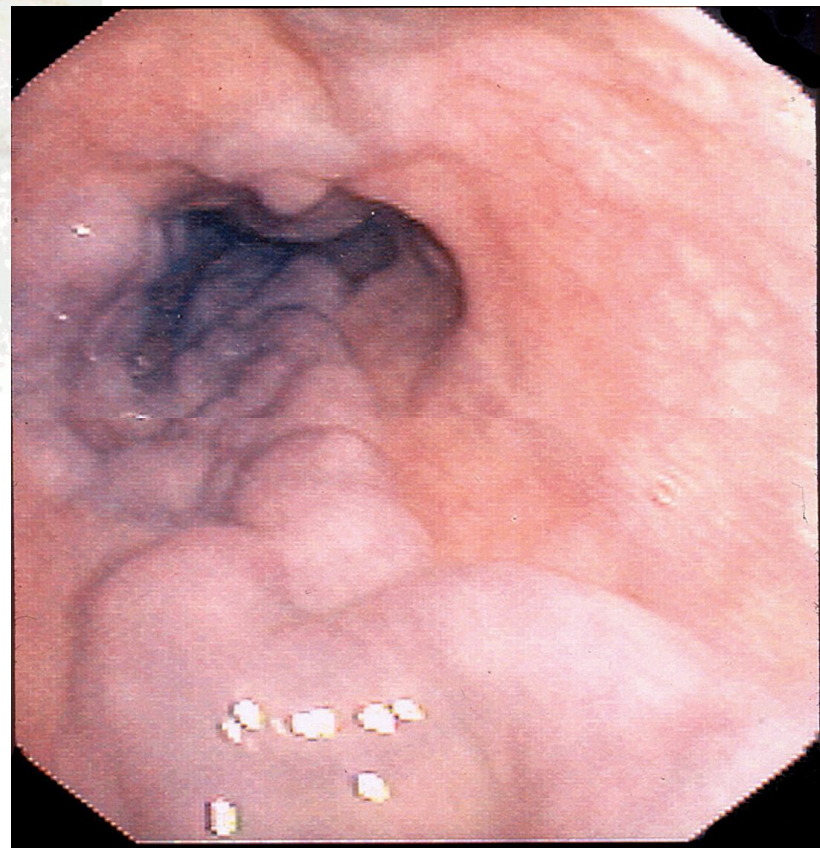
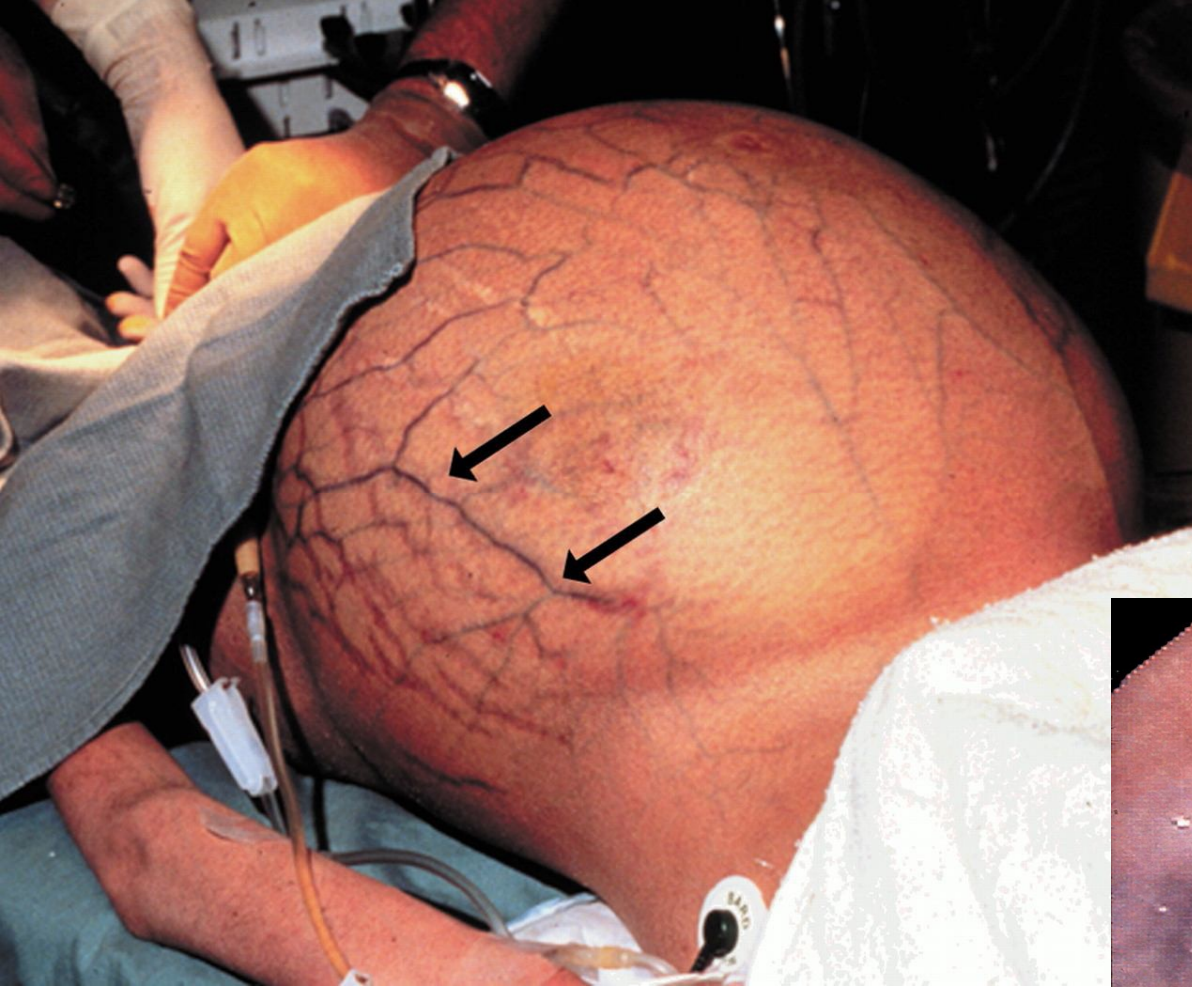
PORTAL-CAVAL / PORTAL-SYSTEMIC ANASTOMOSES

1. Vv. gastricae – vv. oesophageae
2. Vv. paraumbilicales
(caput Medusae, Burrow's veins)
3. Plexus rectalis - hemorrhoids
4. Retzius' veins
5. Vv. hepaticae – vv. phrenicae



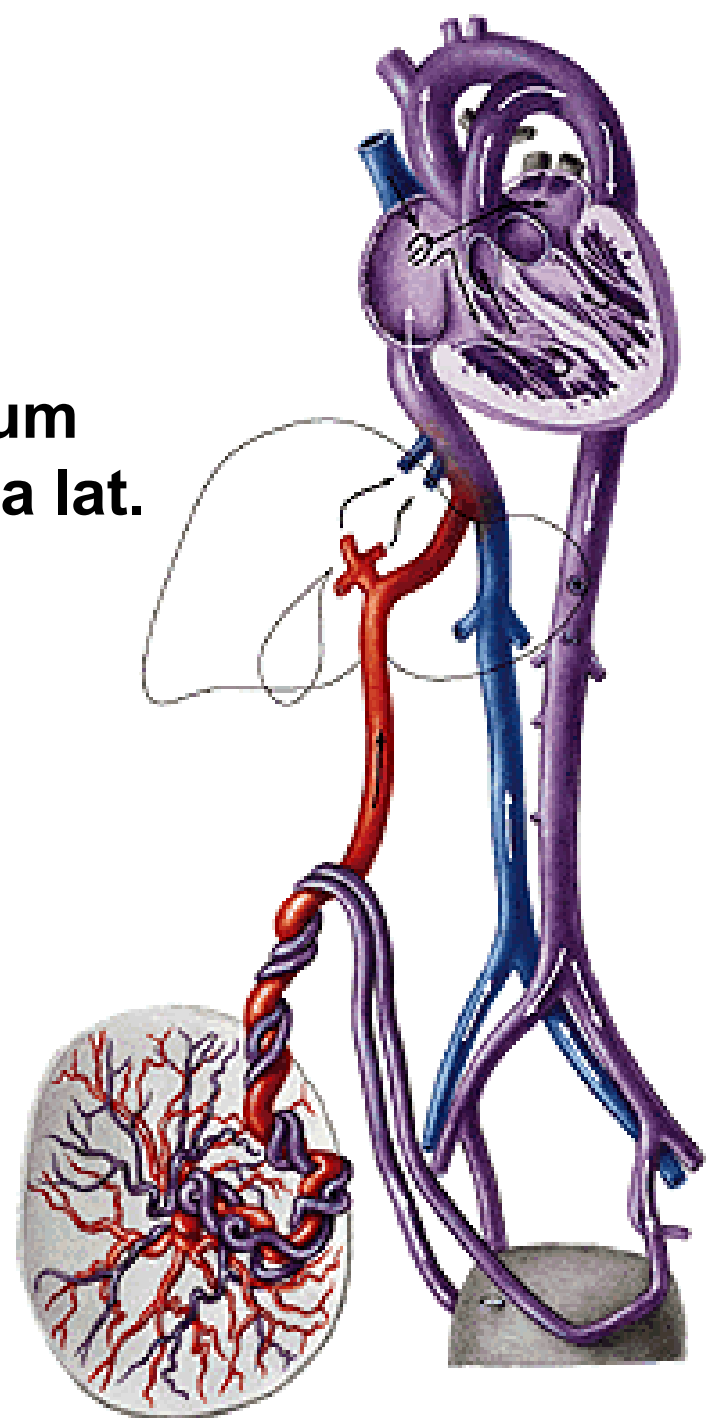


Caput medusae



FETAL CIRCULATION

- v. umbilicalis – lig. teres hepatis
- ductus venosus – lig. venosum
- foramen ovale – fossa ovalis
- ductus arteriosus – lig. arteriosum
- aa. umbilicales – ligg. umbilicalia lat.



Illustrations were copied from:

**Atlas der Anatomie des Menschen/Sobotta.
Putz,R., und Pabst,R. 20. Auflage. München:
Urban & Schwarzenberg, 1993)**

**Čihák R: Anatomie 2 (Splanchnologia).
Avicenum,
zdravotnické nakladatelství, Praha, 1988.**