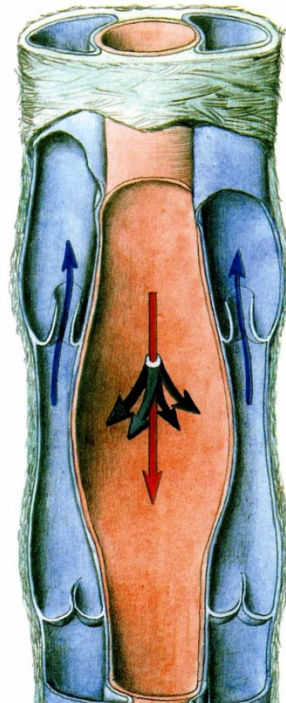


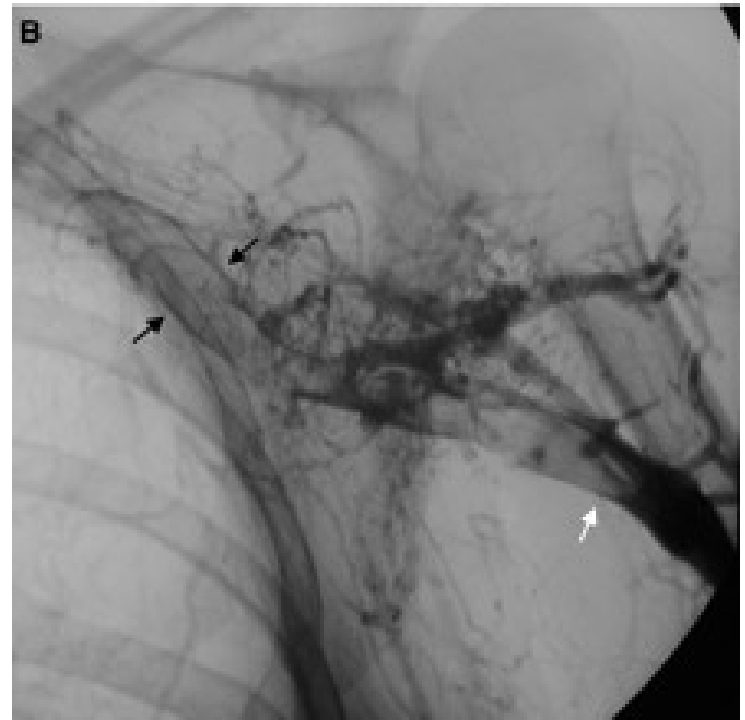
**VEINS**

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



# PHLEBOGRAPHY (VENOGRAPHY)

Venous thrombosis surrounded by contrast, the so-called 'tram-track' sign (arrows)



**V. JUGULARIS INT.**

1

2

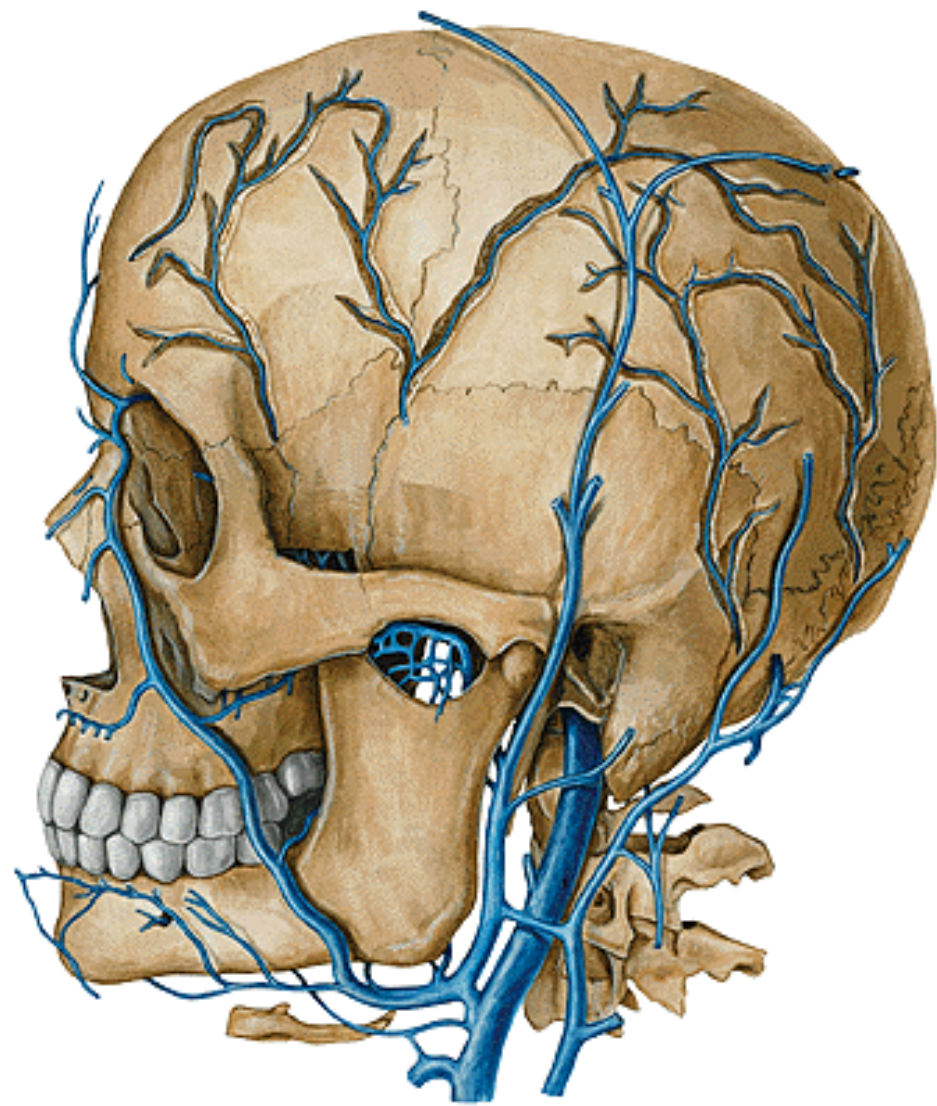
17

16

15

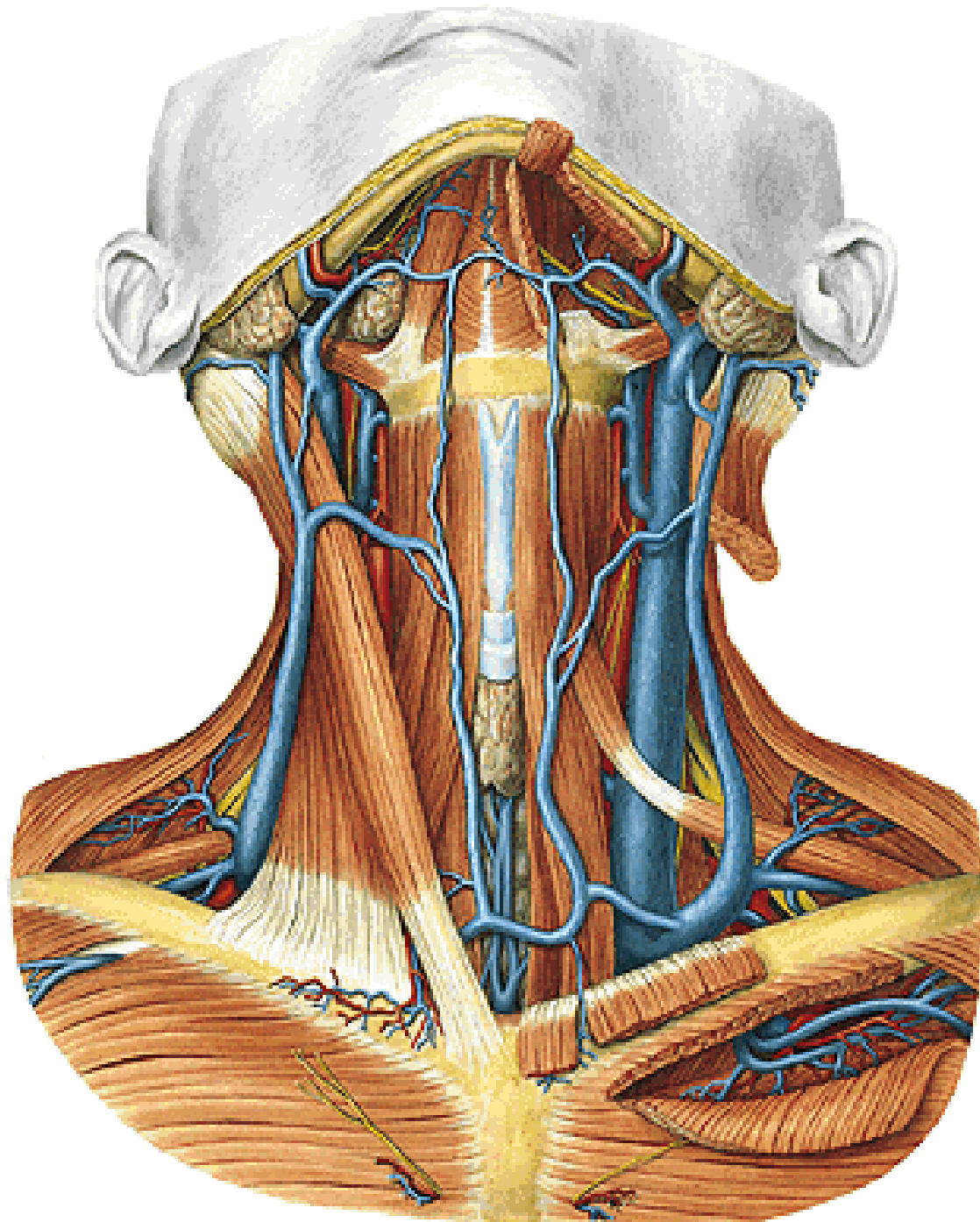
14

**SINUS DURAE MATRIS**



## V. JUGULARIS INT.

- vv. pharyngeae
- v. facialis
- v. lingualis
- v. thyroidea sup.
- v. thyroidea media
- v. retromandibularis

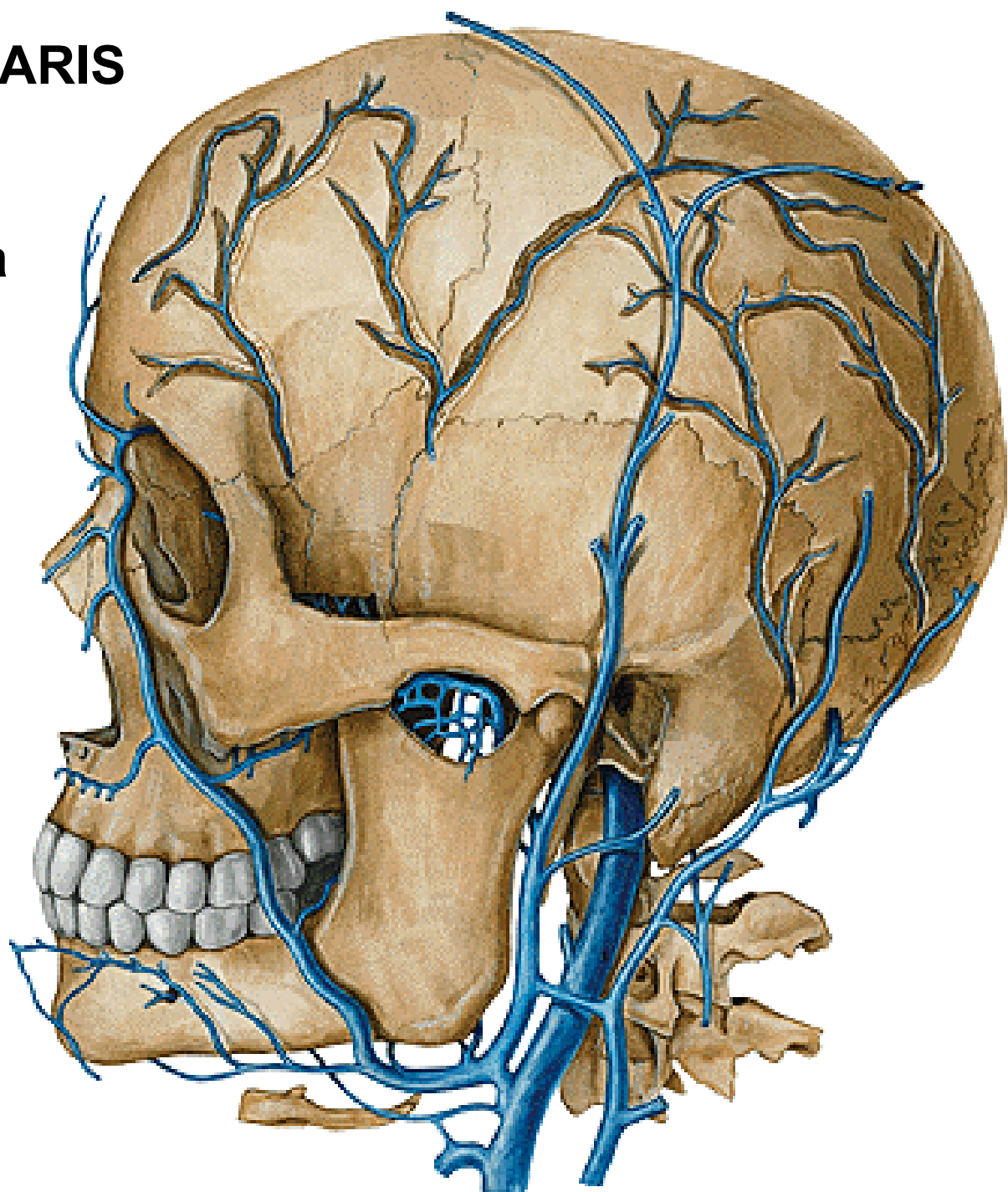


## **V. RETROMANDIBULARIS**

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

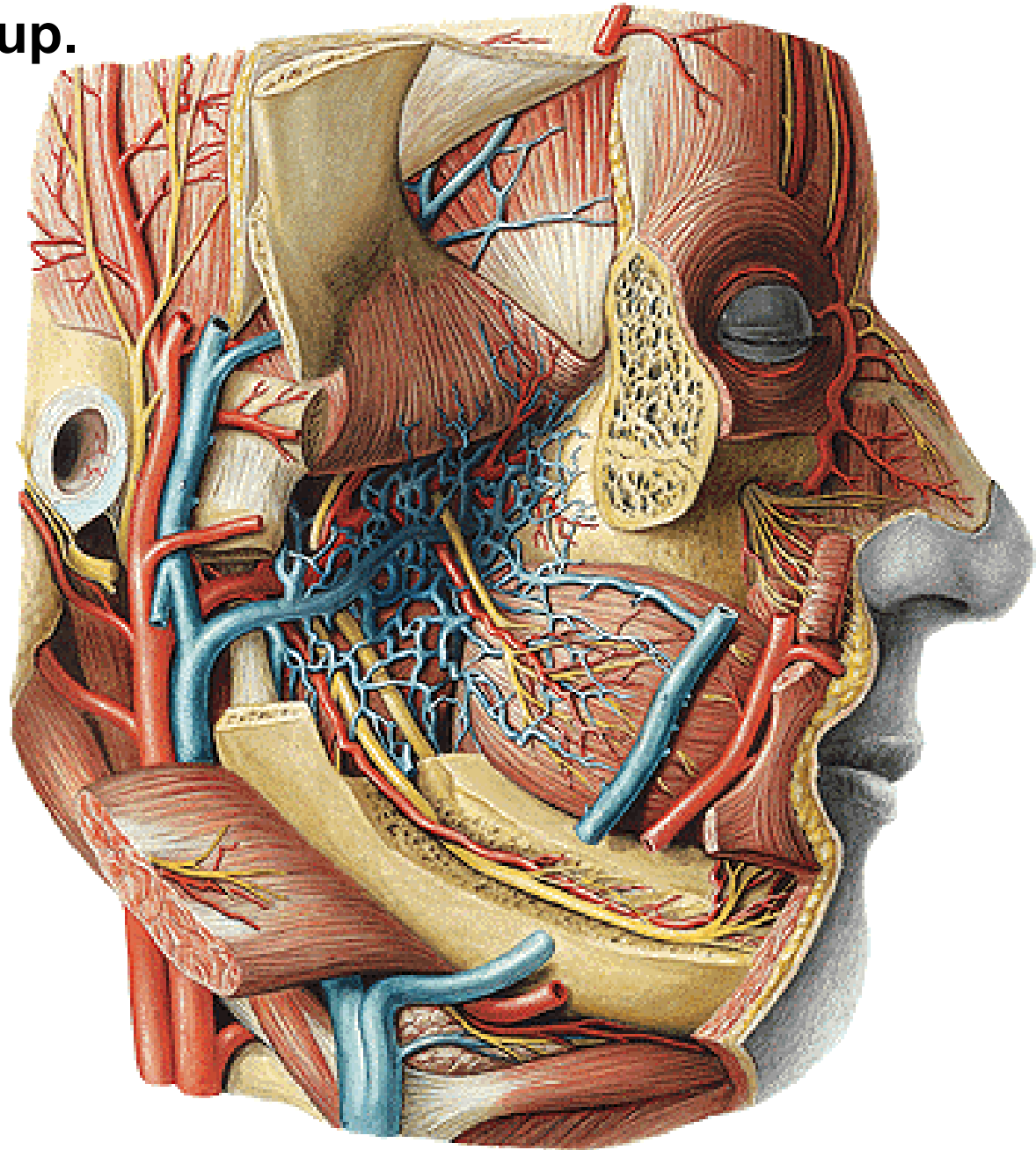
## **V. FACIALIS**

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

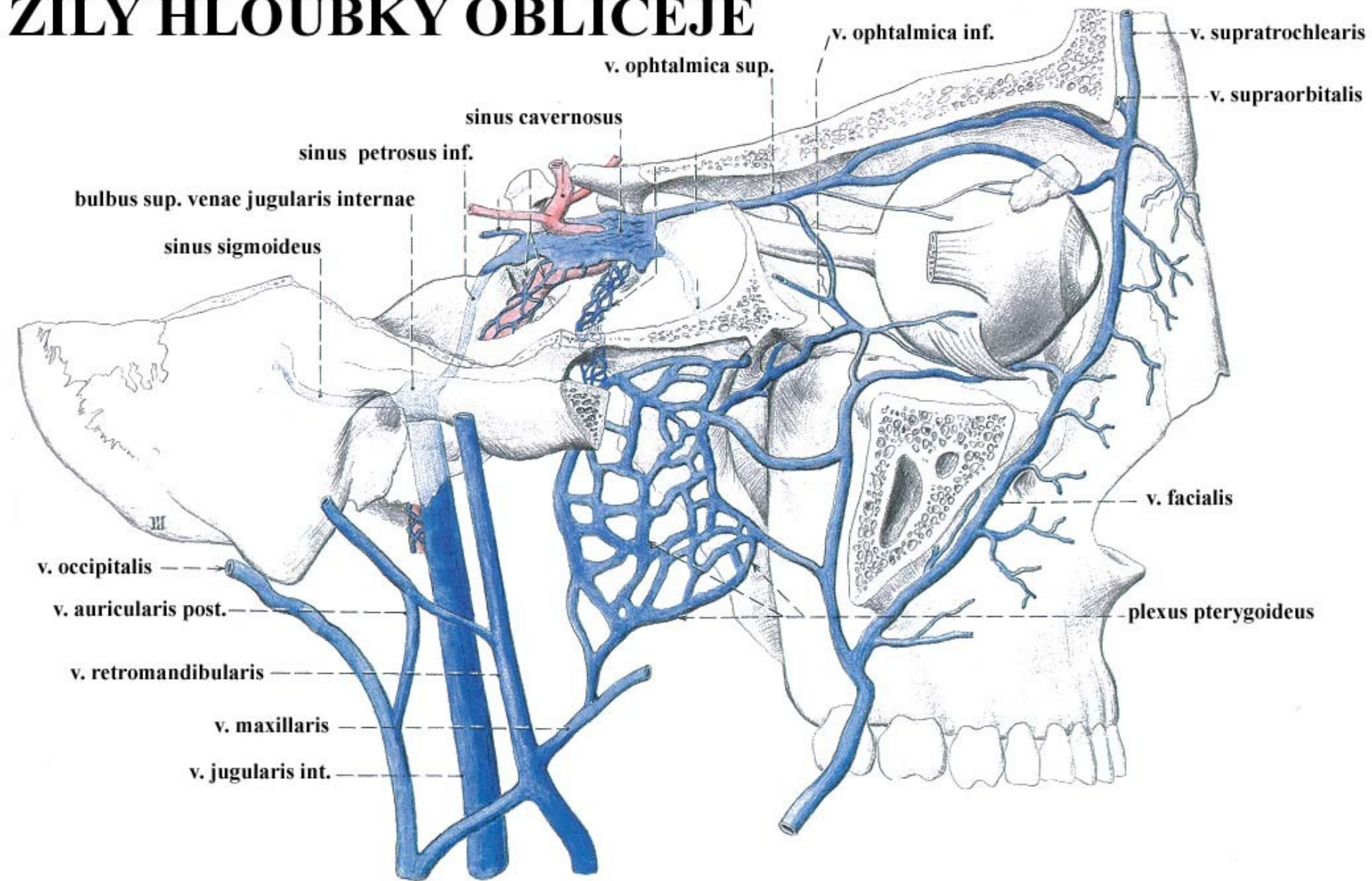


# PLEXUS PTERYGOIDEUS

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



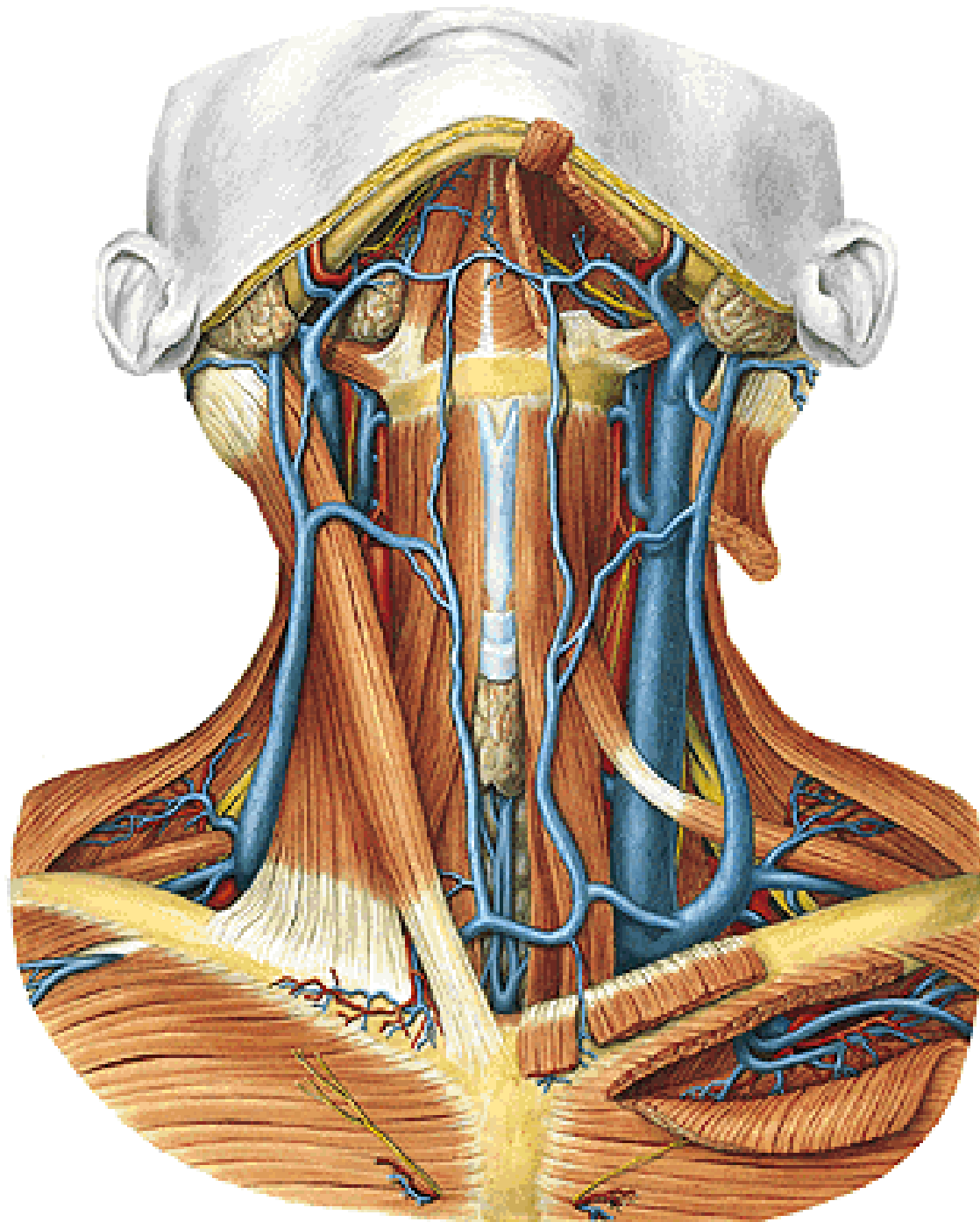
# ŽÍLY HLOUBKY OBLIČEJE





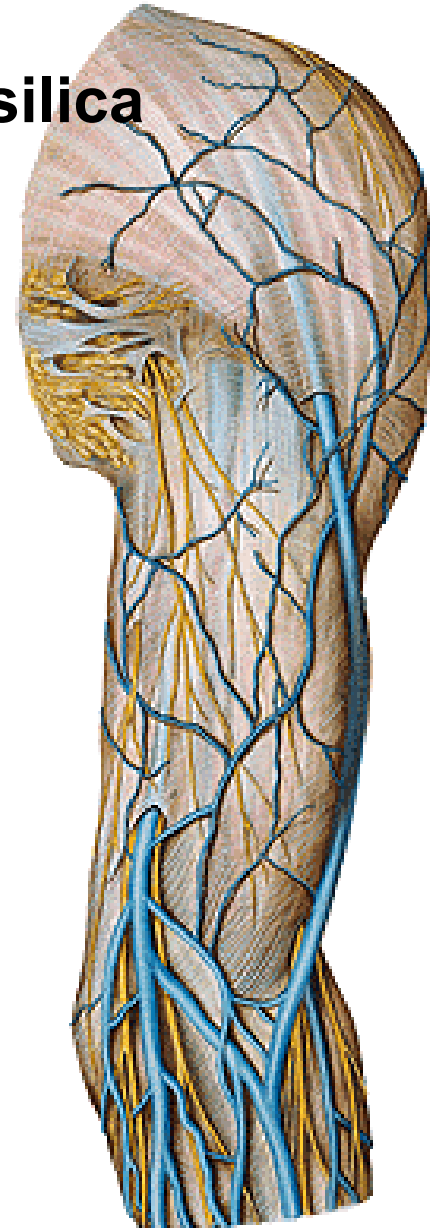
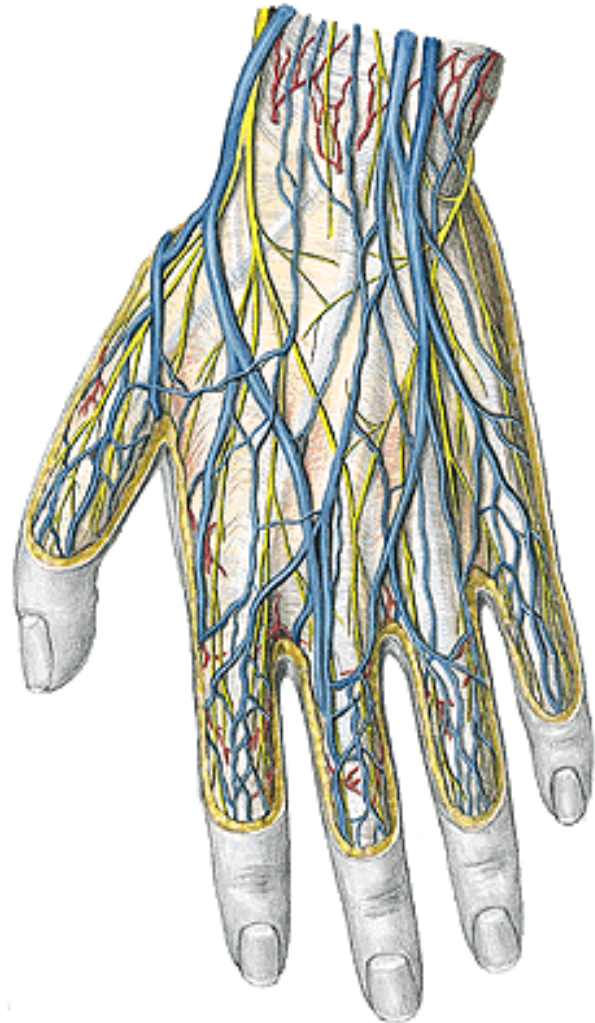
## **V. JUGULARIS EXT.**

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



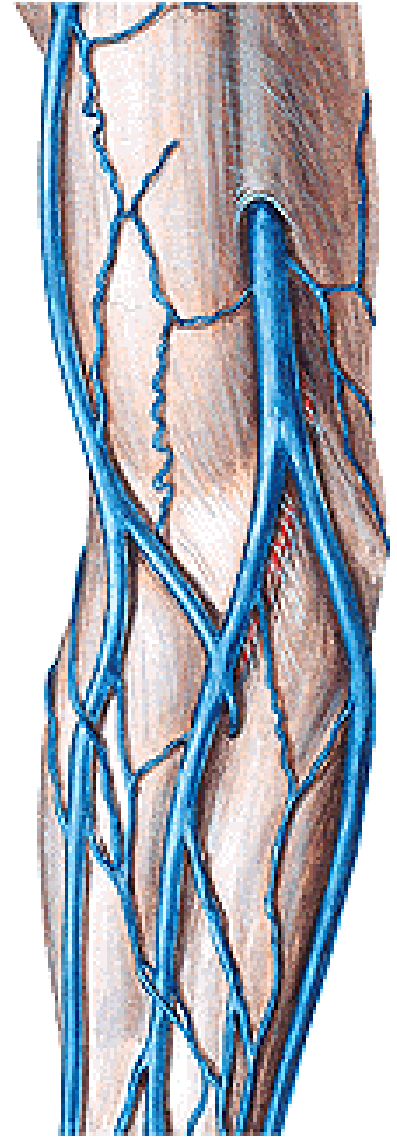
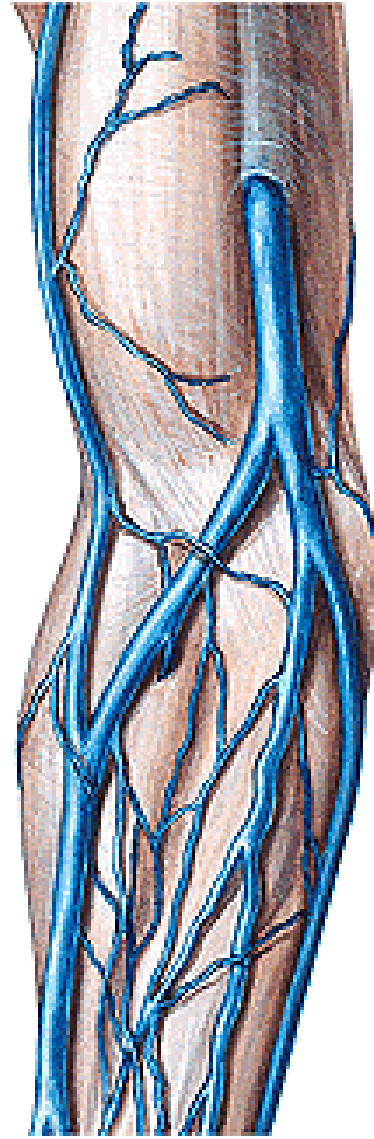
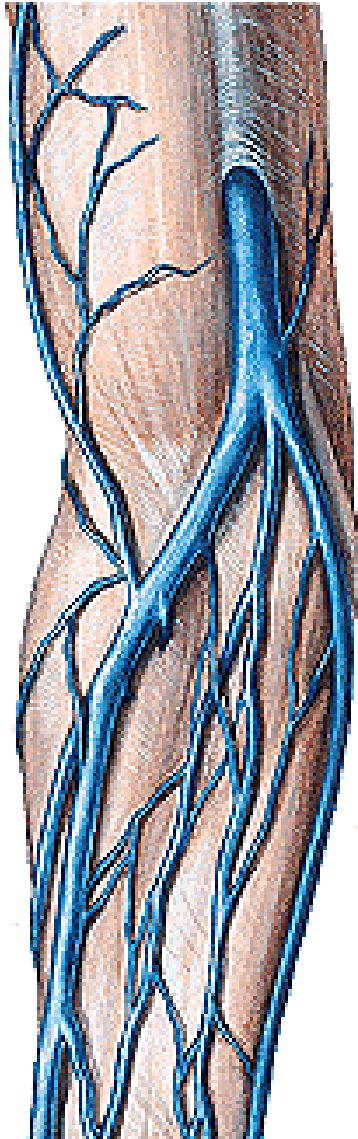
**Rete digitale dorsale – vv. metacarpales dorsales – rete venosum dorsale manus (rete venosum palmare manus – vv. intercapitulares)**

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



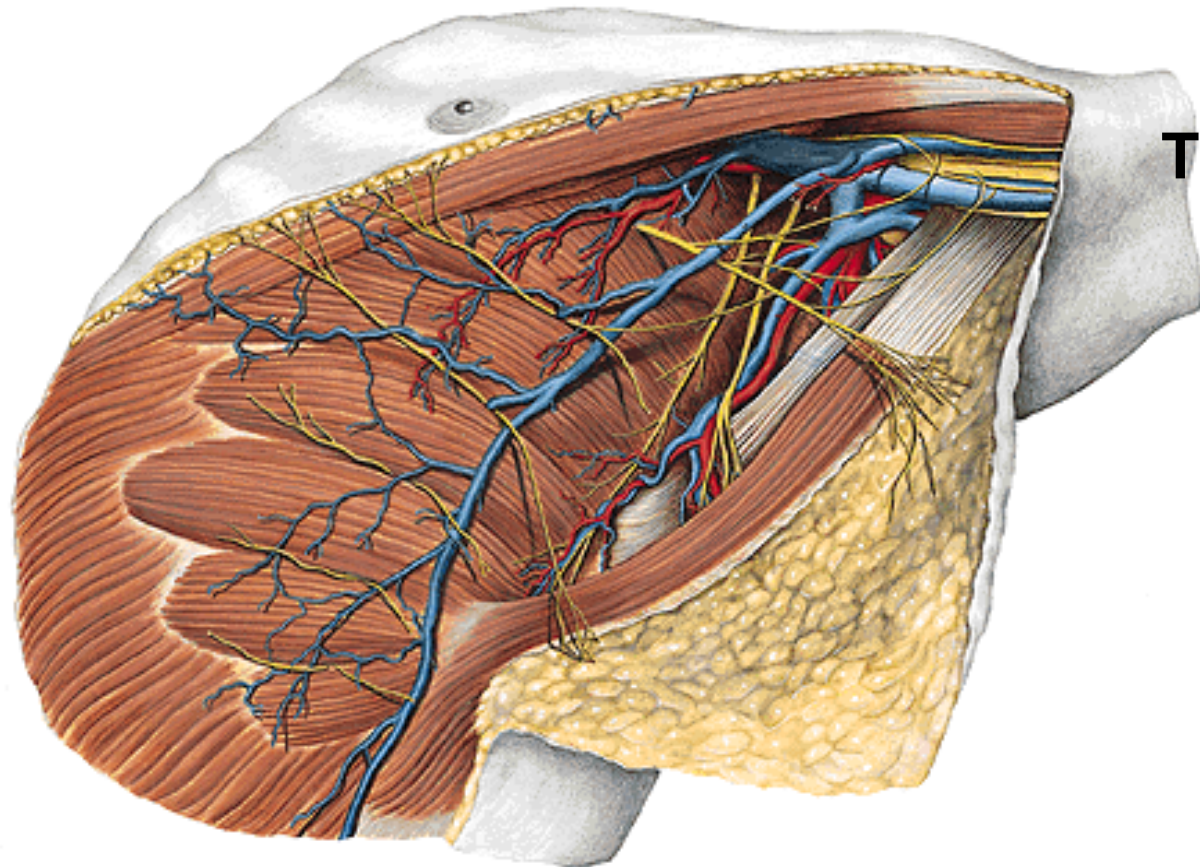
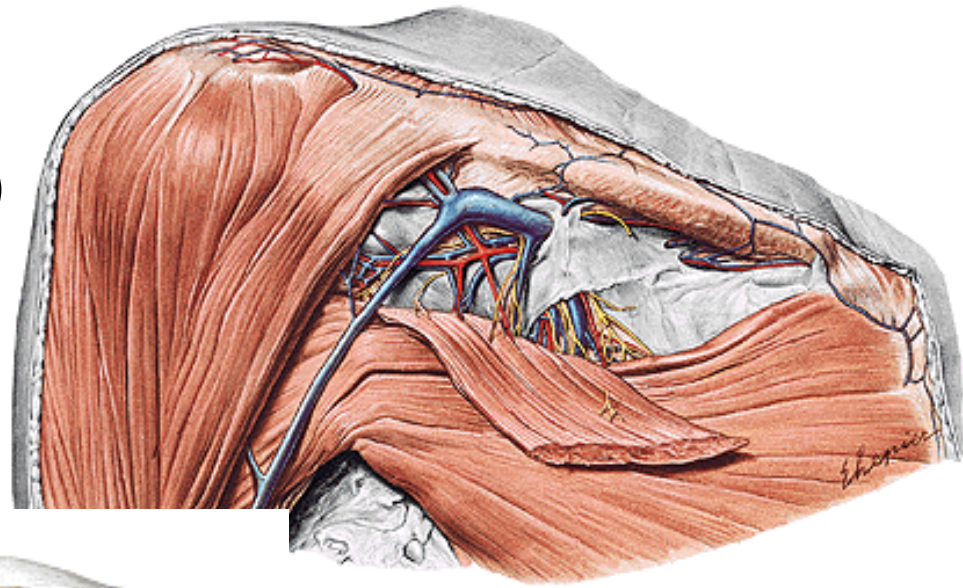
**V. mediana cubiti**

**V. mediana antebrachii – v. mediana cephalica et basilica**



## V. AXILLARIS

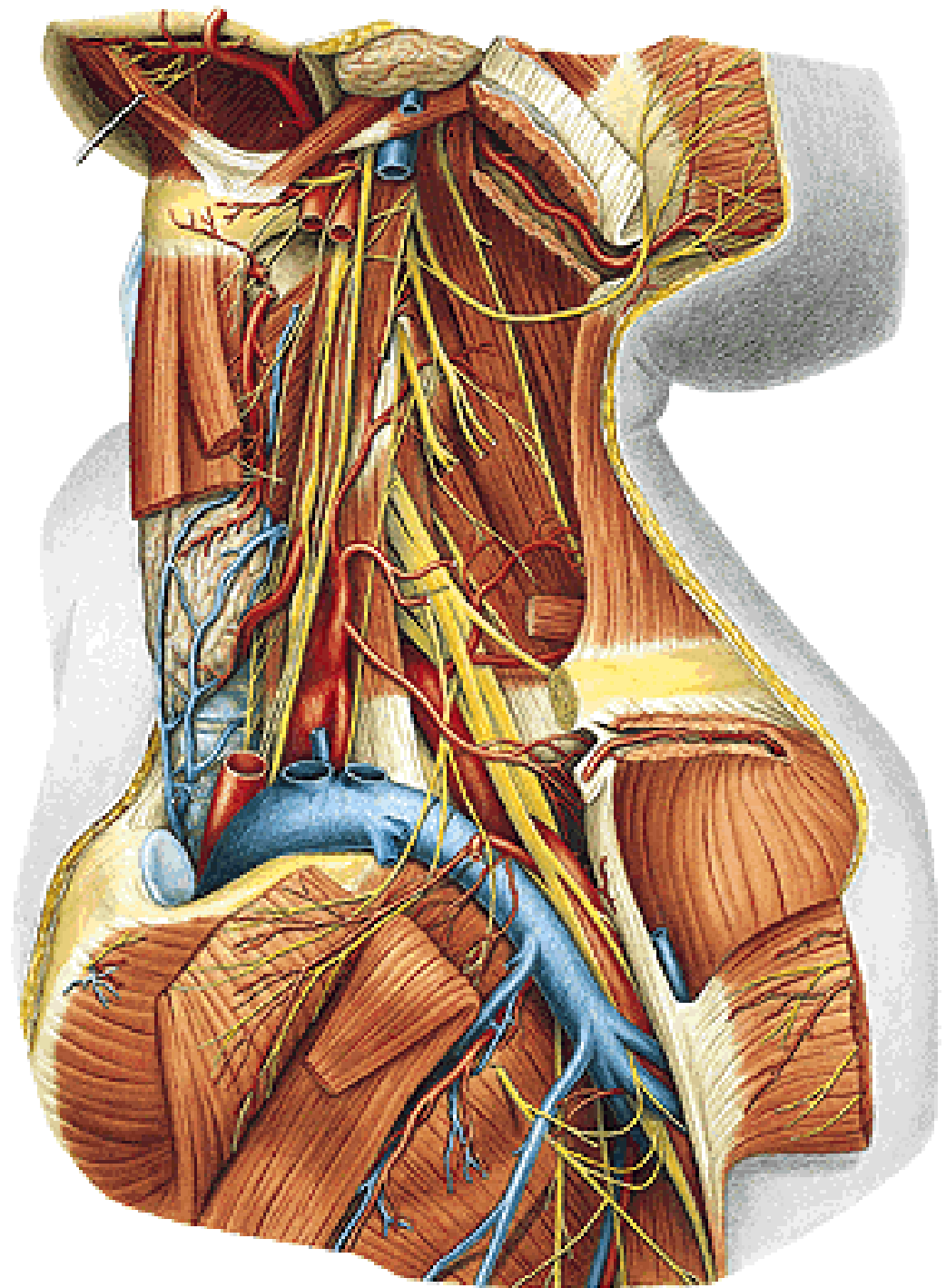
- v. basilica
- vv. brachiales (deep veins)
- vv. thoracoepigastricae
- v. thoracica lateralis
- v. cephalica



**Trig. claviopectorale  
(deltoideopectorale)**

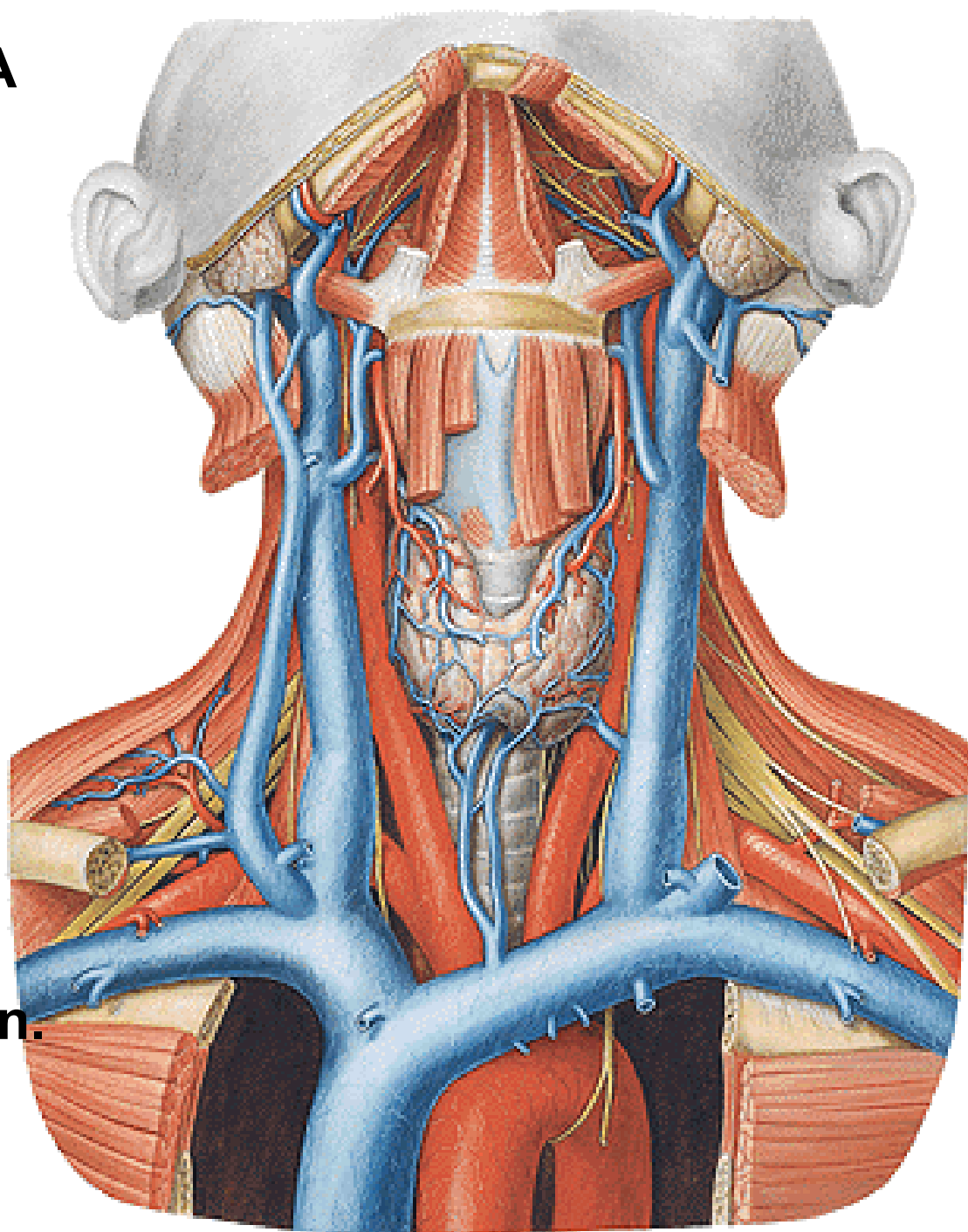
## V. SUBCLAVIA

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



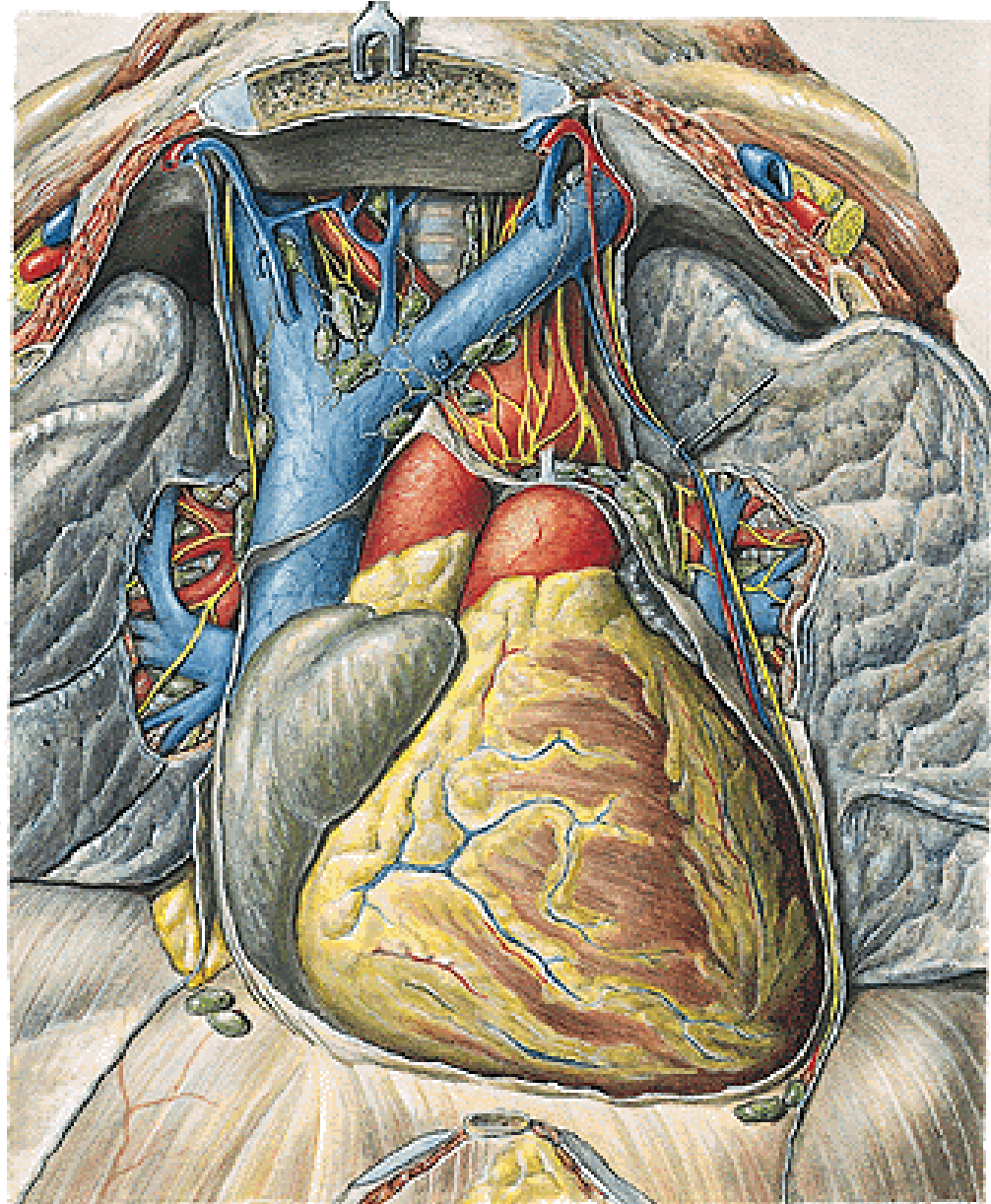
## **V. BRACHIOCEPHALICA**

- v. jugularis int.
- v. subclavia  
(angulus venosus)
- v. jugularis ext.
- vv. thyroideae inf.
- vv. thymicae
- vv. tracheales
- vv. mediastinales
- vv. bronchiales
- vv. pericardiacae
- v. vertebralis
- v. thoracica int.
- v. cervicalis prof.
- v. intercostalis sup. sin.



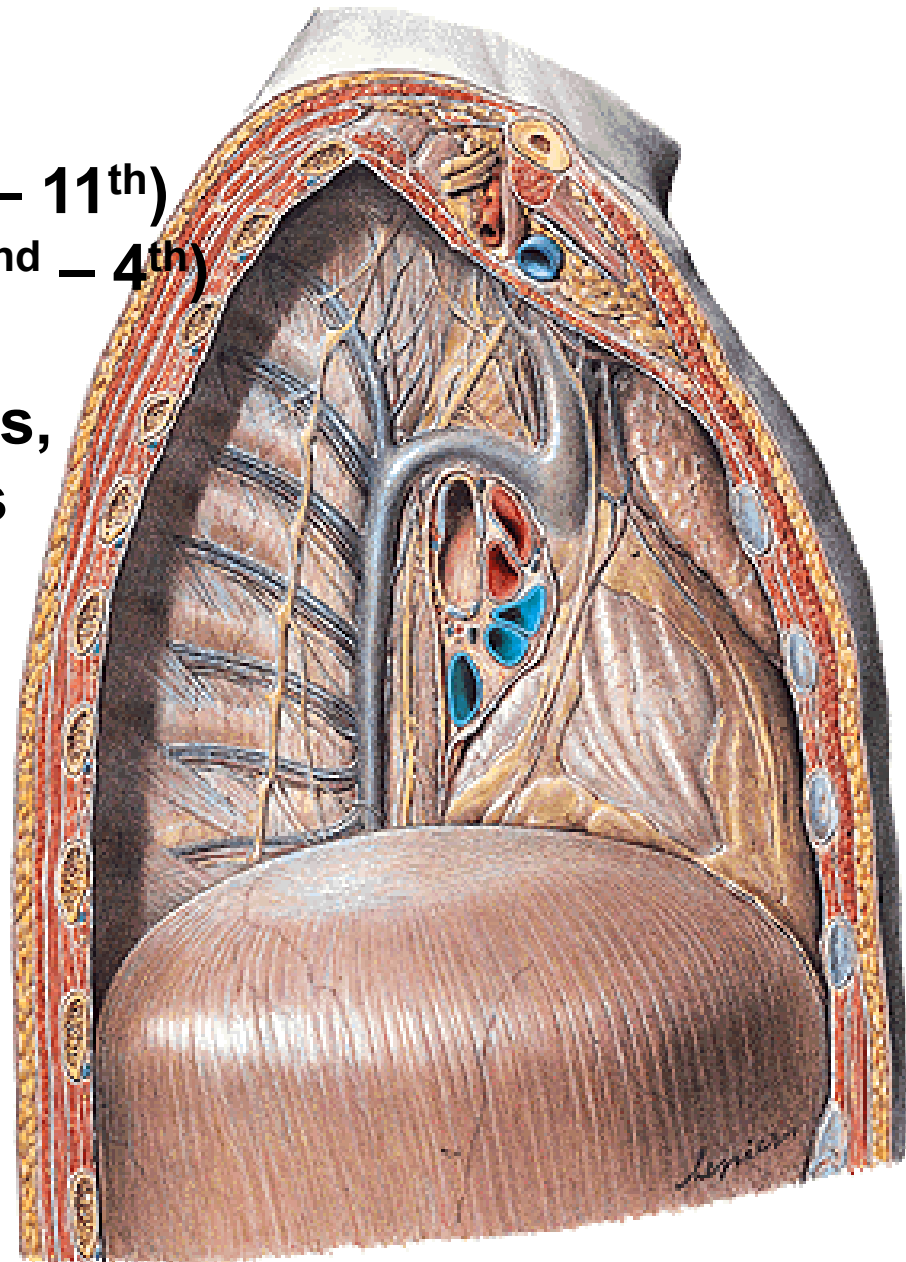
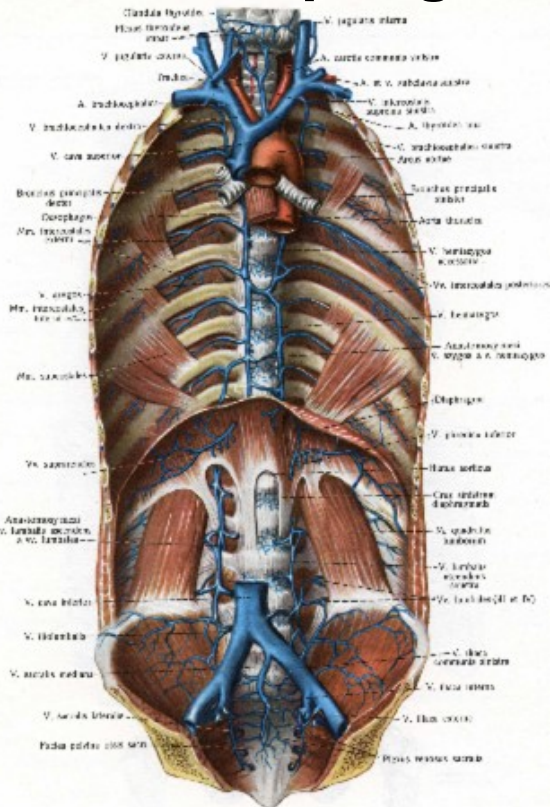
## V. CAVA SUP.

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



# V. AZYGOS

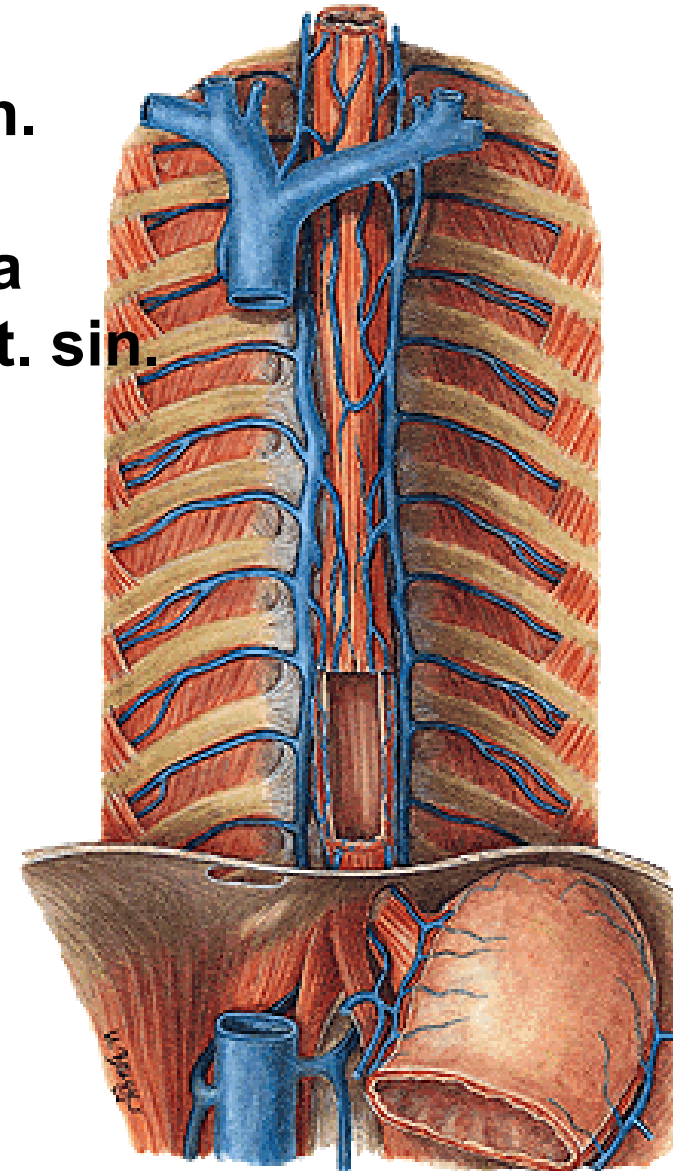
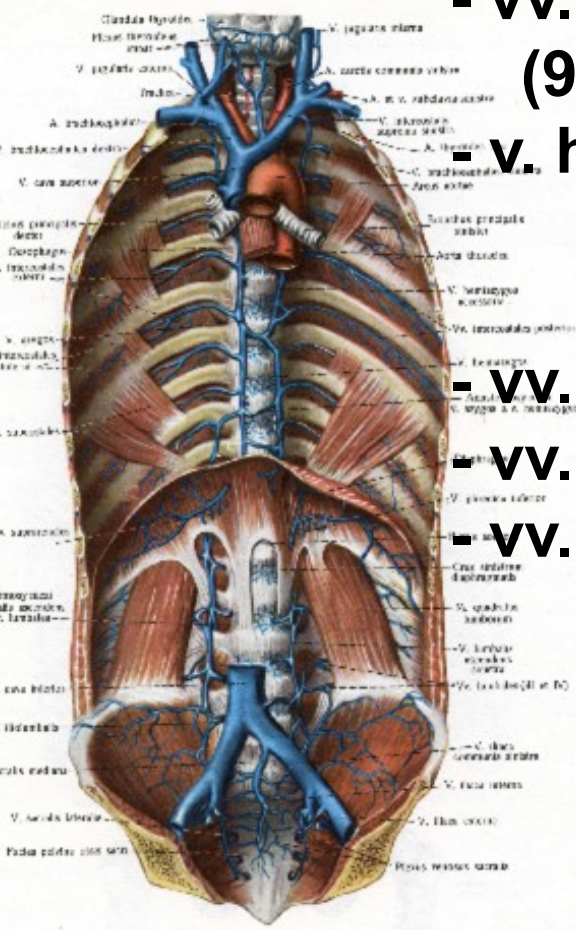
- v. lumbalis ascendens dx. + v. subcostalis dx.  
(vv. lumbales dx.)
- v. phrenica sup. dx.
- vv. intercostales post. dx. (5<sup>th</sup> – 11<sup>th</sup>)
- v. intercostalis suprema dx. (2<sup>nd</sup> – 4<sup>th</sup>)
- v. hemiazygos
- vv. oesophageales, bronchiales,  
mediastinales





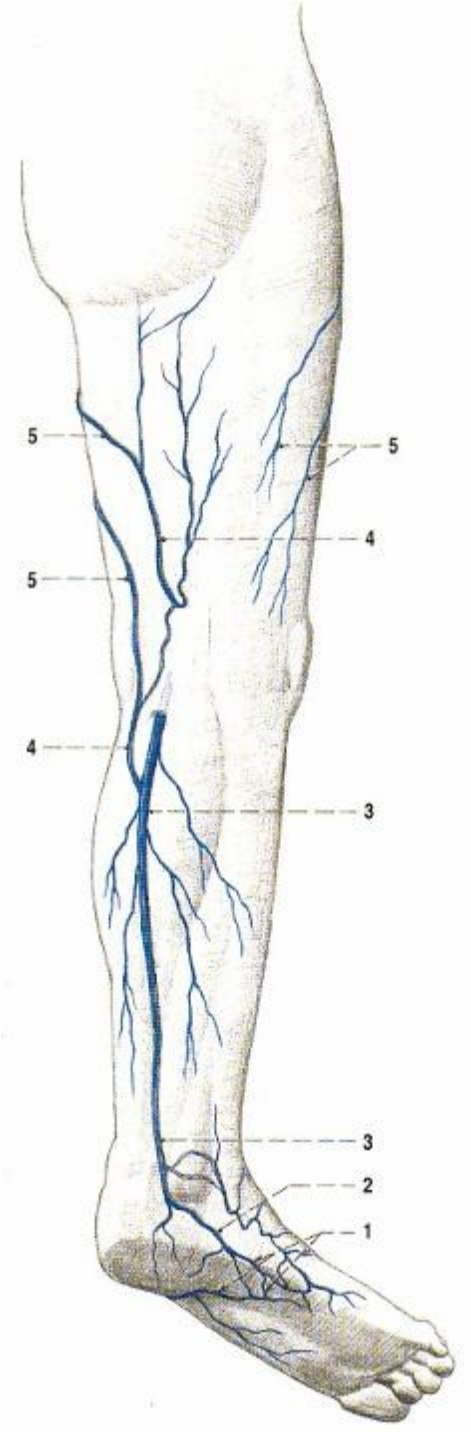
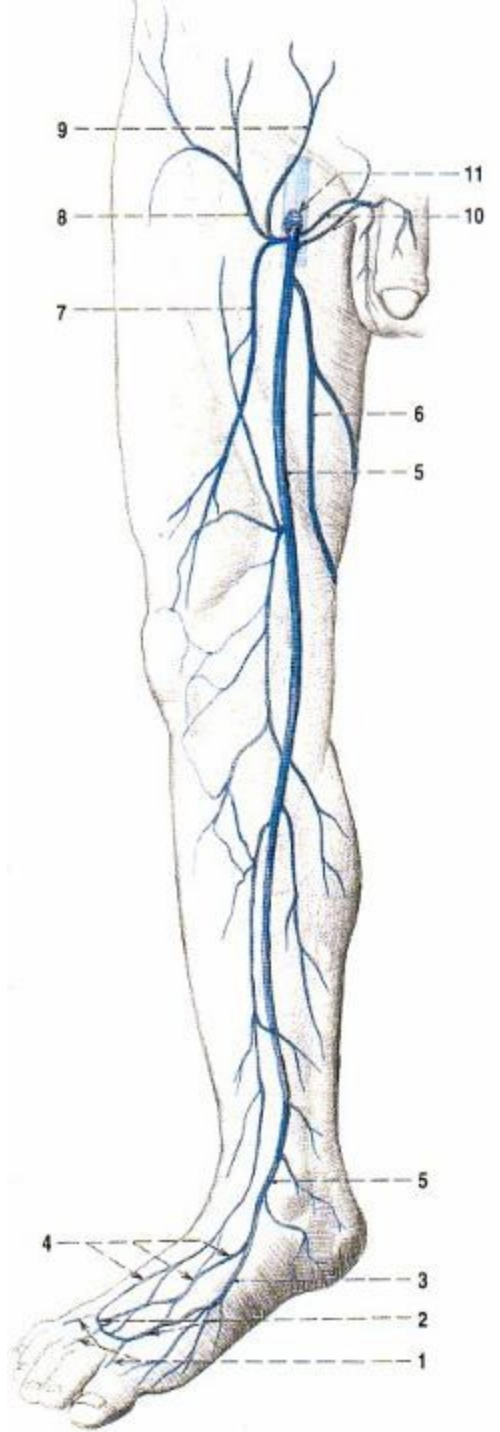
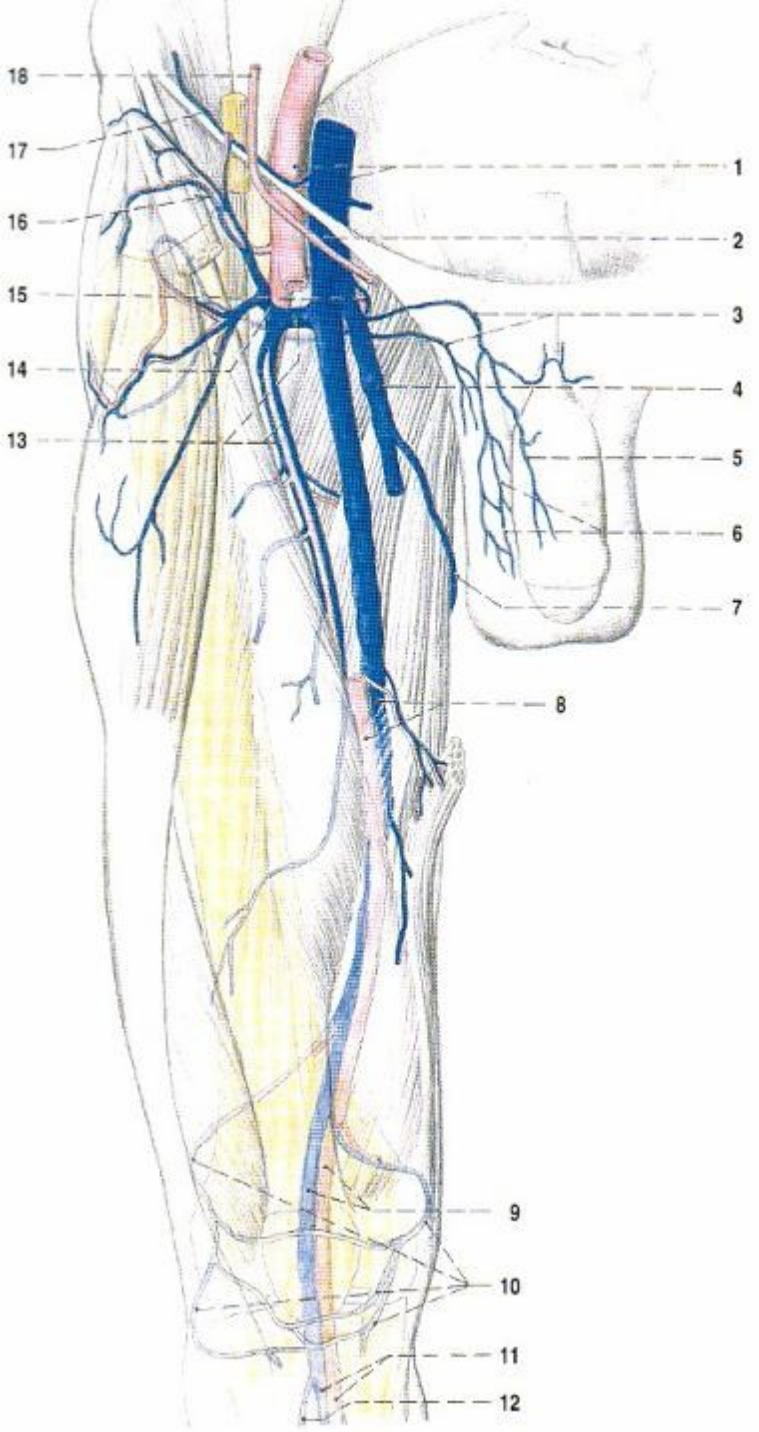
# V. HEMIAZYGOS

- v. lumbalis ascendens sin. + v. subcostalis sin.  
(vv. lumbales sin.)
- v. phrenica sup. sin.
- vv. intercostales post. sin.  
(9<sup>th</sup>-11<sup>th</sup>)
- v. hemiazygos accessoria  
(vv. intercostales post. sin.  
5<sup>th</sup> – 8<sup>th</sup>)
- 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**

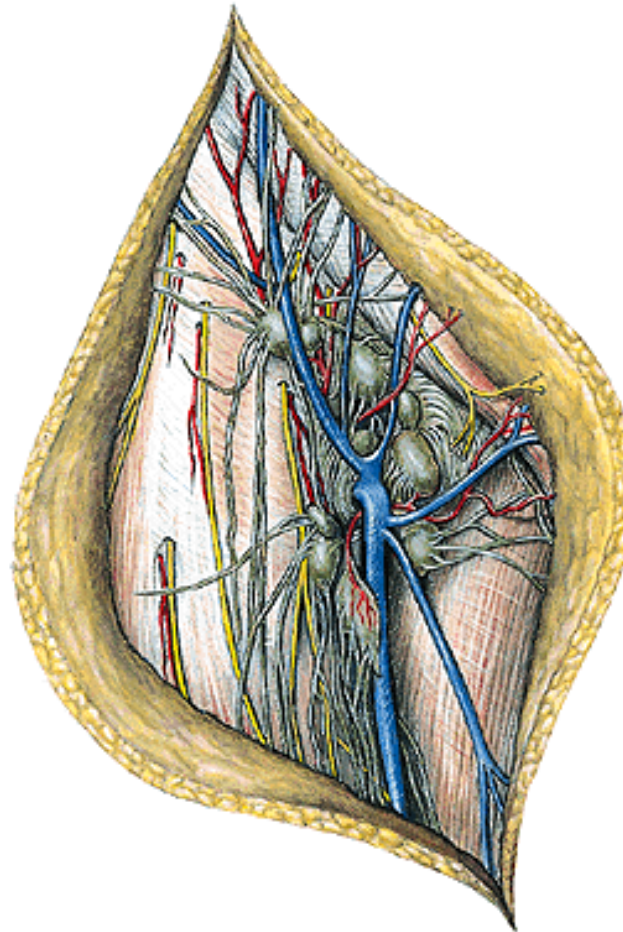
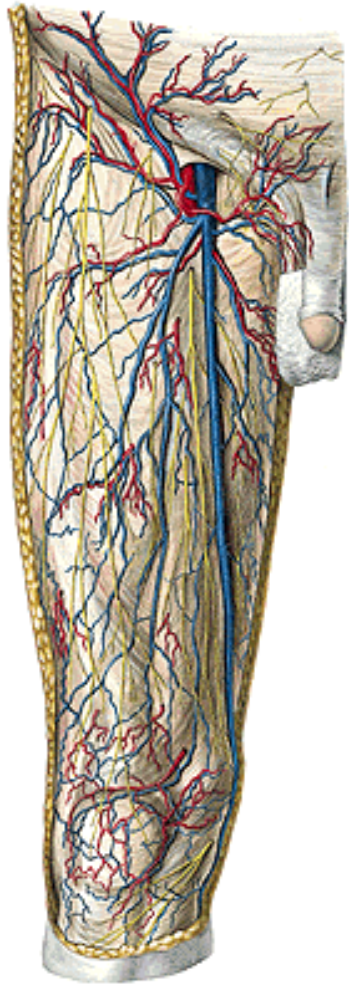
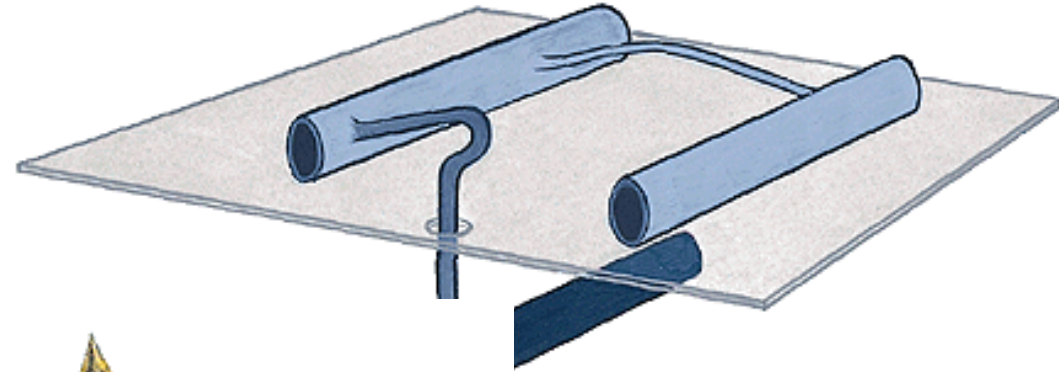


**femur**

# V. SAPHENA MAGNA

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

vv. perforantes

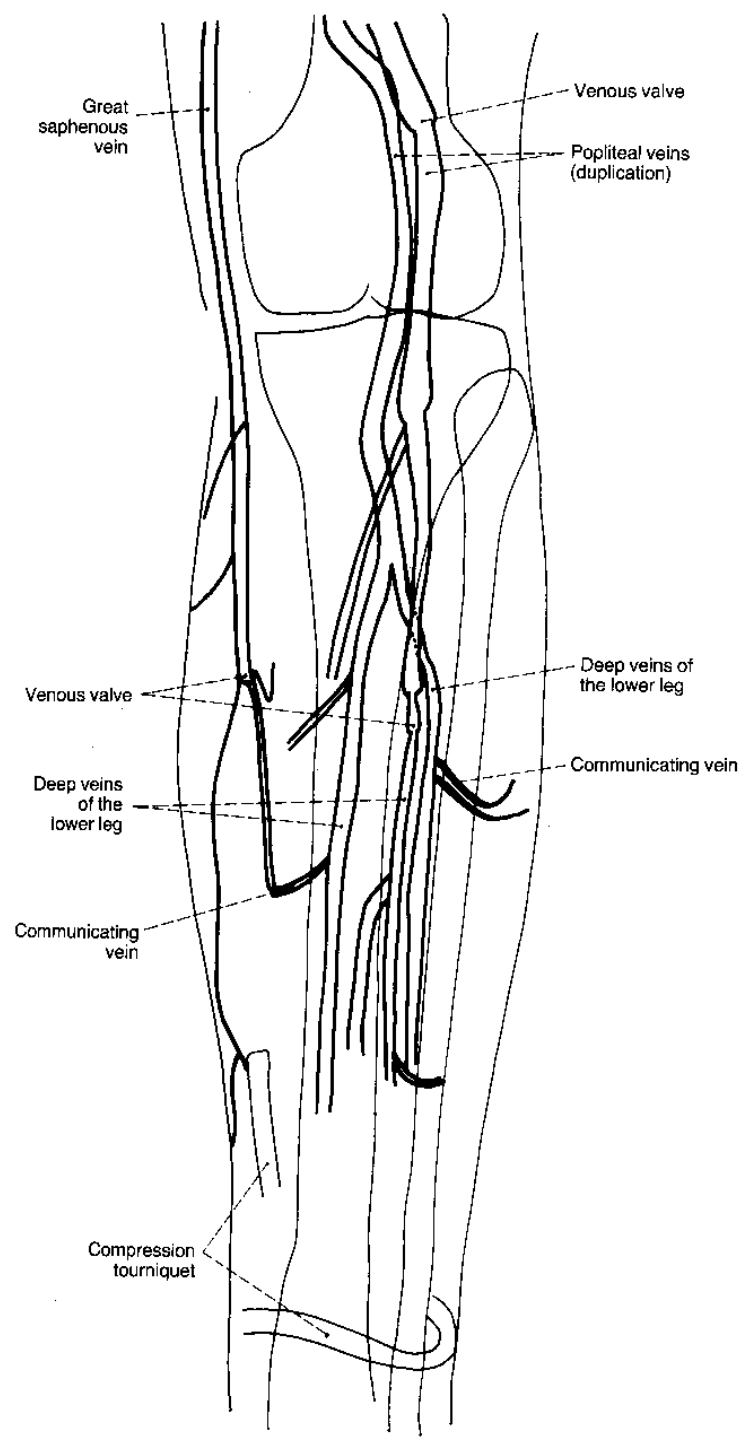




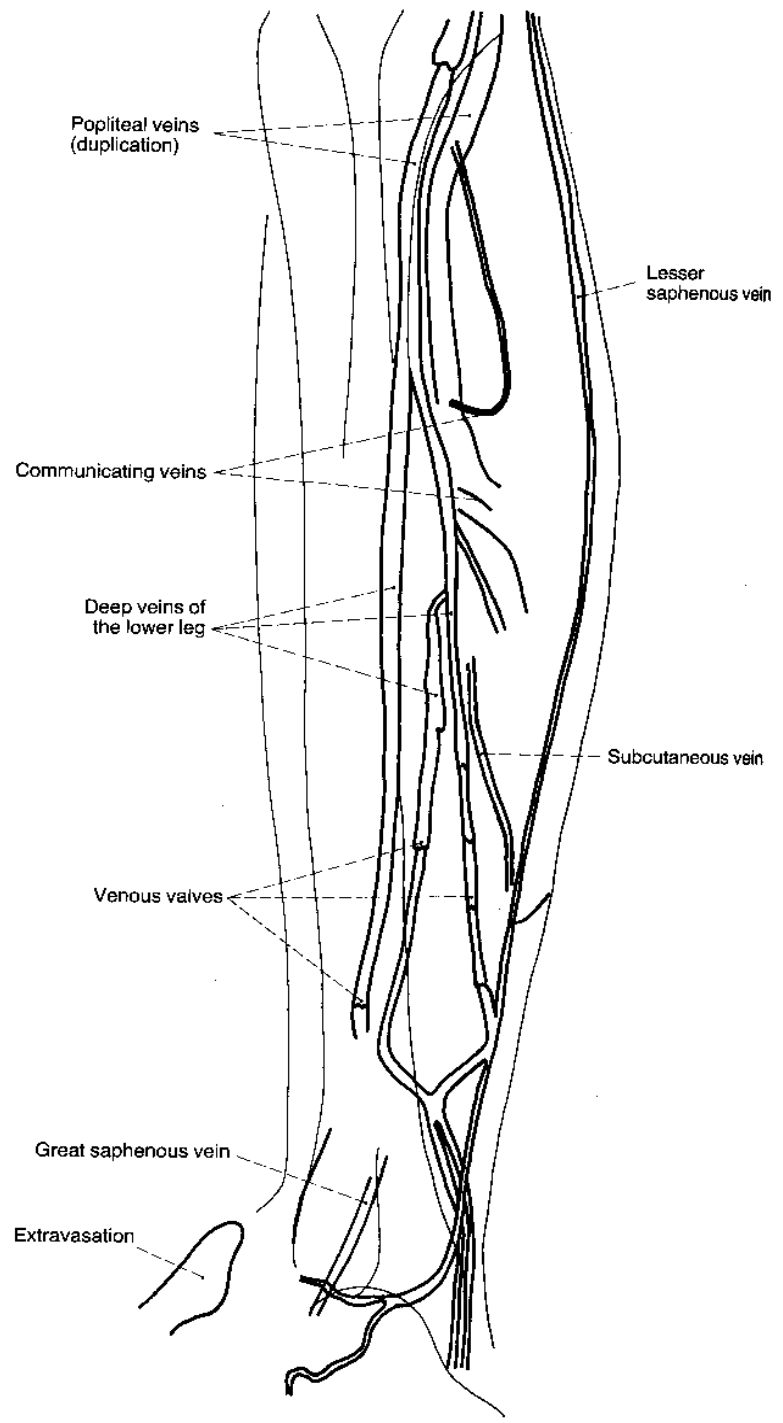
**VARICOSE VEINS**

*ULCUS CRURIS*



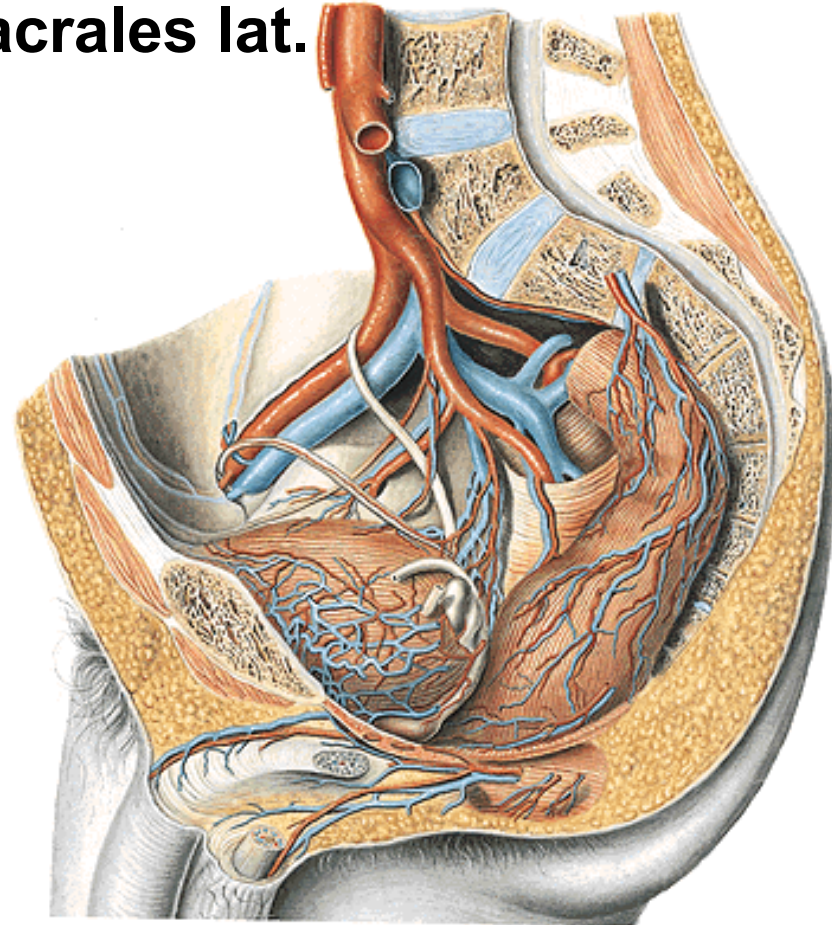
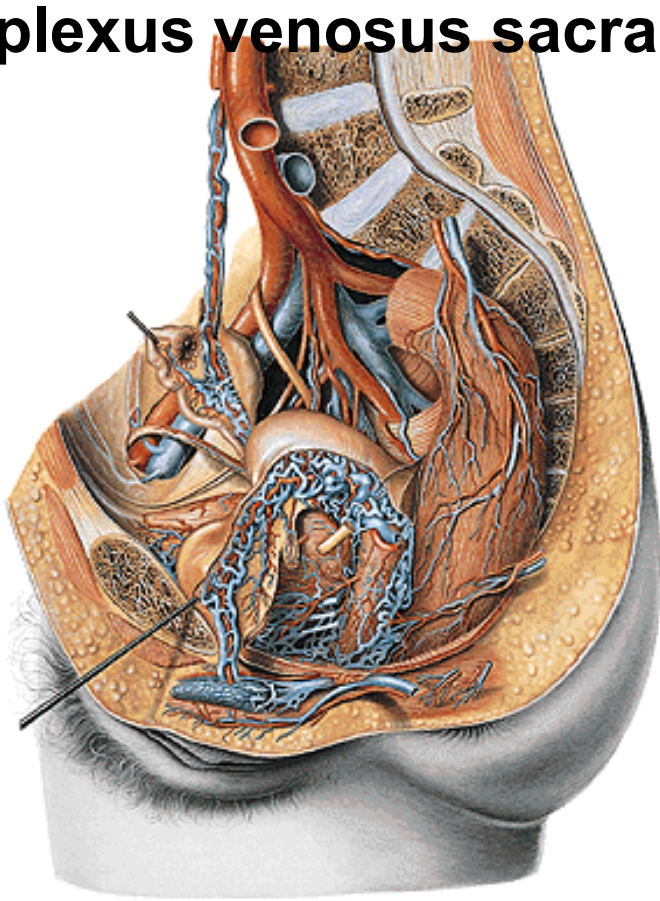






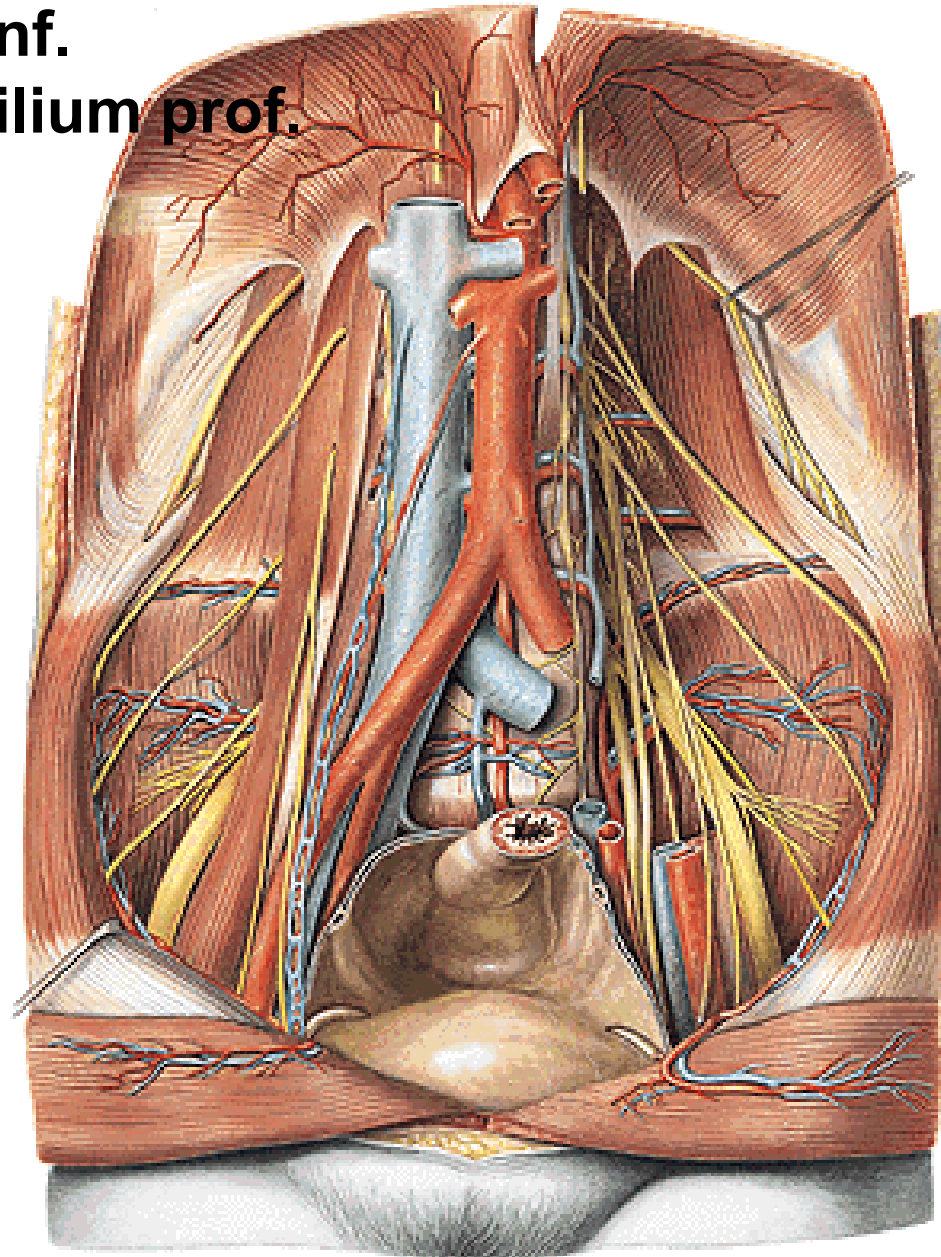
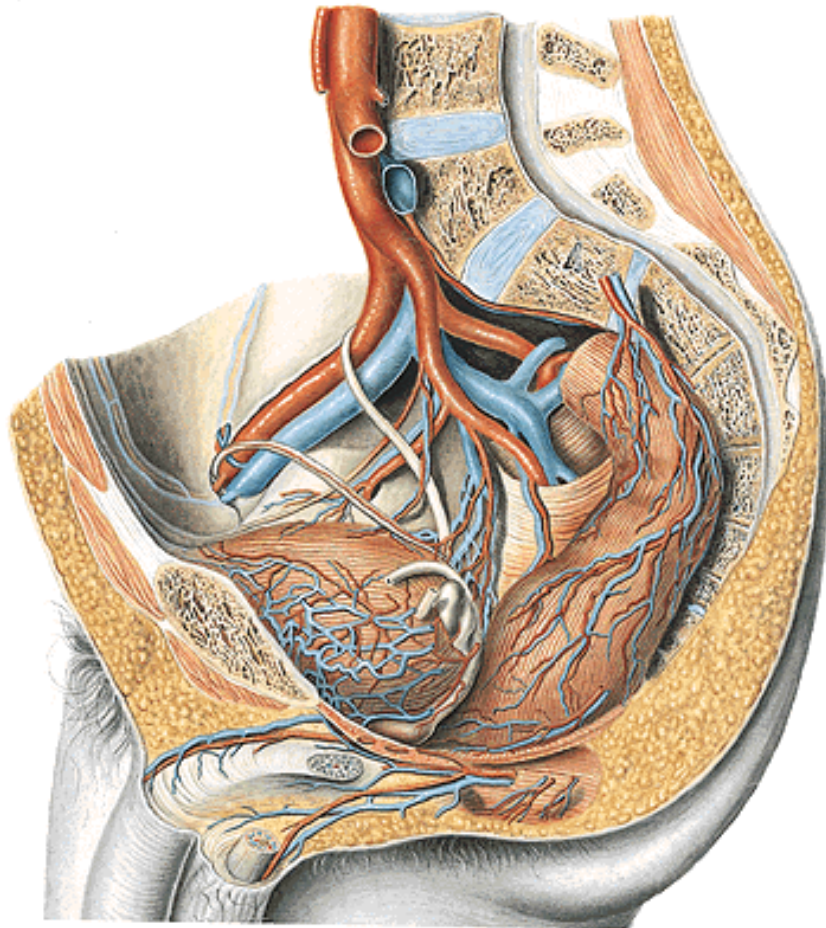
## V. ILIACA INTERNA

- 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.



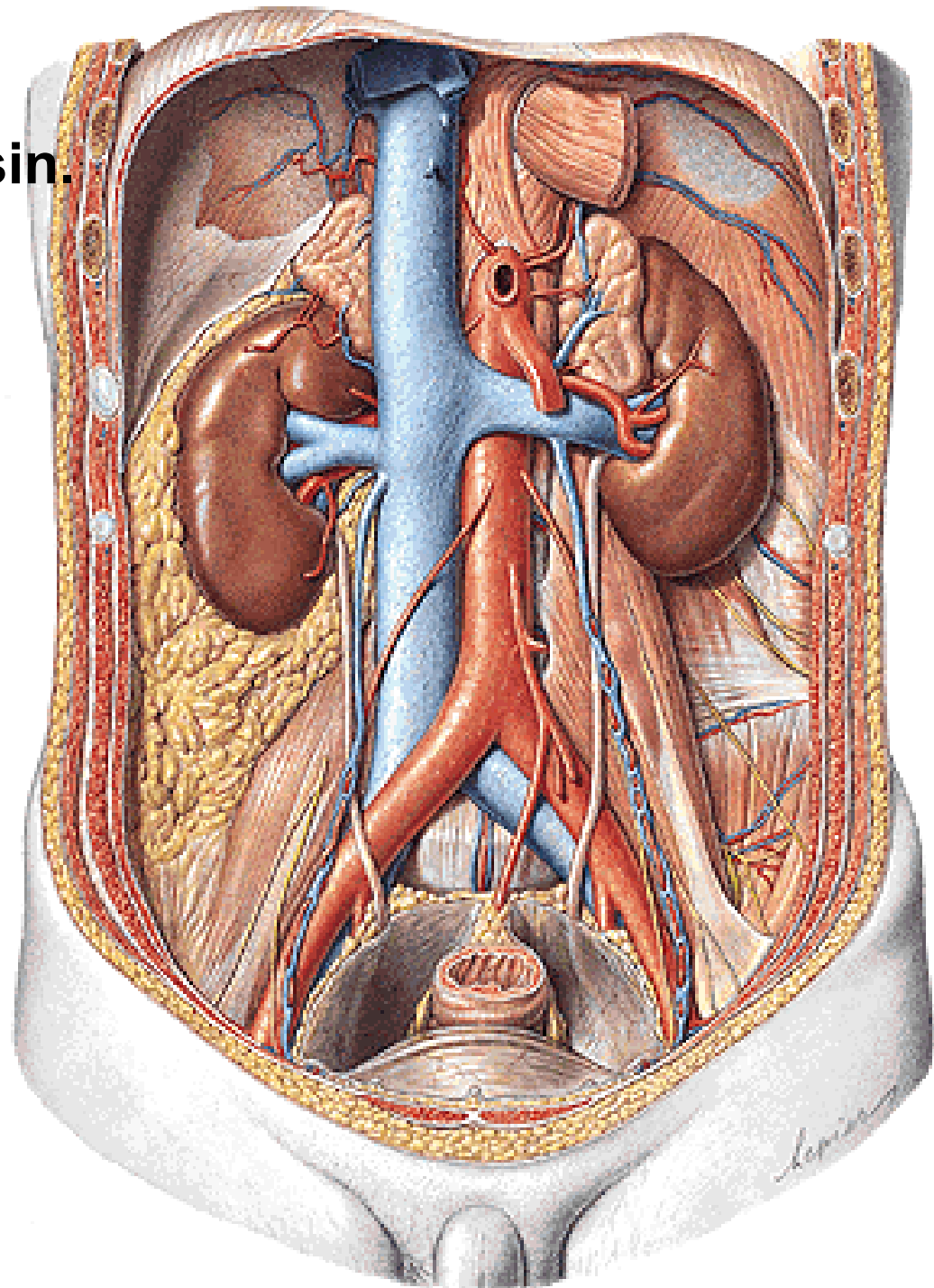
## V. ILIACA COMMUNIS

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



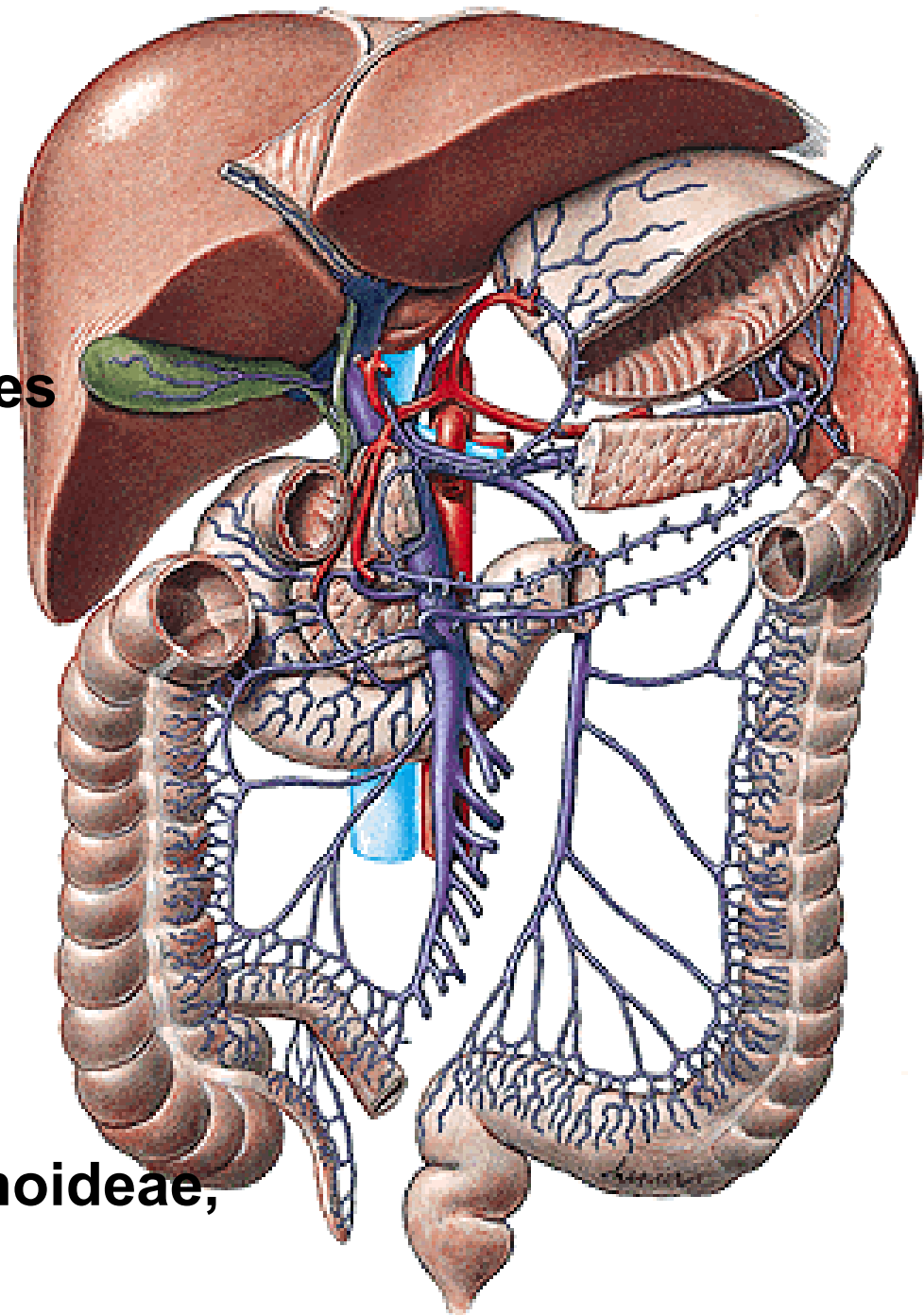
## V. CAVA INF.

- 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



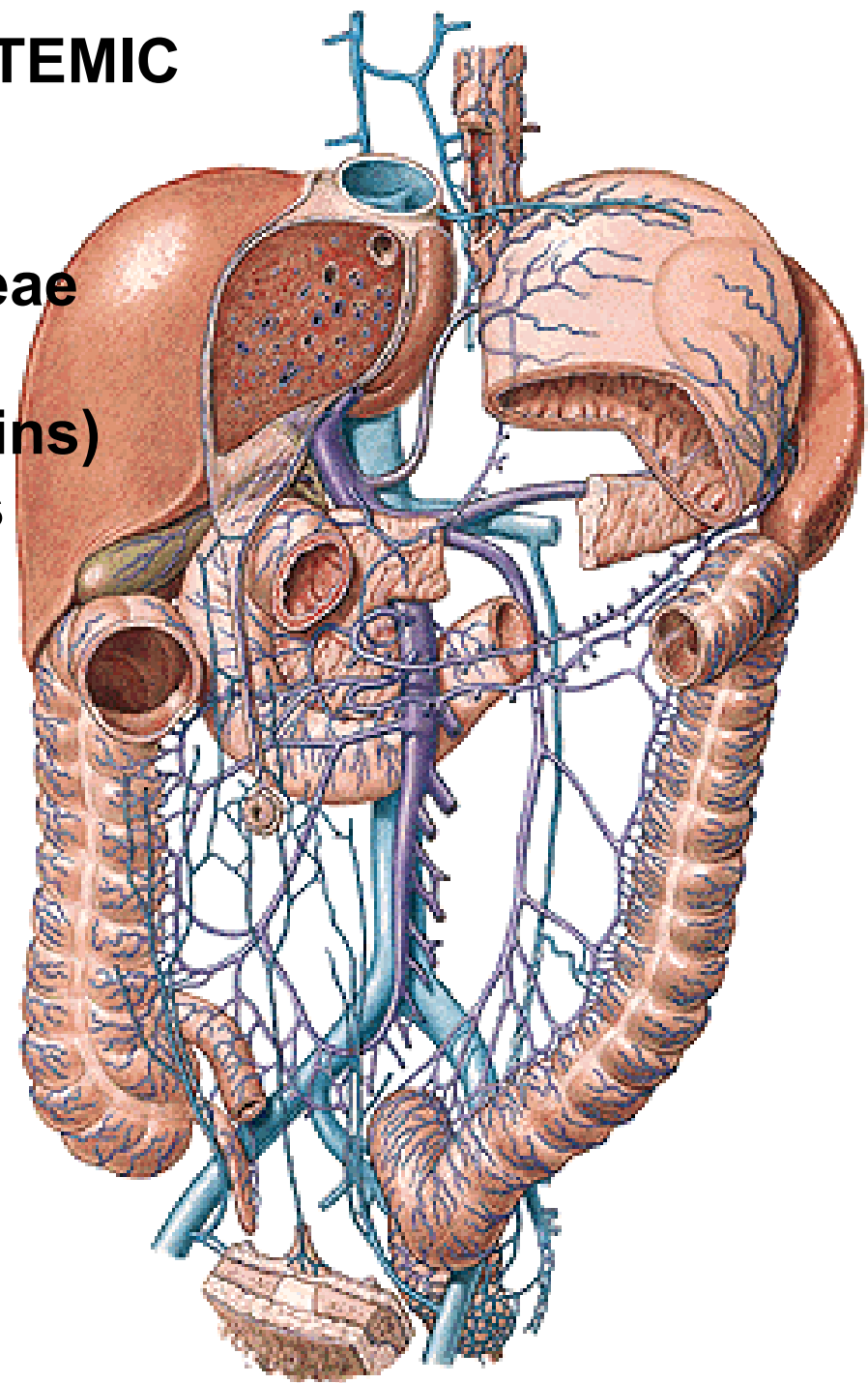
## **V. PORTAE**

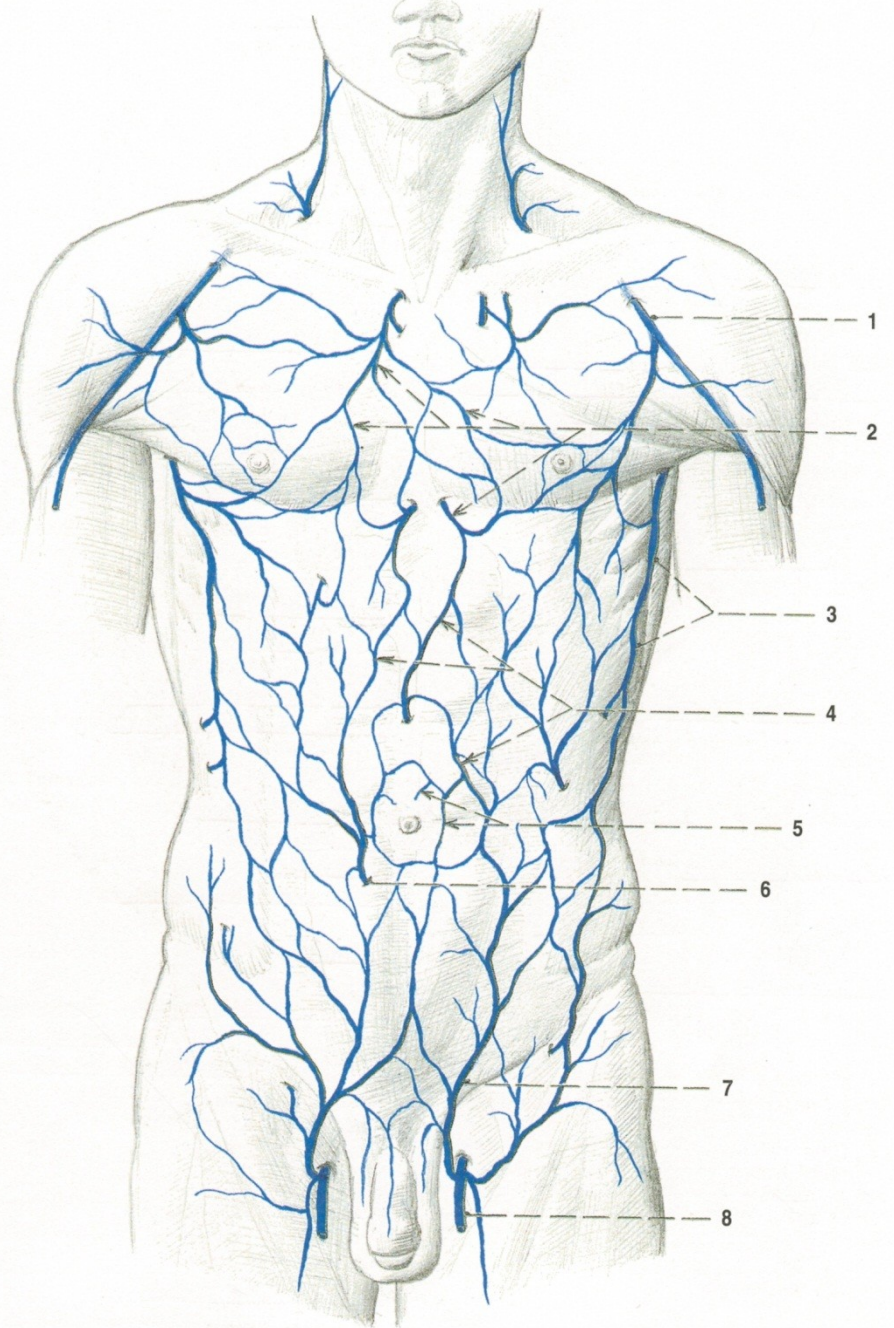
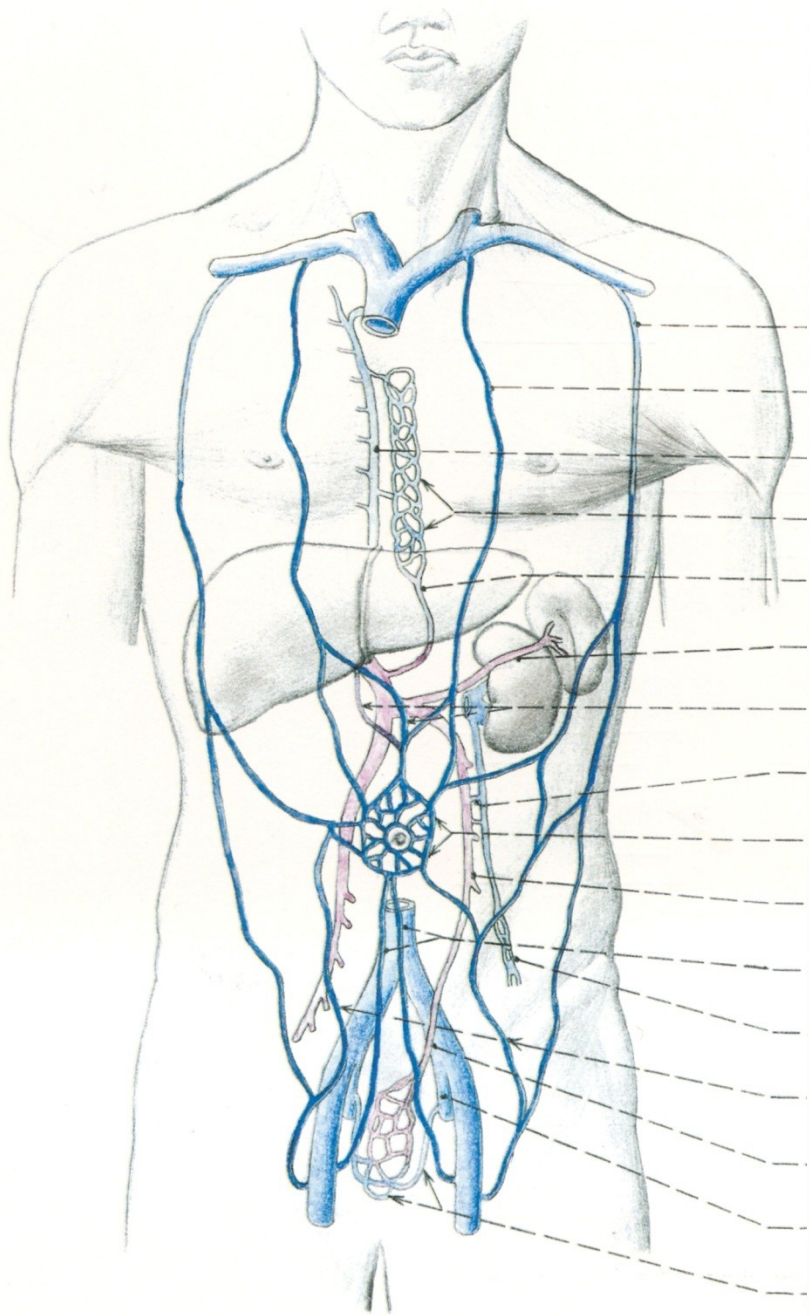
- vv. cysticae
- v. gastrica sin.
- v. gastrica dx.
- v. mesenterica sup.
  - vv. pancreaticoduodenales
  - vv. pancreaticae
  - v. gastromentalis dx.
  - vv. jejunales et ileales
  - v. ileocolica
  - v. colica dx. et media
- v. splenica/lienalis
  - vv. gastricae breves
  - v. gastromentalis sin.
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





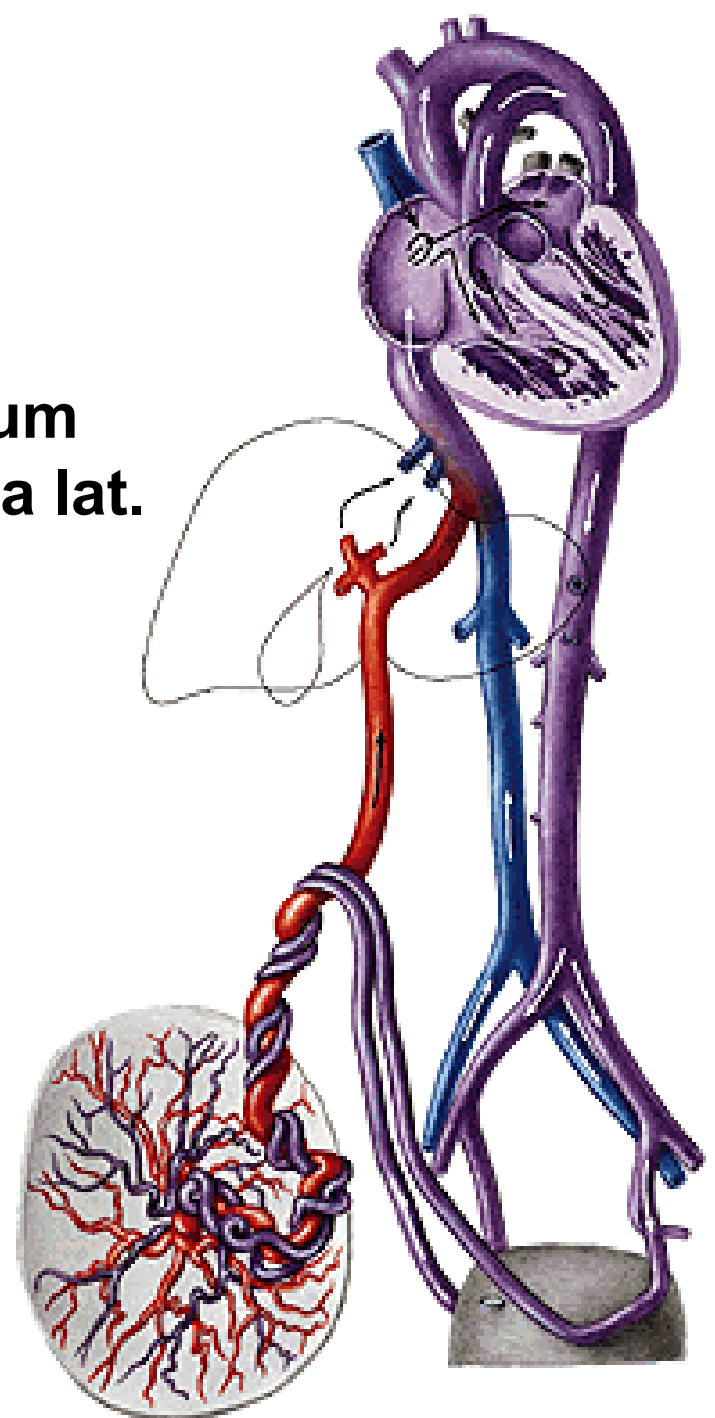
# Caput medusae





# 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.**