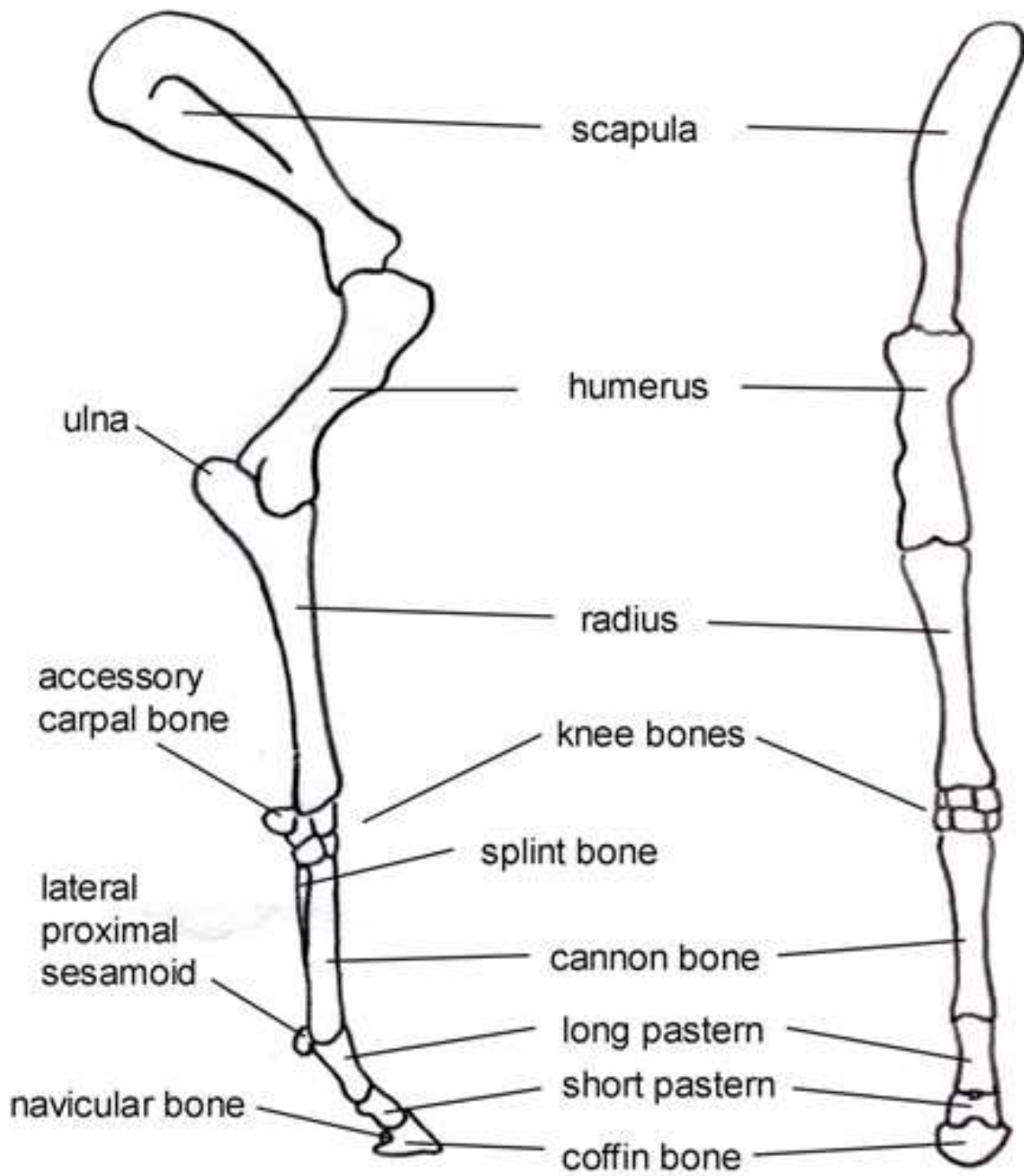


The bones of the Thoracic Limb



Anatomy of the Limbs

1. Intrinsic muscles of the shoulder, acts primarily on the shoulder

Deltoid
 Supraspinatus
 Infraspinatus
 Teres major
 Teres minor
 Subscapularis
 Coracobrachialis
 Biceps brachii
 Long head of the triceps brachii

2. Intrinsic muscles of the arm, acts primarily on the elbow joint, and can be divided into flexors and extensors

	Flexor Group	Extensor Group
Muscles	Biceps brachii	Triceps brachii
	Brachialis	Tensor fasciae antebrachia Aconeus
Innervation	Musculocutaneous nerve	Radial nerve

3. Craniolateral Antebrachium, muscles and nerves which extends the digits and carpus

Craniolateral Antebrachium	
Muscles	Nerves
Extensor carpi radialis	Radial nerve
Common digital extensor	
Lateral digital extensor	
Ulnaris lateralis (a flexor)	
Oblique carpal extensor	

4. Caudal Antebrachial muscles, flexes the carpus and digits

- Flexor carpi radialis
- Flexor carpi ulnaris
- Superficial digital flexor
- Deep digital flexor

Innervated by: Median and Ulnar nerve

5. **Intrinsic muscles of the manus:** Interosseous

Arterial supply of the Thoracic limb

1. Axillary artery
 - External thoracic artery: to the pectoral muscles and cutaneous trunci m
 - Suprascapular artery: to supraspinatus, subscapular and brachiocephalic muscles)
 - Subscapular artery:
2. Brachial artery
 - Cranial circumflex humeral artery
 - Deep brachial artery
 - Collateral ulnar artery
 - Nutrient artery of the humerus
 - Bicipital artery
 - Transverse cubital artery
 - Common interosseous
3. Median artery
 - Proximal radial artery: form the rete carpi palmaris
 - Lateral palmar artery
4. Medial palmar artery
5. Lateral palmar artery
6. Medial digital artery
7. Lateral digital artery
8. Terminal arch artery

Veins of the thoracic limb:

- Cephalic vein
 - Accessory cephalic vein
 - Median cubital vein
 - Axillobrachial vein
 - Omobrachial vein

Lymphatics of the thoracic limb:

Nerves of the thoracic limb:

1. Axillary nerve
2. Radial nerve
3. Lateral thoracic
4. Musculoskeletal nerve
5. Ulnar nerve
6. Medial cutaneous antebrachial nerve

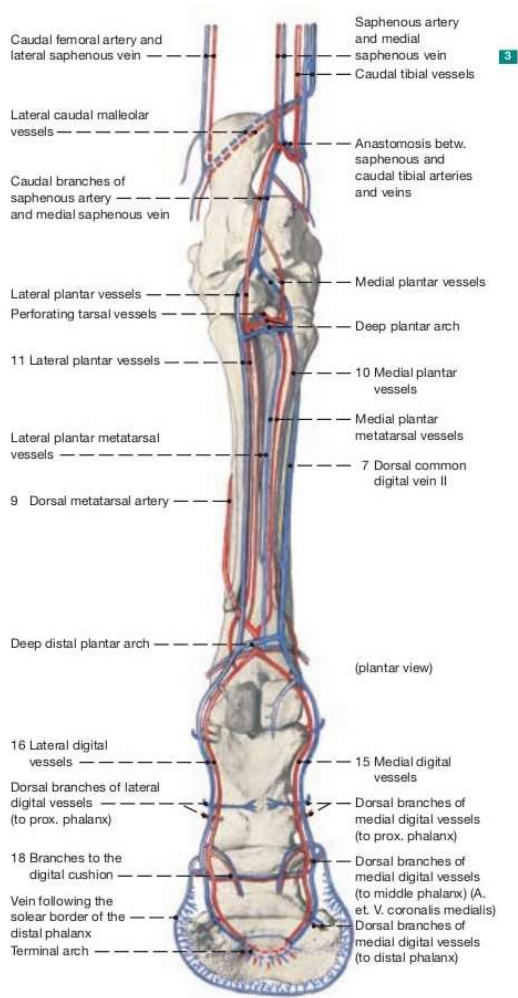
Anatomy of the Limbs

7. Median nerve
8. Median palmar nerve
9. Median metacarpal nerve
10. Dorsal branch of the digital nerve
11. Medial digital nerve

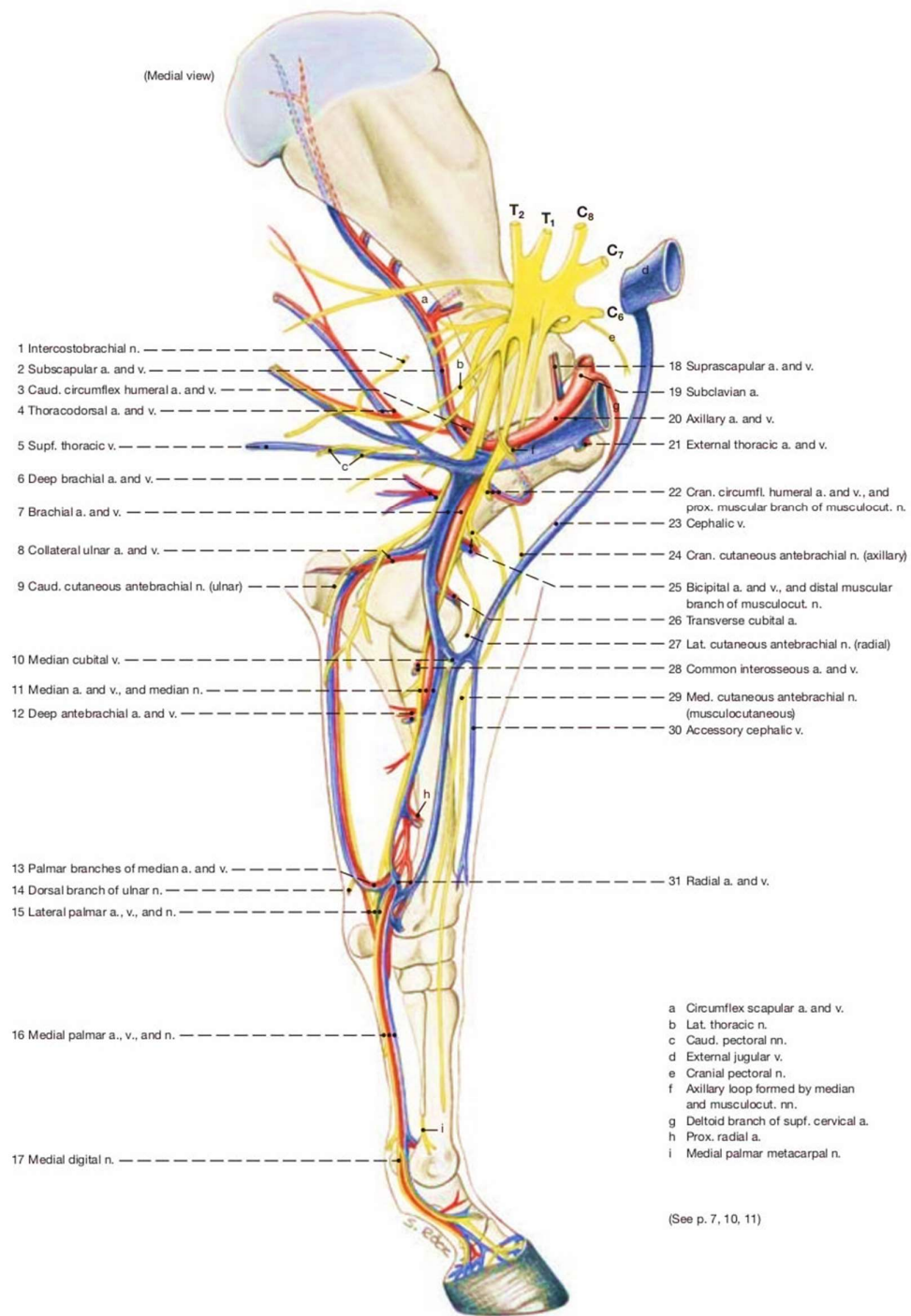
Lymph centre of the pelvic limb:

1. Iliofemoral lymph centre
 - a. Ilio-femoral
 - b. Epigastric
2. Popliteal lymph centre: Deep popliteal In

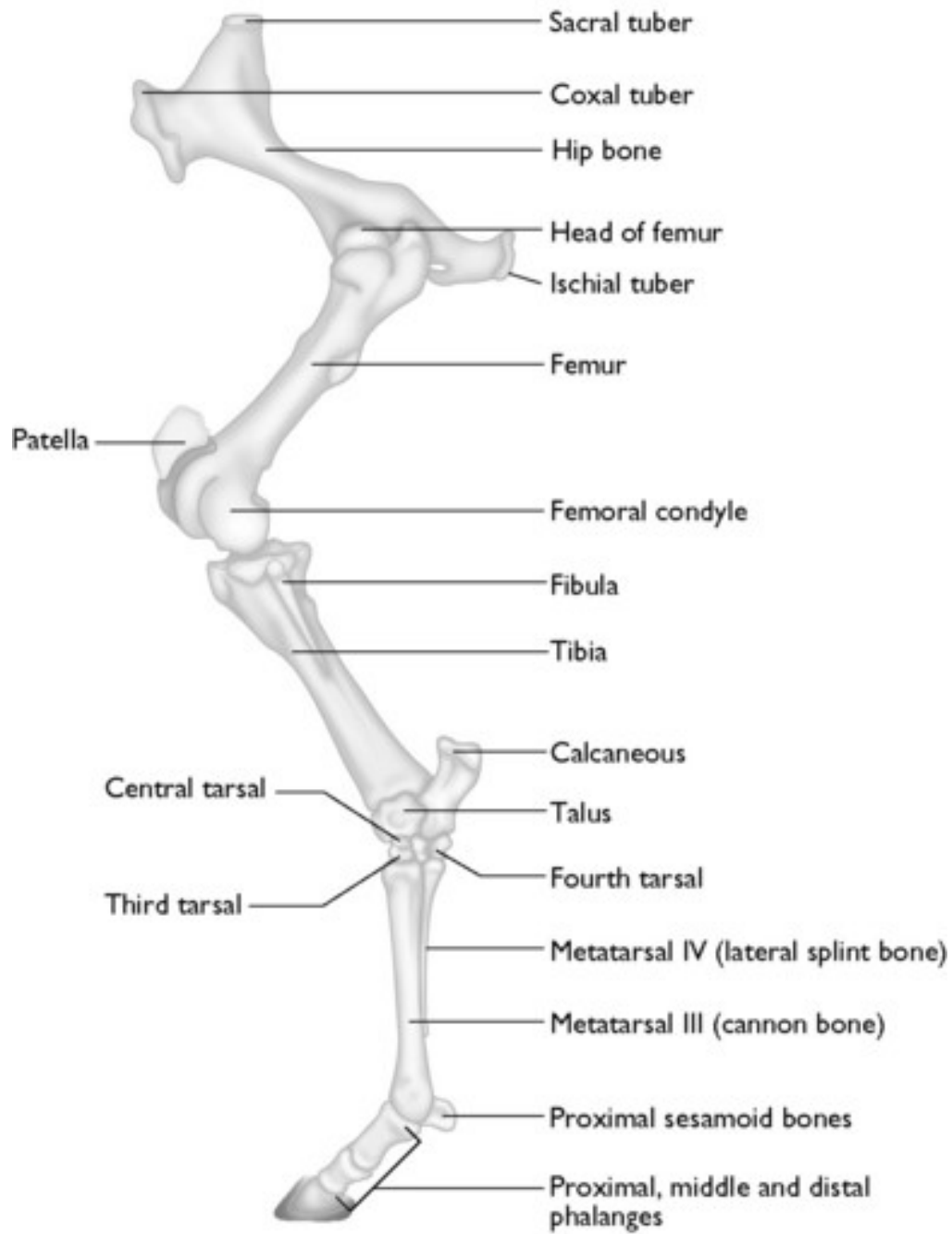
Arteries and Veins on the Distal Part of the Hindlimb



Arteries, Veins and Nerves of the Thoracic Limb



Bones of the Hindlimb



Anatomy of the Limbs

Muscles of the pelvic limb

Loin and hip muscles: innervated by the ventral branch of lumbar nerve

- Psoas minor
- Iliopsoas
 - Psoas major
 - Iliacus

Rump muscles: cranial and caudal gluteal nerve

- Superficial gluteal
- Middle gluteal
- Deep gluteal
- Tensor fasciae latae

Inner pelvic muscles: innervated by the ischiatic nerve

- Internal obturator
- Gemelli
- Quadratus femoris

Thigh muscles:

- a. Cranial thigh muscles, extensors of the stifle: innervated by the femoral nerve
 - Quadriceps femoris
 - Sartorius
- b. Medial thigh muscles, adductors: innervated by the obturator nerve
 - Sartorius
 - Gracilis
 - Adductor
 - Pectineus
 - External obturator
- c. Caudal muscles, hamstring muscles: innervated by the ischiatic nerve
 - Biceps femoris
 - Semitendinosus
 - Semimembranosus

Muscles of the crus

- a. Craniolateral muscles, extensors of the digits and flexors of the tarsus: peroneal nerve
 - Cranial tibial
 - Long digital extensor
 - Lateral digital extensor
 - Peroneus tertius

Anatomy of the Limbs

- b. Caudal muscles, flexors of the digits and extensors of the tarsus: innervated by the tibial nerve
 - Gastrocnemius
 - Soleus
 - Caudal tibial
 - Popliteus
 - Superficial digital flexor
 - Deep digital flexor

Arterial supply of the thoracic limb:

External iliac artery branches off to form:

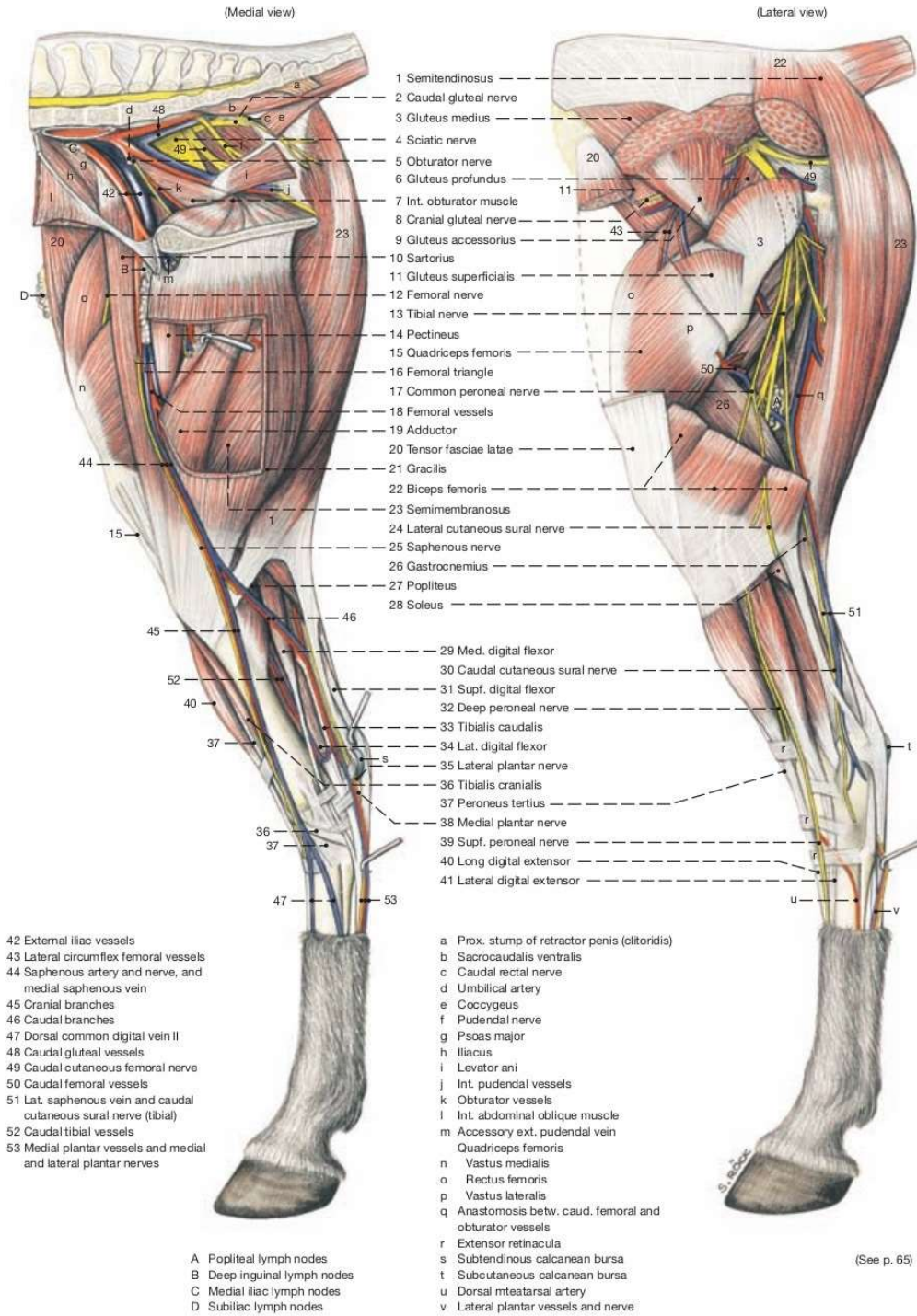
1. Deep femoral artery
 - Pudendo-epigastric trunk
 - medial circumflex femoral artery
2. Femoral artery
 - Lateral circumflex femoral artery
3. Saphenous artery
 - Cranial branch
 - Caudal branch
4. Popliteal artery
 - Caudal tibial artery
 - Cranial tibial artery
5. Dorsal pedal
6. Great metatarsal
7. Lateral digital
8. Terminal arch

Major Veins of the thoracic limb:

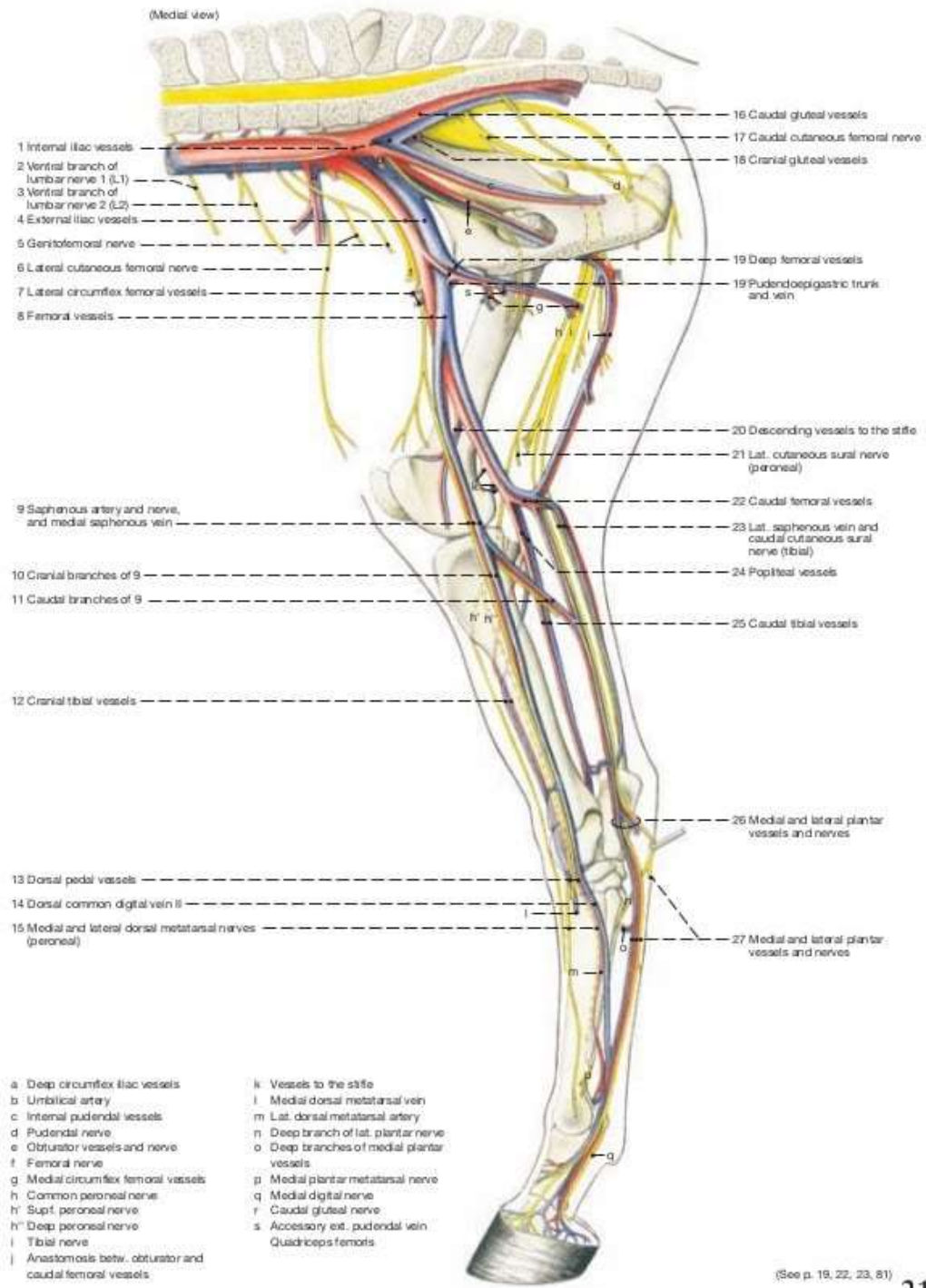
- Obturator vein
- Deep femoral vein
- Med. circumflex femoral vein
- Lateral circumflex femoral vein
- Descending genicular vein
- Caudal femoral Vein
- Lateral saphenous vein
- Medial saphenous vein
- Caudal branch of medial saphenous vein
- Medial plantar vein

Anatomy of the Limbs

Pelvic Limb



Arteries, Veins, and Nerves of the Pelvic Limb

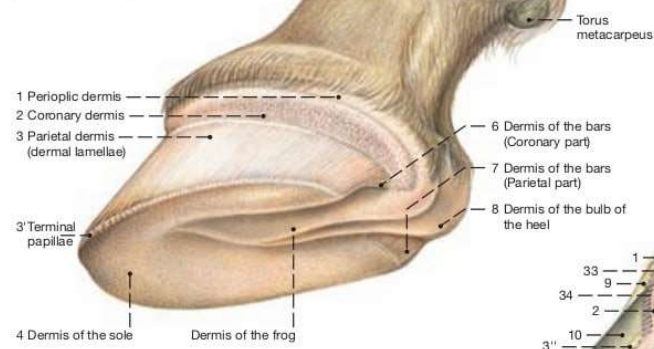


Anatomy of the Limbs

Hoof

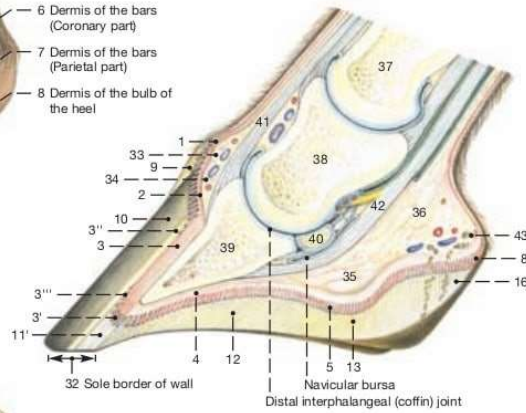
Hoof dermis

(Proximolateral view)



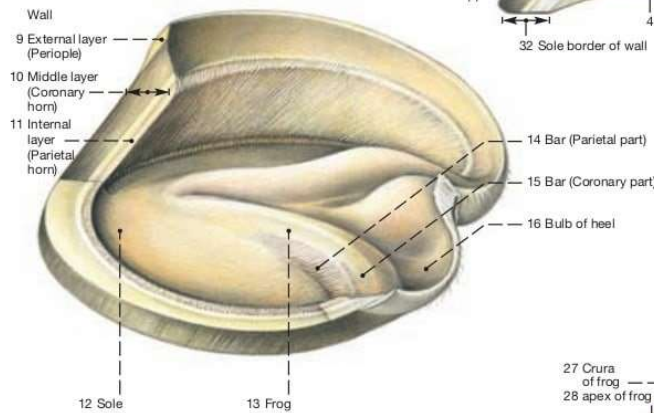
- 33 Periopic cushion
- 34 Coronary cushion
- 35, 36 Digital cushion
- 37 Proximal phalanx
- 38 Middle phalanx
- 39 Distal phalanx
- 40 Navicular bone
- 41 Common digital extensor tendon
- 42 Deep digital flexor tendon
- 43 Glands of the frog

Median section

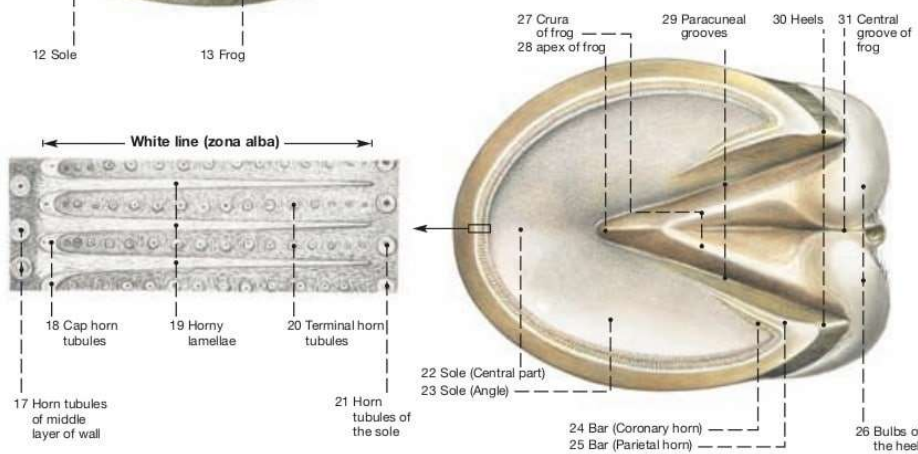


Hoof capsule

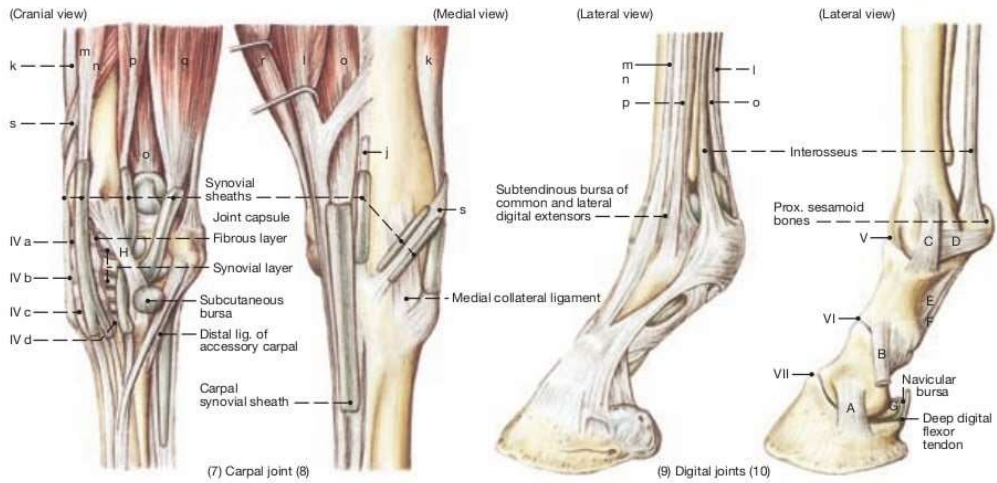
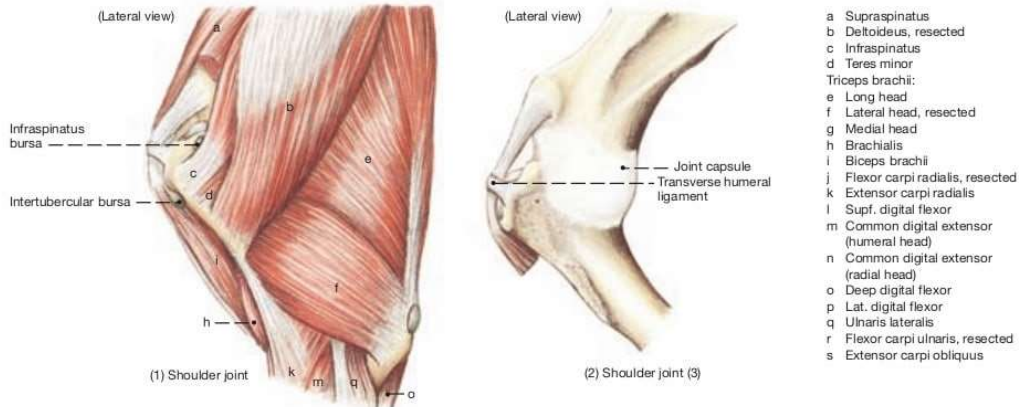
(Distolateral view)



Ground surface



Joints, Bursae, and Synovial Sheaths



A Lateral collateral lig. of coffin joint C Lateral collateral lig. of fetlock joint E Oblique sesamoidean ligament G Navicular bone
 B Collateral lig. of navicular bone D Lateral collateral lig. of prox. sesamoid bones F Straight sesamoidean ligament H Lateral collateral lig. of carpal joint

6. Synovial Structures of the Thoracic Limb

Clinical and Functional Anatomy p. 112-113; 125-128

1 a) JOINTS OF THE THORACIC LIMB

Name/Fig.	Bones involved	Type of joint	Function	Remarks
2 I. Shoulder joint / 1-3	Glenoid cavity of scapula and head of humerus	Simple spheroidal joint	Restricted to flexion and extension by tendinous components of subscapularis and supra- and infraspinatus muscles	Site of injection Cranial border of palpable infraspinatus tendon, 2 cm proximal to greater tubercle, to a depth of about 5 cm
3 II. Elbow joint / 4-6		Composite joint		
a) Humeroulnar articulation	a) Condyle of humerus and ulna	a) Simple hinge joint	a-b) Flexion and extension	Initial flexion of the joint is impeded by eccentrically placed collateral ligaments. The long part of the medial collateral ligament corresponds to the pronator teres of other animals
b) Humeroulnar articulation	b) Condyle of humerus and head of radius	b) Simple hinge joint		
c) Proximal radioulnar articulation	c) Articular circumference of radius and radial notch of ulna	c) Simple pivot joint	c) No movement	
III. Distal radioulnar joint (absent)				
CARPAL AND DIGITAL JOINTS				
4 IV. Carpal joint / 7, 8		Composite joint (in the wider sense)		
a) Radiocarpal joint	Trochlea of radius and carpal bones	Composite condylar joint	a) Flexion and extension up to 90°	a) Site of injection: Between lateral digital extensor and ulnaris lateralis into the proximal pouch when the carpus is flexed
b) Midcarpal joint	Proximal and distal rows of carpal bones	Composite condylar joint	b) Flexion and extension up to 45°	
c) Carpometacarpal joint	Carpal bones II-IV and metacarpal bones II-IV	Composite plane joint	c) Little movement	a-d) The fibrous layer of the joint capsule is common to all articulations in the carpus. The synovial layer is divided to enclose the three individual articulations separately. The midcarpal capsule communicates with that of the carpometacarpal articulation.
d) Intercarpal joints	Carpal bones of the same row	Composite plane joint	d) Little movement	
5 V. Fetlock (metacarpophalangeal) joint / 9, 10	Metacarpal 3, prox. phalanx, and prox. sesamoid bones	Composite hinge joint	Flexion and extension	Site of injection: Into the prox. palmar pouch between large metacarpal bone and interosseus
6 VI. Pastern (prox. interphalangeal) joint / 9, 10	Proximal and middle phalanx	Simple saddle joint	Flexion and extension, also slight side-to-side and rotational movements	Site of injection: Into the prox. dorsal pouch under the lateral border of the common extensor tendon
7 VII. Coffin (dist. interphalangeal) joint / 10	Middle phalanx, distal phalanx, with hoof cartilage, and navicular bone	Composite saddle joint	Flexion and extension, also slight side-to-side and rotational movements	Site of injection: Into the prox. dorsal pouch under the lateral border of the common extensor tendon

