

Equine Anatomy

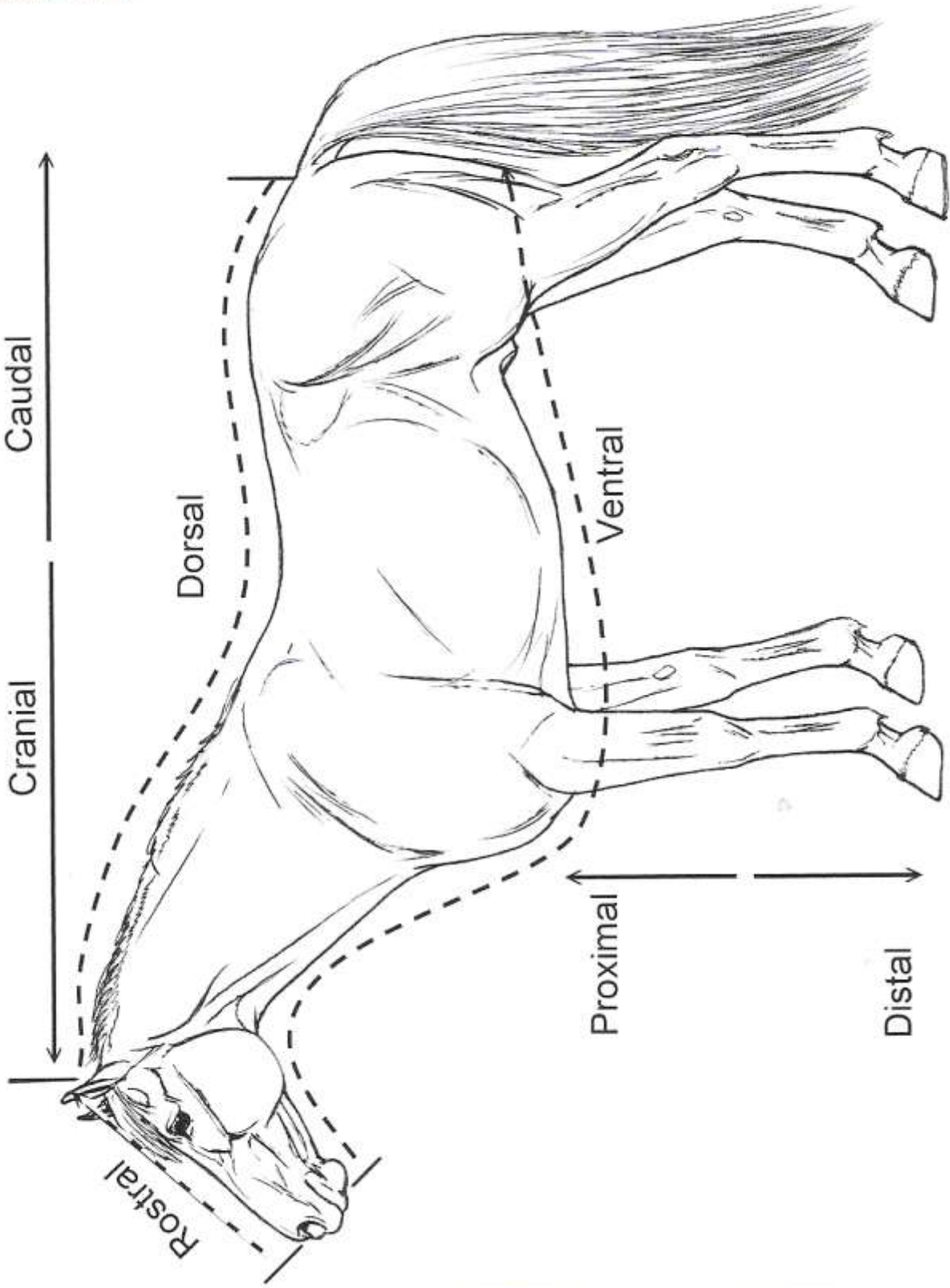
Equine Science – Chapter 9

The anatomy chapter is composed of wonderful equine illustrations by world-renowned artist Susan Harris. Enjoy learning about:

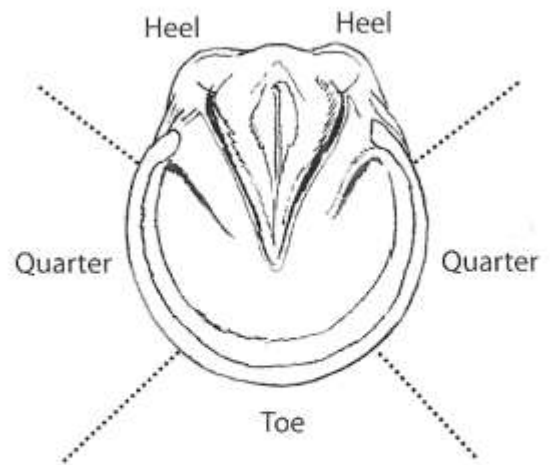
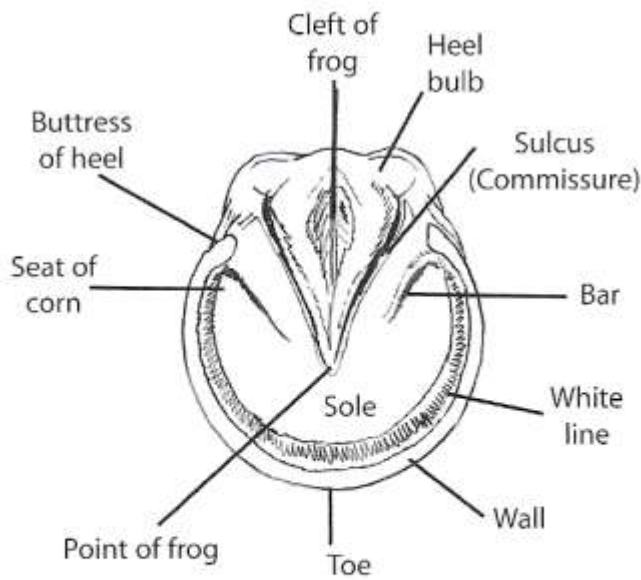
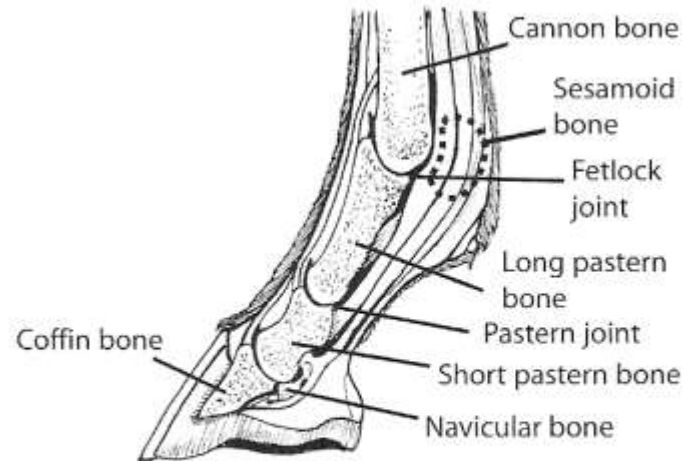
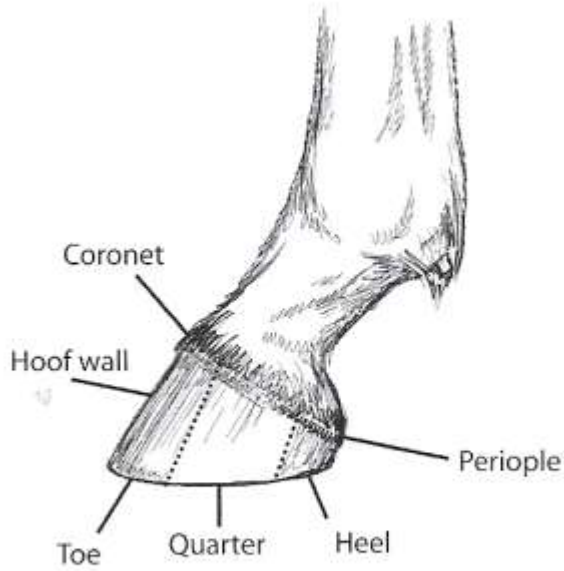
- Directional Terms
- Foot and Hoof
- Inner Hoof Structure
- Skeletal System
- Superficial Muscles
- Deep Muscles
- Major Ligaments
- Digestive System
- Circulatory System
- Respiratory System
- Urinary System
- Reproductive System
- Nervous System
- Endocrine System
- Parts of the Eye
- Integumentary System
- Teeth
- Estimating Age by Teeth

Directional Terms

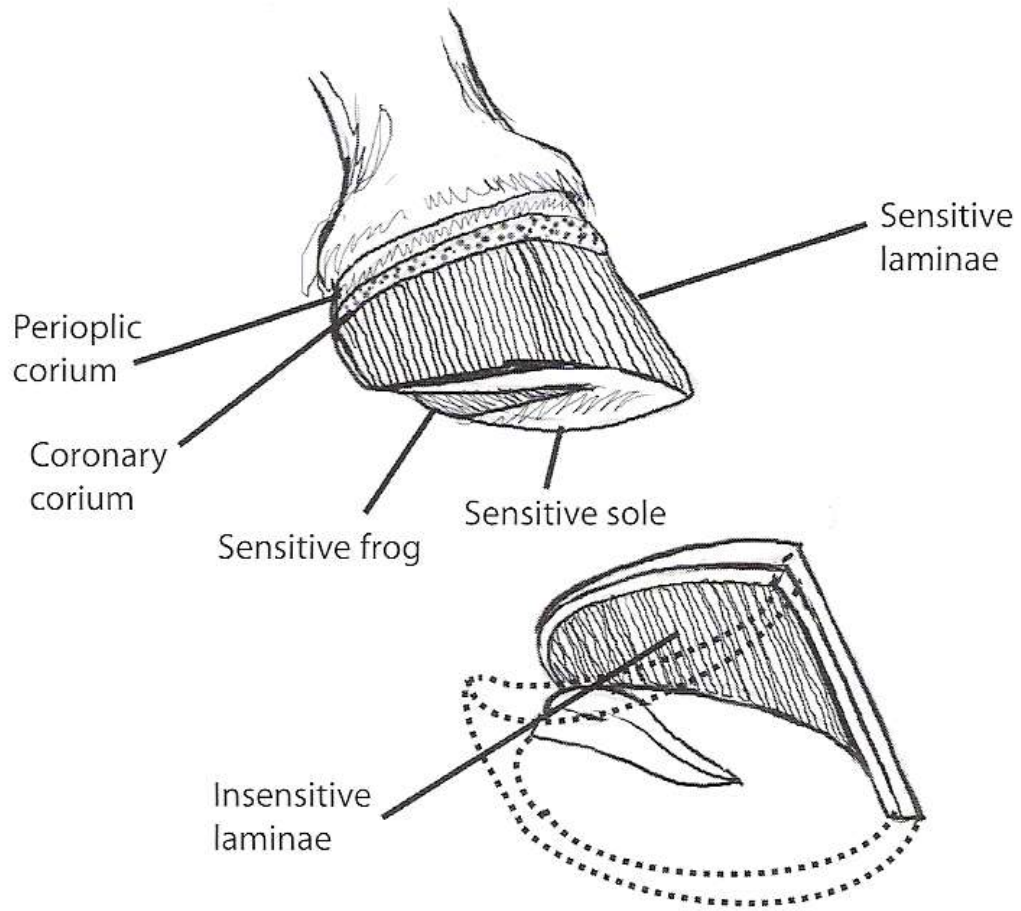
Planes and Directions (terminology)



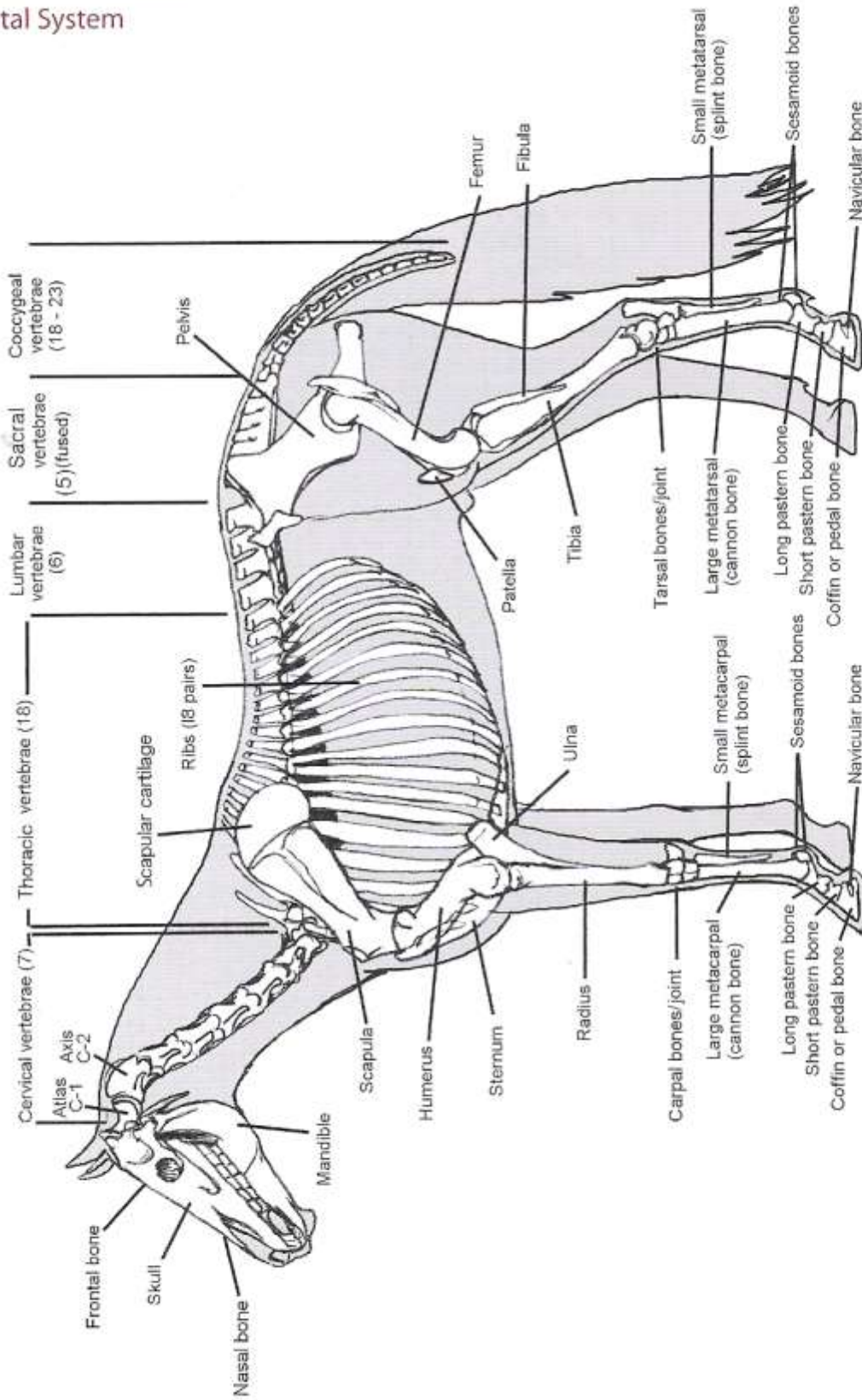
Parts of the Foot and Hoof



Inner Hoof Structure

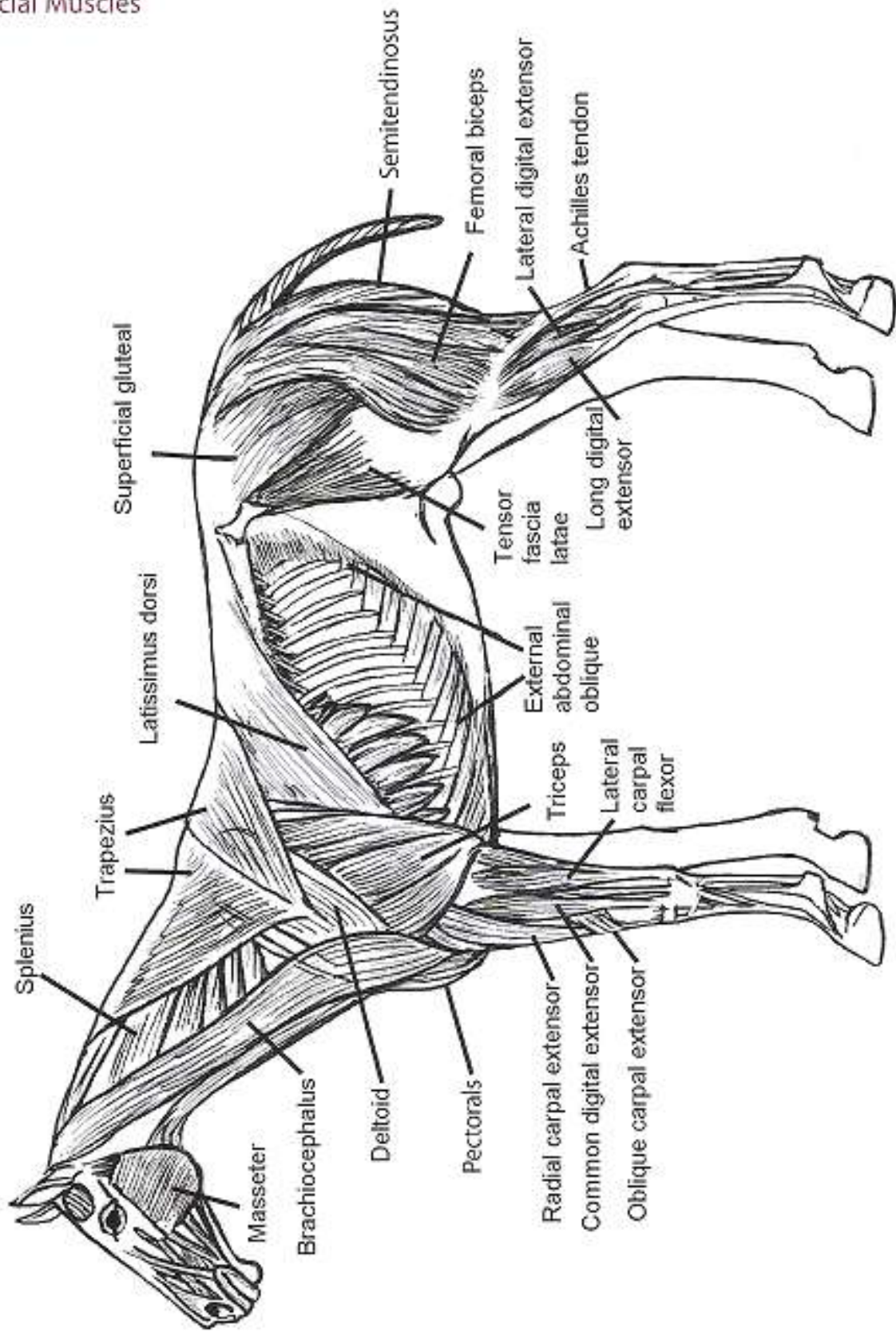


Skeletal System

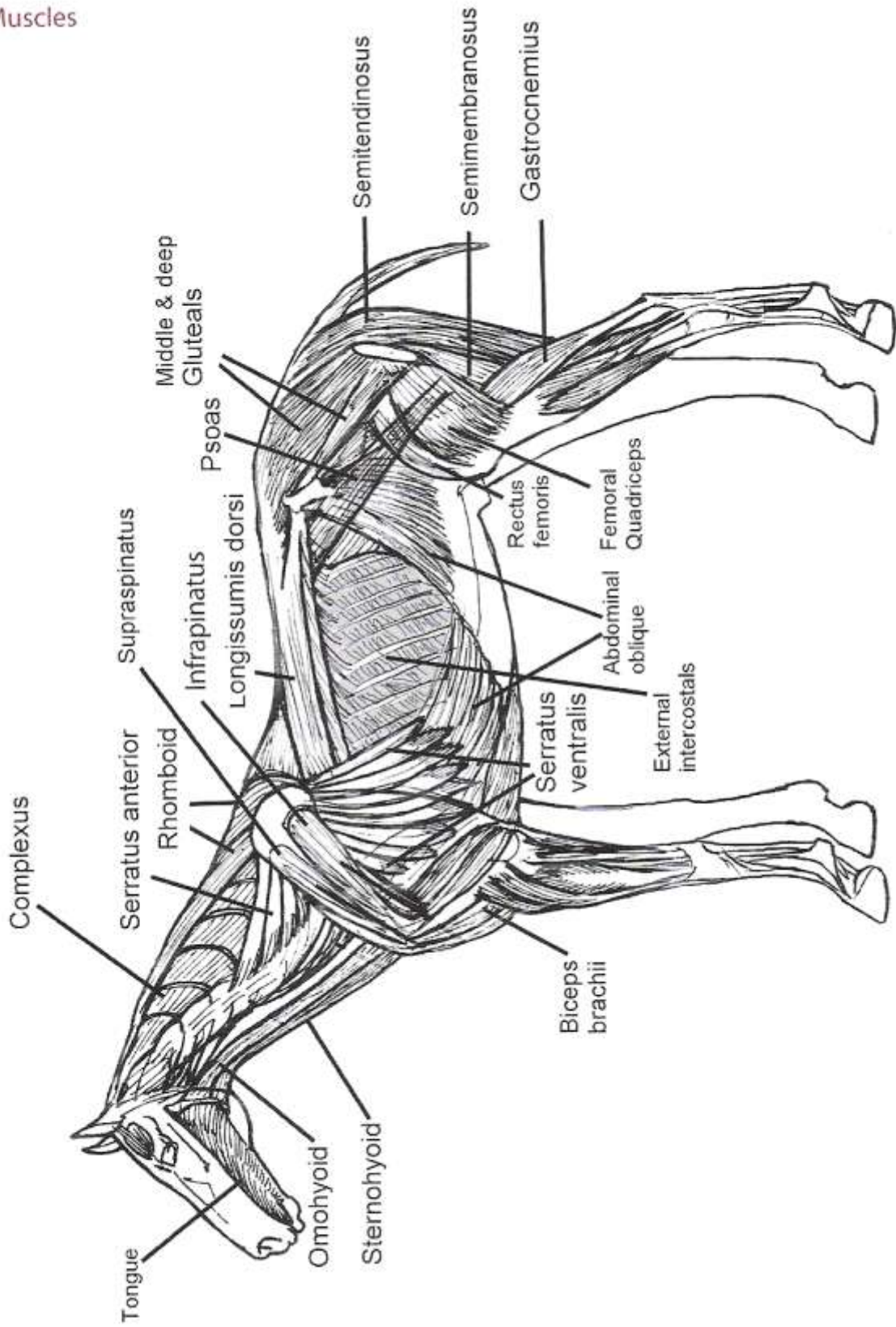


1st Phalanx = long pastern bone
 2nd Phalanx = short pastern bone
 3rd Phalanx = coffin or pedal bone

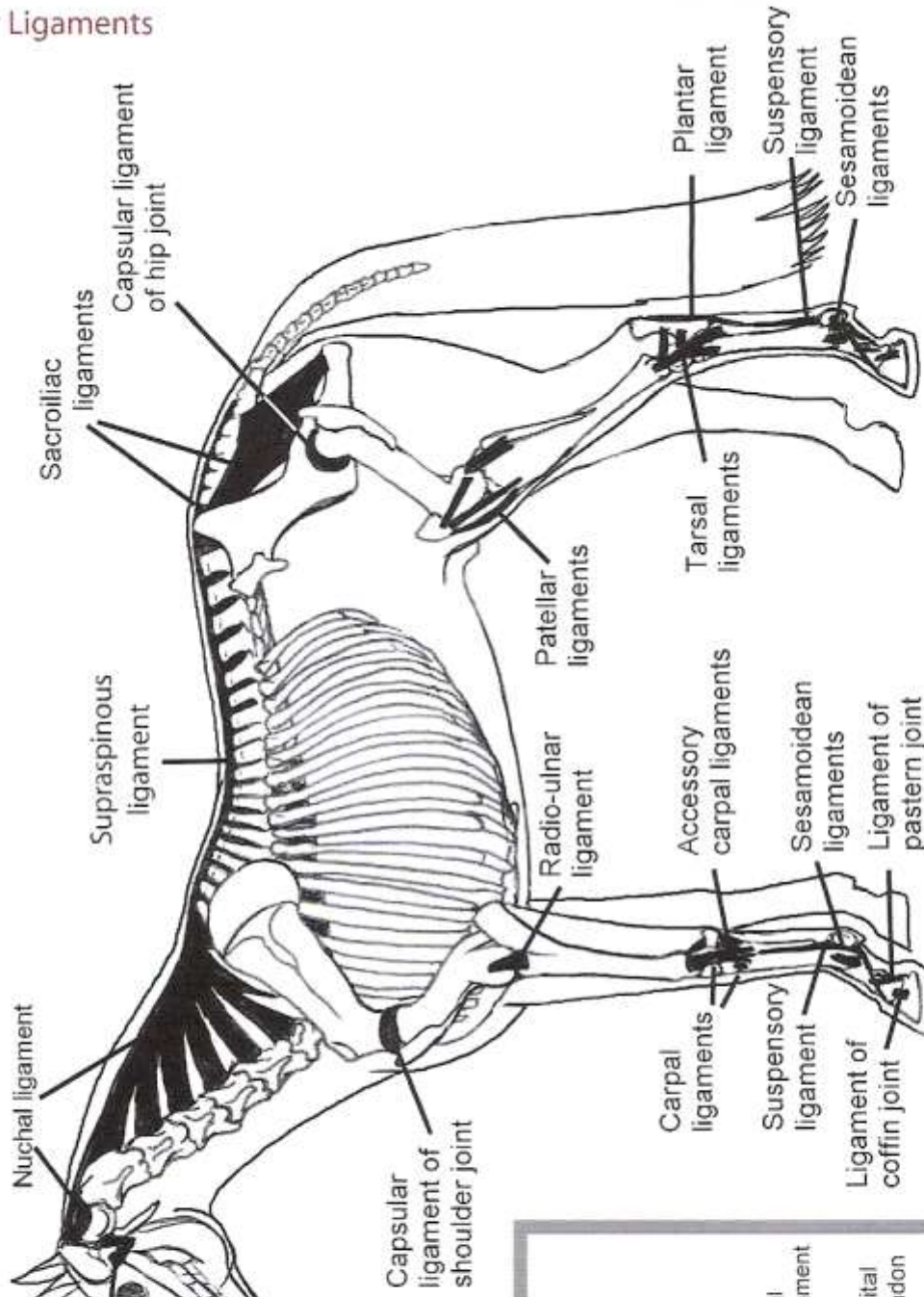
Superficial Muscles



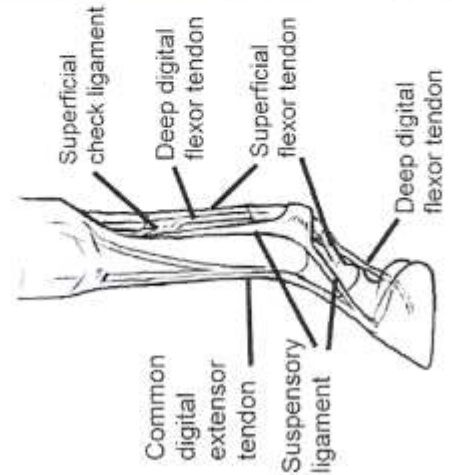
Deep Muscles



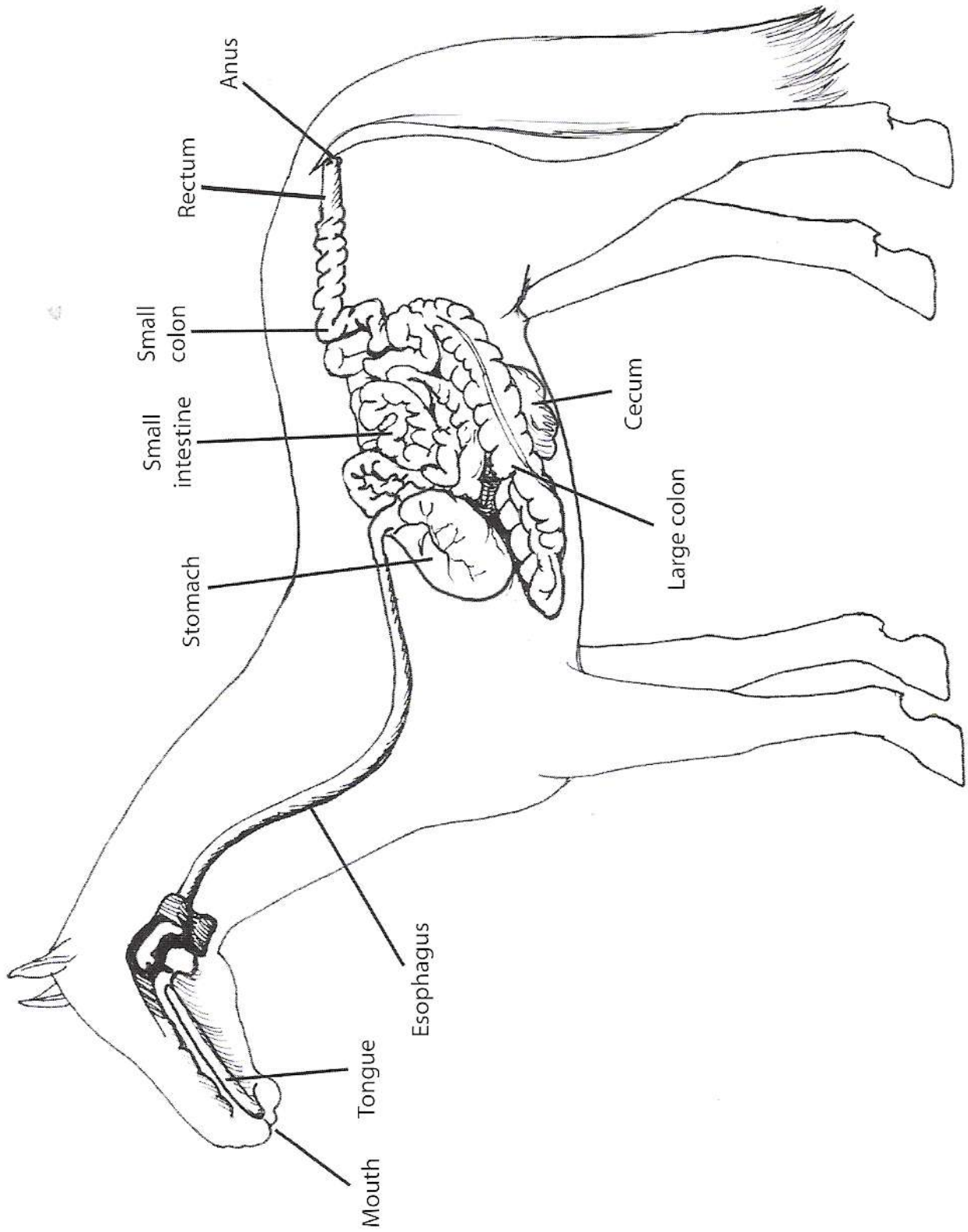
Major Ligaments



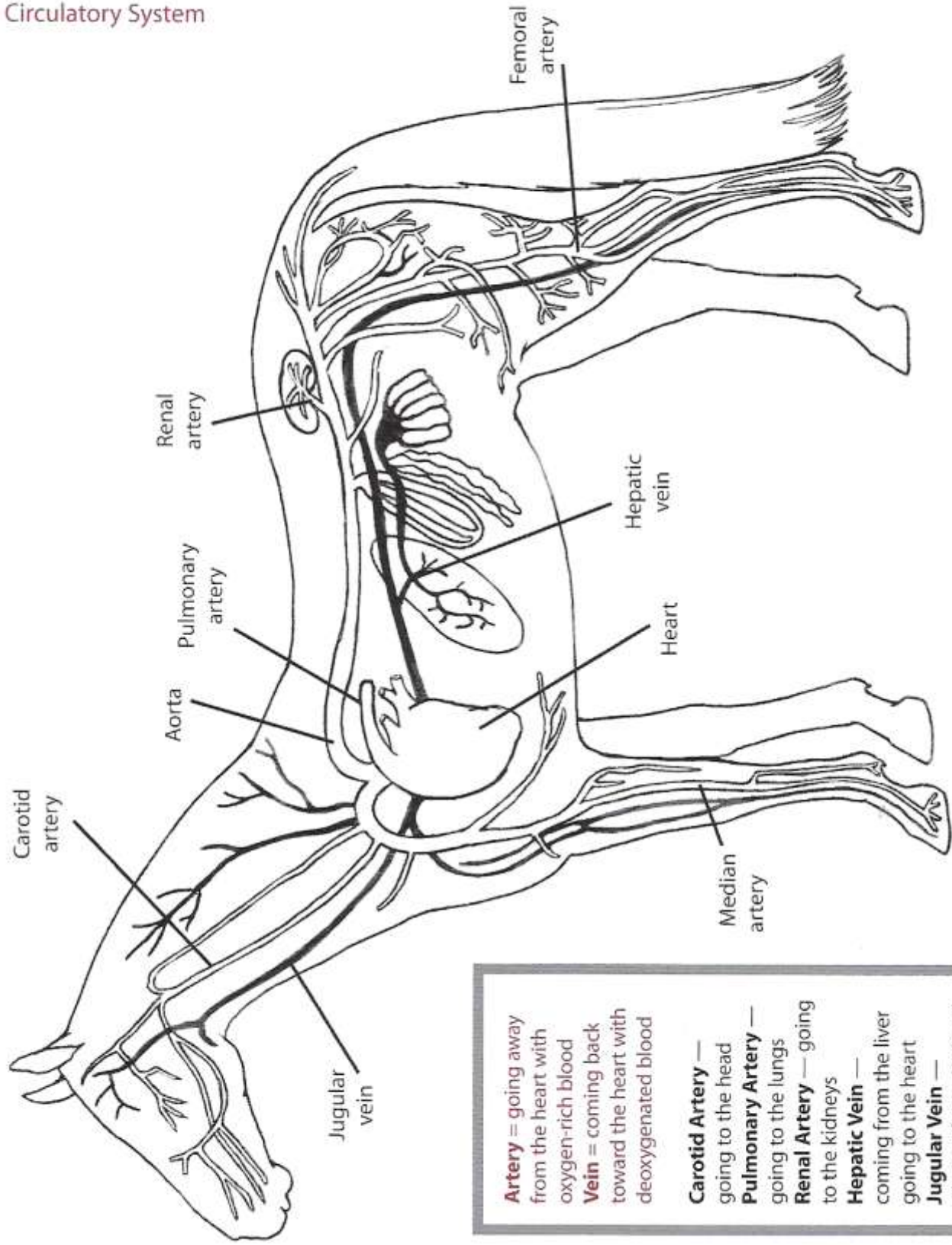
Tendons and Ligaments of the Lower Leg



Digestive System



Circulatory System



Artery = going away from the heart with oxygen-rich blood
Vein = coming back toward the heart with deoxygenated blood

Carotid Artery — going to the head

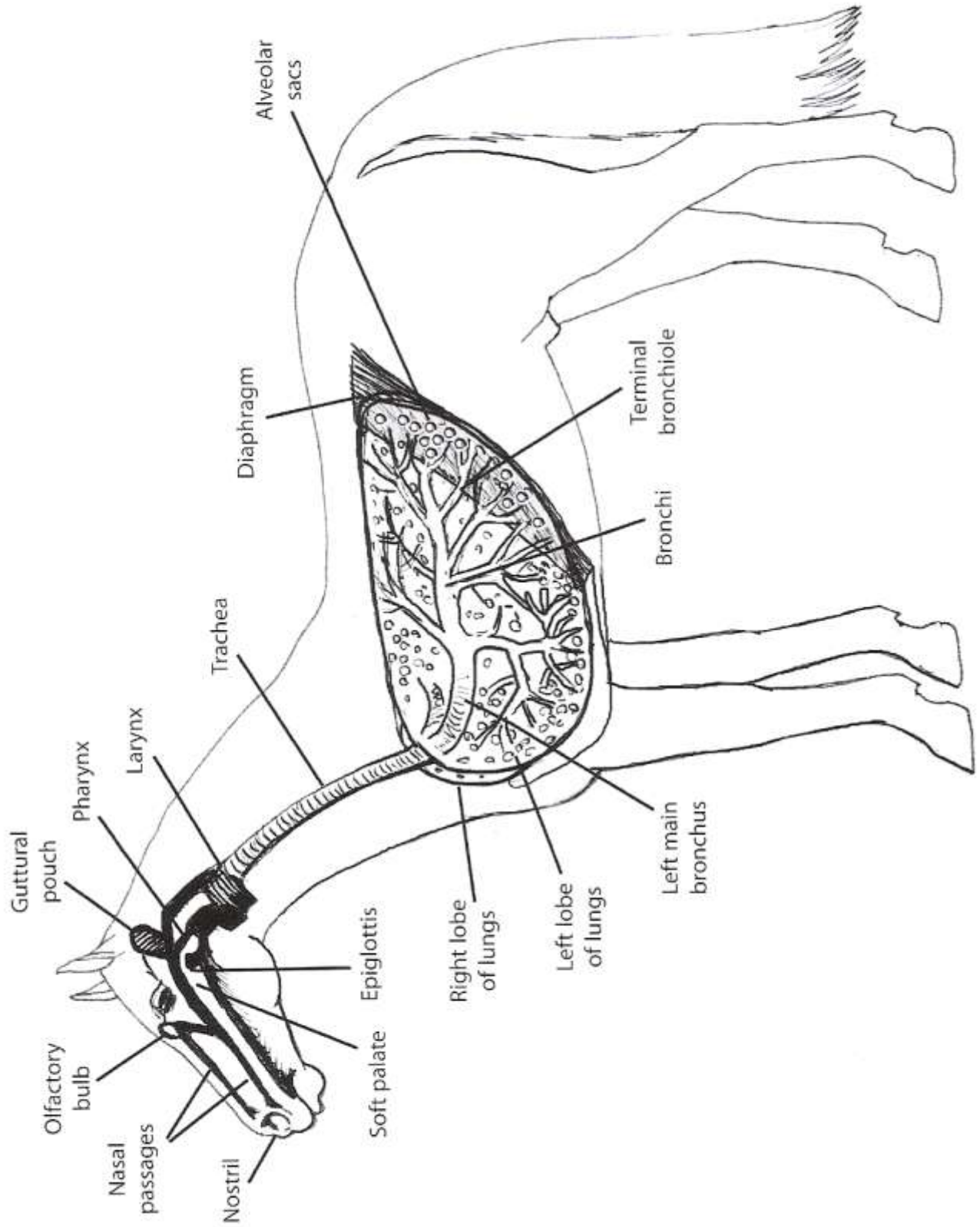
Pulmonary Artery — going to the lungs

Renal Artery — going to the kidneys

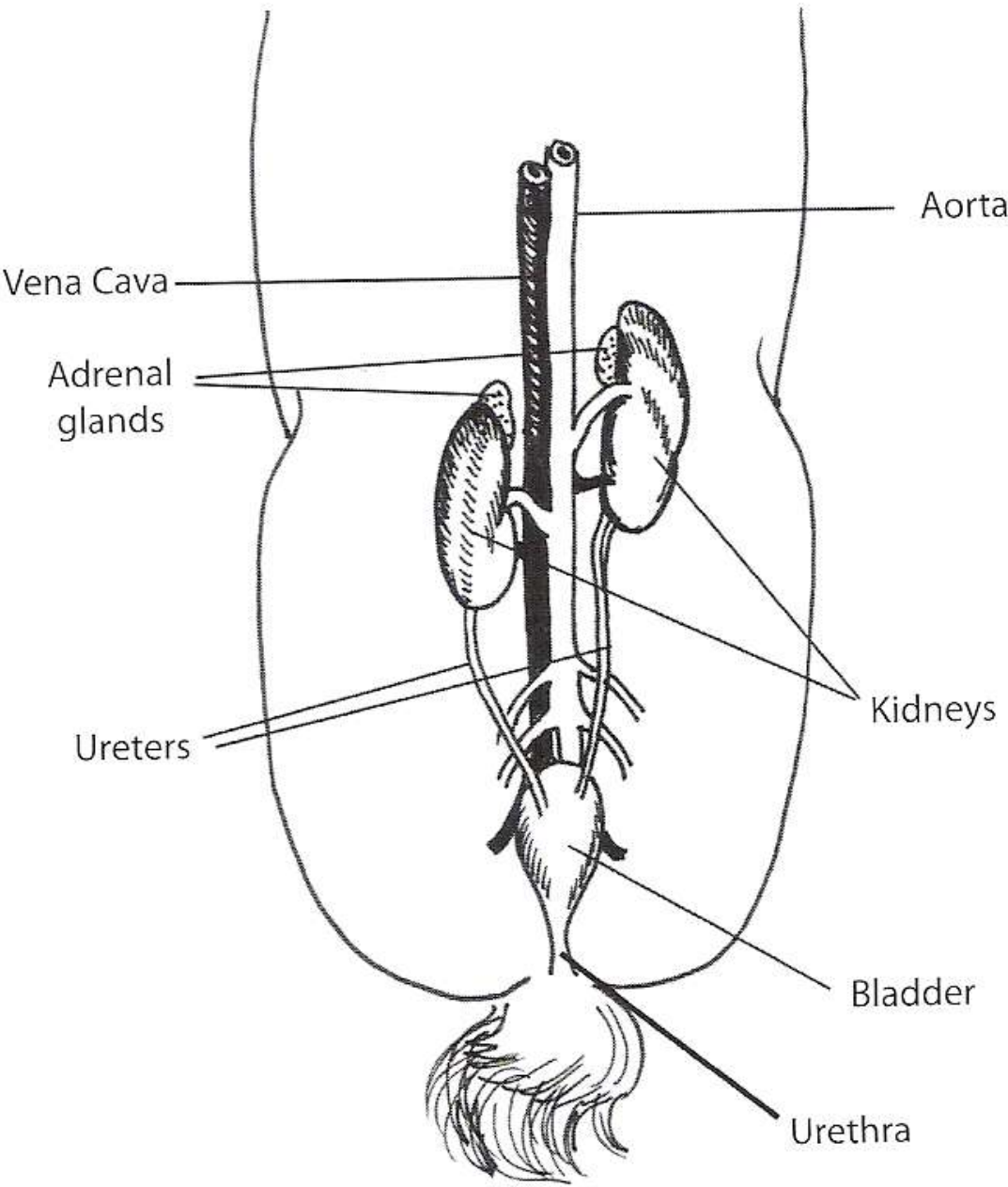
Hepatic Vein — coming from the liver going to the heart

Jugular Vein — coming from the head

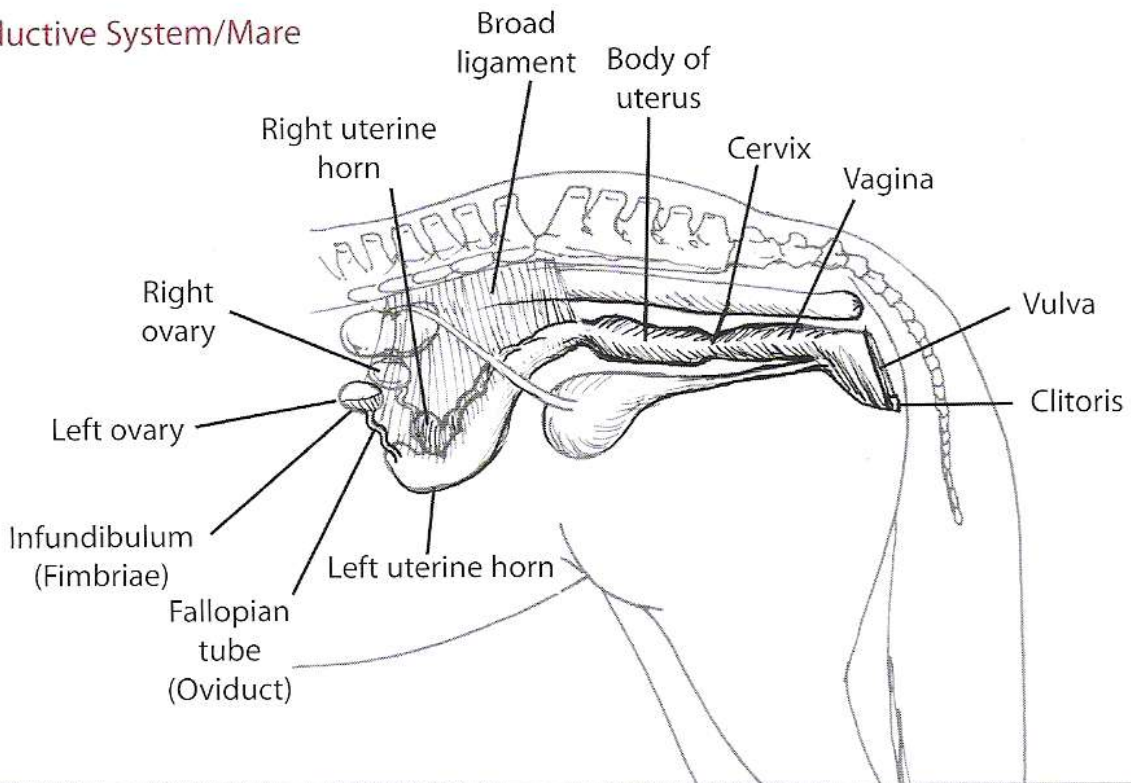
Respiratory System



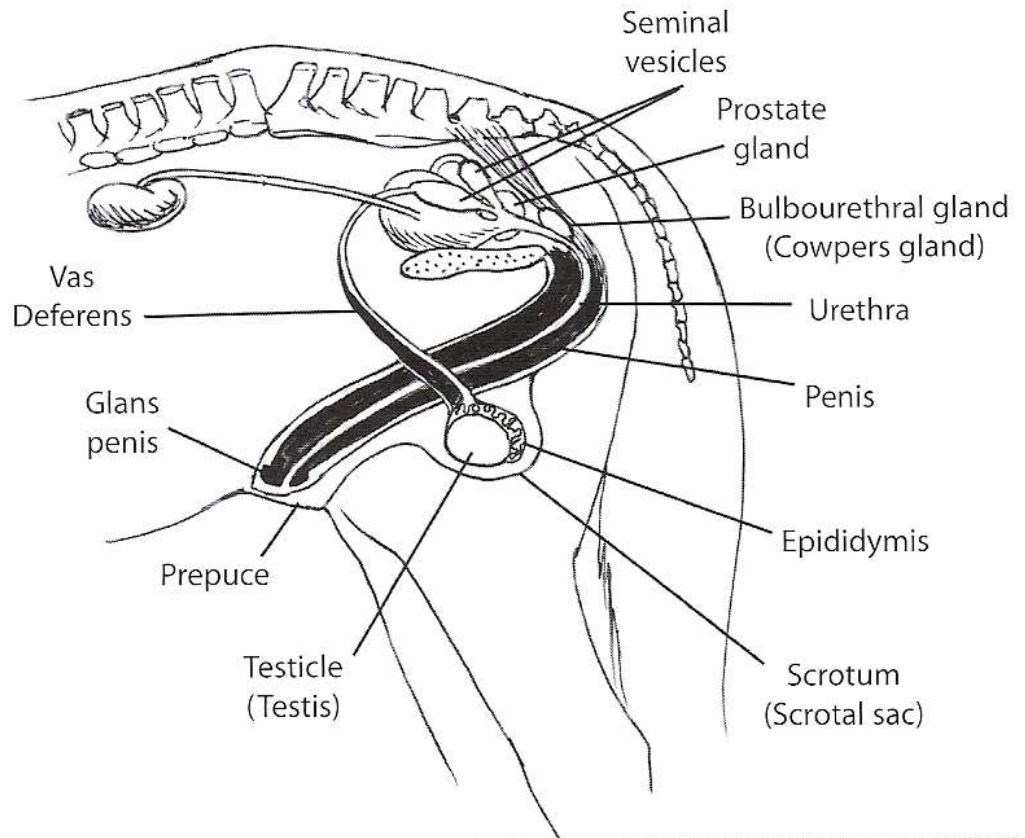
Urinary System



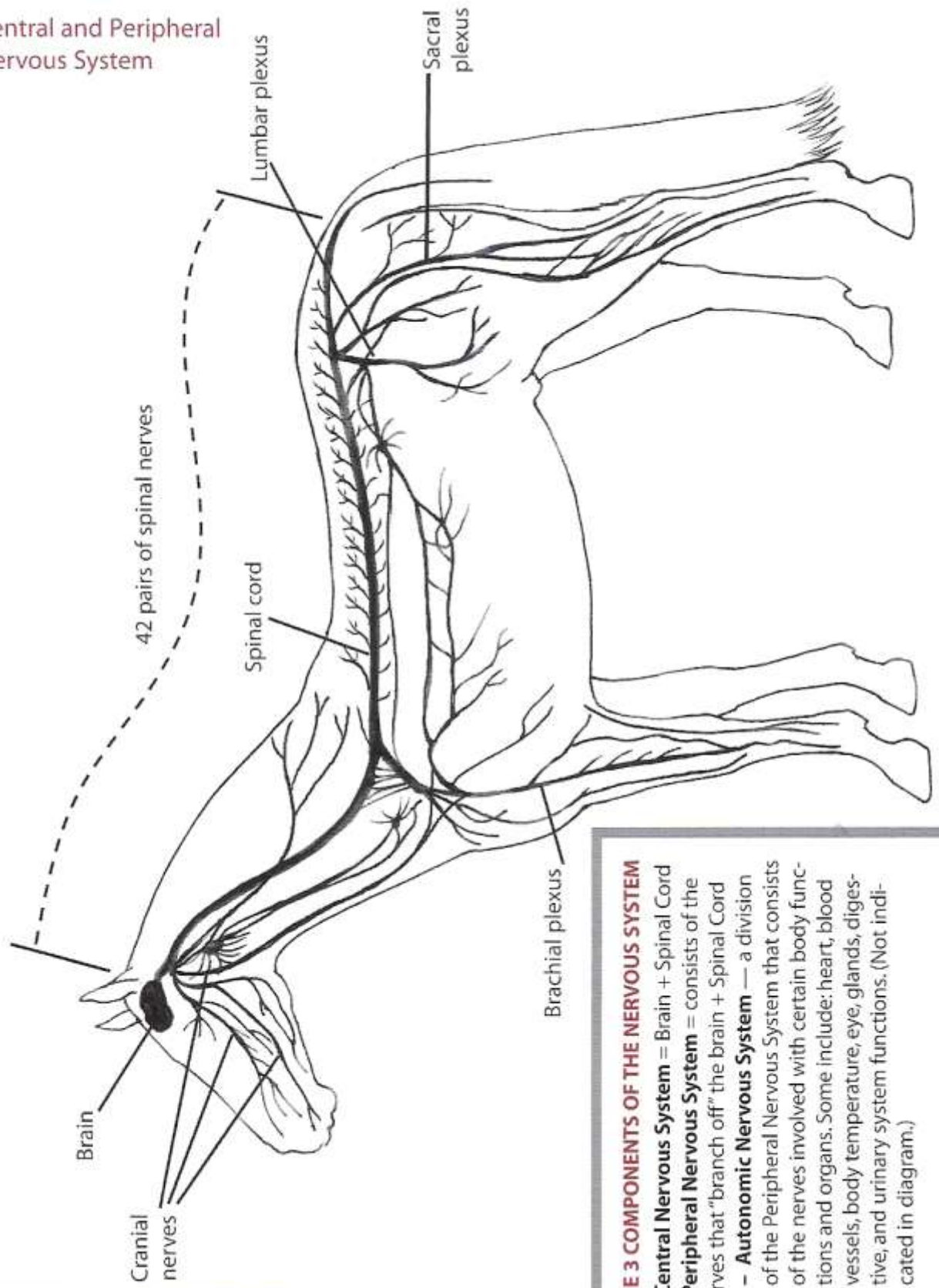
Reproductive System/Mare



Reproductive System/Stallion



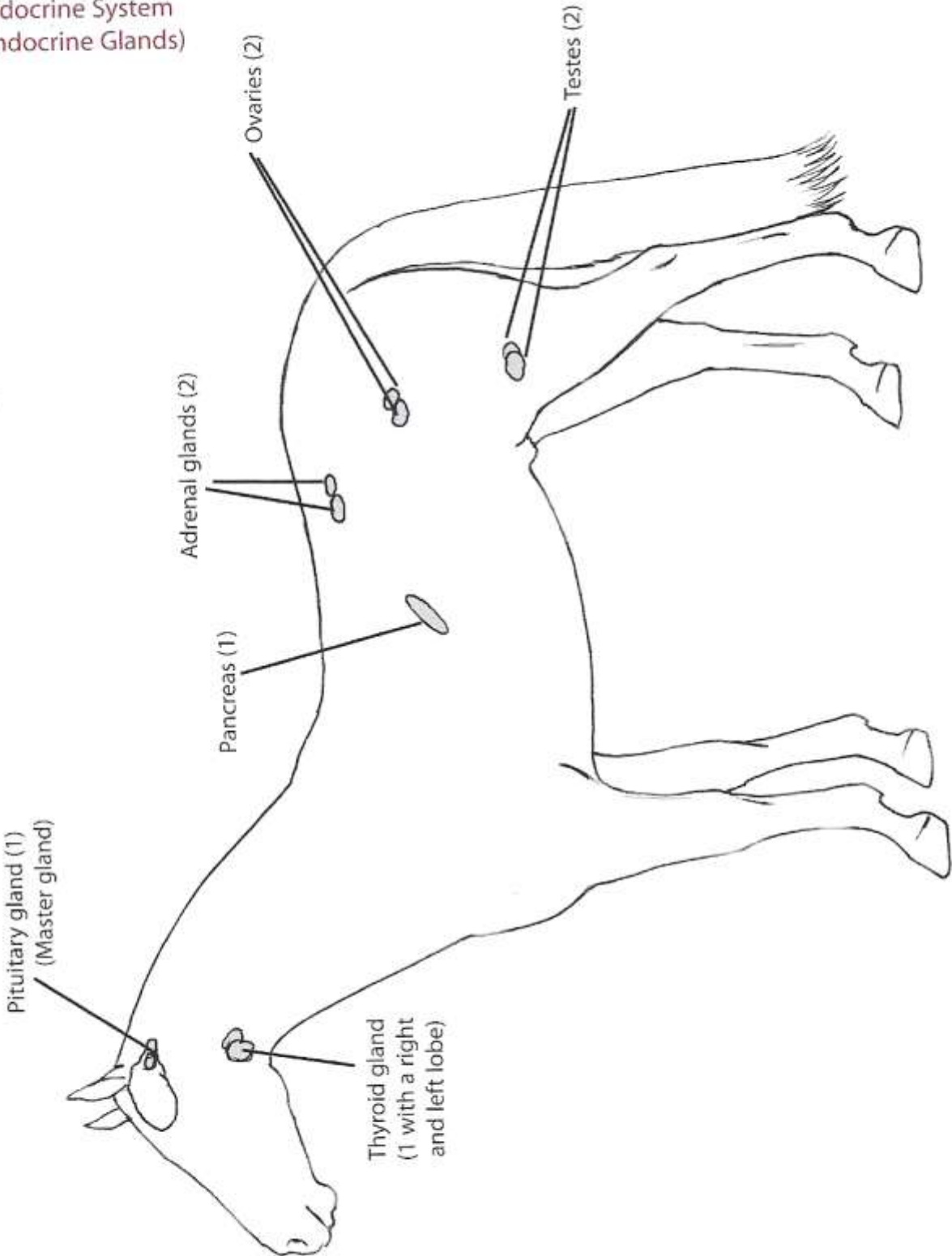
Central and Peripheral Nervous System



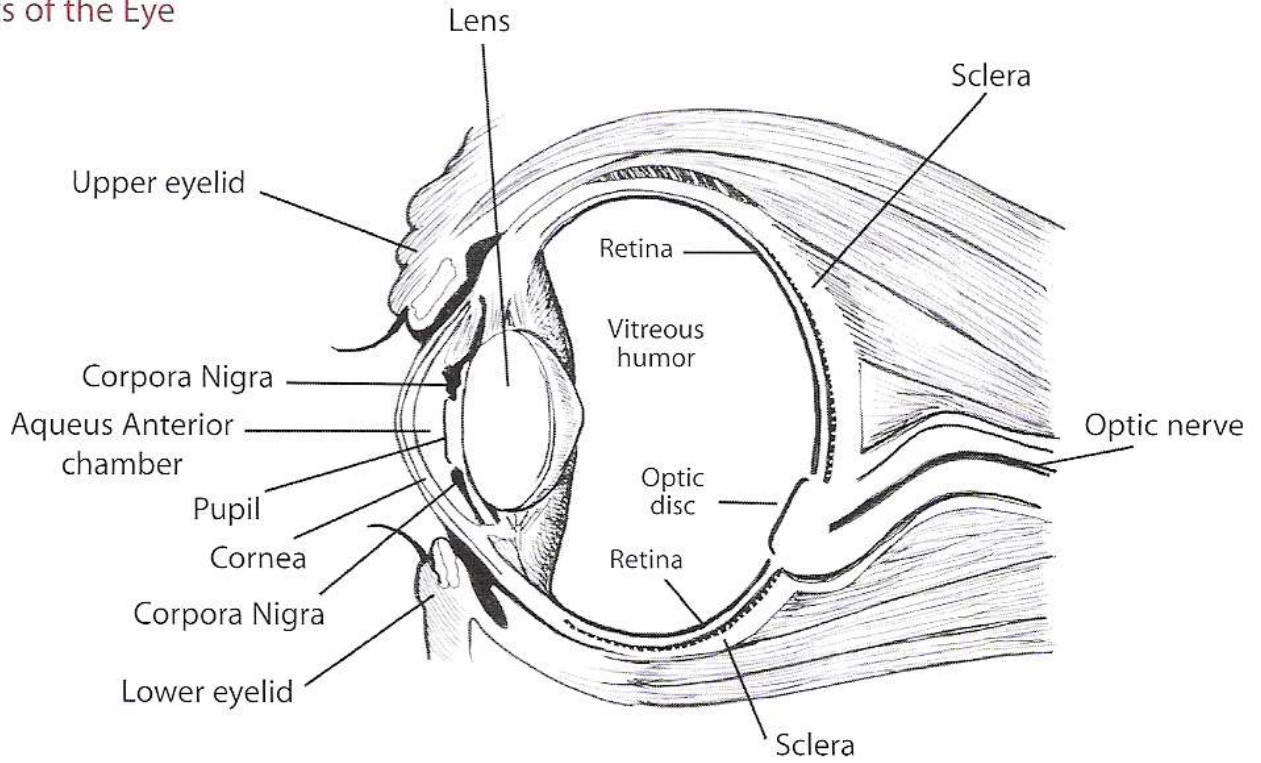
THE 3 COMPONENTS OF THE NERVOUS SYSTEM

- **Central Nervous System** = Brain + Spinal Cord
- **Peripheral Nervous System** = consists of the nerves that "branch off" the brain + Spinal Cord
 - **Autonomic Nervous System** — a division of the Peripheral Nervous System that consists of the nerves involved with certain body functions and organs. Some include: heart, blood vessels, body temperature, eye, glands, digestive, and urinary system functions. (Not indicated in diagram.)

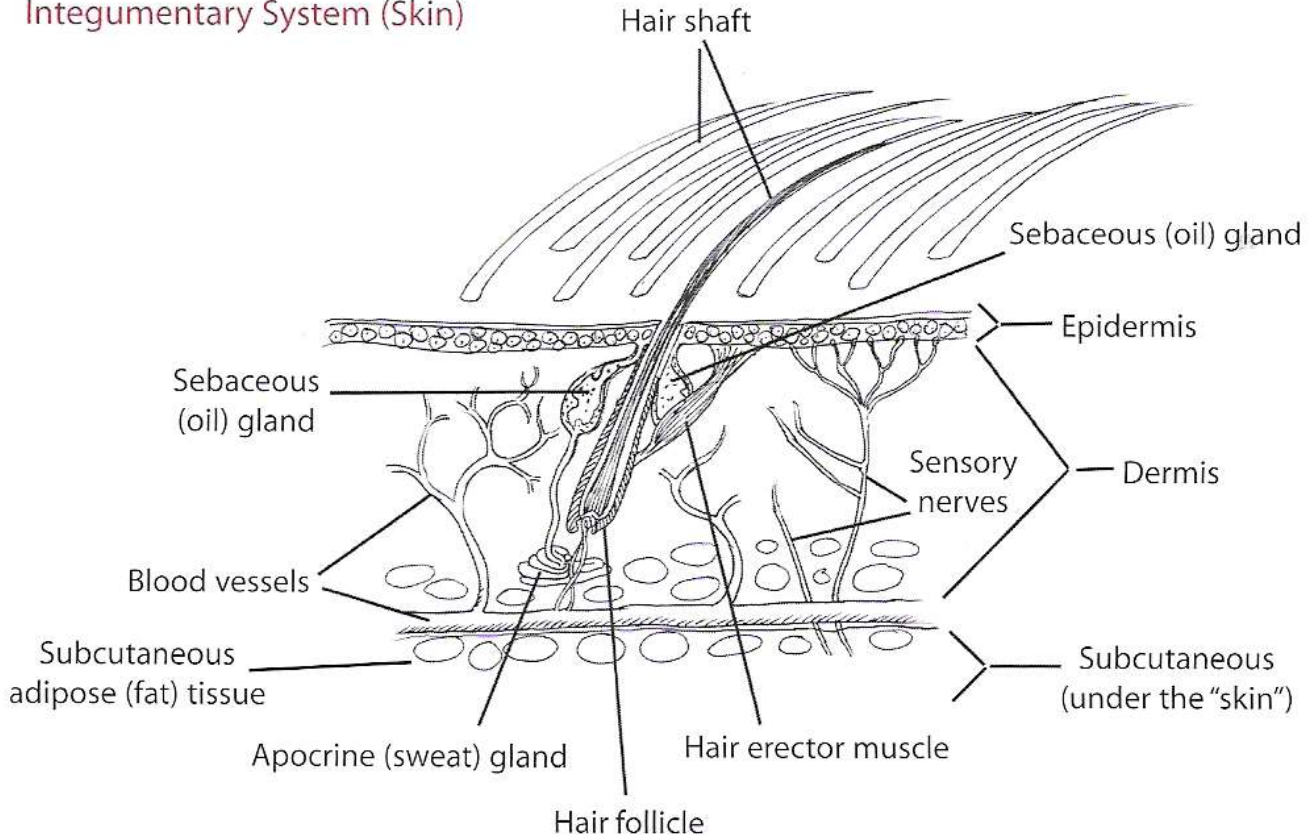
Endocrine System
(Endocrine Glands)



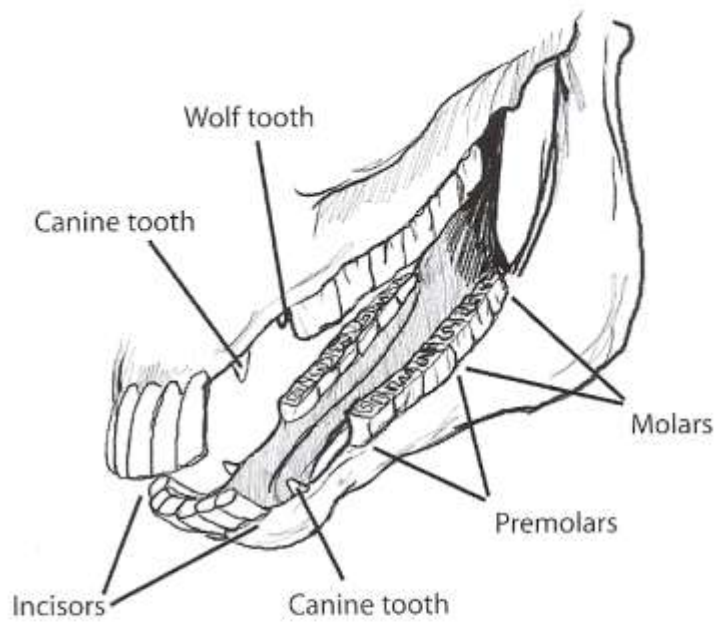
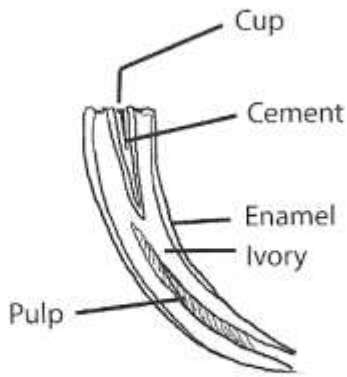
Parts of the Eye



Integumentary System (Skin)



Teeth

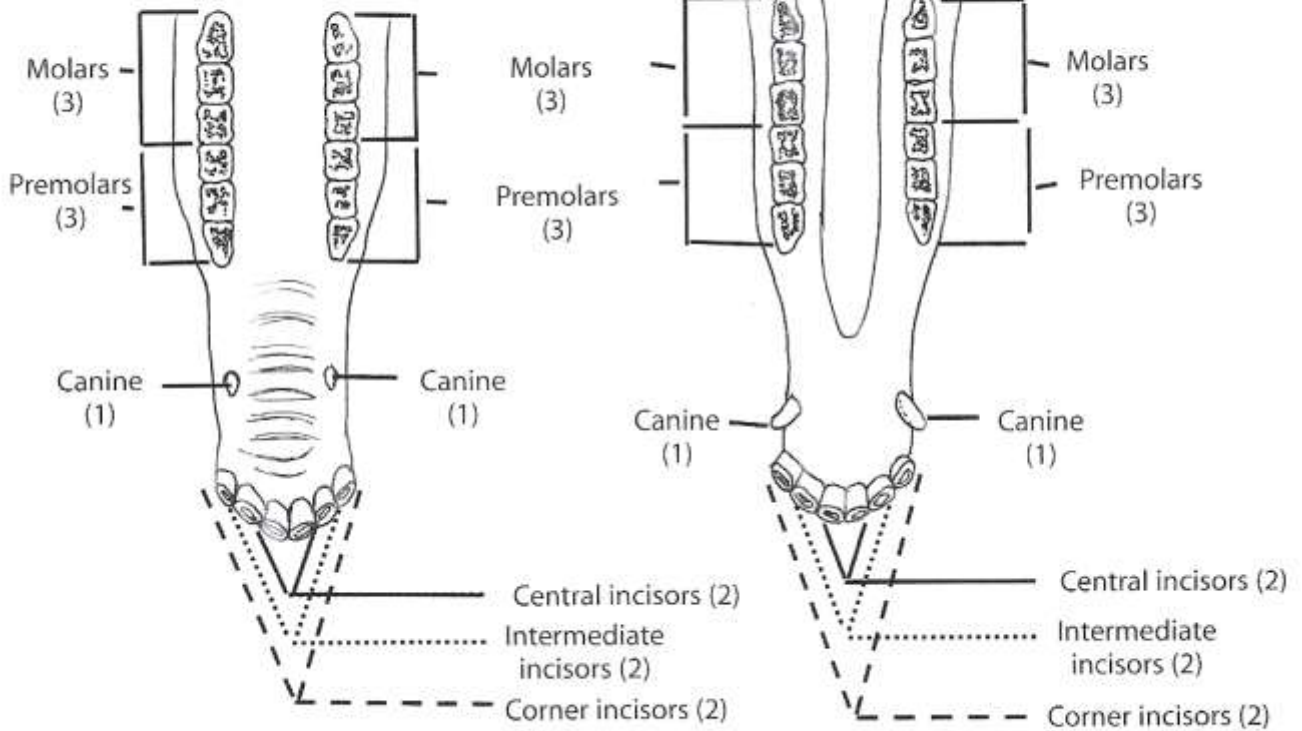


Total Teeth
Incisors = 12 **Premolars = 12**
Canine Teeth = 4* **Molars = 12**
Wolf Teeth = 2*

**Canine and Wolf Teeth are not seen in all horses and are more often seen in males.*

Upper

Lower



Estimating Age By Teeth

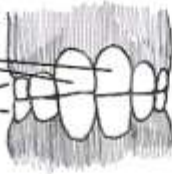
2 years

Deciduous teeth
(also known as baby or milk teeth)



3 years

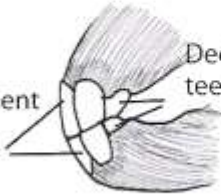
Permanent teeth
Deciduous teeth



4 years

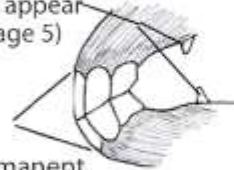
Permanent teeth

Deciduous teeth



Canine teeth
(if a horse will have them they will appear by age 5)

5 years



Permanent teeth

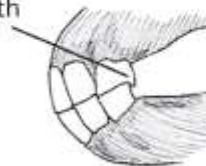
6 years

Incisor
(long oval shape)



7 year hook on upper corner tooth

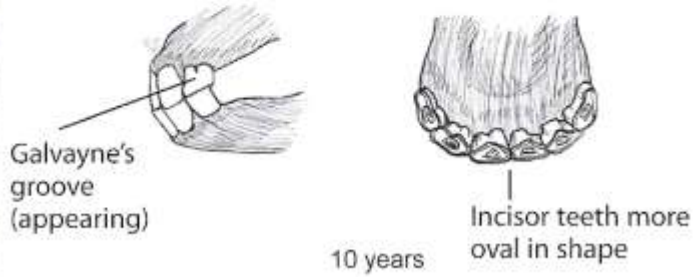
7 years



8 years



9 years



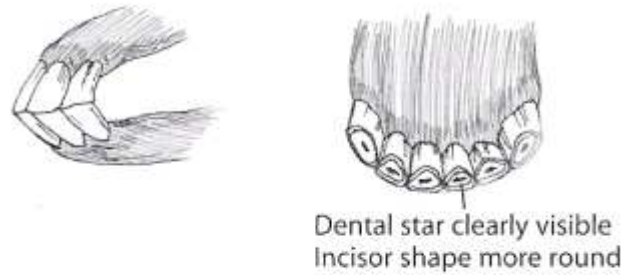
Galvayne's groove (appearing)

10 years



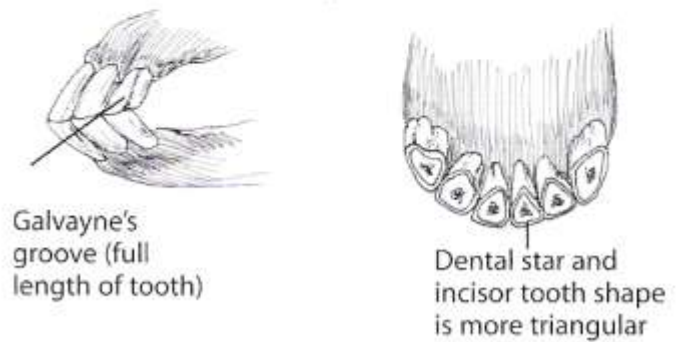
Galvayne's groove (visible)

15 years



Dental star clearly visible
Incisor shape more round

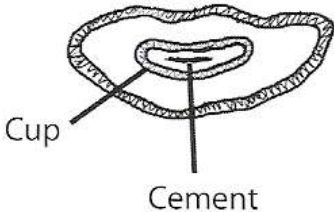
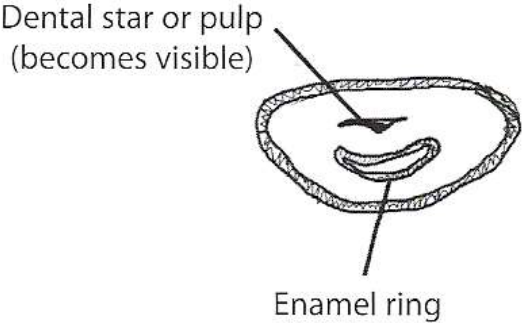
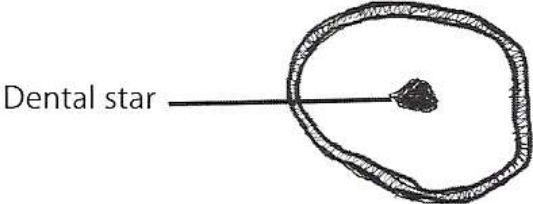
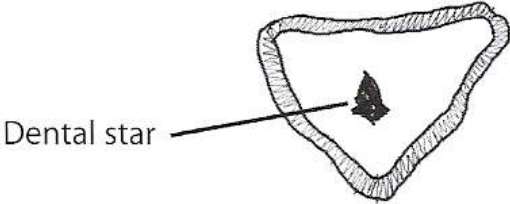
20 years



Galvayne's groove (full length of tooth)

Dental star and incisor tooth shape is more triangular

Tooth Shape by Age

	<u>Age</u>	<u>Shape</u>
 <p>Cup Cement</p>	5 yrs	Long Oval
 <p>Dental star or pulp (becomes visible) Enamel ring</p>	9 yrs	Oval
 <p>Dental star</p>	15 yrs	Round
 <p>Dental star</p>	20 yrs	Triangular

Estimating Age by Teeth Shape and Appearance

The age of an equine can be estimated by looking at the "two central incisor teeth" on the lower jaw by:

- shape
- appearance of the surface

With age the teeth of equines wear down over time. Unlike humans, the teeth of equines grow back but the shape and appearance of the wear surface changes.