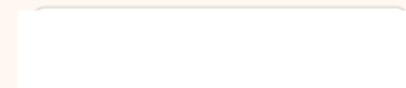
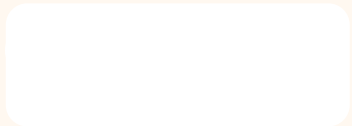


General Veterinary Anatomy

Welcome to this presentation on general veterinary anatomy! In this overview, we'll cover anatomical position, planes of the body, directional terms, body regions, body cavities, organ systems, and common descriptive terms.



➤ Anatomy: is the study of the form and structure of the organism.

. The word anatomy means to cut part.

.anatomical studies can be done on preserved carcass and living animals
both macro and microscopic examination.

➤ Branches of anatomy:

1. Macroscopic or gross anatomy
2. Microscopic anatomy ..

➤ How to study gross anatomy?

- A- **Topographical** anatomy.

- B- **Systematic** anatomy:

- 1-Osteology

- 2-Syndesmology

- 3-Myology

- 4-Splanchnology

- 5-Angelogy

- 6-Neuroanatomy

- 7-Esthesiology(sense organs)

- 8-Common integument

C- Other fields of anatomical study include

1-Applied anatomy.

2-Surgical anatomy.

3-Surface anatomy.

4-Comparative anatomy.

5-Special anatomy.

6-Instrumental anatomy:

a-Endoscope.

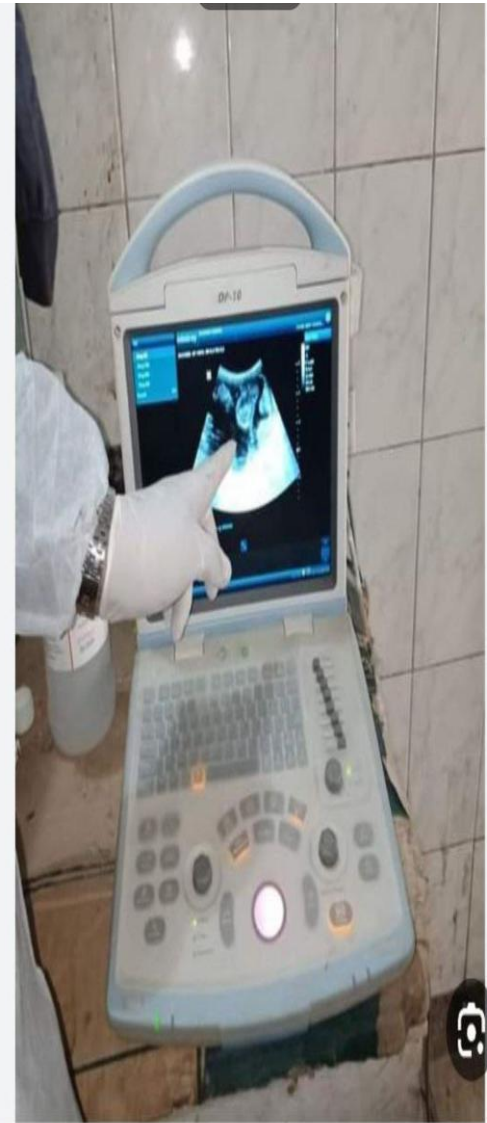
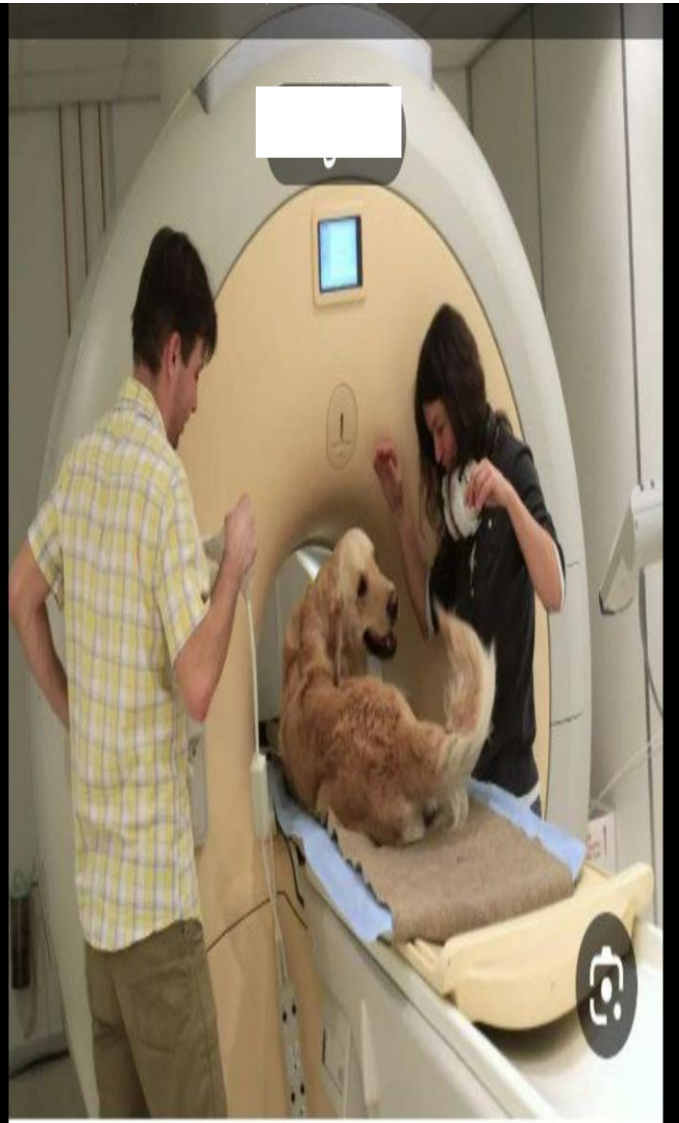
b-Radiography.

C-computerized Aid Tomography.

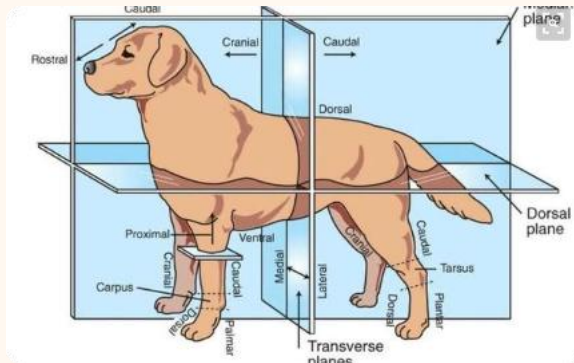
d-Ultrasonography(sonar).

e-nuclear magnetic resonance (NMR).

7-Developmental anatomy (embryology).

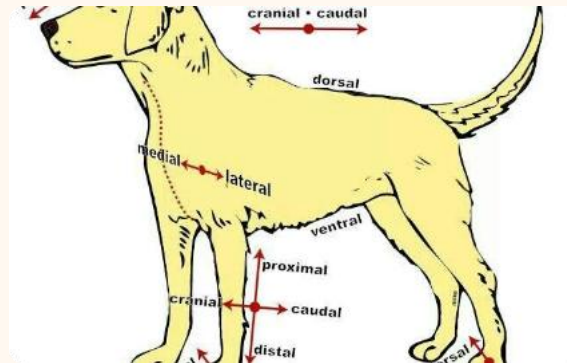


Planes of the Body and Directional Terms



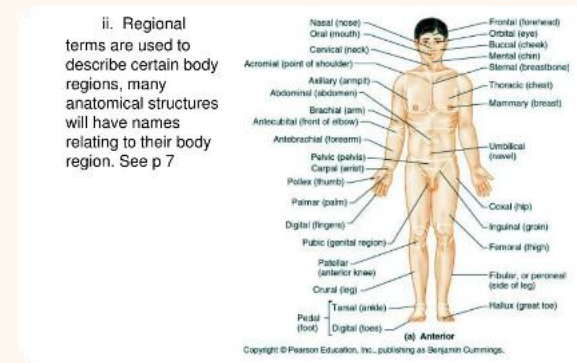
Anatomical Planes

There are three primary anatomical planes: sagittal, frontal, and transverse. These planes help us understand the orientation of organs and bones.



Directional Terms

Directional terms describe the position of one structure relative to another.



Body Regions

The body has four main regions: head, neck, trunk, and extremities.

Table 1.1 Directional terms and virtual planes of the animal body.

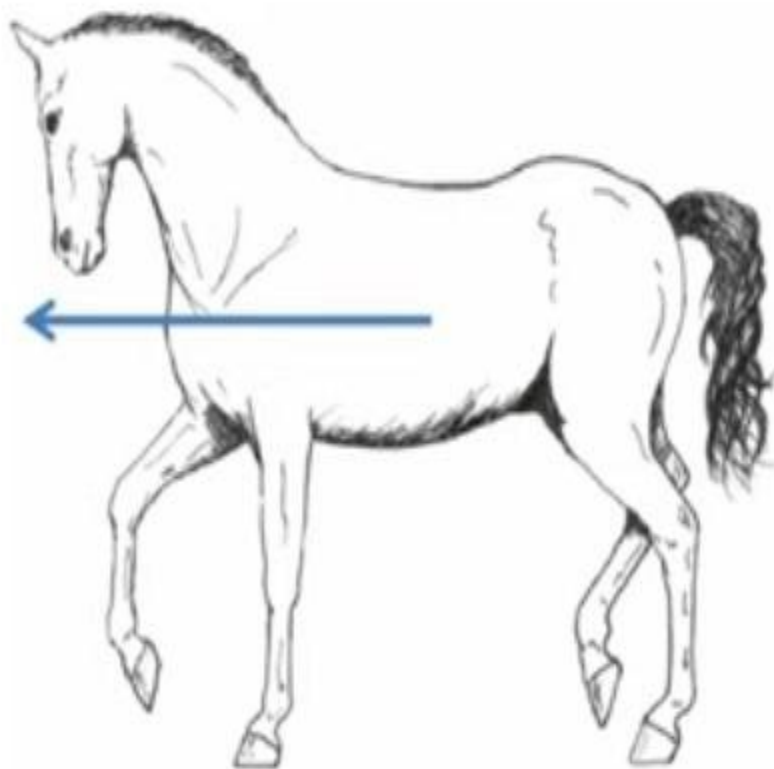
Term	Meaning	Usage
Cranial	Towards the head, trunk and tail	Trunk and tail, limbs proximal to the carpus and tarsus
Rostral	Towards the tip of the nose	Head
Caudal	Towards the tail	Head and trunk, limbs proximal to the carpus and tarsus
Dorsal	Towards the back	Trunk, head and the front of the limbs distal of carpus and tarsus
Ventral	Towards the belly	Underside of the trunk, head
Medial	Towards the centre	Head, trunk and limbs
Lateral	Towards the side	Head, trunk and limbs
Median	In the middle	Trunk, head and limbs
Proximal	Towards the trunk	Limbs and other body parts located close to the trunk or projecting away from the trunk
Distal	Away from the trunk	Limbs and other body parts located at a distance from the trunk or projecting away from the trunk
Palmar	Towards the palm of the hand	Forelimbs distal of the carpal joint
Plantar	Towards the sole of the foot	Hindlimbs distal of the tarsal joint
Axial	Towards the axis of the digits	Digits
Abaxial	Away from the axis of the digits	Digits
External	Located outside	Body parts and organs
Internal	Located inside	Body parts and organs
Superficial	Located near the surface	Body parts and organs
Deep	Located in the depth	Body parts and organs
Temporal	Towards the temporal bone	Eye
Nasal	Towards the nose	Eye
Superior	Above	Eyelid
Inferior	Below	Eyelid
Apical	Towards the tip	Nose, digits and tail
Oral	Towards the mouth	Head
Virtual planes of the animal body		
Median plane	Plane dividing the body in two equal parts	
Paramedian plane	Any plane parallel and close to the median plane	
Sagittal plane	Any plane parallel to the median plane but located further lateral	
Dorsal plane	Any plane parallel to the dorsal surface	
Transverse plane	Any plane perpendicular to the long axis	

Term	Meaning
cranial	towards the head
rostral	towards the nasal apex
caudal	towards the tail
dorsal	towards the back
ventral	towards the belly
medial	towards the centre
lateral	towards the side
median	in the middle
proximal	towards the trunk
distal	away from the trunk
palmar	towards the palm of the hand
plantar	towards the sole of the foot
axial	towards the axis of the digits
abaxial	away from the axis of the digits
external	located outside
internal	located inside
superficialis	located near the surface
profundus	located in the depth
temporal	towards the temporal bone
nasal	towards the nose
superior	above
inferior	below
apical	towards the apex
oral	towards the mouth

Anatomical Terms

CRANIAL

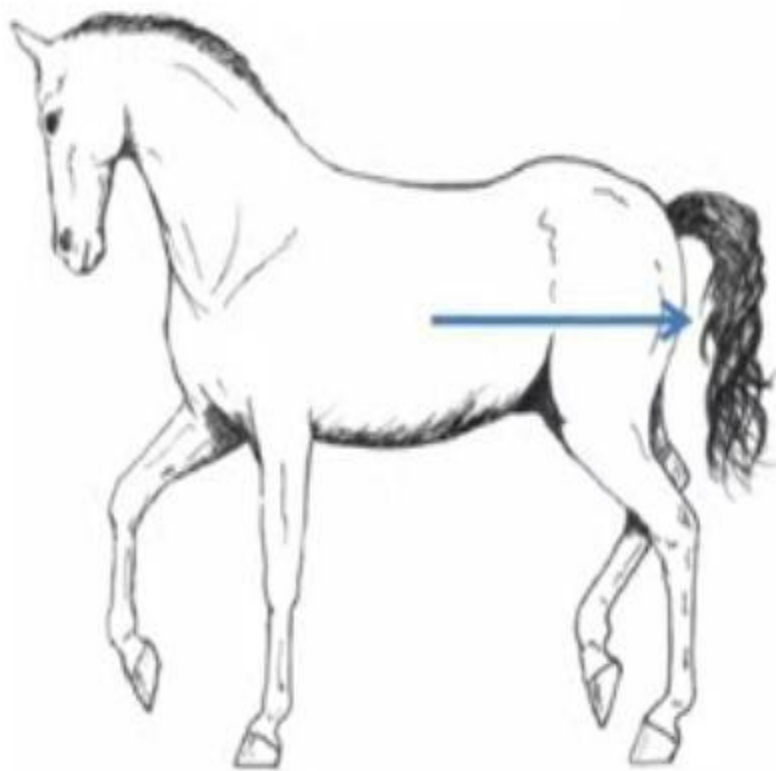
- Towards the head



Anatomical Terms

CAUDAL

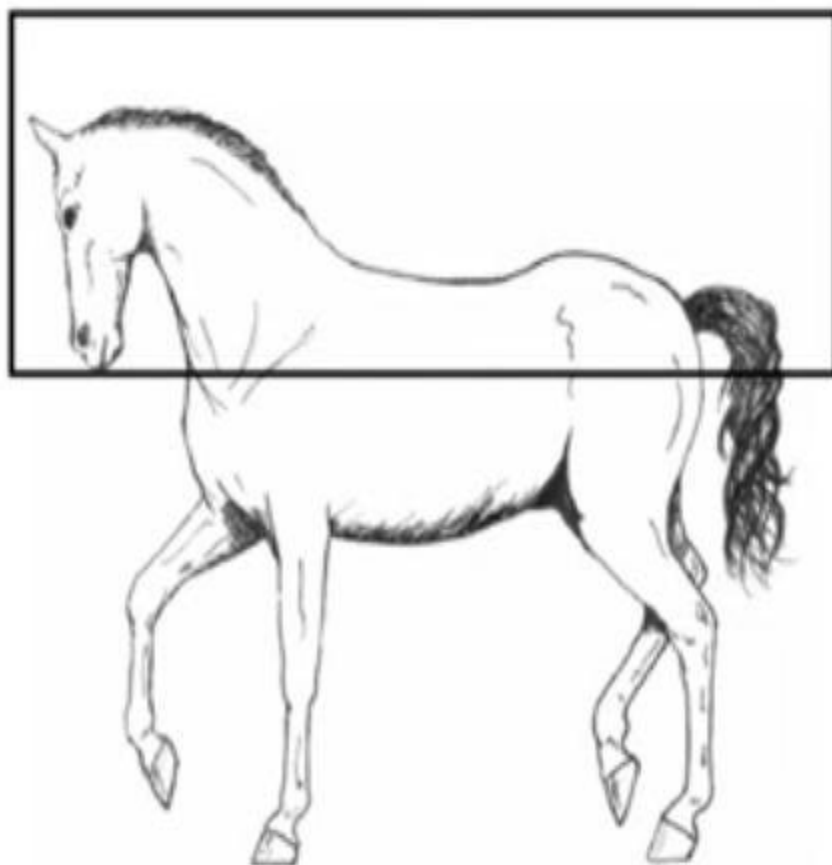
- Towards the tail



Anatomical Terms

DORSAL

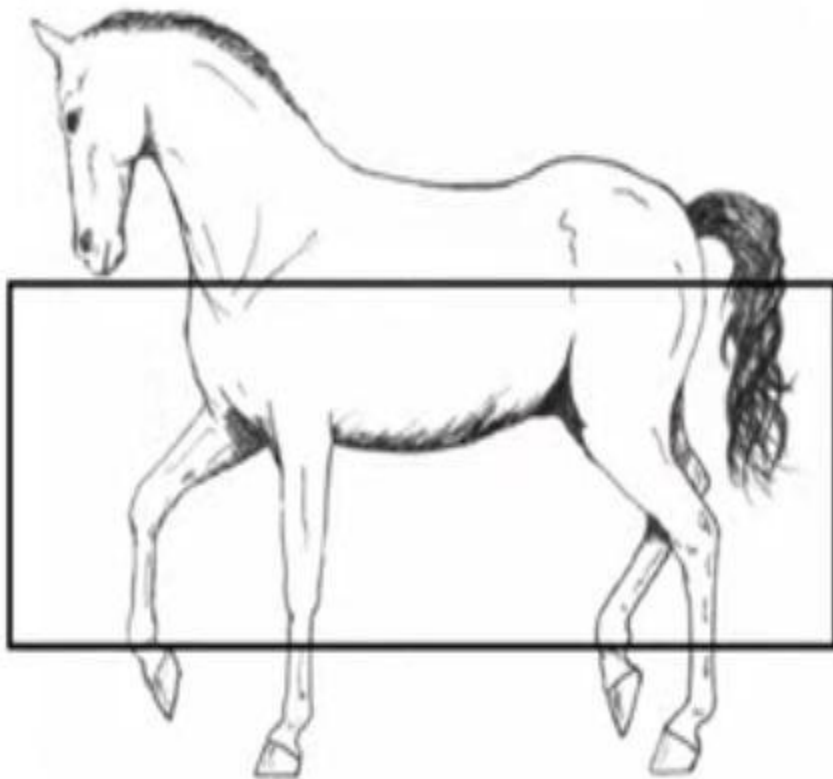
- Farther than another from the ground



Anatomical Terms

VENTRAL

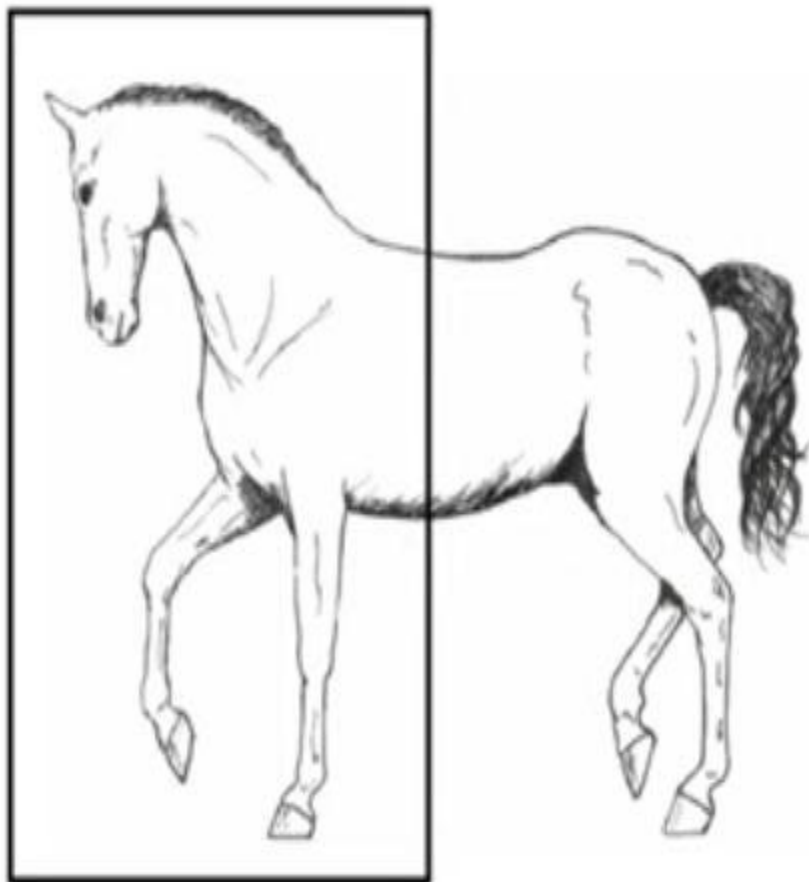
- Nearer than another to the ground



Anatomical Terms

ANTERIOR

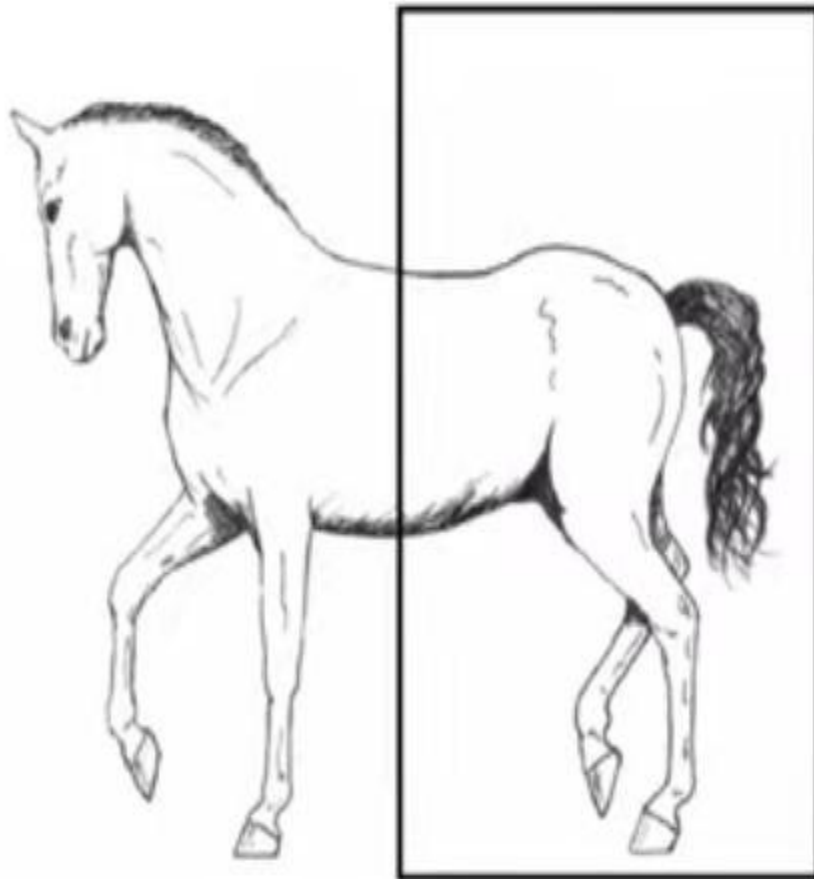
- The front of the animal



Anatomical Terms

POSTERIOR

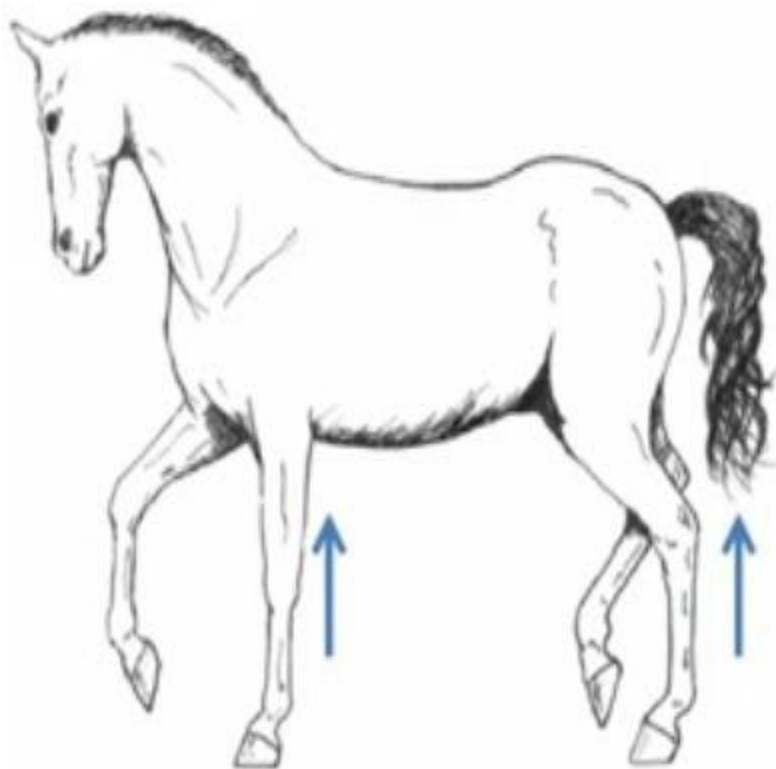
- The rear of the animal



Anatomical Terms

PROXIMAL

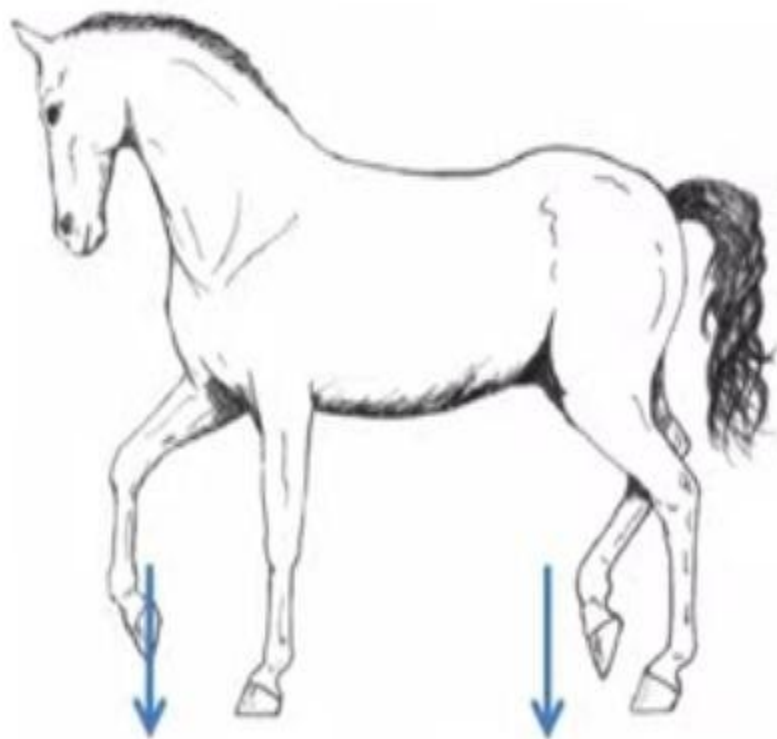
- Part of the limb nearer than another to the trunk



Anatomical Terms

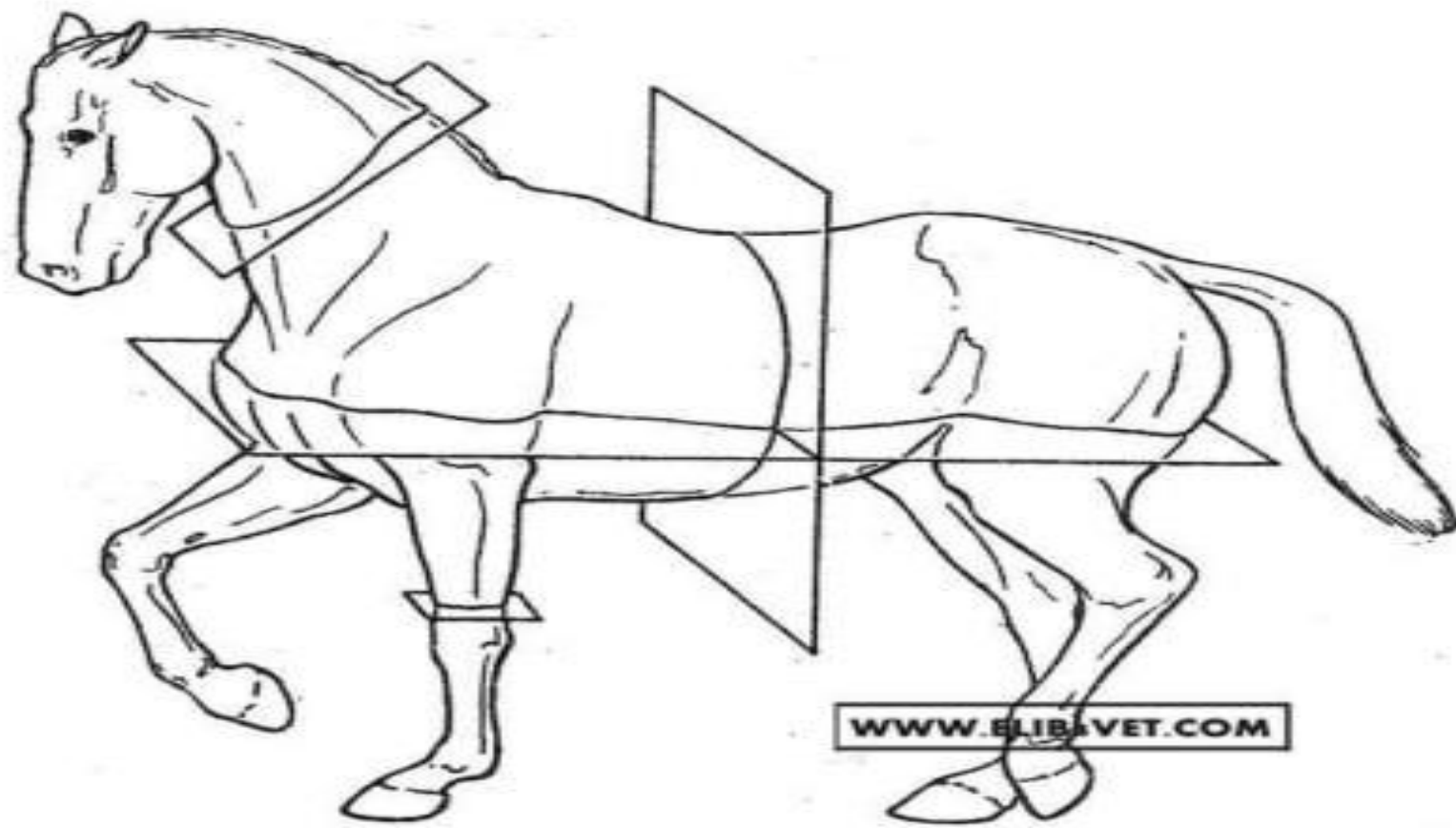
DISTAL

- Part of the limb farther than another from the trunk

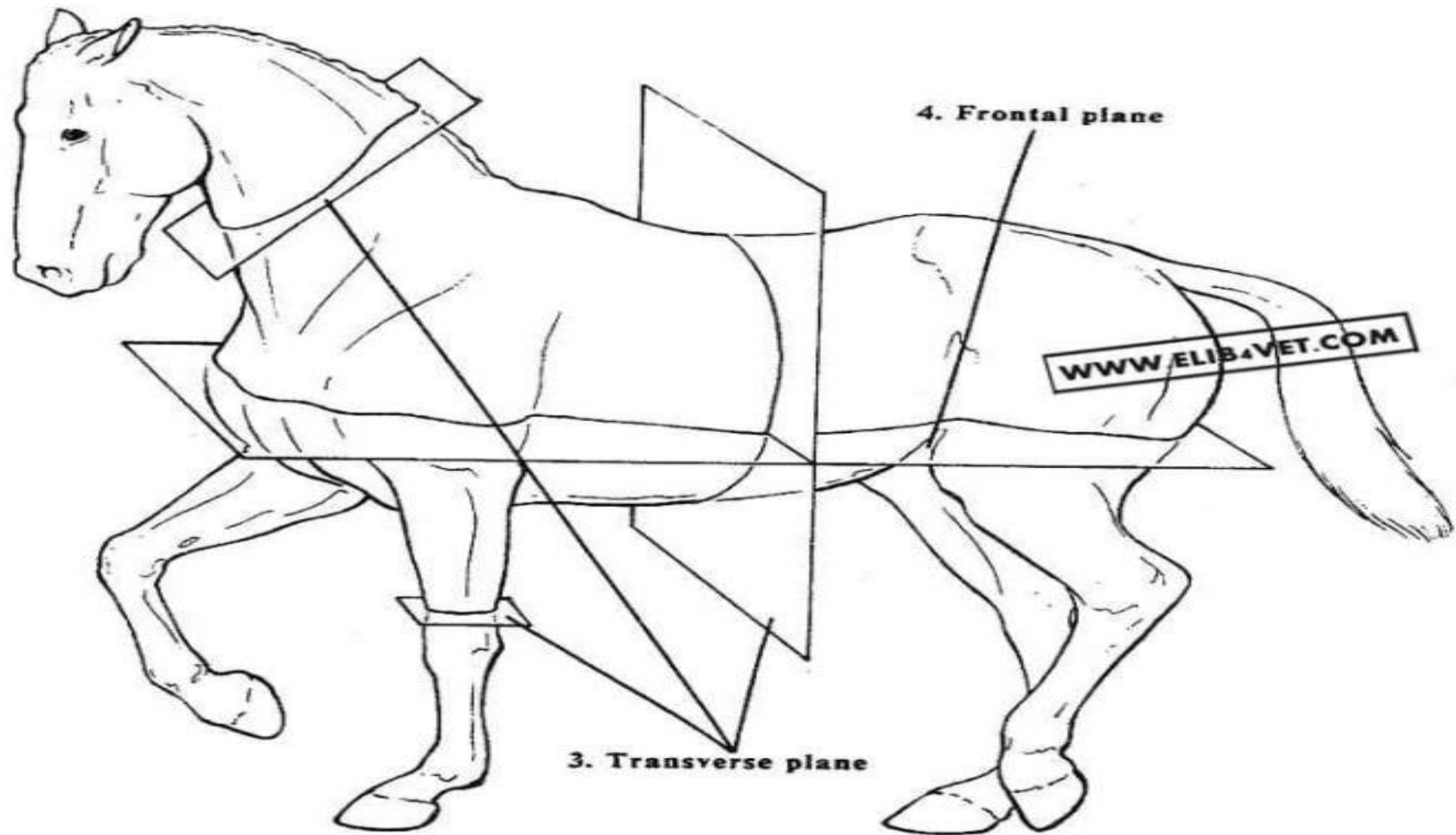


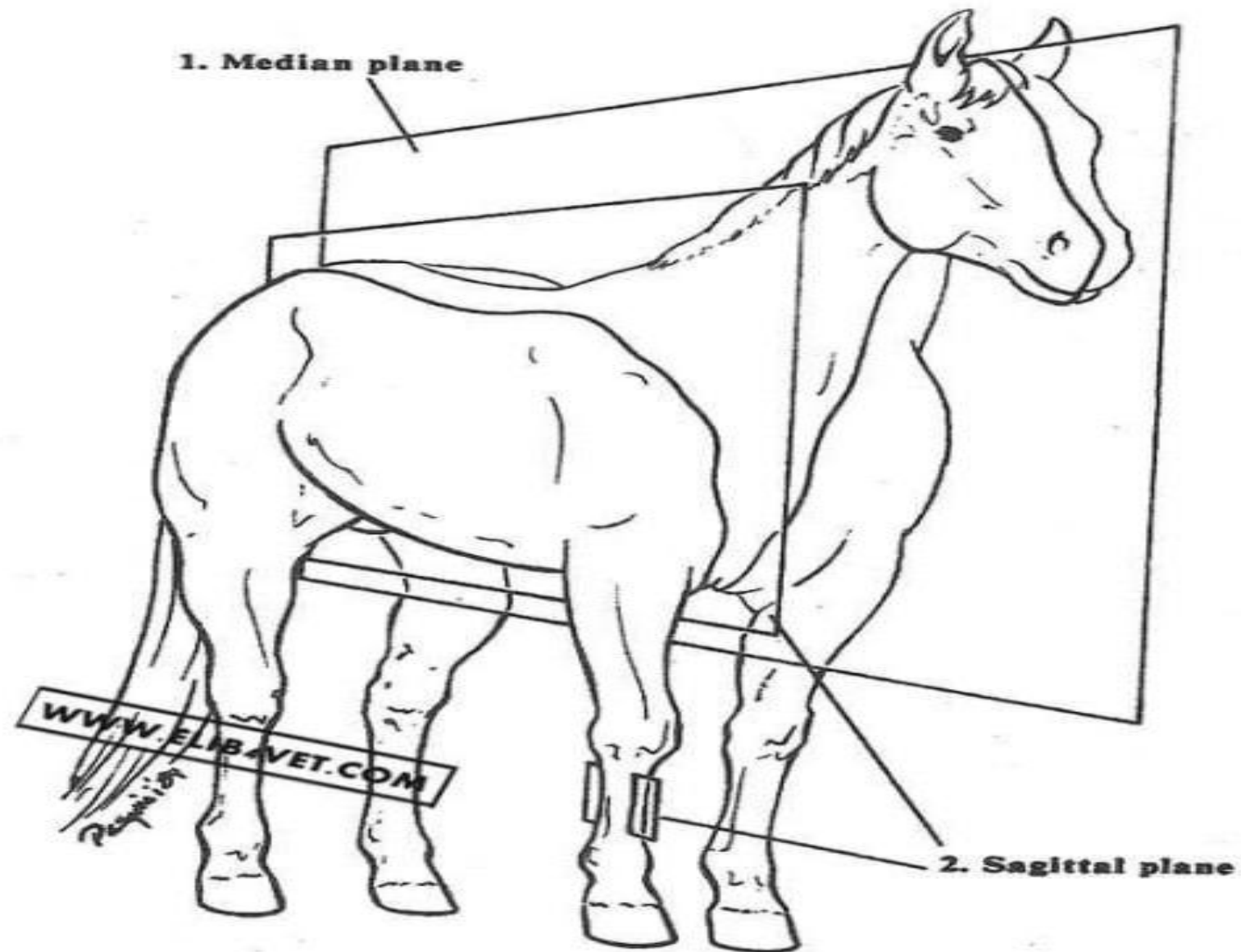
Chapter I

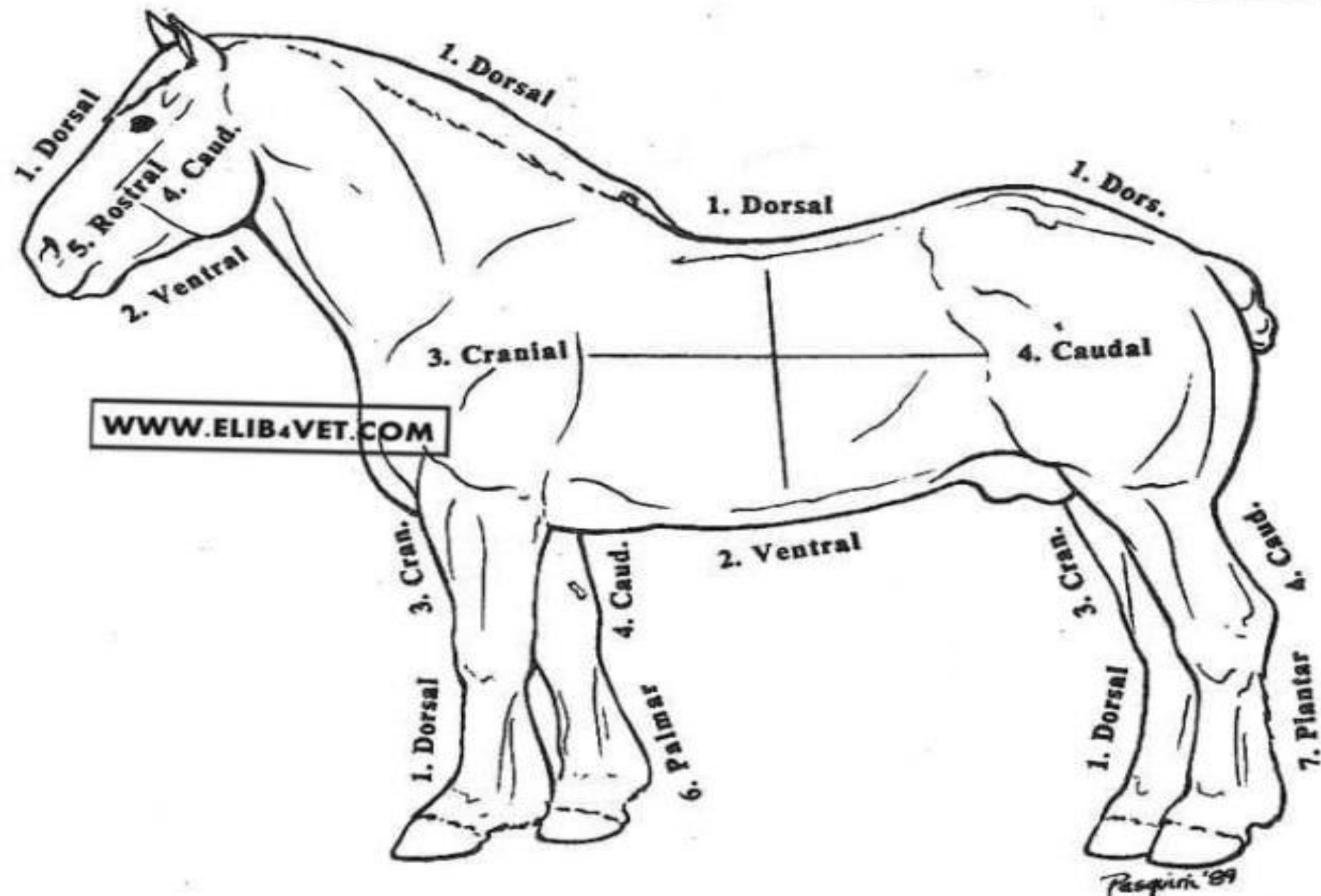
Descriptive Terms



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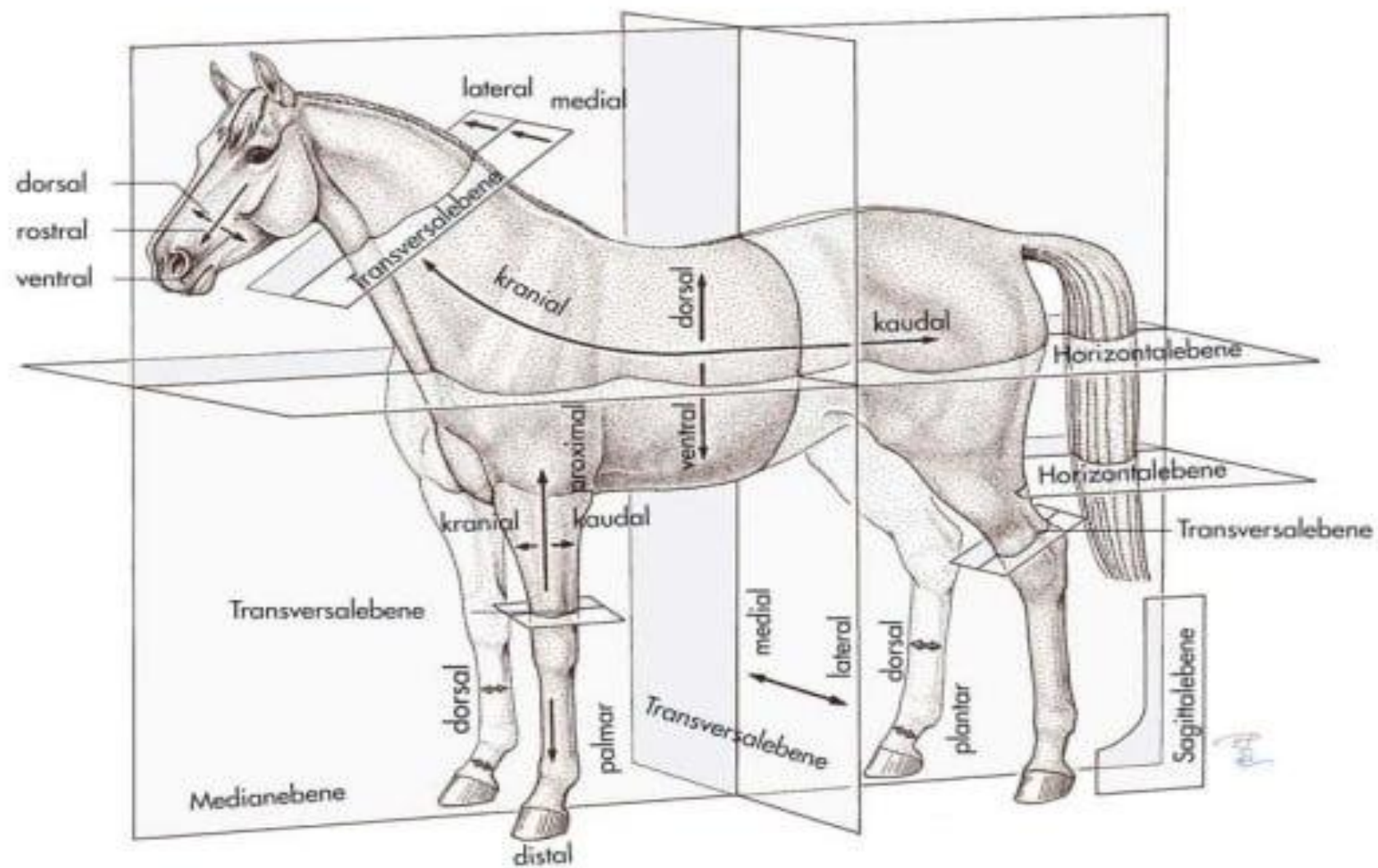


Fig. 1.10 Directional terms and planes of the animal body (schematic); fig. based on data from Dyce, Sack and Wensing, 2002.

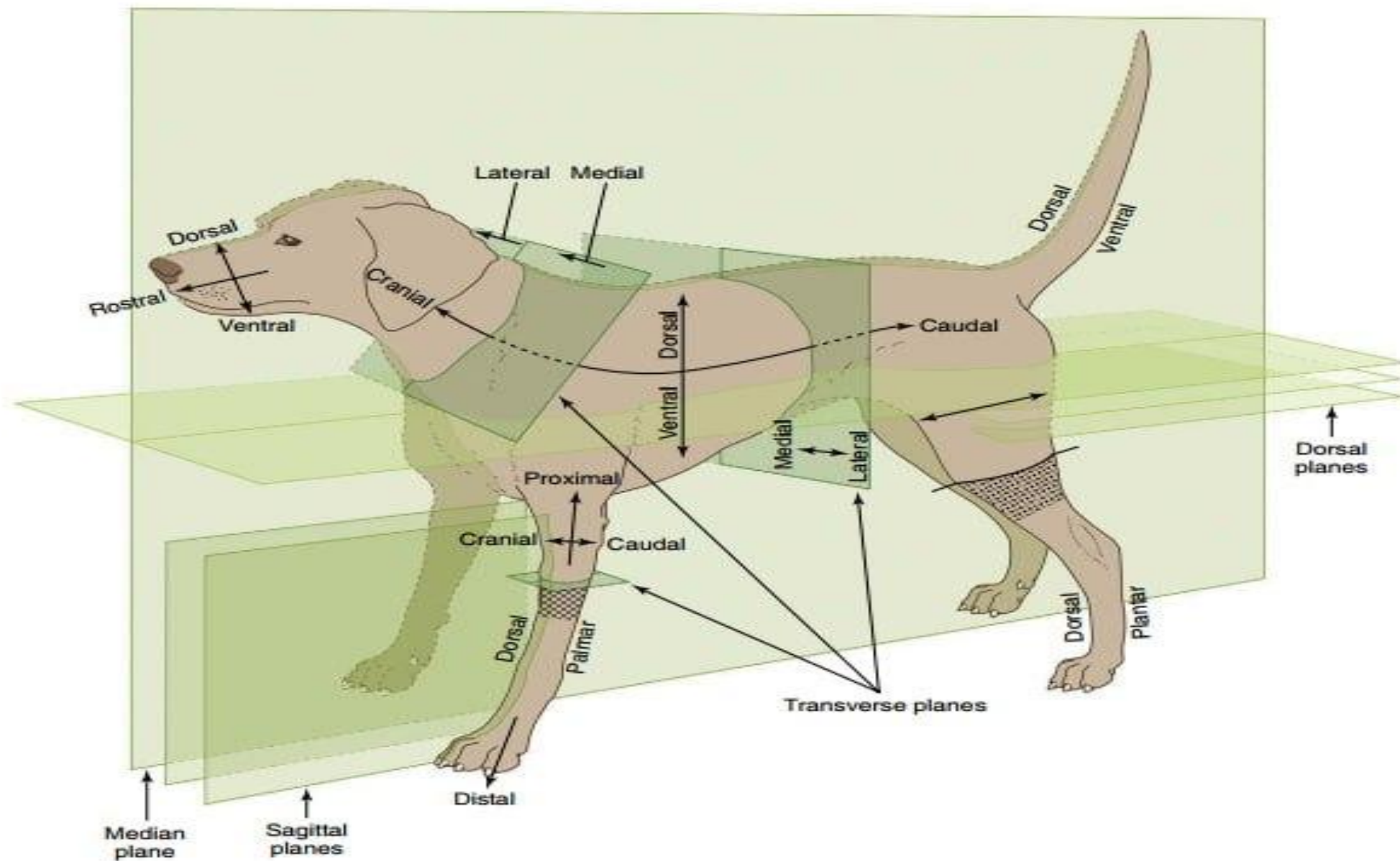
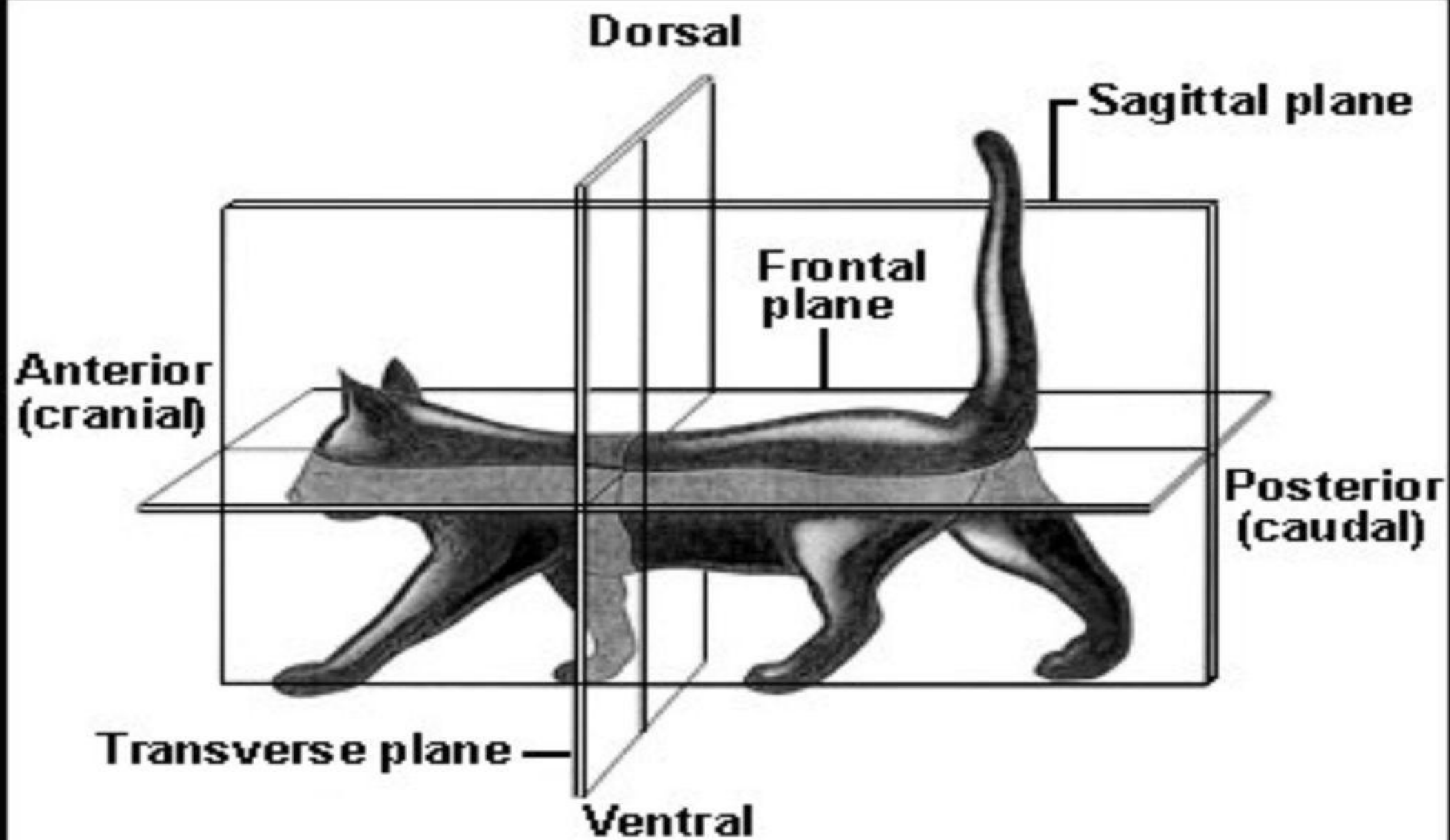


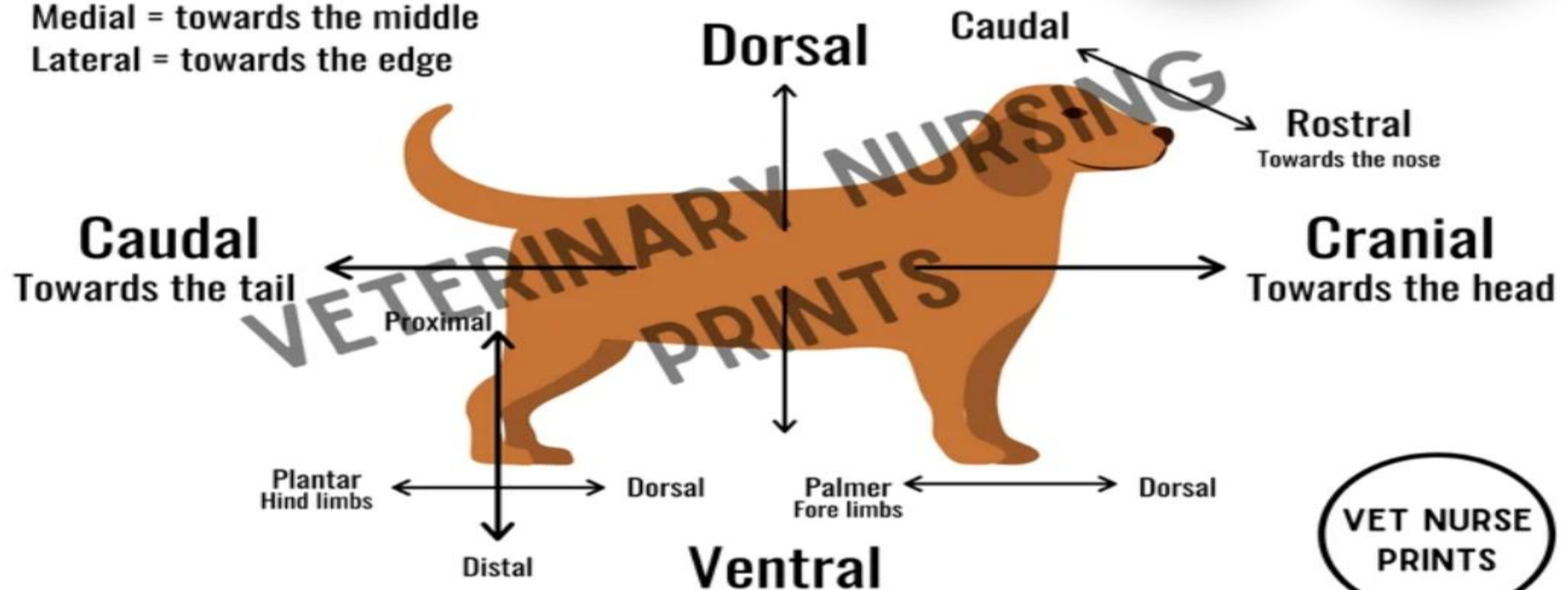
Figure 1-1 Directional terms and planes of the animal body. The stippled areas represent the carpus and tarsus on forelimbs and hindlimbs, respectively.



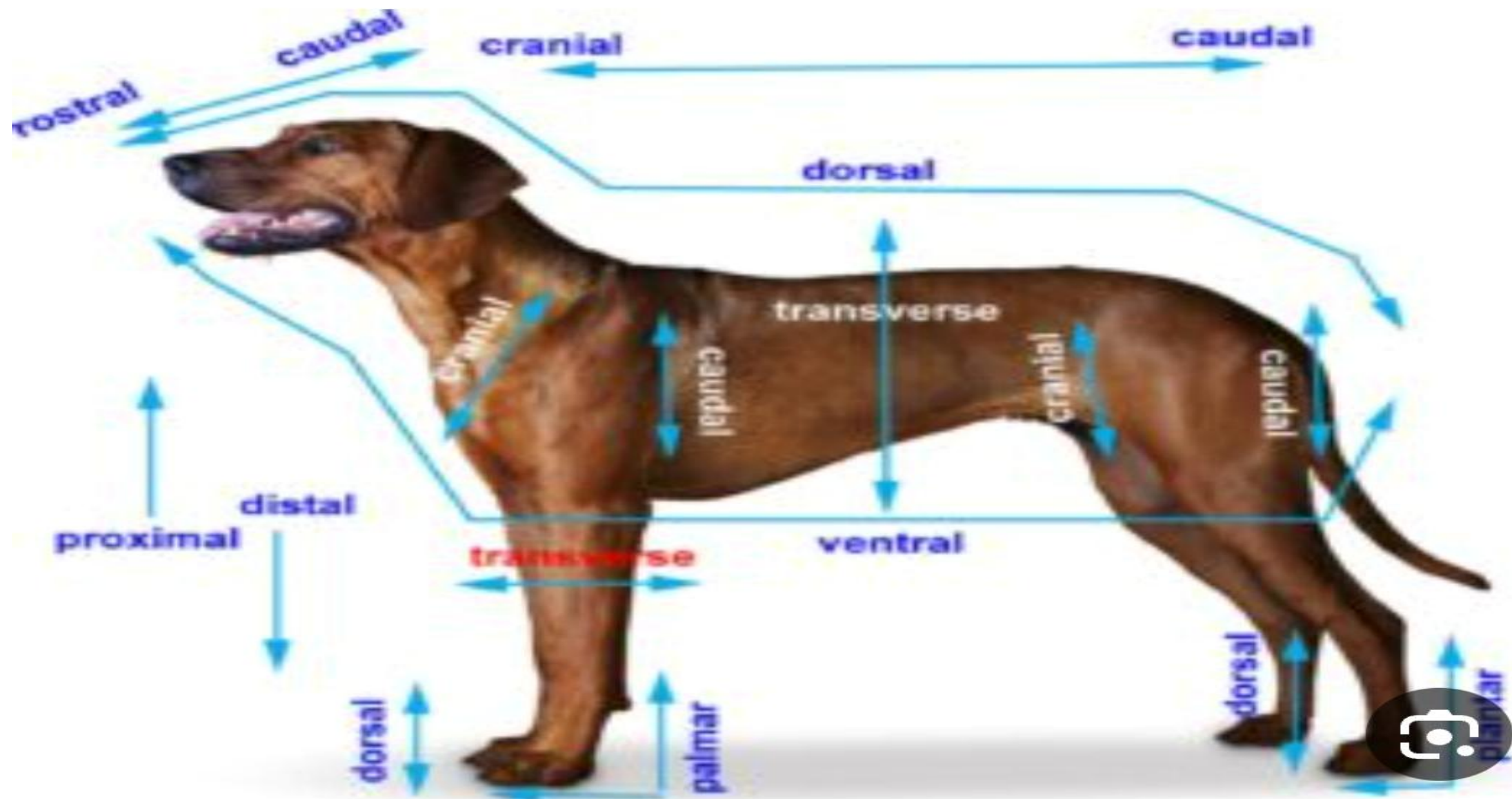
Directional term

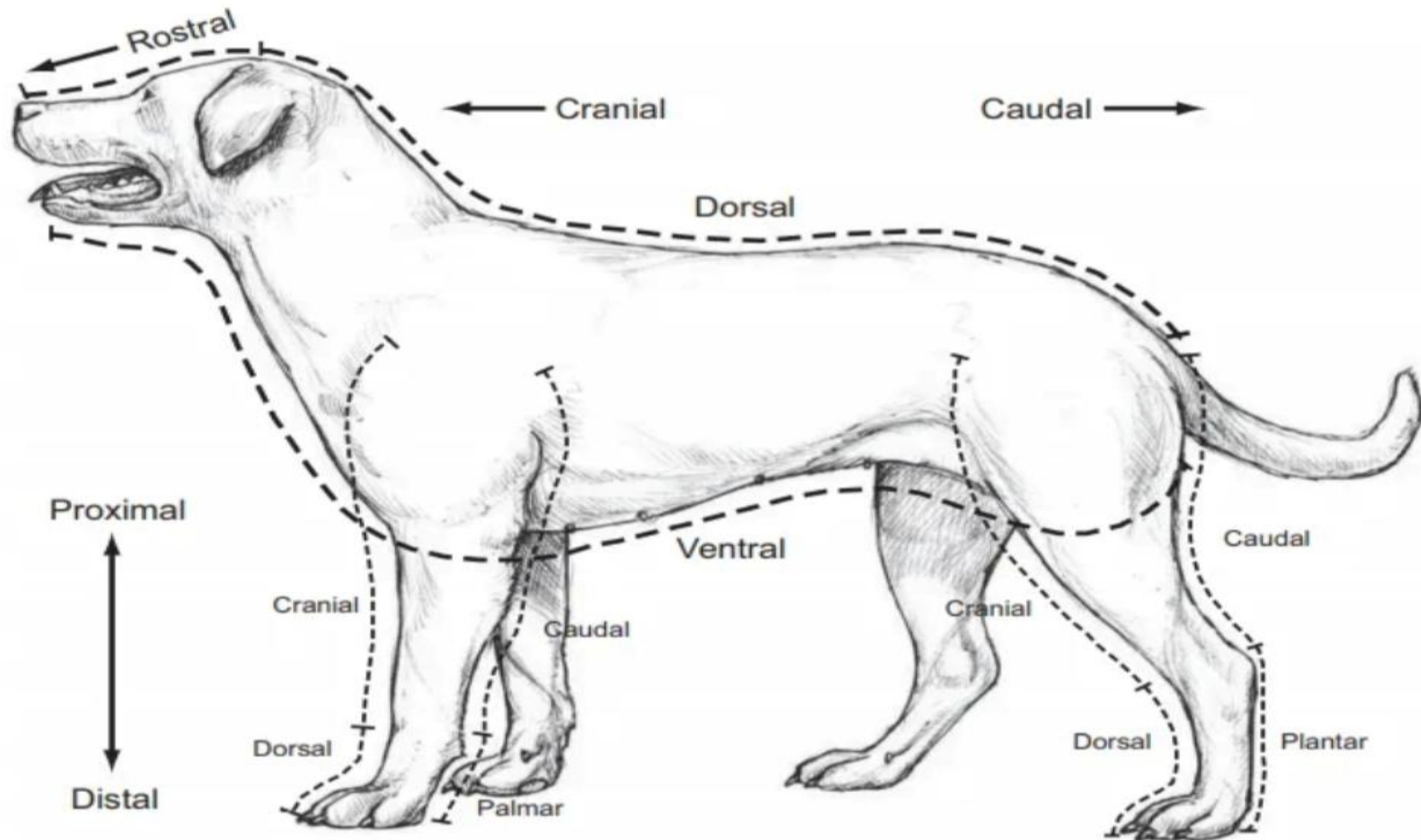


Medial = towards the middle
Lateral = towards the edge

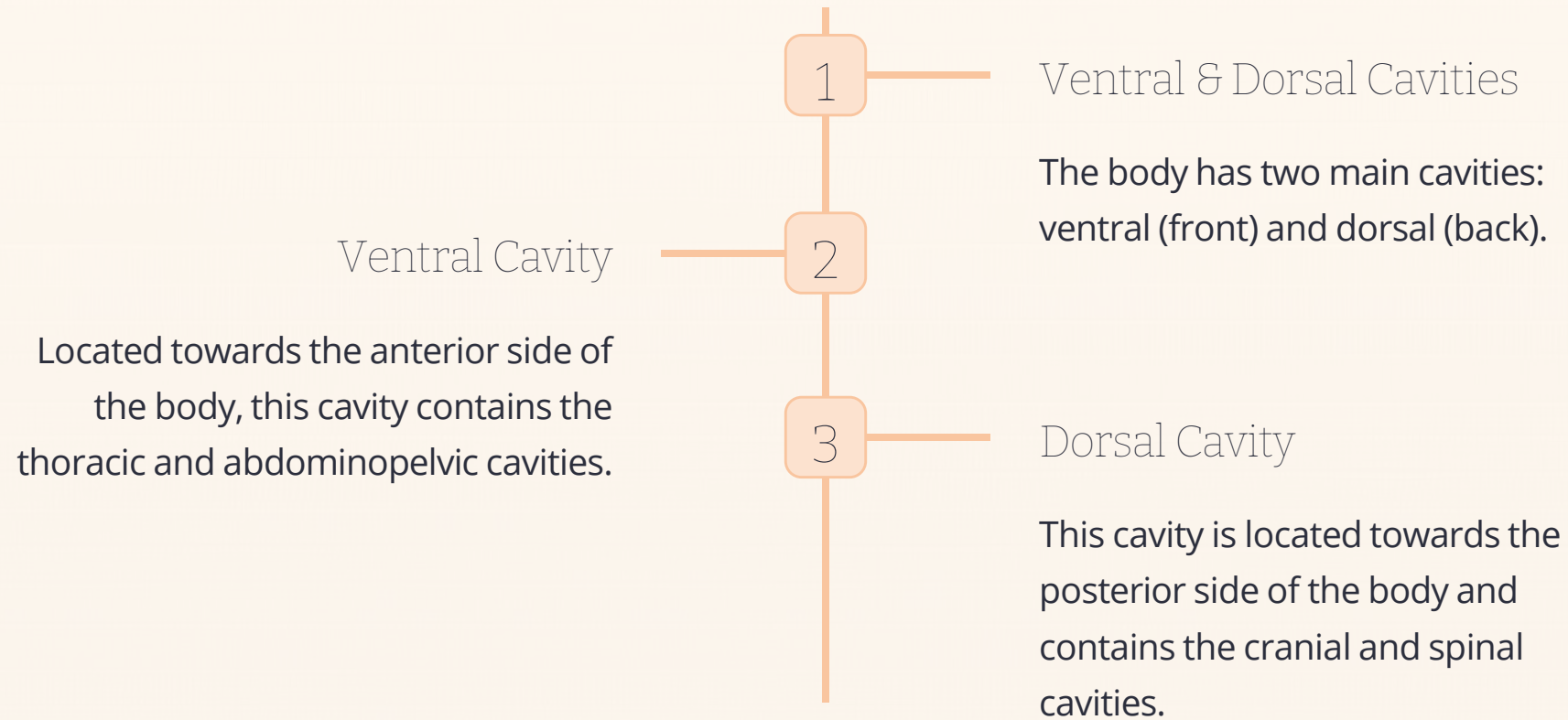


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Body Cavities



General Plan of the Animal's Body

- **Body Cavities:** animals have two main cavities (spaces).
1. The **dorsal body cavity** contains the **brain and spinal cord (CNS)**
 - spherical **cranial cavity** (cranium)
 - long, narrow **spinal cavity** (spinal canal)
 2. The **ventral body cavity** is much **larger** than the dorsal one and contains most of the soft organs (**viscera**) of the body.
 - divided by the **diaphragm** into:
 - the cranial thoracic cavity (**thorax**), which is covered by **pleura**
 - the caudal abdominal cavity (**abdomen**), which is covered by **peritoneum**

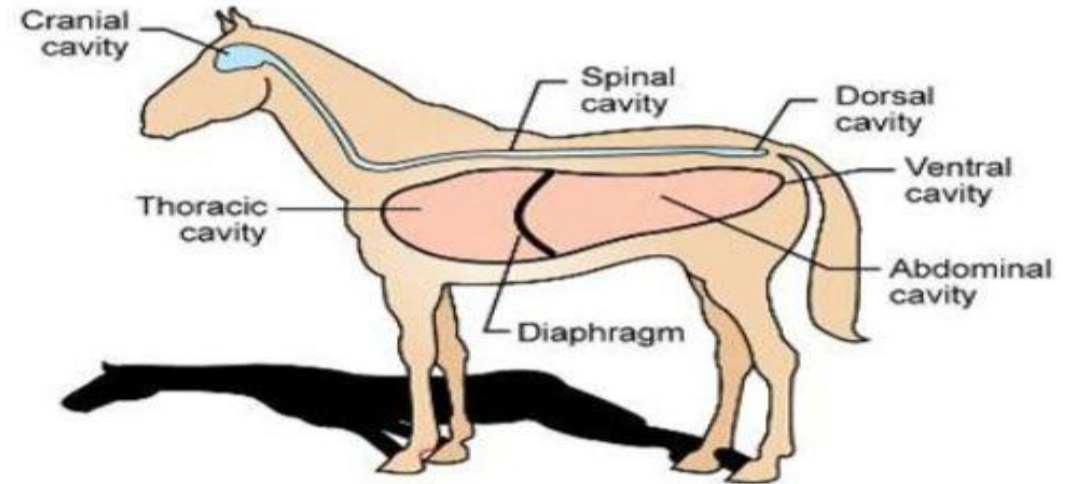
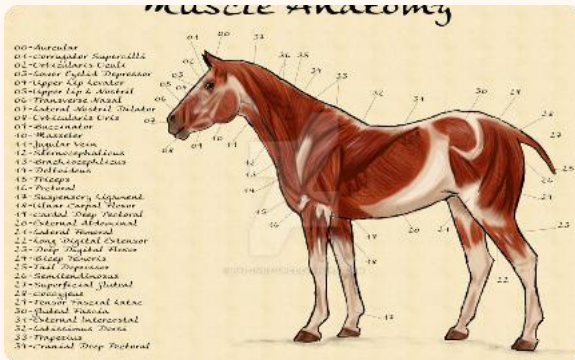


Table 1.2 Organ systems.

Name	Primary function
Outer skin	Protective covering of the animal body
Skeleton and joints	Supporting framework of the body
Musculature of the skeleton	Locomotion
Digestive system	Food intake, mastication, chemical digestion, excretion and absorption
Respiratory system	Oxygen supply, elimination of carbon dioxide and production of sound
Urogenital system	Excretion and reproduction
Circulatory system	Transport and exchange of substances
Nervous system	Regulation, transmission, reaction in response to external stimuli
Organs of sense	Reception of external stimuli
Endocrine glands	Regulation of cell functions by hormones
Immune system	Response to infection

Common Descriptive Terms



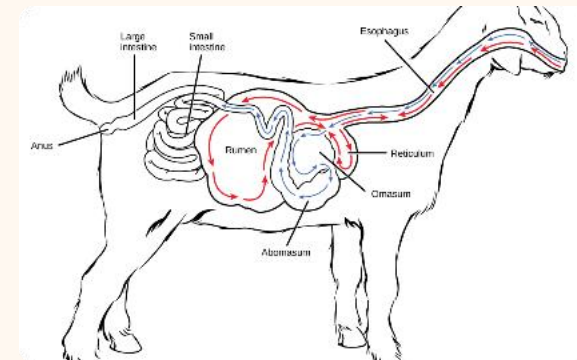
Muscles

Terms like flexor and extensor describe the movement of muscles and tendons.



Bones and Joints

Terms like proximal and distal describe the location of bones and joints in relation to the body.



Circulatory System

Terms like arterial and venous describe the flow of blood through the circulatory system.