

Anatomy of the Dog

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2015

Sections

- ▶ **External Points of the dog**

Most nomenclature is based on points of the horse

- ▶ **Axial Skeleton**

Head, Teeth

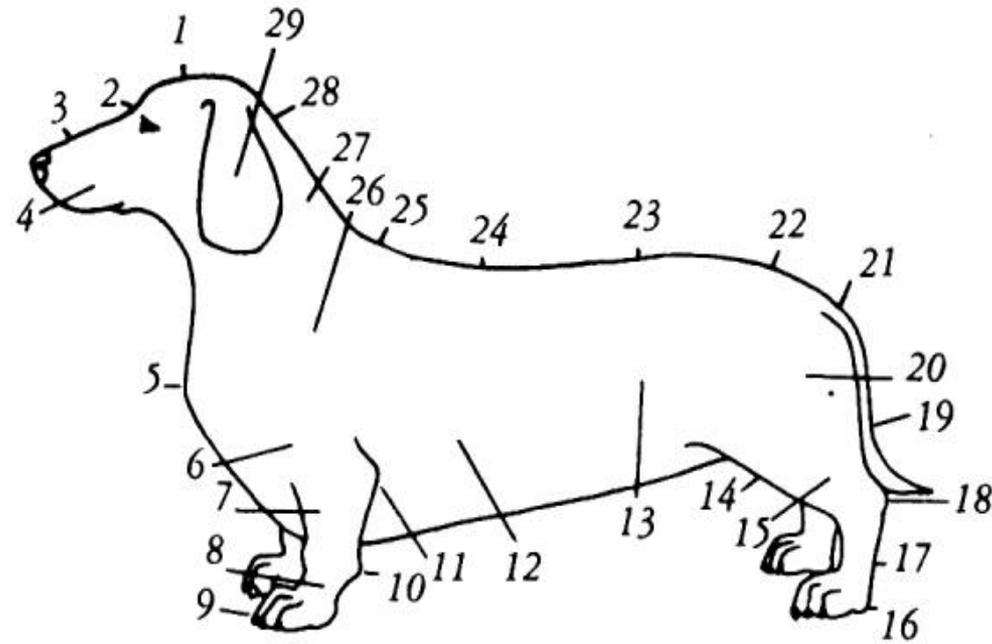
Spine and chest

- ▶ **Appendicular Skeleton - limbs**

- ▶ Forequarter

- ▶ Hindquarter

Points of the Dog



1. skull

2. stop

3. foreface

4. muzzle

5. prosternum

6. upper arm

7. forearm

8. pastern

9. forefoot

10. stopper pad

11. elbow

12. rib cage

13. flank

14. stifle

15. lower thigh

16. hind foot

17. rear pastern

18. hock

19. tail

20. upper thigh

21. set of tail

22. croup

23. loin

24. back

25. withers

26. shoulder

27. neck

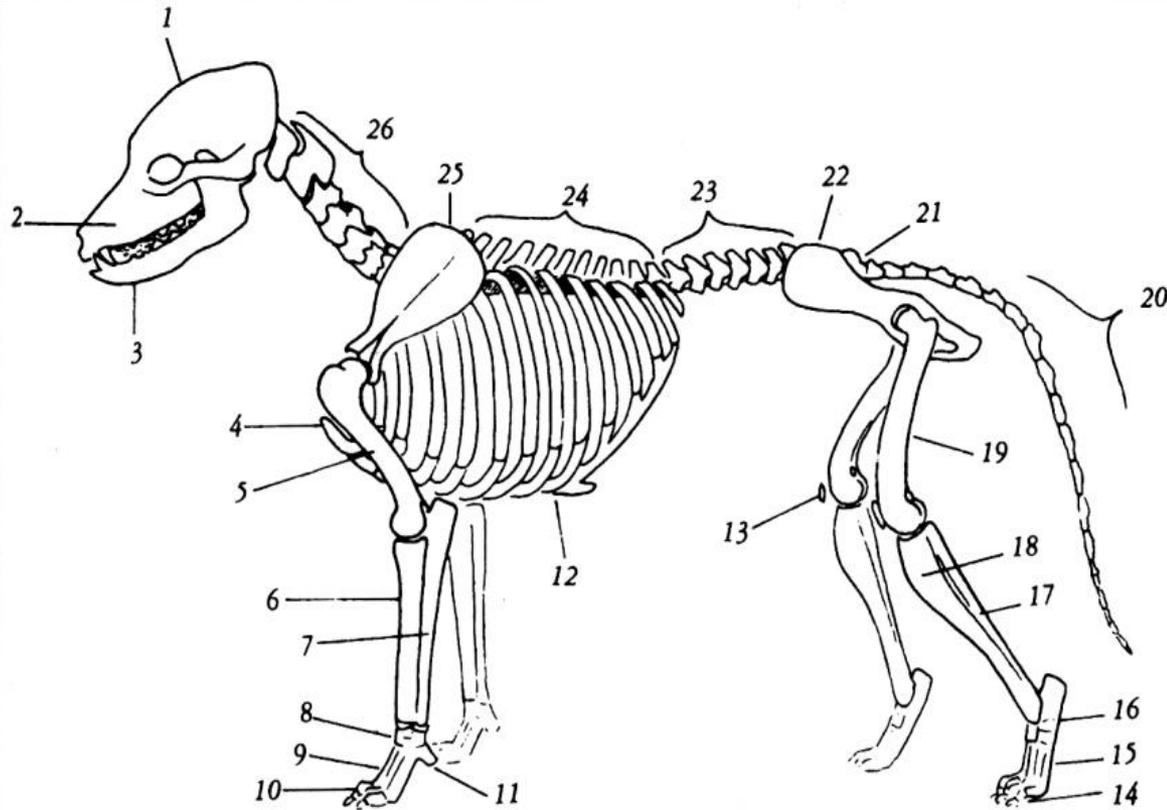
28. crest

29. ear

Anatomy of the Dog

- ▶ When Judging dogs, you are assessing the **relative** anatomical virtues in regard to the dog being **typical** of its breed standard. You are assessing the **breed worth** of the animal in being typical enough to be worthy of being bred with by the giving out Challenges to the best animal present on the day.
- ▶ **Anatomical construction can be broken into several major areas:-**
- ▶ **Breed Characteristics** - anatomical features typical of that breed
 - ▶ - ie. breed type.
- ▶ **Proportions**
 - ▶ head - proportions of the skull to muzzle
 - ▶ body - height to length,
 - ▶ depth of chest to length of leg.
- ▶ **Balance of angulations** - relative lengths and desired angulations of both the fore and hindquarter.
- ▶ **Typical Movement** - generally assess movement at the walk or trot, as desired in that breed.
- ▶ **Soundness** - with all of the features above can the dog move soundly ie.:-
 - do the limbs move in a straight line,
 - do the elbows and hocks stay attached and are firm
 - does the dog have a good reach and drive.

Skeleton of the dog



1. skull
2. maxilla
3. mandible
4. prosternum
5. humerus
6. radius
7. ulnar
8. carpus
9. metacarpus

10. phalanges
11. accessory carpal bone
12. rib cage
13. patella
14. phalanges
15. metatarsus
16. tarsus
17. fibula
18. tibia

19. femur
20. coccygeal vertebrae
21. sacrum
22. pelvis
23. lumbar vertebrae
24. thoracic vertebrae
25. scapula
26. cervical vertebrae

Axial Skeleton

= the Head and spinal column.

▶ Head - made up of around 50 bones

Skull - occipital crest along top, occiput - rear point of skull
zygomatic arch - under and around the base of the eye.

Muzzle - nasal crest (largely cartilaginous) top of nose
- maxilla - top jaw
- mandible - bottom jaw

▶ Vertebral column - formula

Neck - 7 cervical vertebrae (1st two atlas and axis)

Thorax - 13 thoracic vertebrae

Rib cage - 9 attached, 4 floating ribs.

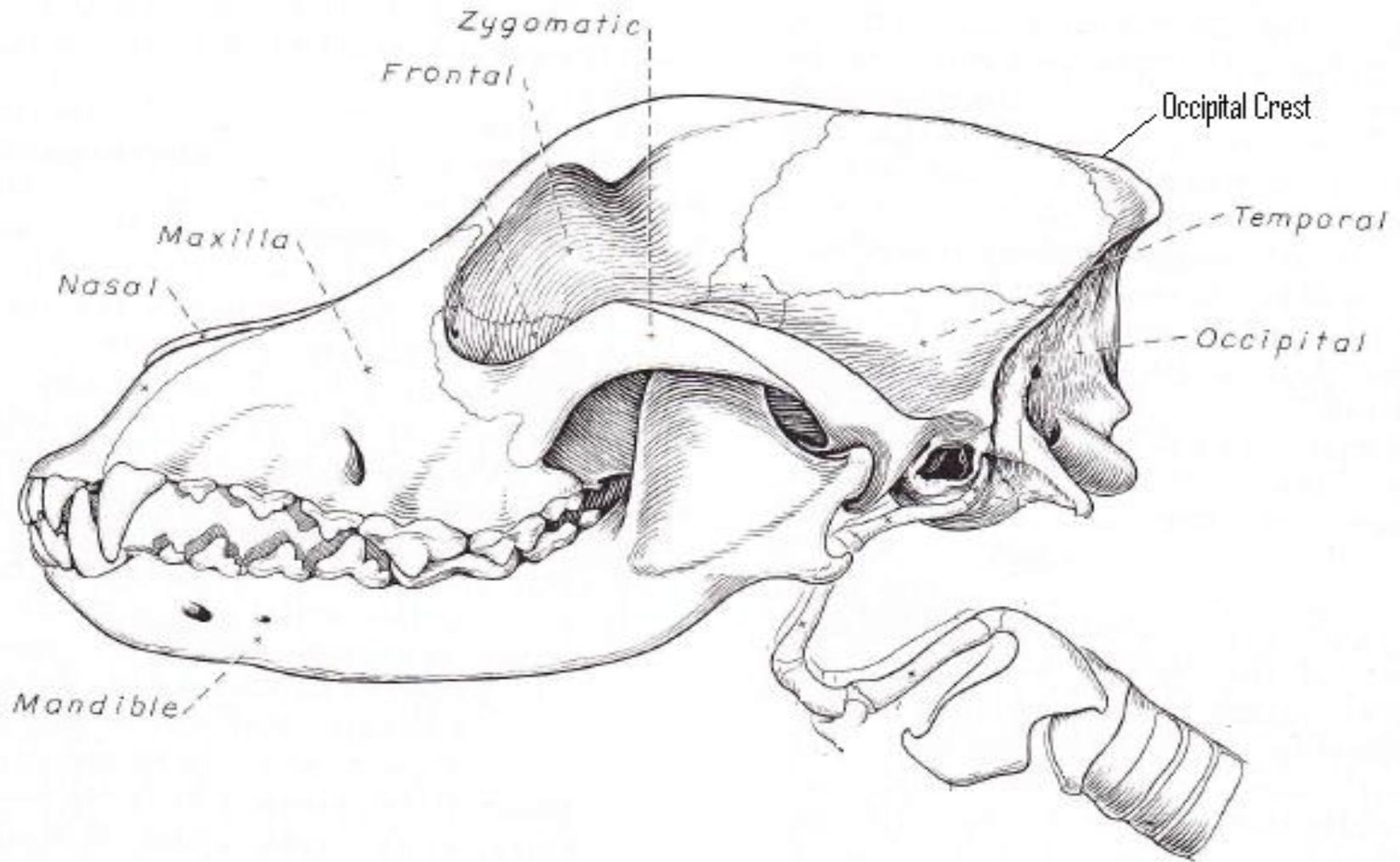
Chest - underchest - front - prosternum (breast bone)
- rear - xiphisternum

Lumbar - 7 vertebrae (loin) - back

Sacral - 3 fused vertebrae (sacrum)

Tail - varies from 6 to 23 vertebrae (19-21 average)

Skull



Bones of the skull,

Head Types

3 Basic head Types

- ▶ **brachycephalic** - short, wide
 - short foreface/muzzle, round eyes
 - skull may be large, usually well defined stop, often domed.
 - usually undershot bite
- ▶ **mesaticephalic** - medium length, medium width, often wedge shaped
 - usually equal length muzzle to skull,
 - moderate stop, eyes usually oval/almond
 - bite correct scissor to occasionally level
 - top plane of skull usually parallel to top plane of muzzle.
- ▶ **dolichocephalic** - long, narrow
 - usually long muzzle
 - usually flat skull, minimal to moderate stop.
 - eyes almond, obliquely set
 - bite correct, scissor

Other generalities

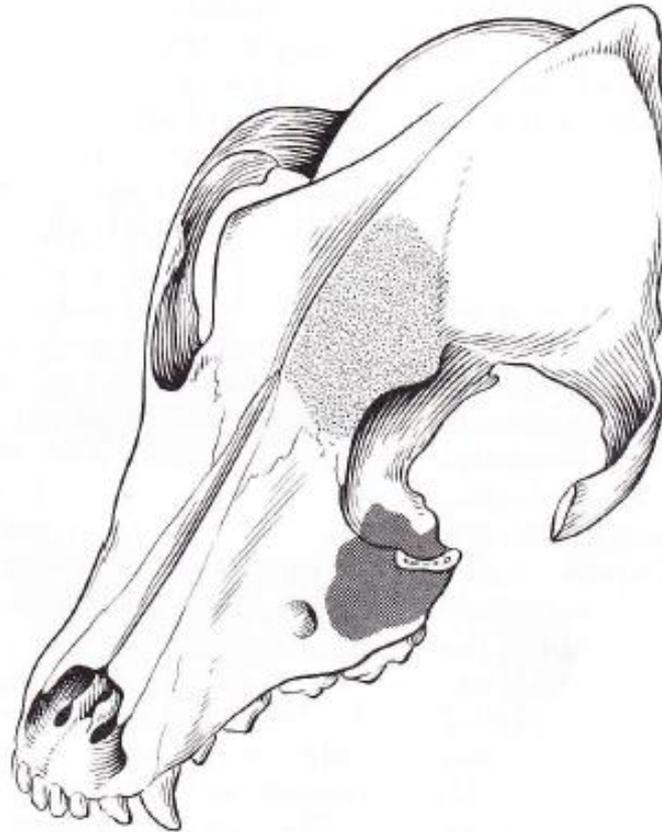
- . The broader and longer the skull - generally the flatter the skull
- Short narrow skull - generally heading to domed skulls

Brachycephalic



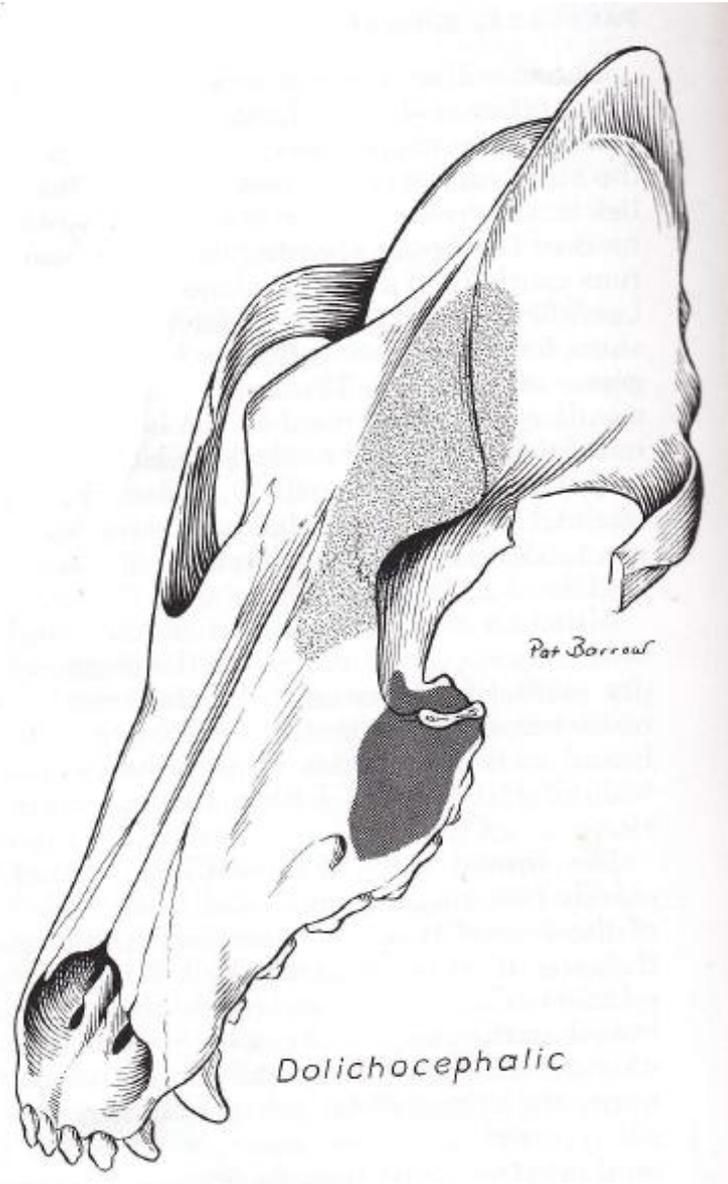
Brachycephalic

Mesaticephalic



Mesaticephalic

Dolichocephalic



Teeth and teething in Dogs

▶ I = incisor, C = canines, PM = premolars,
M = molars.

▶ Dental formula:

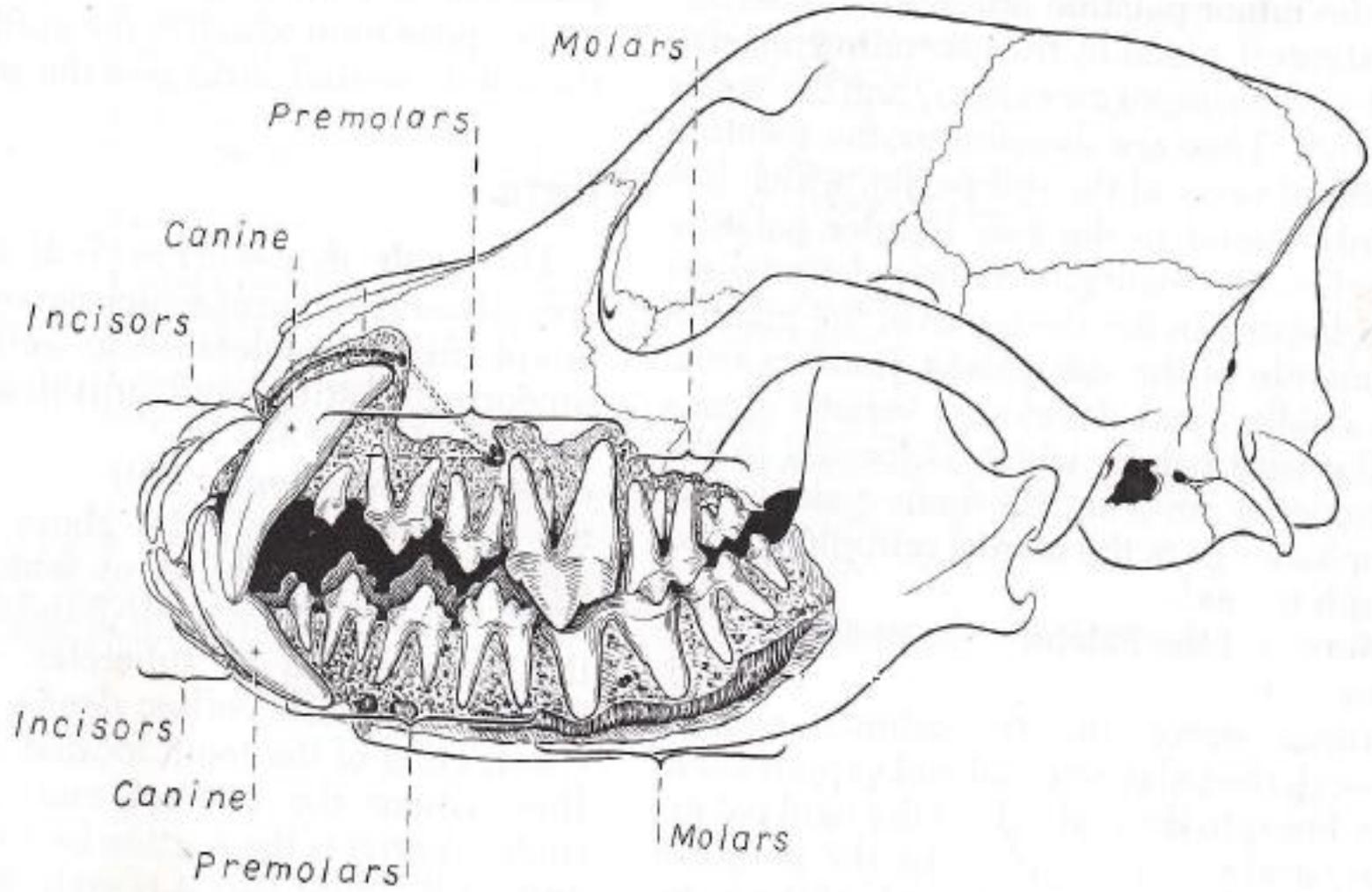
(a) **Immature** (deciduous) dentition

I 3/3, C 1/1, PM 3/3 = 28

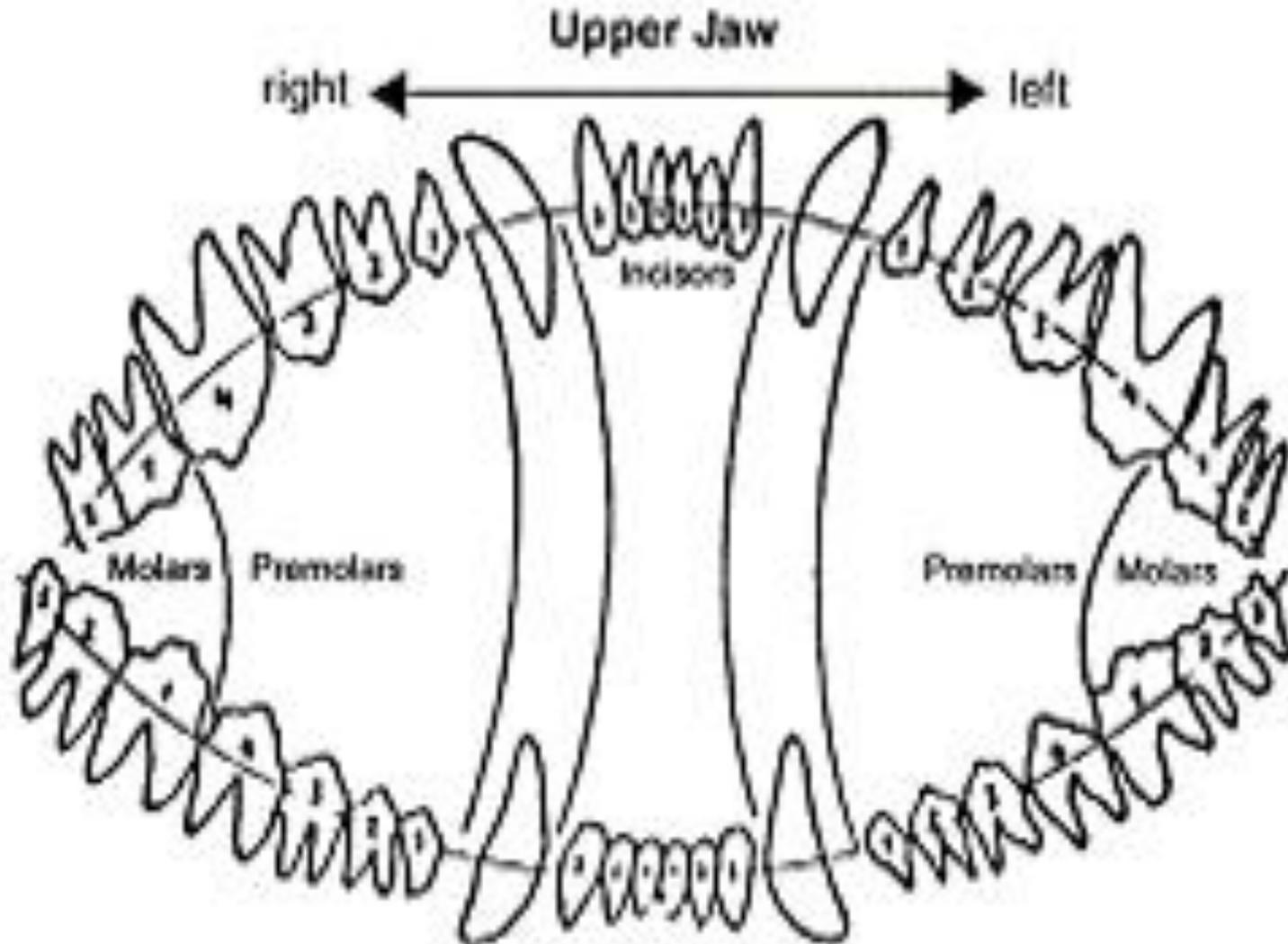
(b) **Permanent** (adult) dentition

I 3/3, C 1/1, PM 4/4, M 2/3 = 42

Teeth



Teeth - upper and lower jaw



Teething

| ▶ Group | Tooth | <u>Eruption Time</u> |
|--------------------|---------|----------------------|
| ▶ <u>Incisors</u> | Central | 4 months |
| | Medial | 4-5 months |
| | Lateral | 4-5 months |
| ▶ <u>Canines</u> | | 5-6 months |
| ▶ <u>Premolars</u> | | |
| | First | 4-5 months |
| | Second | 5-6 months |
| | Third | 5-6 months |
| | Fourth | 4-5 months |
| ▶ <u>Molars</u> | | |
| | First | 5-6 months |
| | Second | 5-7 months |
| (bottom only) | Third | 6-7 months |

* *occasionally* an odd premolar may not erupt until 6-8 months.

Judging/Handling Young Mouths

- ▶ **Handle mouths gently**, especially puppies that are teething (4-6 months especially).
- ▶ **Teeth** - do not generally *penalise* missing teeth under 8-9 months - some breeds/dogs are slow to teethe.
- ▶ **Bites** can change over time, usually becoming tighter with *age* to become level or even reverse scissor, especially with the heavy jawed breeds.
- ▶ Some ***brachycephalic*** breeds bites can alter either way (Cavaliers in particular) up to 9 months.

Vertebral column

Neck - 7 cervical vertebrae
(1st two atlas and axis)

Thorax - 13 thoracic vertebrae (rib cage)

Chest cage - ribs

Ribs 9 attached, 4 floating ribs.

Underchest

- front - prosternum (breast bone)

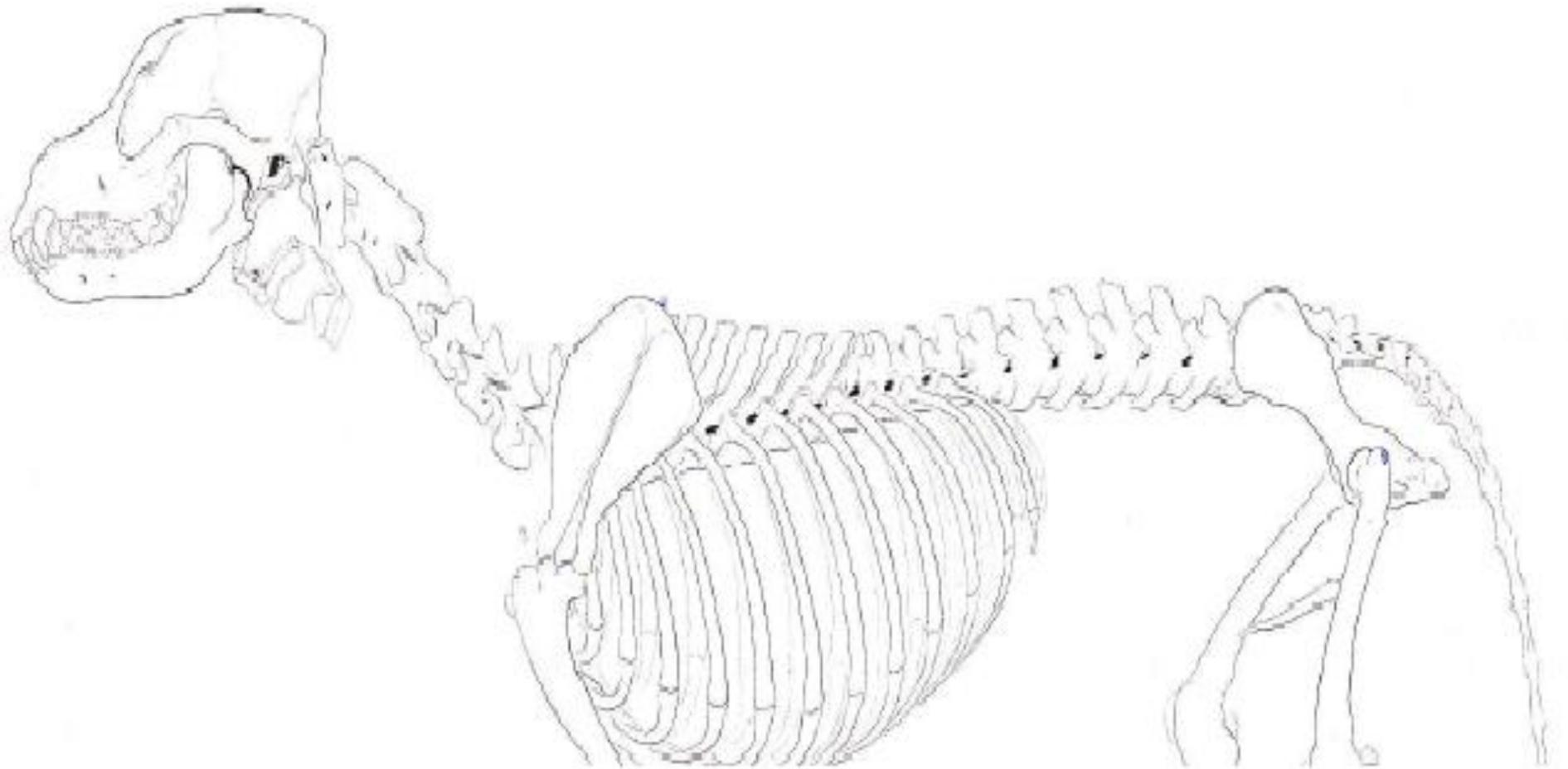
- rear - xiphisternum

Lumbar - 7 vertebrae (loin) - back

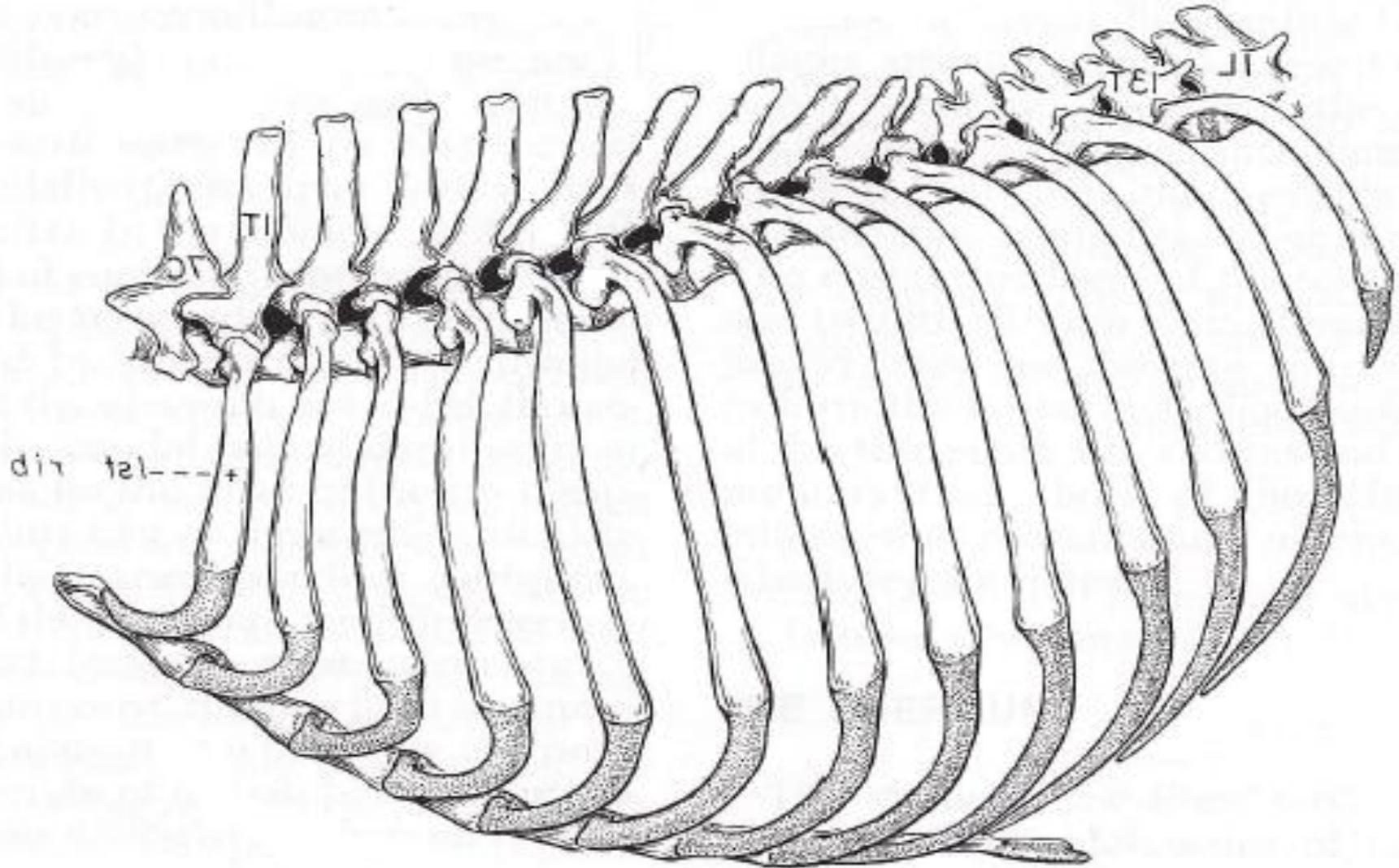
Sacral - 3 fused vertebrae (sacrum)

Tail - varies from 6 to 23 vertebrae (19-21 average)

Spine and Chest



Chest

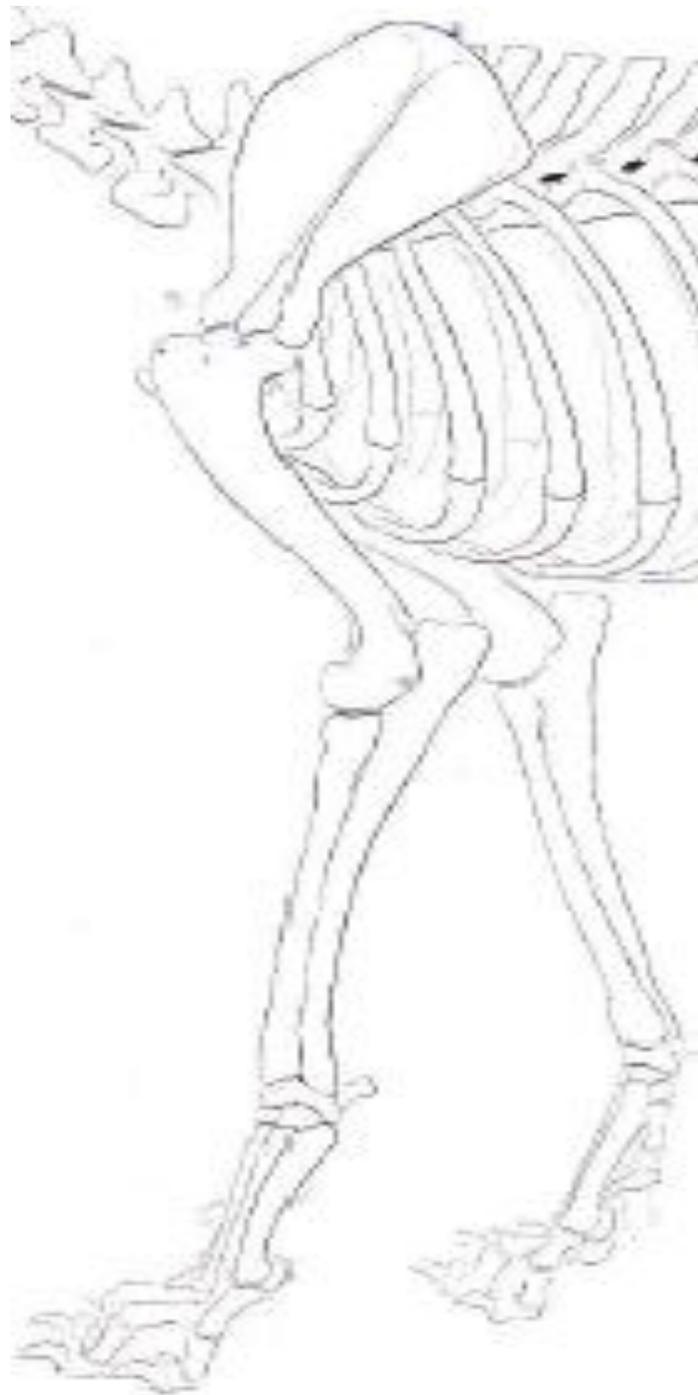


Appendicular Skeleton- Limbs

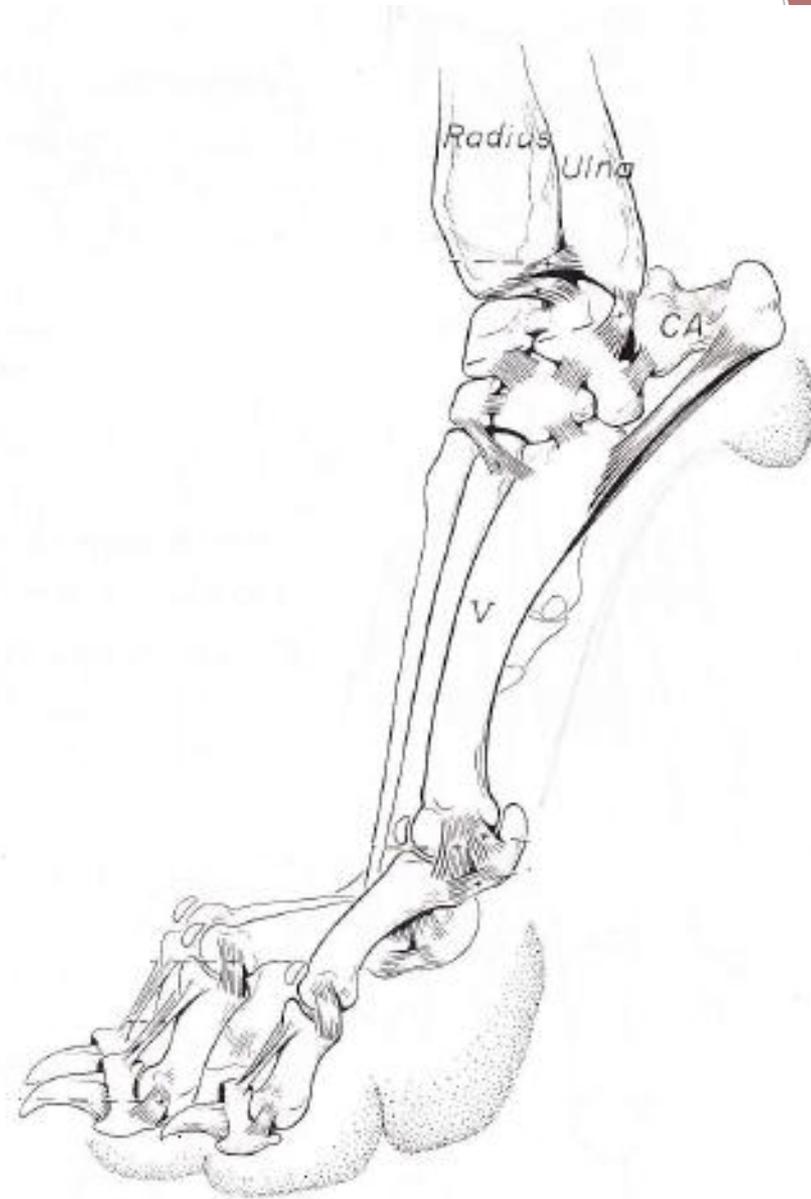
Forequarter

- ▶ Shoulder blade - scapular
- ▶ Upper arm - humerus
- ▶ Foreleg - radius and ulna
- ▶ Wrist - carpus
- ▶ Pastern - metacarpus
- ▶ Toes/foot - phalanges

Forequarter



Carpus and foot



CA = accessory carpal. V = metacarpal V.

Feet



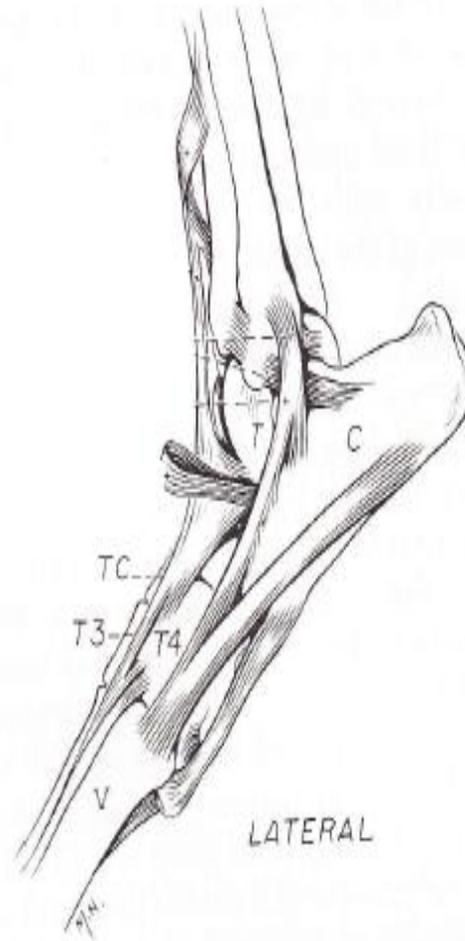
Hindquarter

- ▶ Pelvis (ilium, ischium, acetabulum)
 - Wing of the pelvis - ilium
 - Tail bone - ischium
 - Hip joint - acetabulum
- ▶ Upper thigh - femur + patella (knee cap).
- ▶ Lower or second thigh - tibia and fibula
- ▶ Hock joint - tarsus
- ▶ Hock (rear pastern) - metatarsus
- ▶ Toes/foot - phalanges

Hindquarter



Hock



Testicles

- ▶ Should be down by 3 months but are allowed up to 6 months (may take 9 months in some breeds).
- ▶ if not entire, **not penalised** under 6 months, **are** penalised over 6 months of age.
- ▶ In cold weather, testicles are brought up close to the body (for warmth).
- ▶ Always feel carefully - but gently!

Points to Note When Judging

- ▶ **Lameness** - you are not judging as a veterinarian - do not give out diagnoses in the ring! If the dog is **obviously lame**, ask the owner do they wish to retire the dog from the ring. If severely lame (despite what you feel is the cause), tell them to see their vet to get attention to the problem. As a judge, **you do not have** X ray vision!!!!!!!!!!!!!!
- ▶ **Weight /coat** - some exhibitors present extremely fat dogs to the ring. Extra weight and coat can disguise otherwise faulty chests, coat can be sculptured to mimic desired angulation. Need to feel under these types of coats carefully.
- ▶ **Judging is an art and a competition** - whereby you, as the judge tries very hard to put up sound worthy animals and your handlers try their hardest to show the good points of their dogs while hiding the bad. By moving the dog you can generally see all the points they are trying to hide.