

# Conformation: Form to Function

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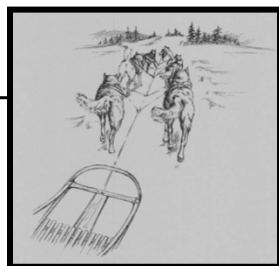


## Conformation

- For every purpose of dog, there are specific builds that give superior performance.

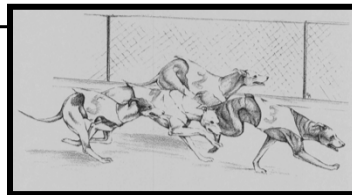
■ Huskies, Wolves and Malamutes

- Cover distance at a trot



■ Greyhounds and Whippets

- Have speed on flat ground at a gallop

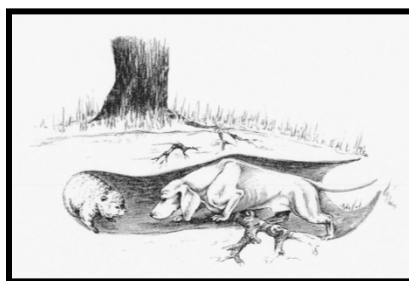


## Conformation

■Afghan hounds cover hills and brush with speed and an ability to bound



■Dachshunds go to the ground after badgers. They have short strong legs in order to dig

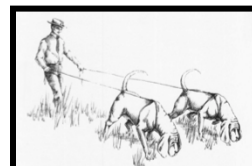


## Conformation

■Chesapeake Bay Retrievers have webbed feet to swim and retrieve

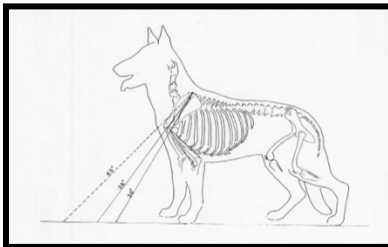


■Border Collies and Blood Hounds have flexible shoulders to allow crouching for herding or trailing with the nose to the ground



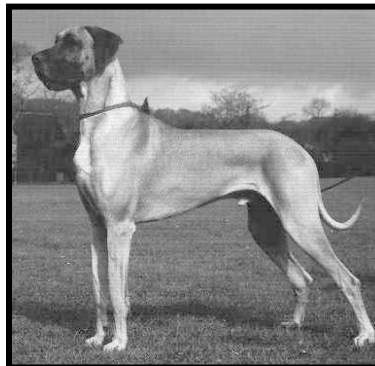
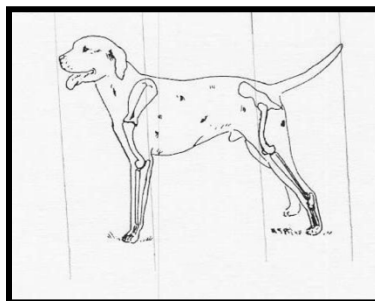
## Conformation

- **LOOKING AT FORELIMB CONFORMATION**
  - The forelimbs bear 60 – 65percent of the body weight in standing, they attach to the body by muscles and ligaments alone.
  - The scapula lies back on the chest wall at a 30 – 45 degree angle from vertical.



## Conformation

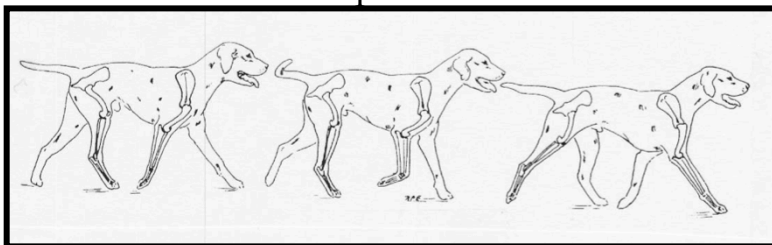
- **FORELIMB**
- Signs of an upright shoulder:
  - Difficult to locate the point of the shoulder blade
  - Abrupt transition from neck to back
  - Skin rolls over the withers
  - May have a proportionally short humerus



## Conformation

### ■ FORELIMB

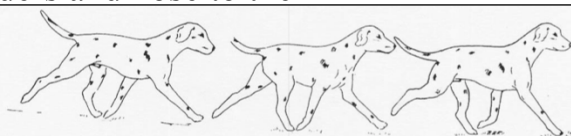
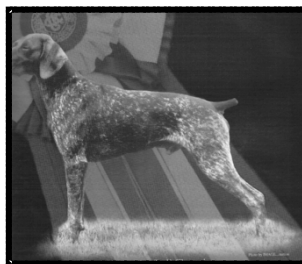
- Disadvantages to the upright shoulder:
  - Increased concussive forces on shoulders and elbows etc,
  - Less reach (stride length) and power in pulling the body forwards
  - Less muscle development



## Conformation

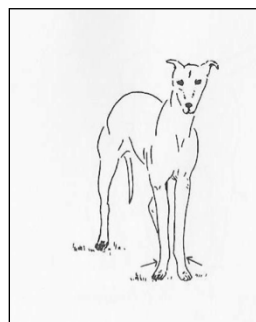
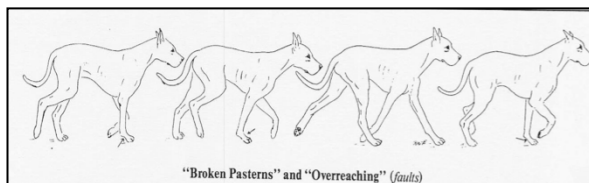
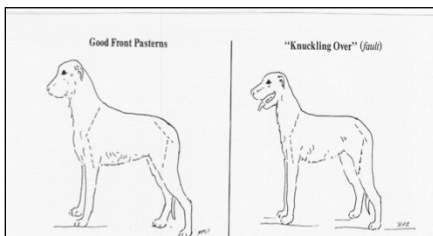
### ■ FORELIMB

- Advantages of good shoulder lay-back / Correct humerus length
  - Faster ground speed, better turns and better sits
  - Decreases shoulder injuries, reduced elbow and back injuries
  - Increased flexibility, allowing for dropped shoulders and nose to the ground ability



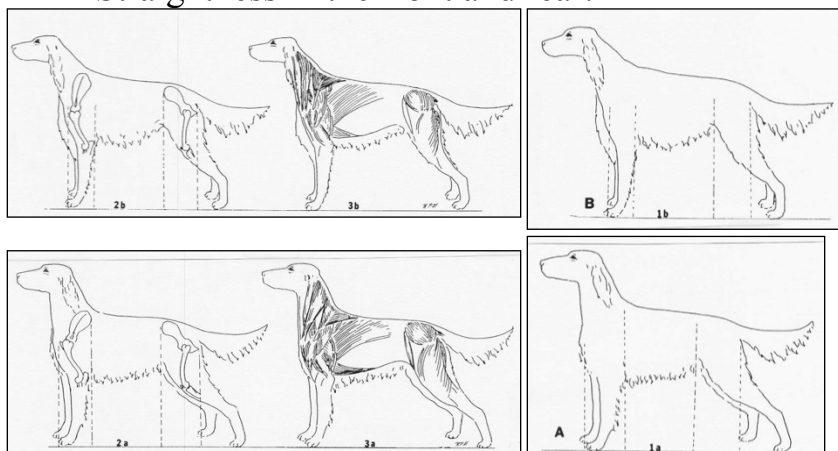
# Conformation

- FORELIMB
- Pasterns and the Carpus
  - Watch for knuckling over and hyperextension
  - Toeing out / East-West fronts (due to weakness in the carpus)



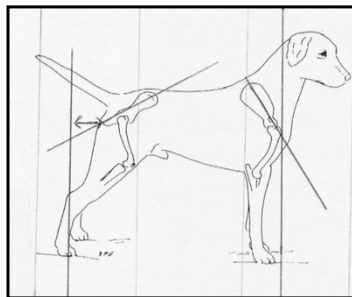
# Conformation

- Muscle Development as it relates to angulation
  - Straightness in the front and rear:



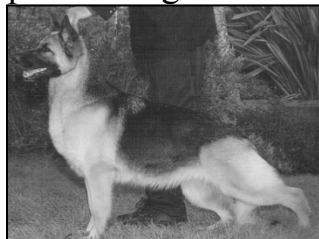
## Conformation

- LOOKING AT HIND LIMB ANGULATION:
  - The pelvis should sit at a 30-degree angle from horizontal.
  - When assessing the angulation of rear legs. Draw an imaginary line that runs up from the hock when it is perpendicular to the ground and measure the distance from the ischial tuberosity to this line (where it meets at a right angle).



## Conformation

- STIFLES
  - Greater angulation can be associated with a longer tibia length.
  - Well bent stifles enhance speed, jumping and 'go to the ground' activity
  - Straight stifles hinder jumping ability and are more prone to ligamentous ruptures



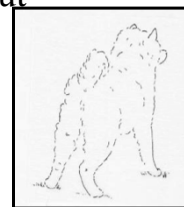
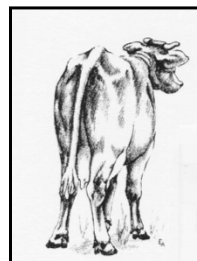
## Conformation

- Advantages to Increased Angulation:
  - Faster ground speed
- Disadvantages to Increased Angulation
  - Less stability
  - Harder to turn sharply
  - Less accurate sit
  - Slower lying and getting up
  - Hyperextension injuries
  - Core stability disadvantage and therefore spinal compensation and compromise (ie lumbosacral stenosis)



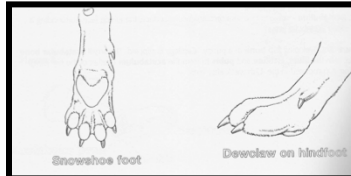
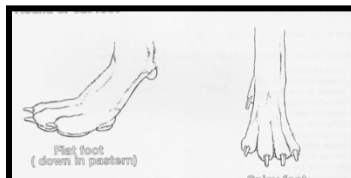
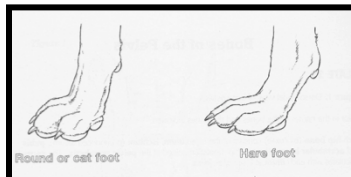
## Conformation

- Problems at the Hock:
  - Cow Hocked: The hocks turn in
  - Barrel / Spread Hocked: The hocks turn out
- Note on Hocks
  - Long hocks are good for initial speed
  - Short hocks have endurance and power.
  - Straightness reduces 'push-off' strength



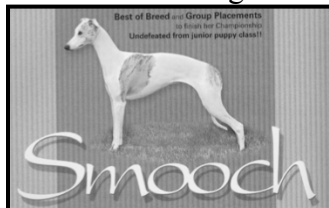
## Conformation

- FEET
  - Round compact / Cat feet are better for endurance
  - Splayed toes / Hare Foot are better for speed and jumping
  - Webbed feet provide increased surface space and therefore are better at moving through water, mud and snow



## Conformation

- CONFORMATION & THE SPINE
  - There are essentially 3 top-lines that are found with dogs:
    - Arched: As in the site hounds
    - Level: As in Retrievers, Terriers etc., etc.
    - Sloping: As in German Shepherds – entirely associated with greater hind limb angulation

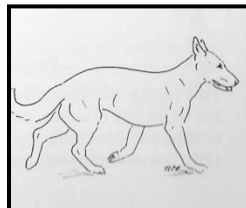




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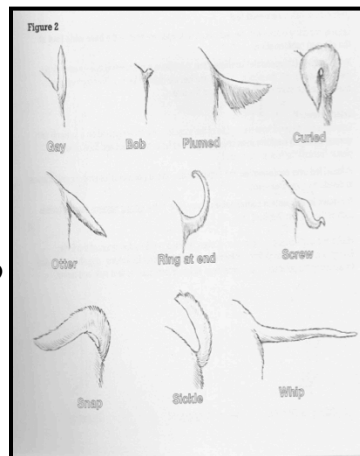
### ■ Spinal conformational faults:

- Roach backed:
  - Tucking its pelvis in under itself.
  - Often indicates back pain or an attempt to off weight the hind limbs.
- Sway Backed:
  - Can indicate deconditioning, weakness or poor abdominal support.
- Scoliosis:
  - 'C' Curves or 'S' Curves
  - Structural problems or weight bearing problems



## Conformation

- A Note on Tails:
  - Tails help the dog to make sharp turns, initiating movement and assisting with balance
  - Theoretically dogs with tails may also have better dural mobility and resiliency than dogs with a docked tail.
- A Note on Dew Claws (forelimb):
  - This digit has 5 tendons that attach to it.
  - It is a functional digit that does grip the ground on turning.
  - Dew Claw removal means pressures are transmitted higher up



## Conformation

### ■ GAIT ANALYSIS

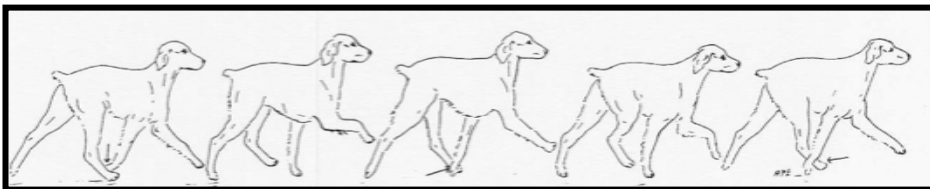
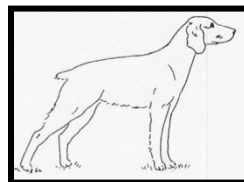
- The Walk
- The Amble
- The Pace
- The Trot
- A Flying Trot
- The Canter
- The Gallop



## Conformation

### ■ GAIT FAULTS FROM THE SIDE

- Interference at a trot or Over reaching with the back legs. Where the hind foot touches or collides with the forelimb (of the same side).
  - This may be due to upright shoulders,
  - the rear end being taller / higher than the front end,
  - too much rear angulation or
  - too short of a back

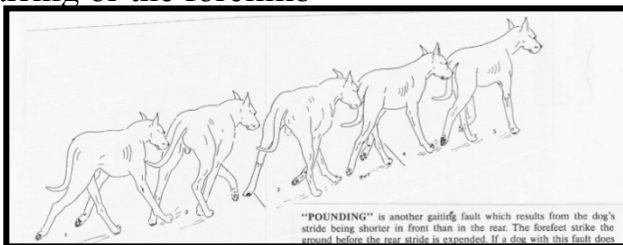


## Conformation

### ■ GAIT FAULTS FROM THE SIDE

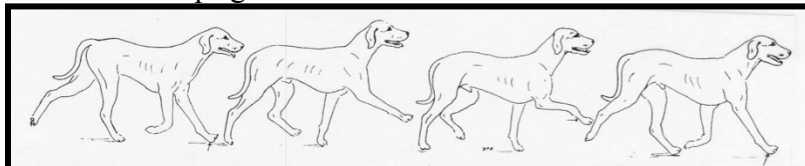
#### ■ Pounding: A jarring or the forelimb

- Due to upright shoulders



#### ■ Padding: Excessive carpus extension prior to foot strike.

- Due to upright shoulders



## Conformation

### ■ GAIT FAULTS FROM THE SIDE

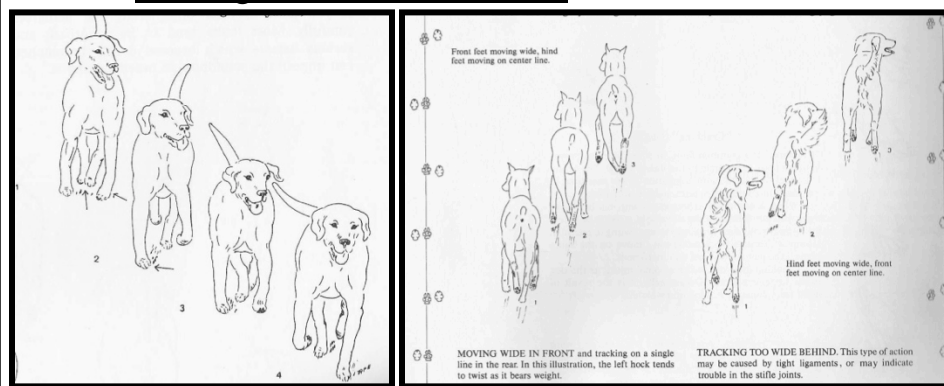
#### ■ Skipping during a gait pattern

- This is likely due to patellar luxation



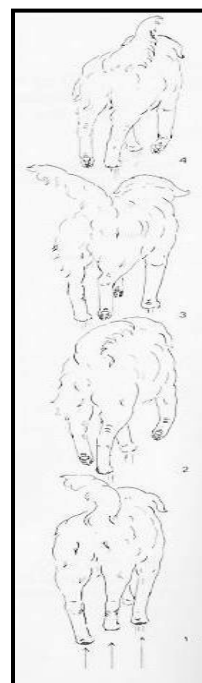
## Conformation

- GAIT FAULTS FROM THE REAR or FRONT
  - Tracking too wide in the rear
  - Moving too wide in the front



## Conformation

- GAIT FAULTS FROM THE REAR or FRONT
  - Crabbing: Where the body moves at an angle to the line of travel. The hind legs are slightly off to the side of the front feet.
    - This may be due to the animal being taller in the rear than the shoulders
    - More rear angulation than in the front
    - A short back
    - A back injury
    - Due to constant 'heeling' with the dog watching the owner



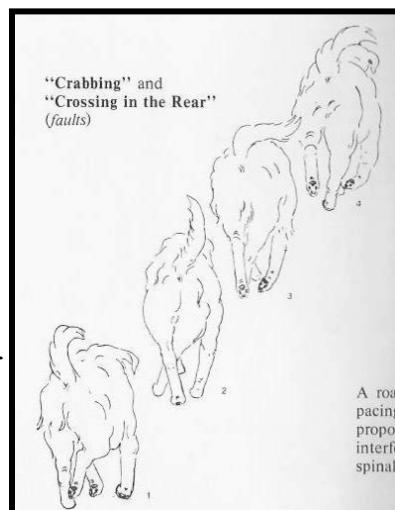
## Conformation

- GAIT FAULTS FROM THE REAR or FRONT

- Crossing at Rear:

Where the hind legs cross midline

- This can be an indication of an Upper Motor Neuron Lesion or
    - Perhaps a hip / pelvis dysfunction if no other neuro signs exist.

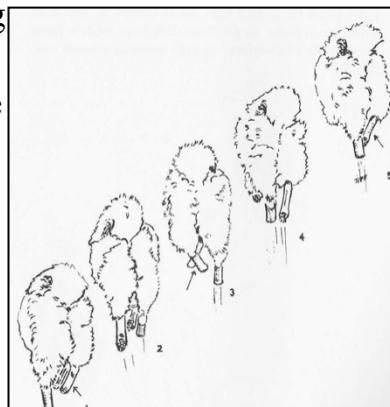


## Conformation

- GAIT FAULTS FROM THE REAR or FRONT

- Snatching Hocks: On swing phase at mid range, the rear pastern twists in beneath the body

- Due to a patellar luxation at that point during stifle flexion in the swing phase.



## Conformation

- What can we fix?
  - SOME conformation faults can be corrected with exercise... But certainly not all of them!
- How do we let owners down nicely?

The reason you're receiving this is.....



...dogs can smell a good person a mile away!