Conformation is defined as the form or outline of an animal. This is the key to its progression. The horse is a working animal and its value is determined by the condition of its limbs and feet. Poor conformation of limbs contributes to certain types of lameness, and may actually be the cause of lameness in some cases. The proportion of the body conformation, as compared to the limb conformation, may determine whether or not there will be any type of interference of the limbs during progression. Conformation, a major factor in the soundness of limbs, often determines the useful lifetime of a horse. Very few horses have perfect conformation, but in the selection of breeding stock, conformation should be considered carefully.
The Head

*Good Ears

*Ears too long

*Lop ears

*Ears too far forward

*Ears too wide apart

*Bold alert eye

*Eye too small

*Head badly set on Neck too thick & course

*Head well set on to neck

*Weak neck Ewe neck
The Head

Good Head

Rat Eye, Muzzle too pointed
Jaw undershot

Roman Nose, Eye too small
The Neck

Vital link between head & shoulders.

Neck: around 1/3rd of the horse’s body length.
Optimal neck length contributes to horse’s agility, freer movement & balance.

Horse needs to swing head & neck up & down, stretch forward & backwards to maintain balance each stride.

NOTE: Sufficient length of neck for effective balance.

Necks: greater arch - easily flex at poll & give to bit.

Excessively long neck places the horse at a disadvantage for agility and balance because the horse’s centre of balance is too far forward.

Longer neck greater distance between each joint = less flexibility.

Neck length (A) should be one third of the horse’s total length (B), one & a half times the length of the head (C), and the same length as the front legs (A). For athletic ability, neck length can be the same as but should not exceed the length of the rest of the topline. The neck is measured from the poll to the peak of the withers.
Angles in the shoulders, hindquarters & pasterns govern whether the horse will be smooth & fluent in his movement & whether he will be sound

Well sloped shoulder acts as a shock absorber

![Horse diagram with annotations]

A good shoulder, well laid back, will have about a 60-degree angle using the line from point of shoulder to junction of neck and withers, and about a 40-degree angle using the line from point of shoulder to junction of withers and back. The line from point of hip to point of buttocks should be long. The angle made by this line and the line from buttock to stifle should be sharp. As in the shoulder, the sharper the angle, the greater the range of motion in the legs.
Shoulder from peak of withers to the point of the shoulder A. Should be about as long as the neck

The shoulder, from the peak of the withers to the point of the shoulder (A), should be about as long as the neck, from poll to front of the withers (A).

A. Laid-back shoulder. Shoulder blade should slope back so the humerus and foreleg can swing freely. B. Upright shoulder.
A: A horse with a long, sloping shoulder & good pastern angles has a longer stride & smoother gait & is less likely to suffer breakdown & lameness due to excessive concussion.

B: A horse with short, upright shoulders & pasterns has choppier action & a more jarring gait, & is more likely to develop concussion-related problems such as splints, navicular syndrome & road founder.
Neck/Shoulder Angle

A: Normal neck; the base of the neck is level with the point of the shoulder or higher.

B: Neck set on too low, below the point of the shoulder; there is hardly any breast area below the neck. (Note:  = point of shoulder)

The way the neck is set on at the shoulders is just as important as the way the head is set onto the neck. The juncture of the neck & shoulder affects the shape of the neck. The neck should emerge from the shoulders fairly high, with a distinct breast area below it. If the neck is set too low (Like that of a zebra or Przewalski’s horse, whose neck starts so low it appears to be coming from between the front legs), with no visible breast below it, the neck is almost as deep (thick from the top to the bottom) as the body. The horse will have limited flexibility. The ideal neck of a riding horse reaches out from the body with a well-defined shape.

The way the neck is set on the shoulders is important for proper balance. Viewed from the side, there should be a smooth transition from shoulder to neck, with neck set neither too high nor too low. If the neck is so low set that the horse has hardly any “chest” (breast) below the base of his neck (with the neck set rather horizontally), he will always seem to be leading too far forward, travelling heavy in front, & will be difficult to collect; he has poor balance & impaired agility. The base of the neck (its departure from the chest) should be level with the point of the shoulder or higher. If the head & neck are carried too low, shoulder action is restricted; the forelegs can’t be raised high enough or forward enough for a good stride, which reduces the horse’s speed & ability to jump.
Body & Hoofs

*Tail well set on, Good limbs, Deep girth  
*Weak loin, No depth of body, Back too long

*Good Quarters,  
  Good Hind leg
*Weak Pasterns  
  Tail set too low  
  Goose Rump  
  Sickle hocks
*Croup too short  
  Small hocks set too far behind  
  Weak hind leg  
  Very light of bone

*Good dense foot  
*Shallow Foot  
*Narrow Contracted Foot

Drawings marked with * are printed from WPCS UK conformation Booklet  
A Normal  B Short upright  C Long upright
Hind Limbs

Normal hind limbs

Faults in conformation of Hindlimbs

Cow hocks and base wide
Bow legs - base narrow
Standing under behind

Sickle hock
Too straight behind
Camped behind
Front & Side View of Normal Forelimbs

Faults in conformation of forelimbs

- Base wide
- Base narrow
- Base narrow - toe in
- Base narrow - toe out
- Base wide - toe in
- Base wide - toe out
- Knock knees
- Bowlegs
Front & Side View Of Normal Forelimbs

A. 'Cut out' under the knees  B. 'Tied in' knees

Offset knees - cannon bones are set too far to the outside

Winging - caused by toe out position

Peddling - due to toe in conformation

A. Standing under in front.  B. Camped in front

C. Calf knees  D. Bucked knees
Front Limbs

Front legs should consist of:

- Straight limbs
- Sufficient bone
- Large flat knees
- Well defined support apparatus & fetlock joints
- Hoof & pastern angle the same
- Angle of toe & heel the same
- Feet should be balanced & fit the horses conformation
Feet should be straight from any view and in proper alignment with the leg above. A. Front view. B. Rear view. C. Side view.
Properly constructed front legs. When front legs are straight and move forward in straight lines, there is less stress on all parts.
Support Structure Behind The Cannon

At the back of the cannon bone are long tendons & ligaments that are clearly visible & easily felt in a thin-skinned horse. Outermost is the superficial flexor tendon. The deep flexor tendon is deeper in the leg. Closer to the bone is the main check ligament that goes from the back of the knee to the back of the deep flexor tendon about a third of the way down the cannon. The suspensory ligament runs down between the cannon bone & the deep flexor tendon.

There should be a well-defined groove between the back of the cannon bone & the front of the tendons, with the flexor tendons situated far enough behind the bone to be clearly visible. The tendons should be firm to touch & should feel like taut ropes when you palpate them with your fingers. They should be prominent, situated well away from the bone & easily distinguishable from the suspensory ligament. The flexor tendons should be equidistant from the cannon from the knee to the fetlock joint (not tied in close to the knee), & the leg’s circumference should be identical below the knee & above the fetlock joint.

Length
Short front cannon bones & long rear cannon bones are ideal. In the hind leg, the cannon should come up to the level of the chestnut on the inner foreleg.

The front leg, from the elbow down, is a rigid structure when it bears weight, & it needs a short, strong cannon bone, with short, strong tendons & a solid knee. The knee is the pulley of which the tendons pass. Muscles of the upper leg are levers that act on the tendons of the lower leg. Thus, a short cannon bone & short tendons create the most efficient movement & also reduce the weight of the lower limb that must be moved.

If the front cannon bone is too long, it lessens the mechanical advantage of the leg structure: the muscle pull of the upper leg on the tendons of the heavy lower leg is less efficient. A long cannon & its associated tendons increase stress on the tendons, making them more likely to become injured when the horse is doing fast work, especially on boggy, steep or uneven terrain. This also puts more stress on the knee joint, because a long lower leg is not as stable. The horse’s leg muscles will tire more quickly under strenuous work because there is proportionally less muscle & more weight.

Conformation
The cannon bone should be perfectly straight & smooth, with no bumps or protrusions, & should align centrally under the knee. Any lump or prominence on the inner or outer surface of the bone indicates a bony thickening that is probably due to injury – such as hitting it with the opposite foot, or a blow – or concussion.

Diameter
When viewed from the side, the lower leg, including bone & tendons, should be wide, not narrow & round. The horseman’s term for ideal distance from front to back of the lower leg is flat bone (describing the combination of bone & tendon), which gives the lower leg the appearance of more substance from front to back.
**Offset Knee**

**Stress put on bones of the knees, joint capsule, carpitus**

The inner splint bone is slightly larger than the outer one. The lower part of each splint bone tapers to a small knob and ends about 3 inches above the fetlock joint. In a young horse, the splint bone is only loosely attached to the cannon by a strong ligament that gradually changes to bone by the time a horse is 5 or 6 years old.

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**About Splint Bones**

Splint bones are vestiges of leg bones that attached to the outer toes in the early horse, when horses had several toes instead of a single hoof. They go partway down the cannon bone and give the lower leg added strength for weight bearing.

**Offset cannons = upper medial aspect of cannon under stress (splints)**

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**Just right knees**
A good horse is square. The distance from the point of his shoulder to his buttocks is equal to his height (from the ground to the top of his withers). The depth of his body (from the top of his withers to the underline) is the same as from underline to fetlock joint. He is the same height at the withers as he is at the croup. In addition, a horse's topline should be shorter than his underline.
A horse with relatively level balance makes a good riding horse.

B. uphill balance

The horse has an uphill balance & is light on his front end & heavy on his hind end.
A horse with ideal conformation for athletic ability and durability is one-third shoulder area (front end), one-third back area, and one-third hip area (hindquarters).