

## Evaluating Movement in Horses

### EVALUATING MOVEMENT IN HORSES

Why should you learn to evaluate movement?

Being able to quickly discern subtle ways a horse moves can be an invaluable tool to catch issues before they become big ones.

Being adept at evaluating movement allows you to:

- Discern if the horse is moving in an unbalanced way
- Discern constricted areas
- Discern gross lameness issues

Evaluating movement is both an inherent and learned skill. Some people will have a more natural ability than others, but no matter what, using certain metrics will allow the bodywork student to learn more about their client horse by watching it move.

### Bodyworker vs. Veterinarian Evaluation

What is the main difference between a bodyworker evaluating movement and a veterinarian evaluating lameness?

- Veterinarians will be looking for pathologies that are typically confined to a limb.
- Fascial bodyworkers are looking for an overall pattern of soft tissue constriction, usually higher in the body, that may or may not be the result of a pathology.

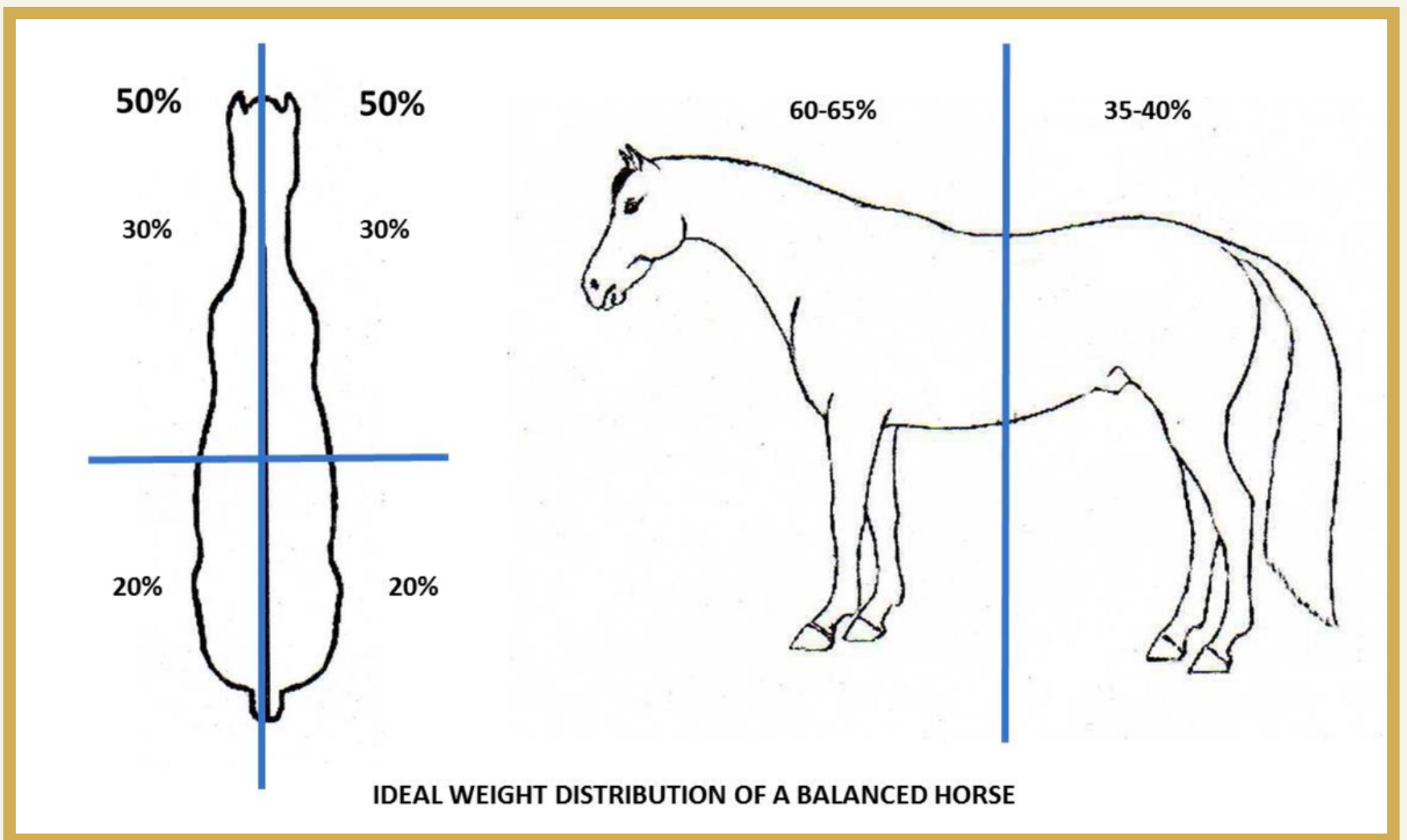
# ADVANCED EQUINE BIOMECHANICS

## Evaluating Movement in Horses

### Weight Distribution in the Horse

What is the appropriate weight distribution in a horse?

- Between left side and right side
- Between the shoulders and hindquarters (front of body vs. back of body)



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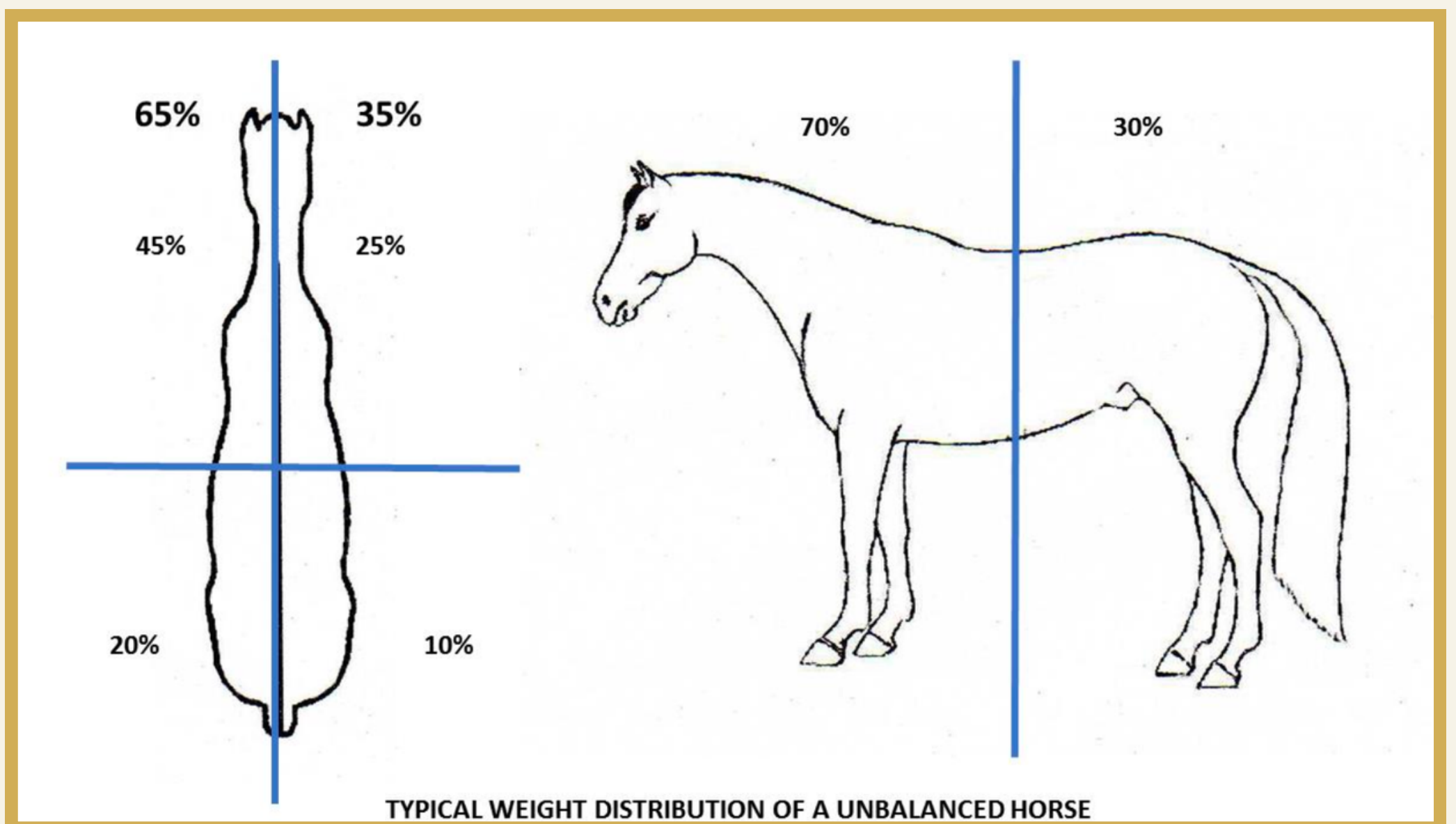
### Constriction Patterns

Imbalances often cross a diagonal. We call these “constriction patterns.” The most common constriction pattern is from the right hind to the left shoulder.

In human kinesiology, this is called a contra-lateral pattern in an oblique sling. Constriction in one area will cause weakness in another area within a related chain of muscles. This is called reciprocal inhibition.

### Tidbit

In the foreleg, 80% of lameness occurs below the knee (carpus) of the horse. In the hind limb, 80% occurs above the hock. The trick is being able to truly discern where a subtle lameness is, as it will affect both front and hind limbs.



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### TIPS TO EVALUATE MOVEMENT IN A HORSE

- Soft eyes
- Hip swing “smiley face”
- Barrel swing-should be Labrador-like
- Look for obvious toe-first landings in front feet
- Look for dragging hind toes
- Look for labored movement is one limb that is different than others
- Imaginary carousel poles: mid barrel and mid neck
- Imaginary horizontal line running from elbow to stifle
- Look for the still spot in the body that everything else is organizing around
- First evaluate a walk, then a trot. Evaluate at the canter if the owner tells you there is a specific issue with the canter. Transitions between gaits can tell you a great deal about the horse’s strength and potential weak areas.

### Observing Movement: Key Points

#### 1- Soft Eyes

This is useful because if you stare too hard at a horse, they all look lame. Relax and gaze beyond the horse, making your focus slightly blurry. This will make the parts that are not moving as smoothly as others stand out more.

#### 2- Hips

When the hips swing as they walk away from you, look for evenness in the rise and fall. Imagine the two “eyes” of a smiley face above the horse’s croup, and the swing of the hips forming the “smile.”

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### 3- Barrel Swing

- If you have ever watched a Labrador (or similar large dog) walk, there will be a big side-to-side swing in the barrel. Look for an overall pattern of evenness in the swing. If you see that the swing is less on the side of the handler, have the handler switch the leading sides and re-evaluate. If the barrel still swings less when the handler is leading from the opposite side, what you are seeing is real and not an artifact of the handler.



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### 4- Toe First Landings

- Can be indicated by exaggerated puffs of dirt or turf flying up from the horse's feet. If it is consistent, it can mean there is pain in the caudal section of the hoof. Try to view the foot landings from the side. They should be landing approximately over the midpoint of the frog (or slightly behind).

### 5- Dragging Hind Feet

- Does the toe of the hind hoof drag? If the answer is yes, do they both drag, or just one side? Look at the hock movement next, particularly at the trot. Do the hocks flex well, or differently from each other? Much less frequently, you will see a front toe drag.

### 6- Labored Movement

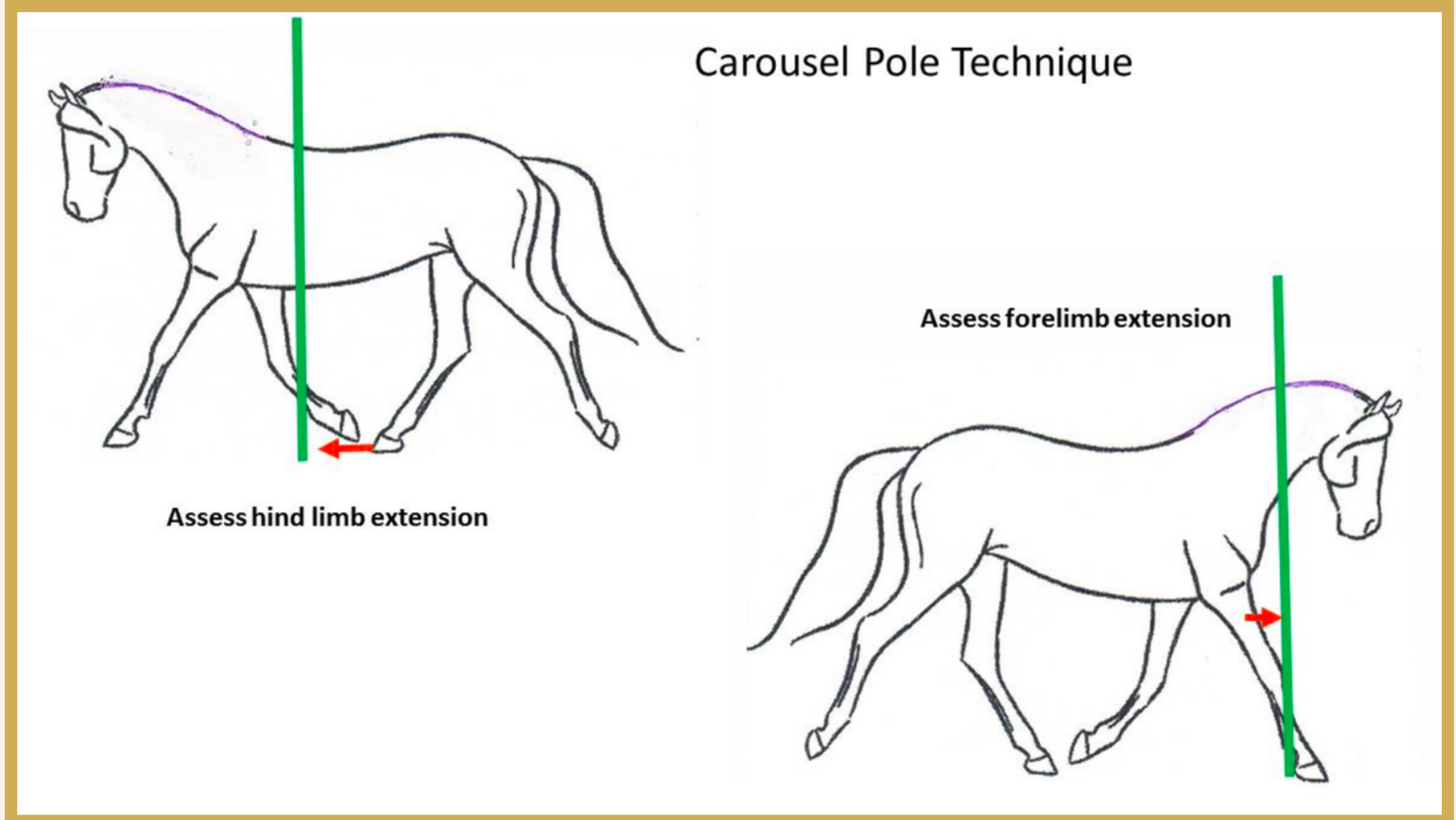
- Using soft eyes, look at the relative grace and swing of the limbs. Break the body first into quadrants, then into smaller sections. Do not forget the barrel, there is often an enormous amount of constriction in the barrel.

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### 7- Carousel Poles

- As the horse moves past you, soften your eyes and put an imaginary carousel pole right in the saddle area. Imagine the hind feet should reach forward to touch this carousel pole. Seeing variations in how far forward the horse can reach each hind foot can give you information about the horse's range of motion. Likewise, after you assess the mid-body carousel pole (hind limb extension), you can put another "pole" and see if the forelegs also reach forward with equal extension. This is also a good time to assess the relative ease of motion of each limb.

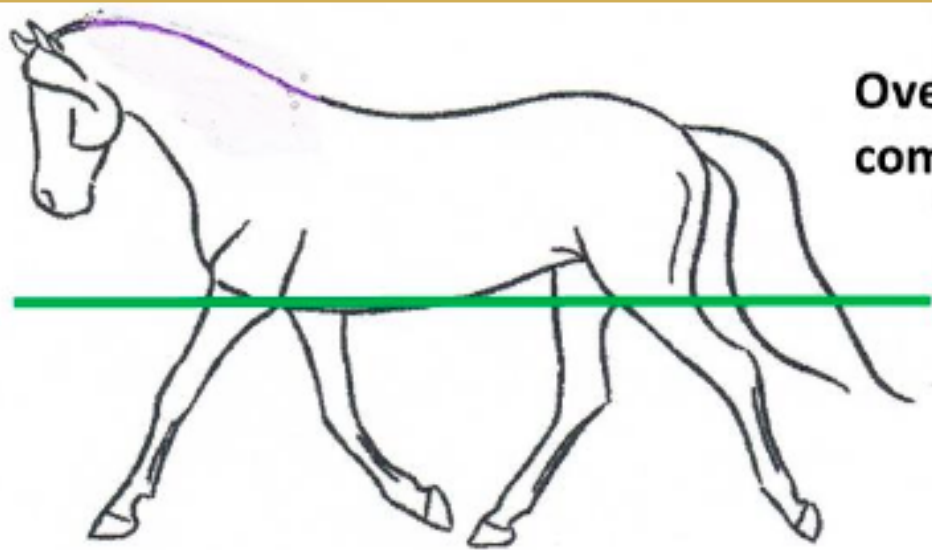


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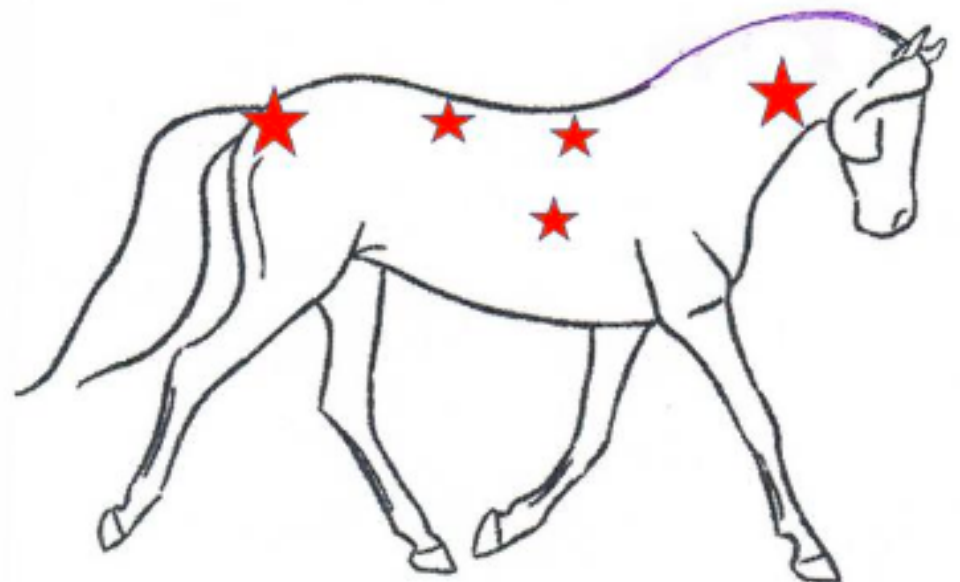
### 8- Horizontal Line

- Draw an imaginary horizontal line from the elbow to the stifle. See if the movement above the line is proportionate with the movement below the line. Horses should ideally be “back movers” rather than “leg movers.”



Overall: Is the movement above the line commensurate with the movement below the line?

Common areas with tissue constriction in unbalanced horses



### Basic Flow of Kinetic Energy in Horse Moving from Rear Propulsion

