What Gait Is It?

By Elizabeth Graves
Photos Courtesy Elizabeth Graves

This series presents a challenge to the eye as there are steps missing. Consider the support hooves (stance phase) and suspended hooves (aerial phase) shown in each photo, then see if you can deduce what happens in between the photos presented.

Our gait analysis horse for this issue is Fox, a 16.2 hand four-year-old of Mc Curdy Plantation Horse linage. Fox does not need much containment of the body to perform this gait. His rider helps get him in the proper frame for this gait by lowering the root of his neck, via lifting his head for support, and bringing up his energy level, as this is a gait of energy. Due to his structure, Fox does not need much vetroflexion (hollowing, or dropping of the back) to find this gait.

A **3-hoof support phase**, 2 hinds and 1 fore.
Left hind in full weight support.
Left fore is halfway through forward advancement.
Right hind is in full weight support, but about to lift at heel.
Right fore is in full weight support.

What will the next support phase be? Which hoofs are going to come off the ground and which will remain on the ground?

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Can you picture it?...
What will be the next support phase?
It will be a **3-hoof support phase** with two fore hooves and one hind on the ground. As the left fore sets down the right hind will be the only hoof off the ground.

After this 3-hoof support phase what will follow?
It will be a **lateral support phase** of left hind and left fore hoof in full weight, with the right fore coming off the ground and the right hind remaining off the ground, advancing forward.

A 2-hoof **diagonal support phase** with left hind and right fore in full support.
Left hind is still on the ground in full weight support.
Left fore is still off the ground, but soon to touch down.
Right hind has lifted off and is starting its forward advancement.
Right fore is still on the ground in full weight, but is no longer perpendicular to the ground, but now angled backward.

The horse is once again in a **diagonal support phase** but different from the one in photo #2.
Left hind has come off the ground.
Left fore is in full weight support.
Right hind has just hit the ground in full weight support.
Right fore is off the ground halfway through forward advancement. Diagonal support shown here is the right fore and left hind in support phase, and the left hind and right fore in suspension.
Once again, before looking at the next photo, what will be the support phase?

The Clues

- In this analysis we present an alternating **2-hoof, 3-hoof support phase** gait.
- This support sequence creates an **even timing**, which you can hear as an **even 4 beats**, 1-2-3-4.
- The speed ranges **from 8-14 miles per hour**.
- The gait is of **slight lateral pick-up** (legs on the same side working *almost* in unison as they come off the ground).
- Another element to be aware of (although it varies from horse to horse) is **up and down bobbing of the tail head**. This is due to the hock action of this gait.

Here's a hint: if you've been reading, "What Gait is It?" for a while, you've seen this gait before!

Structural Differences

Though stride for stride, the gait is the same, each horse moves differently.

When different horses perform the same gait, there can be can subtle differences in the shape or the frame they need to hold themselves in, and therefore in how you need to support them, to achieve the gait. The amount of energy needed to provide forward motion in a gait varies between individual horses, as well. Riding many horses executing the same gait will make you aware of how differently you may need to support one horse versus another. This is also the best way to learn how differently the same gait will feel on individual horses, even though the gait is the same in footfall phases and timing.

But what does it take for two horses to do the same gait if they are structurally different? Being able to recognize the differences in each individual will help you evaluate how to support them in your riding, to allow them to carry themselves and you, in the easy gaits you ask of them.

The horse is in a **3-hoof support phase** of two hinds and one fore.
Left hind has just set down in full weight support.
Left fore has lifted off and is just **Left fore**starting its forward advancement.
Right hind is in full weight support.
Right fore is in full weight support.

What will be the next support phase following this photo?
The **left hind** will still be in support
The **left fore** will be have set down being in full support.
The **right hind** will have lifted of being in suspension.
The **right fore** will have lifted off.
The horse will then be in a **lateral support phase.**

Structural Influences

Fox still has several years before he will be structurally mature. Growth plates have yet to fuse, and his large frame will require an extra measure of muscle development to properly support it. Even at this age with all the development issues brought on by his fast growth, the discomfort of teeth shedding and erupting, and all the trials and tribulations of mental maturation, **this adolescent has an easier time achieving this gait than our previous horse**, which was fully mature in body and mind.

The horse evaluated previously in this gait, Traveller (shown above), is extremely inclined to trot. His lumbar sacral juncture is set close over the point of hip, and his hip socket is set close to center of his pelvis. He has a shorter length neck with medium set into the shoulder.

Traveller's rider worked well in supporting this type of structure to help to bring the gait into the horse. She had to lift her hands in order to lower the root of the horse's neck, creating the vetroflexion (lowering of the spine) Traveller needed to do this gait. Our rider also knew to roll her pelvis back slightly to help lower the horse's back for this gait, and to allow her to push for more energy use from the horse for him to carry himself in the frame. Bottom line: Traveller has to be supported in a more contained frame than Fox to do the same gait.

In evaluating Fox's structure, his lumbar sacral juncture is set close to the point of hip which would incline him to be diagonal in his gait, yet his hip socket is placed further back from center of his pelvis, which creates an inclination to go lateral. Like Traveller, Fox also has a medium set of neck into his shoulder, but has a much longer neck. These influences for both lateral and diagonal movement make it easier for Fox to perform this gait with less containment than Traveller needs. Fox needs less lift of the head and some energy brought up into his body, but not as much as Traveller. Fox is more relaxed in his gait due to the ease of execution due to his structure. The rider's pelvis does not need to be rolled back, but simply set level in a balanced seat. Of course, Fox will continue to need proper rider support through his developmental years, but will find self-carriage as he matures, but Traveller may always need the extra support from a rider.

So in closing, we have many variances in horses and it is up to you, the rider, to learn how to bring out what a horse has to offer.

In Loving Memory

I Think She Went Riding

by Renee Martin

You slipped away from us last night.
Gone riding.

So many horses came to carry you
silently, softly, gently.

Ethereal steeds with heavenly gaits,
grateful you understood them.

They took you home under the moonlight,
they knew the way.

I know you felt the wind in your hair again,
experienced complete freedom.

Utterly content in the scent of leather and horse,
as you always were when you
went riding.

In lasting, loving memory of
Lee Ziegler

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The gait is a saddle rack, the same gait featured in the Spring 2006 issue.