

How the *walk* works



MEET THE EXPERT

GILLIAN is an authority in equine anatomy and biomechanics, a British Horse Society Senior Coach and a professional sports and remedial therapist. Gillian specialises in assessing posture and movement, devising exercises for improving performance and educating horse owners. She is known for her books, videos and anatomical painting on live horses, which she uses for teaching. Visit horsesinsideout.com.

How the skeleton moves in walk affects the horse's bones, muscles and topline. In the first part of a new series, biomechanics specialist **Gillian Higgins** breaks down this gait step by step to help you truly understand it

WALK IS A regular four-beat gait. Ideally, the advancing rear hoof over-tracks the spot where the previously placed front hoof made ground contact. Walk steps must be regular and rhythmical, and the gait must be ridden with impulsion and engagement. For this, both horse and rider must be relaxed. A good walk is the basis of all training. Young horses begin their training with

free walk on a long rein. With a light contact, this allows them to relax mentally, look around, work through the back, stretch the topline, strengthen the muscles and bones and develop a long, even stride. The rider can then generate more power from behind, pick up a light contact, and introduce the different types of walk. Whenever the horse is engaged in muscularly hard work or introduced to a new movement, it is important to return to free walk on a long rein.

FOOTFALL: SIGHT AND SOUND

MOVEMENT

In walk, the horse's legs move in the following order:

- 1) Left Hind
- 2) Left Fore
- 3) Right Hind
- 4) Right Fore

SOUND

The walk has a four-time evenly spaced beat: 1 - 2 - 3 - 4 - 1 - 2 - 3 - 4

IRREGULARITIES

An even, rhythmical, relaxed walk can be difficult to achieve. Tension, either physical or psychological, anticipation, rider influence, lameness, neurological problems or demanding too much collection too soon will result in a loss of regularity and rhythm of the footfalls, jogging or an uneven, incorrect walk.

Why walk

As a low-impact gait with a relatively low risk of repetitive strain injury, the benefits of walk are often underestimated. It is particularly good for:

- Warming up
- Suppling and mobilising spinal joints
- Improving spinal rotation and lateral flexion
- Improving stride length and joint range of movement
- Encouraging relaxation
- Improving muscular control and strength
- Introducing new exercises

As walk is low-impact, it has lower ground reaction forces than the faster paces. There is time for the loading of the bones, joints, tendons, ligaments, fascia and muscles. This makes walk the best gait for rehabilitation following soft-tissue injury, where slow and low loading is key.

THE HORSE'S MOVEMENT IN WALK



Walk over poles to improve pace regularity and leg coordination

“A good walk is the most difficult pace to achieve and the easiest to destroy”



PHOTO: PETER NIXON

A better walk

A good walk is the most difficult pace to achieve and the easiest to destroy, particularly with a young horse. Begin by establishing a good free walk, then medium, before asking for collected.

The quality of your horse's walk can be improved in the following four ways:

- 1 Encourage relaxation and confidence with plenty of free and extended walk on a long rein.
- 2 Ride regular transitions between medium and free walk on a long rein.
- 3 Work on concentration and coordination with lateral exercises such as leg-yield and shoulder-in.
- 4 Walk over poles to improve regularity and coordination.

Working the back

The different types of walks vary in stride length, speed, impulsion and

tempo. With no moment of suspension these are influenced by flexibility and range of movement in the hip joint, pelvis and back rather than by momentum. Of all the gaits, walk uses the greatest amount of rib movement and rotation through the back.

As the right fore and right hind come together (see picture 3, p74) the ribs swing to the left. As the right fore and right hind move away from each other (picture 5, p74) the ribs swing to the right. As the pelvis is fixed onto the sacrum at the sacroiliac joint, movement of the pelvis causes rotation and lateral flexion further forward in the back, directly underneath the saddle.

Contributing to athleticism and flexibility, walk is a superb gait to help release tension in the back and mobilise the thoracic and lumbar vertebrae.



The horse's ribcage will swing to the left as the right legs come together

TYPES OF WALK

A good walk displays even, active, rhythmical steps with impulsion. This is achieved through supple muscles, a swinging back and flexible joints. Energy is the final ingredient required for a good walk.

There are four types of walk recognised within dressage. The orders of footfalls of these walks remain the same.

Medium walk

This is an energetic regular walk with steps of moderate length and the horse working on the bit maintaining a light steady contact. The hind limbs over-track.

Collected walk (See pic right)

Of the four walks, the stride length is shortest in collected walk. This has higher short steps with the hind feet under-tracking the placement of the fore. The head and neck is arched and raised with the horse in self-carriage. The centre of mass is shifted further back and the hindquarters carry more weight.

Extended walk (See pic below)

In extended walk, the horse covers as much ground as possible without losing the regularity of the steps and while remaining on the bit. The entire frame is elongated with the over-track and stride length considerably increased.



Collected walk

Free walk

In free walk on a long rein, the horse is encouraged to lower and stretch out his head and neck. There should be increased swing through the back, ribcage and tail while he maintains a large over-track and good regularity of steps.

TROUBLESHOOTING: a lateral walk

A lateral walk is an irregular walk where the fore and hind limbs move almost on the same beat. Instead of moving correctly in a four-beat rhythmical sequence, they tend towards a two-beat pattern, with the inside hind and inside fore followed by the outside hind and outside fore. The beat will sound slightly irregular: 1-2—3-4—1-2—3-4.

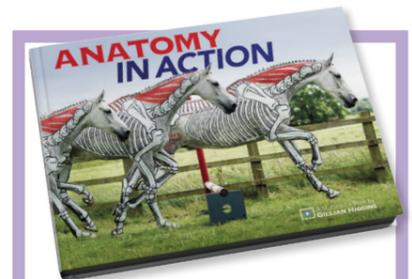
To help correct a lateral walk, encourage relaxation in free walk on a long rein, use both shoulder-in and a series of walk poles to regain the regularity of the steps. 📺



Extended walk



Watch Watch a video of the horse's skeleton moving in walk via [Horses Inside Out academy](https://www.horsesinsideout.com). Membership is free. [Horsesinsideout.com/member-dashboard](https://www.horsesinsideout.com/member-dashboard)



Anatomy In Action is Gillian's most adventurous project yet. It's a book plus detailed online biomechanics course in horse movement. There are 28-fold-out book pages along with 28 videos of the same movements with voice overs describing the biomechanics. It is available now at [HorsesInsideOut.com/aia](https://www.horsesinsideout.com/aia).