



The Importance of Tempo

"... in the author's opinion, it's one of the most important things for all horse riders to know..."

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The original of this article was written by BALANCE Co-founder Carol Brett. It was re-published, with her permission within the book 'The Horse's Voice - How Kind Can Horsemanship Become' by Keren E. Morris (available on Amazon) and is in Keren's opinion, is one of the most important things all horse riders should know...

If I asked you if tempo was important when riding, leading or working your horse, what would you say?

ON A SCALE OF 1-10, IF 1 WAS 'DON'T KNOW' AND 10 WAS 'ESSENTIAL', WHAT NUMBER WOULD YOU GIVE?

Many people would say it is important, but would they really know why?

Do you know what the definition of tempo is?

Many people get rhythm and tempo confused.

The definitions of rhythm and tempo in the Oxford English Dictionary are:

Rhythm is a strong, regular repeated pattern of movement or sound.

Tempo is the rate of some repeating event.

So in riding, rhythm is the regularity of the horse's footfalls.

If the dots below were footfalls and the spaces were the time between the footfalls, the footfalls on line 1 would be rhythmic, and so would those on lines 2 and 3. However, the footfalls on Line 4 are not.

- 1) ● ● ● ● ● ● ● ●
- 2) ●●●●●●●●●●●●●●●●●●
- 3) ● ● ● ● ● ● ● ●
- 4) ●● ●● ●● ●● ●● ●● ●● ●●

However, although the footfalls on Lines 1, 2 and 3 are rhythmic, they are a different tempo, as the spaces (time) between them are shorter or longer.

RECAP...

RHYTHM IS THE REGULARITY OF THE BEAT; TEMPO IS THE SPEED OF THE RHYTHM.

So, why is tempo so important? ...

In order for a joint to be able to go through its full range of motion (and the range of motion is not the same for every joint), muscles have to be in a healthy state.

In other words, the ability to contract and relax (release) is EQUAL.

A contracted muscle is hard/tight and strong, but it has little flexibility.

A relaxed (released) muscle allows flexibility, but has little strength.

When opposite sets of muscles (e.g. biceps/triceps of the human arm) can easily contract and relax/release, both strength and flexibility/suppleness are available.

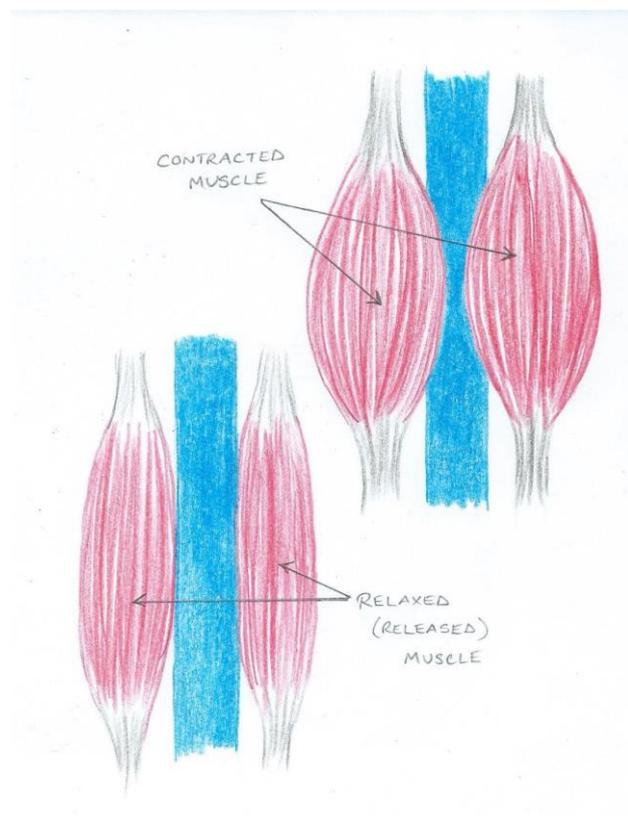
Muscles require two things, in order to function in a healthy, efficient way:

- 1) **Room (space) to move** e.g. when the long back muscles of the horse are constricted by a tight saddle, this affects muscle health and function.
- 2) **Time to move** e.g. time to go fully into the relaxed (released) phase between each contraction.

1) Room to Move

The shape of a muscle will change between the contracted and relaxed (release) phase. In a simplistic way, a contracted muscle is shorter and fatter; a relaxed (released) muscle is longer and thinner.

This causes the bones to move.



2. Time to move (i) Try this exercise:

Step 1.

Start to fully open and fully close your fist in a rhythmic way. Do this over and over and count out 1,2,1,2 as you do it.

Then stop and go to Time (ii).



2. Time (ii)

Repeat Step 1...

Then start to quicken the tempo, and close/open/close/open faster and faster and faster.

Notice that your hand no longer has the time to fully open (go into the relaxed/released phase) before the next contraction.

The muscles stay in a state of 'permanent semi contraction'.



If the tempo is too fast there is not enough time to go fully into the relaxed (released) phase of muscle activity between each contraction, so:

- 1) The muscles stay in a state of permanent semi-contraction
- 2) The joints are not able to go through their full range of motion (**so strides become shortened/restricted**)
- 3) Movement becomes less efficient. More effort is required and, as a consequence, the movement becomes less beautiful, and looks more laboured and/or distorted.

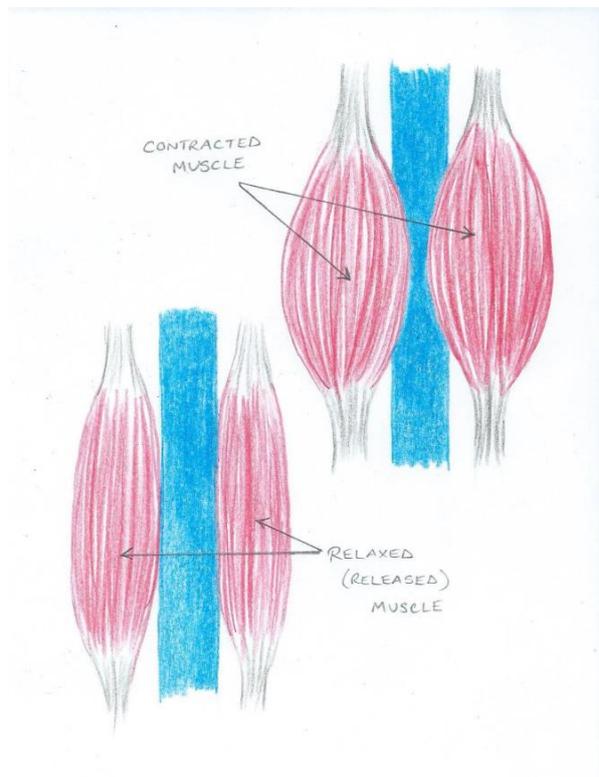
If a horse is walking in the wild and suddenly wants/needs to travel faster, he will not walk faster for any sustained period of time, instead he will move up to trot, canter or gallop. **When a horse is forced to walk at an unnaturally fast tempo, his posture and movement become distorted.** It is the same with humans, and this is particularly noticeable in 'walk-races' (where people walk at running

speed). If you have ever seen a 'walk race', you probably noticed that the athletes' movement looks unnatural and very inefficient. The same happens, albeit it to a lesser extent, when people habitually walk too quickly as a matter of course in their daily life. When a horse's natural paces have been distorted through being regularly forced into a tempo that is too fast, it often goes unnoticed, but once you start looking, you will start to see the strain and inefficiency displayed throughout the horse's body.

When the horse's muscles are in a state of permanent semi-contraction, the horse is said to be in a state of 'mechanical tension':

- **Mechanical tension usually causes mental/emotional tension**
- **Mental/emotional tension usually causes more physical tension.**
- **Tension affects almost every disease or condition of ill health**
- **It causes pain and muscle fatigue**
- **A muscle held in chronic tension uses up energy and leads to overall fatigue**
- **It restricts the freedom of movement**

Excessive tension can lead to many different diseases and conditions. It can cause pain in the muscle tissues and can constrict (restrict) the flow of blood and nutrients throughout the body, which are needed for a healthy metabolism. The pictures below show how when muscles are permanently contracted around blood vessels, they restrict blood flow and therefore cause 'poor circulation'.



Can you see how the blue blood vessel is constricted by the contracted muscle in the diagram-left?

However, rhythmic relaxation and contraction of the muscles (as with bio-mechanically correct movement, which occurs at the right tempo) **actually assists in blood circulation, so the heart does not have to work so hard.**

It is very hard for the heart to pump blood through constricted blood vessels.

A 'tight muscle' is just a muscle contraction that has failed to release. Reasons for this can vary, but consistently moving the body at tempo which is too fast, and consistently holding unnatural postures within the body are certainly very common causes.

The tight muscle can go into spasm, which is where a muscle becomes involuntarily fully-contracted. It can also go into a 'knot', which is where the full contraction of muscles becomes more permanent. 'Muscle knots' are painful for the horse, and can often be felt as lumps (of various sizes) in the muscles under the skin. Once muscle fibres have contracted into 'knots' it can be very difficult to get them to release and relax again, as micro-tearing of muscle tissue creates scar tissue. If left untreated, the muscle tissue will continue to lose elasticity and will cause stress to the whole body through subsequent distortions to posture that are hard to reverse.

Hot pads, cold pads, stretching, massage and acupuncture are all ways that are often suggested for dealing with this, **but the cause of the problem must be identified and remedied before there is any long-lasting relief of the condition.**

Chronic muscle tension in the horse also interferes with his ability to 'feel'. This can cause significant problems for the horse when it comes to interacting with human riders/trainers/handlers!

- **With reduced awareness of feeling, the body is more prone to injuries and disease.**
- **When daily movement is inefficient, the body becomes stiffer, joint mobility is reduced and balance is impaired.**



These two pictures were taken of the same horse, on the same day. The only difference was that in the **left-hand photo**, the tempo was too fast for the horse to fully relax/release his muscles between each contraction during movement; in the **right-hand photo**, the tempo allowed much more natural, bio-mechanically correct use of the muscles.

So, as a result of this strain to horse's structures and systems, common ridden problems caused by horses moving at the wrong tempo include:

- On forehand with hind legs disengaged and high head carriage
- Hollow back/tension through the back
- Overall tension, stiffness, problems with bending
- Loss of cadence/expression/beauty in the movement
- Spooking caused by feelings of vulnerability in the horse
- Erratic behaviour/movement
- Lack of ability to 'feel' and/or respond to rider's aids (sadly, many would say that the horse is "just being 'resistant'")!

So, if I asked you again if tempo was important when riding your horse, what would you say now? "ON A SCALE OF 1-10, IF 1 WAS 'DON'T KNOW' AND 10 WAS 'ESSENTIAL' WHAT NUMBER WOULD YOU GIVE? Would the number be different from the one you gave at the beginning?