



BALANCE...*helping people helping horses*

# The Importance of Tempo

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

Most people would say Yes, but would they really know why?

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

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 beat (or footfall of the horse).

We use the term footfall, but the foot falls to the ground because the body is in movement and the legs are going backwards and forwards to give that movement.



However, although the dots on Lines 1, 2 and 3 are rhythmic, they are a different tempo, as the spaces (pauses) 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?

First, a little understanding of how movement occurs is necessary.

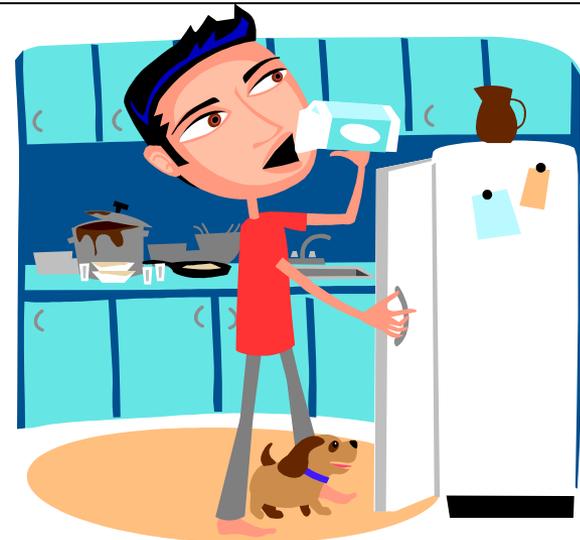
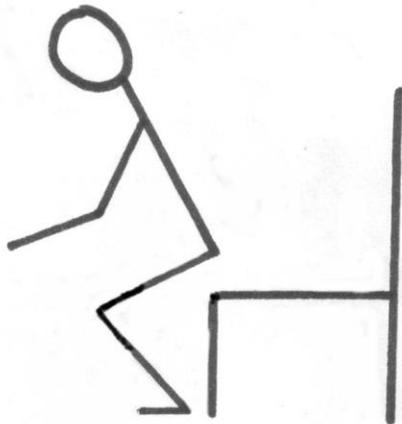
**The Motor Cortex** is a term that describes regions of the brain that are involved in the planning, control, and execution of voluntary movements.

You could think of it as the movement computer.

The Motor Cortex is stimulated by both inside (thought) and outside (sensory) stimuli.

Conscious (voluntary) movement in the human usually occurs as a result of an intention, e.g. stand up/sit down/get a drink etc.

The thought process that precedes the movement activates a response in the motor cortex.



What is generally described as 'training' the horse to respond to an aid or signal, is actually training the horse's motor cortex (his movement computer) to respond to an external stimulus (aid), usually a touch or sound, in order to give us a certain response.

E.g. the human has a thought that she wants her horse to trot. She uses a pressure signal on the horse's side that he has learned to respond to.

## **RECAP**

Whether the stimulus is internal (thought) or external (touch or sound/voice), a message then gets sent via the motor cortex to the muscles to tell them to either contract or cease contracting (release) and, as a result of that, the appropriate bones that the muscles are attached to (via tendons) move.

**MOVEMENT IS A NEURO-MUSCULAR-SKELETAL  
EVENT.**

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 has little flexibility.



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

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



Muscles need the following two things, in order to function in a healthy, efficient way. They are:

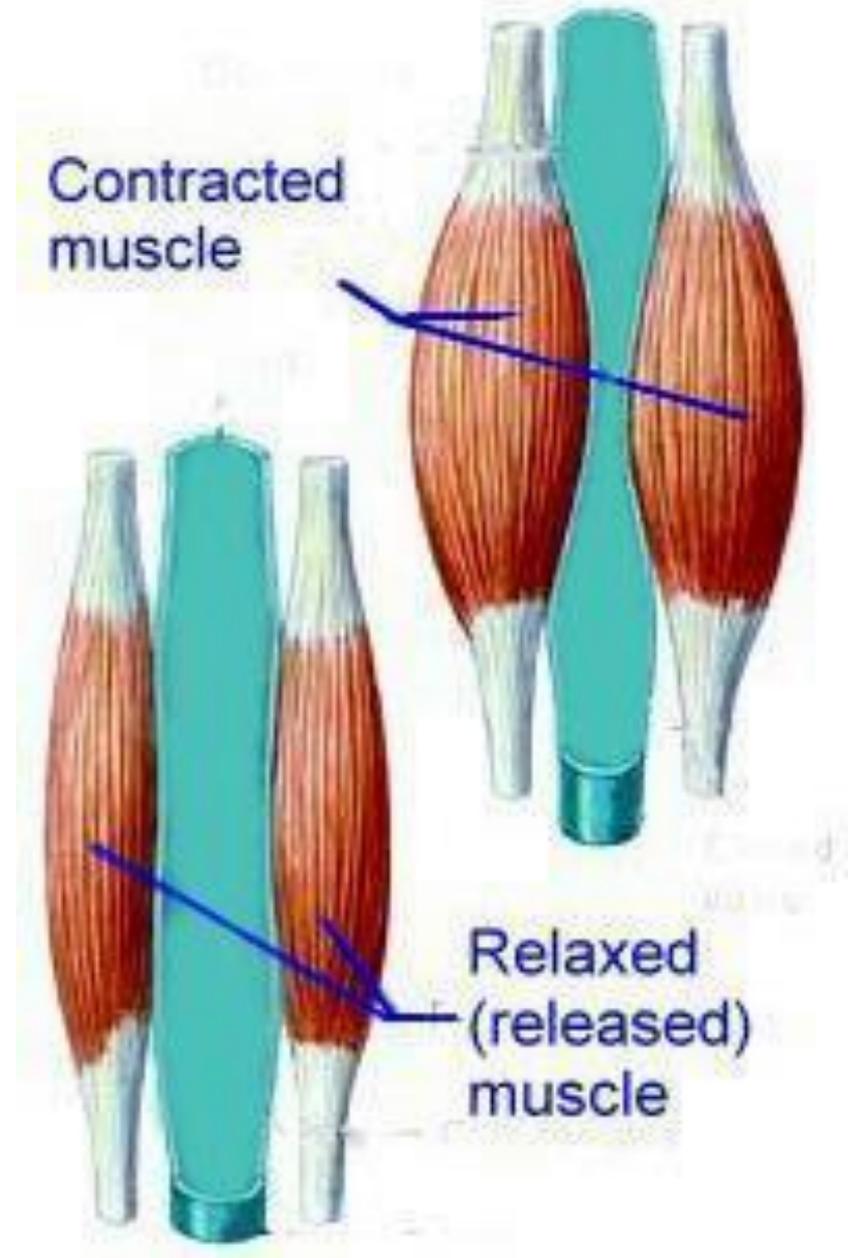
1. Room (space) to move, e.g. the long back muscles of the horse are often constricted by a tight saddle.
2. Time to move, e.g. time to go fully into the relaxed (released) phase between each contraction.

# 1. Room

Muscle shape changes 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.



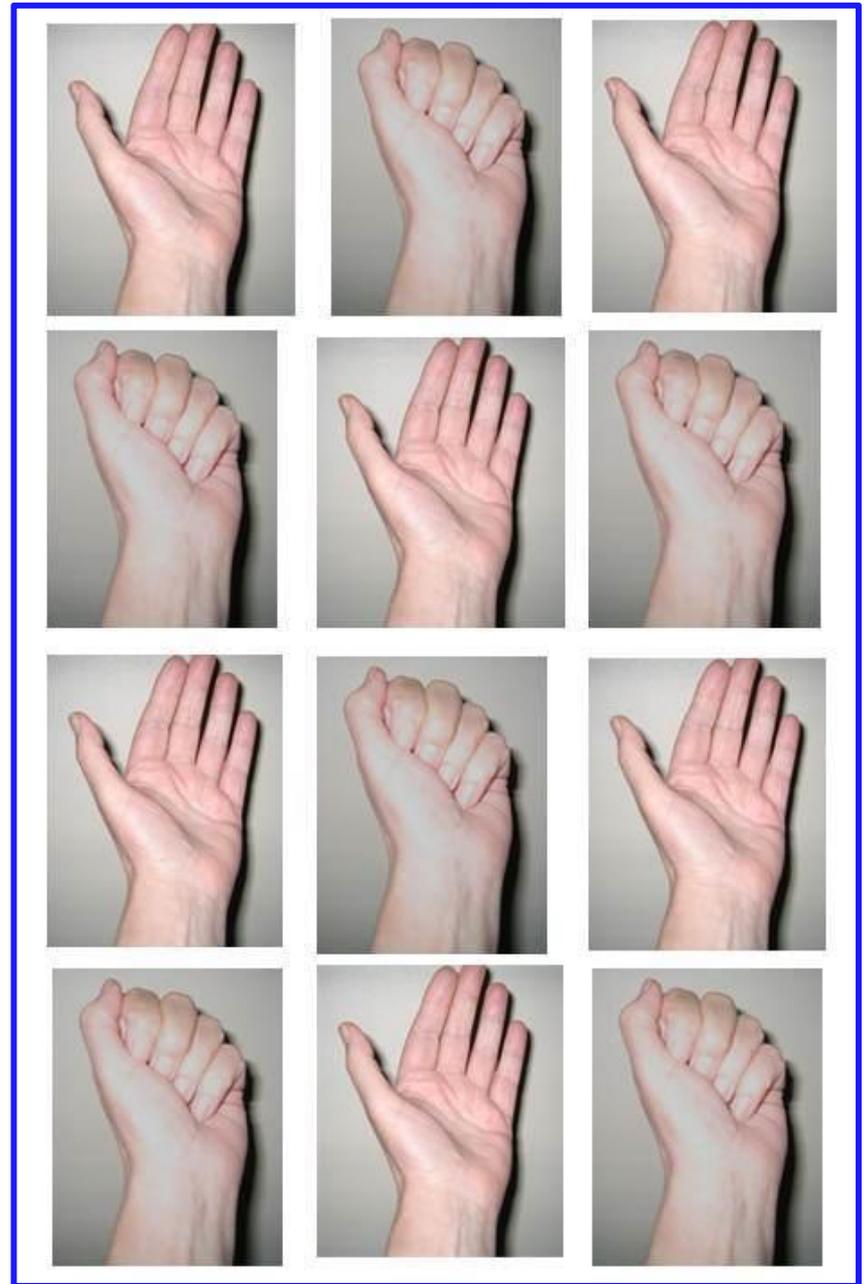
## **2. Time**

Try this exercise:

Step 1.

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

Then stop and go to next page.



## **2. Time**

Now 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).

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 the contraction.

So the muscles stay in a state of permanent semi contraction.

So the joints are not able to go through their full range of motion.

So movement becomes less efficient and more effort and, as a consequence, less beautiful.

When armies marched to war on foot the British regulation tempo was 110, as was the German.

This was considered efficient (not too slow, but not too fast either as no point arriving at the battle with an exhausted fighting force.)

Ceremonial marches, however have a tempo of 120 in the UK, with USA ceremonial marches having a tempo of 140 < 200.

At a ceremonial occasion, flamboyance is more important than efficiency.

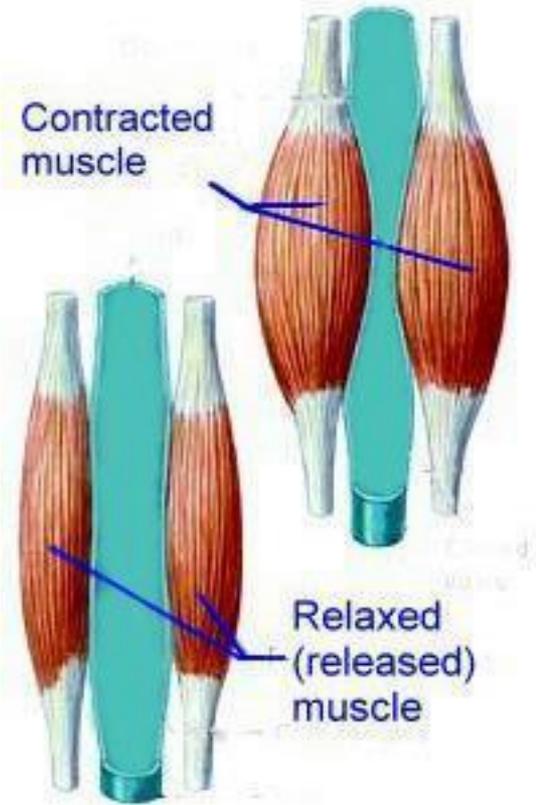
## **RECAP**

In the same way, when there is not enough time for the horse's muscles to fully relax (release) between each contraction, the muscles stay in a state of permanent semi contraction.

The horse is then in a state of mechanical tension.

- Mechanical tension usually causes mental/emotional tension.
- Mental/emotional tension usually causes physical tension. Tension affects almost every disease or condition of ill health.
- It causes pain and fatigue.
- A muscle held in chronic tension uses up energy and leads to muscle and 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 constrict the flow of blood and nutrients which are needed for healthy metabolism. When muscles stay contracted around blood vessels, it restricts blood flow and results in poor circulation.



See the blue blood vessel constricted by the contracted muscle in the diagram above. Rhythmic relaxation and contraction of the muscles assist 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 arteries.

A tight muscle is just a muscle contraction that fails to release for a reason and becomes a spasm or knot in the muscle.

Chronic muscle tension also interferes with the ability to feel, which is how we communicate and listen to our horses and how they communicate and listen to the trainer/rider.

Without an 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, balance is impaired.



These two pictures were taken of the same horse, on the same day. The only difference was that in the photo framed in red, the tempo was too fast for his state of balance; in the photo framed in blue, the tempo was correct for his state of balance.

Common problems caused by horses being ridden at the wrong tempo include:-

- On forehand
- Hind legs trailing
- Head up
- Back stiff
- Tense

OK, if I asked you again if tempo was important when riding 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?**

Would the number be different from the one you gave at the beginning of this presentation?

Thank you for taking the time to read this.