

Biofeedback is a new tool and you don't need expensive equipment to use it.

by Timmie Pollock

Riding is a very challenging sport. Not only do riders need strength, balance, coordination and good timing, we must also effectively manage emotions such as fear and anger.

Perhaps you suffer from competition anxiety, a common problem. At shows your thoughts race; you can't stop them or even slow them down. Your breathing is shallow, your chest feels tight; your heart pounds. You try to calm your breathing and to focus on your upcoming ride but every noise and movement distracts you. Your horse, sensing your nervousness, responds by getting uptight. Similar challenges happen at home as well.

Riders may turn to sport psychologists for help in these and other similar scenarios. Trained experts can help riders to overcome mental blocks and barriers to effective performance. Even if you've never seen a sport psychologist you've probably used or at least heard of the kinds of mental skills that can improve performance—techniques such as relaxation imagery, goal-setting, focus and concentration and positive self-talk. But even if you practice such methods under a professional's guidance it can be difficult to know when you are doing a mental skill correctly. What's more, under stress those carefully rehearsed skills have a way of evaporating, leaving you feeling almost as tense and out of control as you did before you started.

How do you change this frustrating situation?

The answer may very well be in one of the new areas becoming popular in sports training. Psychophysiological training with biofeedback has been successfully utilized by Canadian and German athletes, and is currently being used to prepare United States 2016 Olympic hopefuls at the various USOC training centers.

Intro to Biofeedback

Biofeedback, as its name suggests, gives users information about what is going on in their minds or bodies—information that normally they would not be able to obtain. Armed with this information, the user can learn to control various biological processes as well as to monitor mental and emotional states. After a user decides on an area for improvement, the biofeedback program guides him or her through the process of learning to make changes.

Biofeedback addresses physiological states related to stress responses in the body. By learning to control these physiological responses, stress and anxiety are better managed. Some of the equipment is designed to give feedback about muscle tension, brain wave activity and heart rate, for example.

The primary physiological factors addressed with biofeedback are muscle tension, focus, as measured by brain wave activity, and relaxation in general as measured by “heart rate variability” or HRV.

Muscle Activity (EMG), Heart Rate Variability (HRV), Neurofeedback, and Interactive Metronome are types of biofeedback being applied to sport performance.

Electromyography (EMG) is a fancy word for the process of measuring the electrical activity in a muscle. You can do a simplified version of muscle relaxation training at home without the expensive biofeedback equipment.

Begin by noticing what happens to you when you are focusing on something intensely. Do you clench your jaw; tighten shoulders, hands or any other muscle group? Compare this with how much muscle tension is present when you are relaxed. Then when you ride, notice if you are carrying excess tension anywhere when you are focusing on any particular task or movement.

Tensing the wrong muscles while riding can result in misapplied cues and timing problems, not to mention how uptight it might make some horses! Practice relaxing at will whenever you find any unnecessary tightening in your body both on and off the horse. In time you will get very good at maintaining relaxed muscles.

Heart rate variability (HRV) is another measure of physiological relaxation and focus. Relaxation

and optimal focus are important for high performance in any sport. Riding is no exception. When you are relaxed your heart rate speeds up very slightly when you inhale and slows a little when you exhale. This is not going to be possible to accurately measure without some type of biofeedback equipment, but fortunately there is a small, relatively inexpensive gadget that is well worth the investment. It is called the Em-Wave and can be bought online (less than \$200).

This is a great training device that could be bought and shared by you and your barn mates and I highly recommend doing so. It includes a program you can download to your computer for practice at home while you are learning. What I really love is that the basic unit is small, portable and you can actually ride with it (using an ear sensor) and can learn to maintain high heart rate variability while riding. Anyone who tends to be stressed, anxious or fearful—either in competition or in daily riding—can benefit from this training.

If you are not ready to invest in an Em-Wave yet, you can download a free app to your cell phone called “My Calm Beat” that teaches you the type of breathing associated with good HRV.

The following are two other types of biofeedback helpful to riders, but these must be done with professional guidance.

Neurofeedback

Neurofeedback is brainwave training and is one of the “big guns” of biofeedback. It is a computer-based program and is most commonly used in athletes to assess their brain response under stress. It is commonly used to train better attention and focus and is an approved non-medication treatment for ADD/ADHD. It works by changing the amount of slow brain wave activity associated with inattention. It is also used to help an overly active or anxious brain find a calmer state. Some of us are also using neurofeedback as an effective treatment for post-concussive syndrome and traumatic brain injury, which unfortunately are fairly common in the equestrian world.

Interactive Metronome

Timing and coordination are crucial skills for most athletes and different riding disciplines can have their own specific timing challenges. In riding, cues or aids typically work best when applied accurately. In particular, dressage riders need good rhythm, and accurate timing for

tempi changes, for example.

The Interactive Metronome (IM) is a computer-based therapy program that helps individuals to improve muscle control, coordination, attention and other specific abilities. Users practice timing and sequencing of motor patterns and actions in order to increase motor speed and the processing of information.

The IM can help if you have trouble with timing and coordination of aids, attention and focus under pressure, and recovery from head injury—to name a few benefits. It typically involves 15 hour-long sessions over three to five weeks. The Interactive Metronome training must be done under the direction of a skilled practitioner but if you believe you have difficulties with timing and coordination it will be well worth it to check this one out.

DIY Improvements

While some advanced biofeedback training will require professional guidance, you can train the basics of muscle tension regulation, relaxation and attention, on your own at home.

Here's how:

You will need a stimulating or mildly stressful activity such as Lumosity, or a challenging video game you can download and play on your cell phone or computer. Lumosity has a free version that will do just fine. To start with, just focus on muscle tension.

While you play and are intensely focusing, watch your body posture. Pay particular attention your muscles in your forehead, jaw, shoulders and hands. Do you tense up anywhere in particular?

Tensing your muscles does not usually help with focus and concentration. The trick is to develop an awareness of when and where you hold tension, and learn to release that tension at will. In addition to this exercise, practice paying attention and relaxing muscle groups as you go

April 2016 - Sports Psychology Tip: Mind & Body

Written by Timmie Pollock

Thursday, 31 March 2016 00:02

through your day. Driving is an excellent activity for this.

If you'd like to take training to a higher level, look into buying the Em-Wave for training good heart rate variability. Practice with the Em-Wave by itself until you can reach what's called high "heart rate coherence." This will train the deep, slow breathing necessary for the optimal state of relaxation with focus. The indicator light will turn blue, then green.

While hooked up to the Em-Wave, do Lumosity challenges or play your video game. When you can maintain good HRV and play with good focus you will have reached an optimal state for your best performance. The trick is to stay as physiologically relaxed as possible while doing a stimulating task. This is similar to what you should be doing while riding.

Next, ride while wearing the Em-Wave and see how you do. Can you maintain good HRV and ride? The more you practice staying physically relaxed, with calm, slowed breathing, the more mentally clear and focused you will be. This will quickly become second nature in your riding as well as in all other areas of your life!

Now get out there and ride!
