As we are finding out, the health and physical requirements for therapy horses have progressed from theories suggesting any old, broken down horse can seamlessly be retired to a life as a therapy animal to the realization that these horses are working athletes and need to be treated as such.

In order to safely participate in the treatment of people with disabilities, a therapy horse not only has to have the right “personality”, but it must be balanced and comfortable. While no horse is perfect and may need some sort of management to keep it sound and content, these animals require more advanced care than a good vaccination program to help them do their job correctly.

Being prey animals, horses tend to mask pain and “compensate until they can’t.” This is even more evident in the horses that are thought to be the best therapy animals as they tend to be the most forgiving with rider imbalance and willingly compensate to make up for any deficit in the patient. With this type of animal, by the time we actually see lameness or behavior issues, the initial problem starting the cascade of compensation had been going on for so long that treatment and return to full function could be questionable.

If we think about it in the terms of accomplished vs imbalanced riders: accomplished riders are beautiful to watch. They are well balanced, fluid and are able to help with propulsion and movement of a horse. In contrast, riders with poor balance can throw a horse’s normal cadence and range of motion off—especially in regard to how the back works. Compensation from imbalance will lead to early fatigue of tissue and overall discomfort in the horse. Fatigue of muscle tissue can then result in failure of the associated tendons, ligaments and joints. The associated discomfort then results in undesirable lameness and behavioral issues that can affect the long term ability of an animal to function in a therapy program. Lameness or bodywork specialists can be extremely helpful in assessing therapy horses for early signs of problems not obvious to most people and perhaps be instrumental in avoiding lameness and behavior issues in the first place. These specialists are trained to find sites of compensation in the horse so intervention can be enlisted early in the disease process and therefore, increase the chances of the horse maintaining full function as a therapy animal.

While diagnostics and therapeutic modalities can range from those involved with traditional veterinary lameness exams to an assessment of acupuncture points by a specialist, they all have use in keeping the therapy horse working in top shape. I personally use a combination of traditional veterinary medicine with motion palpation of spinal segments and trigger points. In
the lab, we will examine a "normal" horse and see if we can find any early sites of compensation that should be addressed and discuss how those findings could negatively affect the horse's abilities long term if not addressed.

**Evaluation in Lab:**

*General body condition:*

Ideal body condition makes it easier to fit tack properly. An animal that is either too fat, too thin or not muscled well will significantly increase its risk of developing pressure points and tissue fatigue. By not only evaluating a horse for proper weight, a general non-biased inspection may also point to problems with nutrition or general health that may require further investigation. As we all know, an essentially healthy horse has a shiny hair coat, plenty of toned muscling and a pleasant personality. A rough hair coat, crabby personality, abnormal fat deposits, lack of muscling or hoof wall rings could be early signs of an on-going disease process; in particular a stomach ulcer, nutritional deficit or early signs of insulin resistance.

*Gait evaluation:*

Straight-line walk/trot & backing and circle walk/trot—look for equal strides and muscling, no head bob/hip hike; look for rounded back and “Mae West” hips; no sign of tripping or ataxia

*Hands on evaluation:*

Eyes...uveitis or cataracts can affect balance and behavior

Oral exam... horses’ teeth continue to errupt their entire life and they grind them down by chewing. Factors like abnormal facial conformation or poor diet/sickness as foal may set horse up for dental pathology. Sharp molar points, hooks or waves can not only be very painful (lacerations, abscesses) but can affect balance via its interaction with the TMJ, the poll and surrounding tissues. Horses should have a dental evaluation at least once a year. Some horses need a yearly float and others do fine every few years, but make sure you have a highly qualified professional as taking too much tooth can be worse than not enough.

Spinal column.... We want to ensure all the vertebrae move if possible. When the joints between the vertebrae are healthy, they move smoothly and allow the arteries and the nerves exiting the spinal cord through the vertebrae to be healthy and functional. Degenerative vertebral joints can impact the health of the nerves exiting and therefore negatively affect the nervous function to the associated tissues (legs, GI tract, etc.).

Note: Interesting study in rats done by a group of human chiropractors (Cramer, Little, Henderson and Daley in 2007)—an immobile joint will start to form adhesions and degeneration in 1-4 weeks with arthritis present in 8 weeks. If we extrapolated to the horse, we could say that within in 2 months of a therapy horse’s back not moving properly or
compensating for tissue fatigue or discomfort, we could potentially have permanent damage to the back…. For which they will continue to compensate until they "can't" and a few months/years down the road, we have a horse that has to be removed from the program.

**Neck--most horses “cheat” during neck flexions. Make sure that all vertebrae bend to both sides (“cookie” stretch). Horses can compensate for neck stiffness for a long time without showing obvious problems, but it will negatively affect their fluidity of movement in the rest of the body.

**Thoracic vertebrae and rib-- when working well, this section of the spinal column will allow the horse to bend side to side; restrictions in the lower cervical and upper thoracics can negatively affect nerve supply to the front legs. For example: A soreness in the “withers” could affect the way the nerves to the deep digital flexors of the front leg fire. Abnormal firing pattern can cause weakness in the muscle of the deep digital flexor tendon which will in turn allow the heel to drop. Despite a good farrier, the hoof wall will show signs of chronic imbalance and result in heel pain and a long toe that can cause excessive tripping in the therapy horse.

**Lumbar vertebrae—when working well, healthy lumbar vertebra will allow rounding of the back for collection and provide elastic propulsion from the hind quarters. Problems with the lumbar spine can negatively affect the nervous supply and associated musculature of the hind legs. For example: soreness in the lower back can affect the way the nerves to a horse’s quadriceps fire. Abnormal firing of the quadriceps can negatively affect the way the patella “unlocks” and produce some hock and stifle soreness. The resultant lameness and discomfort, despite hock injections and NSAIDS, will inevitably affect the usefulness of a therapy horse long term.

**Pelvis/Sacrum—involves the joints that connect the spinal column to the hind legs. Pain in this region will definitely affect the way a horse carries itself and can cause further imbalance to the already unbalanced rider.

Other joints (legs): check for swelling and stiffness which could show early signs of misuse. Comparing one side to the other may be helpful if trying to determine if a particular finding is abnormal in most cases.

Feet: A whole separate lecture unto itself… Most feet are not the same from one side to the other—not a deal breaker, but need to make sure horse is comfortable and moving well. The main concern is having access to a farrier that is well versed in foot balance—not just snipping off the long parts and slapping a shoe on. Disregard to proper foot balance is a recipe for disaster by setting the horse up to land abnormally with resultant compensation not being noticeable until it may be too late to get the horse back to full function.