

## MATURITY IN HORSES AND MULES

By Marlene Quiring

Should we be riding 2-year-old horses or 3 and 4-year-old mules? How do we know when a horse or mule is physically ready to be ridden? These are just some of the questions that were asked of Outfitter, Tim Barton of Banff, Alberta. Tim has spent over 35 years working with mules and horses as a farrier, a packer, a guide and a teamster. He has a Bachelor of Science and Educational Degree and spent 20 years as an instructor of Equine and Comparative Anatomy at Olds College, Alberta, Canada. Tim owns and operates a remote mountain retreat "The Outpost at Warden Rock" bordering Banff National Park in the Alberta Rocky Mountains, west of Sundre. Over the years Tim has mainly used mules for packing, but now exclusively uses them for driving, hauling in supplies and guests over the nine rocky miles from the Big Horn Staging area into the "Outpost." The following article reflects Tim's thoughts on mules and horses and their using abilities relative to their mental and physical maturity.

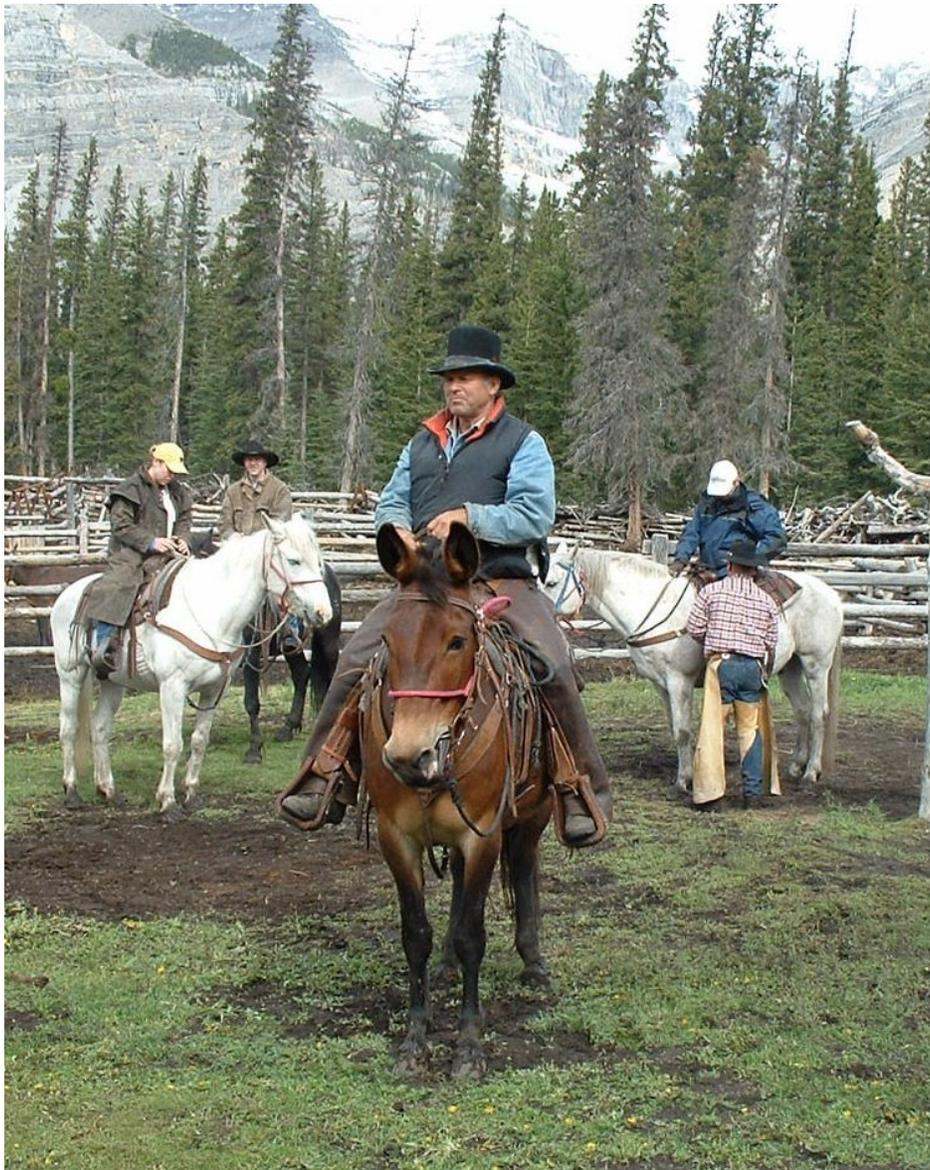
### WHY IS PHYSICAL MATURITY IMPORTANT?

Tim advises that in order to assess physical maturity in horses or mules we need to understand their skeletal system. Bones grow in diameter and length and can continue to grow well past the typical age at which most horses and mules are put into hard physical training. If extra weight is added to the skeletal frame at an early age, the epiphyseal or growth plates can become distorted and conformational problems can result.

Mules, donkeys and several horse breeds such as the Arabian are typically slow to mature. Tim cautions that these slower maturing breeds should not be ridden until 3 or 4 and any hard riding should be avoided until they're at least 5 or 6. These animals may look physically mature at age two or three but stressing their skeletal system before they are fully mature can have limiting consequences to their usefulness. In fact, some mules have kept growing in height until eight or nine years of age.



A few horse breeds can handle light riding as late 2 yr. olds but most should not be started until at least 3 and again not ridden hard until 4 or 5. A horse's biggest growth year is between one and two years while slower breeds like the mule, have their biggest growth between two and three years. Unfortunately, owners or trainers often push horses at a young age with no regard to the horse's long term usefulness. Most English disciplines recognize that horses are not ready for intense training and competition until they are physically mature but traditionally, western riders are in a hurry to train and compete, most times to the detriment of the horse.



Tim on his Mule Josie

Mules and breeds such as the Quarter horse tend towards a conformation where the front

end is lower than the hind end. As they grow the back end will go up and then the front end will try and catch up and this pattern repeats itself until the animal is physically mature. As long as that animal is lower in the front end than the back end [downhill conformation], gravity will work to pull the saddle/rider into the low spot behind the animal's shoulders, making it difficult for the animal to perform to his best ability. Some may experience enough discomfort and pain that they exhibit dangerous behavior such as bolting or bucking to get away from the pain. Mules and horses are not designed to carry excess weight on their front end. Why is this? Tim states that the muscles responsible for lifting the front end of the animal are attached to the hip area. Therefore, the farther the weight is carried from the hip, the greater the difficulty in carrying that weight. An animal with a low front end can only comfortably carry 100 to 120 lbs. while an animal with a more level conformation and correctly fitting tack, can usually comfortably carry someone twice that weight, day in and day out if need be.

When an immature animal does not yet have a firm bone structure, a lot of the other features in the body have to start taking up the slack. If these animals are stressed too hard while they're still very immature, they can suffer tremendous damage to muscles, ligaments and tendons resulting in conformational features such as lordosis [sway-backed] or scoliosis [deviation of the spine]. Putting too much weight on the bone structure can tear ligaments that aren't strong enough to hold the spinal column together. A "cold-backed animal can be the result of having to carry weight when the animal was physically not ready. Other parts of the anatomy have had to take up the slack while the bones were still maturing and likely the animal has experienced discomfort or pain as a result.

Carpal bones that make up the knee receive their blood supply through small ligaments that run from one bone to the next. This blood supply carries all the nutrients and material necessary for these bones to grow but the small size of the blood vessels limits this supply. As a result bones above and below the knee may mature more rapidly than the knee, resulting in what is often called "open knees."

Knees are considered "closed" when the growth of the knee has caught up. When you look at a side profile of the knee that still has an open knee, you will see an indentation where the bones haven't grown rapidly enough. Sometimes this feature happens in cross breeding through improper nicking of the genes. For example, breeding a Percheron mare to a light - boned jack can result in a mule with bones above and below the knee that belong to a Percheron and the knee bones from the jack.

Hoof trimming can often change conformation by affecting the epiphyseal plates. Unbalanced trimming can crush the plates on one side and allow them to grow on the other. Adverse conformation can result when you don't properly maintain the hoof. When the plates grow unevenly, knock-knees or other conformational features that aren't conducive to real athletic ability, can be the result.

An animal with poor conformation, whether accidental, inherited or caused by man, will be restricted in how much he can do versus another animal that is physically built to work better.



Izzy and Mattie on trail to Outpost

### **WHAT ABOUT MENTAL MATURITY?**

An animal is not ready to work until it is physically **and** mentally mature. If the animal starts hurting - with mules in particular being self-preservers - their temperament can change. In Tim Barton's line of business, temperament is critical in the animals he uses and can be affected by what the animal has been exposed to. If they've been constantly subjected to pain, or overworked, their temperament will change. A mule or horse in pain is not a willing worker.

While you're waiting for your horse or mule to mature, it's a good idea to spend your time on ground work including getting them socialized, desensitized to scary things that they may encounter later, and generally building a good foundation from the ground up. This foundation will pay off once your animal is ready for saddle or harness.

Mules and other slower maturing breeds need extra time to grow up mentally too. Allowing this time pays off in the long run. Horses can work up into their late 20's and mules into their late 30's if they haven't been hurt as youngsters by overstraining them

mentally or physically. Of course along with this goes good health care including good dental care. Tim believes that horses and mules don't die as much from old age as they do bad teeth, thus rendering them unable to eat properly.

### **HOW MUCH WEIGHT CAN THEY SAFELY CARRY?**

Tim cautions that you have to use common sense as far as how much weight an animal can carry. Some animals are maxed out at 150 lbs. of "live" weight, while others with better conformation and level, shorter, stronger backs can pack 250 lbs. of "dead" weight. However, they all have to be conditioned and in shape before you work them hard. You can have two animals that weigh 1400 lbs. with similar conformation and one is able to carry several 100 lb. propane bottles without bothering it and the other simply can't.

A common mistake that many people make is putting animals to work without getting them into shape first. For example, if you take an older fully mature animal for a 10-day trip into the mountains, you can break them down if they're not in shape. For sure you will hurt their back - people don't think about that but if you were to take on climbing a mountain without being in shape first, you will suffer, even more so if your boots are ill fitting and poorly designed for your feet. An animal that's out of shape and also forced to work with ill-fitting tack can suffer tremendously. Make sure that you give your animals enough exercise and work to get their backs in shape before you work them hard. They might have the best temperament and the physical structure but if you hurt them permanent changes can result. Once an animal has been in good condition, he's easier to bring back into shape.

### **HOW IMPORTANT IS TACK FIT?**

The biggest problem Tim sees when people are tacking up their animals, be it either saddle or pack saddle, is setting their saddles ***too far forward***. When an animal steps ahead, his shoulder blade's rotate backwards. When equipment is set ***on top*** of the shoulder blades, it causes a lot of irritation between the shoulder blades and the equipment. If the conformation of the animal leaves you no choice but to put weight on the shoulder blades, instead of putting 200 lbs. on that animal you need to put only 100 lbs. on him to minimize the damage. A lot of animals can become temperamental because their equipment is hurting them, not because they have a bad temperament to start with. That applies especially to mules being the self-preservers that they are.

Another thing to watch for as your animal is growing is that your equipment will have to change as the animal muscles up. In most cases it's unrealistic to be changing saddles constantly so we learn to adapt by using specially placed padding or modifying the tree. The fit of the saddle is terribly important to the working ability of your animal and so is the "position" of the saddle and equipment. The bars of the tree need to be the correct angle, shape and width to fit that individual animal's back.

Animals forced to pull weight in harness, especially on hilly terrain or at speed, can suffer very much from ill-fitting collars and improperly adjusted harness. Collars that are not properly fitted to the individual animal's neck and shoulder shape, or that are too

small or too big, could be compared to a hiker climbing a mountain with a back pack that is not properly fitted and balanced - you get the picture. Too many folks do not pay any or much attention to harness fit or to the weight distribution affected by the harness set up. The result can be an animal that refuses to work in harness anymore because of the pain and discomfort that he will no longer tolerate.

Very few mules or horses under the age of four are ready to really work or pull in harness. However while they are maturing, there is much groundwork to cover including the acceptance and proper fitting of harness and introduction to cart or wagon. Hooked in harness beside a well broke animal and driven lightly is the next step until the animal is physically and mentally mature to start working.

### **WHATS DIFFERENT ABOUT MULES?**

A horse will work for you until he kills himself, but a mule will work until he gets frustrated and quits. Tim claims that pound for pound a mule will outwork a horse if he's not being hurt. He says that because of economics, he can do things with mules that he just can't do with a horse. For example a mule will eat much less than a horse and still maintain itself. A mule can carry so much more weight than most horses can. Also, most people aren't aware of the fact that a lot of mules can learn to gait, whether they were raised out of a gaited horse or not. Most donkey jacks do a pacing gait and this influence is often passed onto the mule.

Mules tend to work off their front ends unlike horses that tend to work off their back ends. However mules can be taught to work off their back ends and once they learn, will do it naturally. Mules that lean toward gaiting or have been taught to gait will also then do it naturally. One-thing mules typically aren't is "quick starters". By that Tim says, that they are not generally quick to get going like most horses are. However again, if they are taught to work off their back ends, they are very athletic and can get that speed.

### **WHY CAN SOME ANIMALS COW KICK?**

How is it that mules and donkeys can cow kick and horses usually not? A horse has two basics ligaments that hold the hip socket together. One of these ligaments connects to a ball that holds the ligament into the hip socket. The other ligament called the accessory ligament, wraps around the outside and holds that bone from going out sideways. This accessory ligament is missing in a lot of mules so it doesn't restrict how much movement that bone can have. This is inherited from the donkey that does not have an accessory ligament. Thus donkeys and most mules have greater side movement with their back legs. One thing to watch out for is that they are more easily hurt on ice or anything slippery as they can seriously injure themselves if they do the splits.

### **TO SUM IT UP!**

Individuals within all breeds mature at different rates depending on genetics and nutrition. If the animal is stressed before it is mature, it can be physically and mentally

damaged.

Conformational changes will occur as the animal tries to alleviate pain. This can severely hamper the animal's abilities in the future and shorten its useful years.

A horse or mule that is allowed to fully mature physically and mentally before being subjected to hard work, will repay you with a much longer working life than one that is started too young, often suffering irreversible damage to mind and body. For Tim Barton, it pays to give his animals that extra year or two or more to mature before they settle into earning their keep at "the Outpost at Warden Rock."



*Tim and his partner Julie spend their summers running their wilderness guest ranch in the mountains west of Sundre, AB. They can be reached at 1-877-762-276 or [www.outpostatwardenrock.com](http://www.outpostatwardenrock.com) Tim has a DVD on "Conformation, Saddle and Tack Fitting", which can be ordered from his site.*

*[Marlene lives near Ponoka, Alberta with her husband Roy. They share their life with several mules and horses. Marlene has been a long time mule fancier having raised mules for many years.]*