WHEN IS A HORSE, MULE OR DONKEY READY TO RIDE?

Many owners and horse trainers are in a rush to be riding 2 yr. olds and even younger in order to be ready for the many paying classes that horse events and shows offer for youngsters. Some are driven to win because it is necessary for their living.

Unfortunately, the horse [mule or donkey] pays the price of such early ‘’training’’. Many of these animals are physically hurt by too much pressure, physical and mental at an age when their minds are not matured and their bodies are still growing. Bones have NOT fused and muscles and ligaments are stretched and damaged. Quite a few are lame before they even hit maturity.

After reading the information below, you may want to reconsider spending much time getting on that 2 or 3 yr. old mule or donkey!! If you want your longears to have a long, healthy life you might consider the physical damage that you are risking by asking them to carry or pull heavy weight when they are still physically and mentally growing. It is not unusual for mules to grow until 8 or 9 years old!

Dr. Deb Bennett is known as an authority on the classification, evolution, anatomy, and biomechanics of fossil and living horses. Her research interests also include the history of domestication and of individual horse breeds. When she talks about horses, we need only to substitute that with ‘’mule ‘’ or donkey’’ and also remember that both the mule and the donkey mature even slower than the horse! The following are excerpts from what Dr. Deb Bennett has to say on maturity in stock

"Owners and trainers need to realize there's a definite, easy-to-remember schedule of fusion - and then make their decision as to when to ride the horse based on that rather than on the external appearance of the horse.’’

Deb states there are some breeds of horse - the Quarter Horse is the premier among these - which have been bred in such a manner as to LOOK mature long before they actually ARE mature. This puts these horses in jeopardy from people who are either ignorant of the closure schedule, or more interested in their own schedule (for futurities or other competitions) than they are in the welfare of the animal.

Dr. Bennett explains that the process of fusion goes from the bottom up. In other words, the lower down toward the hoofs you look, the earlier the growth plates will have fused; and the higher up toward the animal's back you look, the later. The growth plate at the top of the coffin bone (the most distal bone of the limb) is fused at birth. What this means is that the coffin bones get no TALLER after birth (they get much larger around, though, by another mechanism). That's the first one. In order after that:

2. Short pastern - top & bottom between birth and 6 mos.  
3. Long pastern - top & bottom between 6 mos. And 1 yr.  
4. Cannon bone - top & bottom between 8 mos. And 1.5 yrs.  
5. Small bones of knee - top & bottom on each, between 1.5 and 2.5 yrs.  
6. Bottom of radius-ulna - between 2 and 2.5 yrs.  
7. Weight-bearing portion of glenoid notch at top of radius - between 2.5 and 3 yrs.  
8. Humerus - top & bottom, between 3 and 3.5 yrs.  
9. Scapula - glenoid or bottom (weight-bearing) portion - between 3.5 and 4 yrs.  
10. Hindlimb - lower portions same as forelimb  
11. Hock - this joint is "late" for as low down as it is; growth plates on the tibial & fibular tarsals don't fuse until the animal is four (so the hocks are a known "weak point" - even the 18th-century literature warns against driving young horses in plow or other deep or sticky footing, or jumping them up into a heavy load, for danger of spraining their hocks)  
12. Tibia - top & bottom, between 2.5 and 3 yrs.  
13. Femur - bottom, between 3 and 3.5 yrs.; neck, between 3.5 and 4 yrs.; major and 3rd trochanters, between 3 and 3.5 yrs.  
14. Pelvis - growth plates on the points of hip, peak of croup (tubera sacrale), and points of buttock (tuber ischii), between 3 and 4 yrs.

And what do you think is last? The vertebral column, of course. A normal horse has 32 vertebrae between the back of the skull and the root of the dock, and there are several growth plates on each one, the most important of which is the one capping the centrum.

These do not fuse until the horse is at least 5 1/2 years old (and this figure applies to a small-sized, scrubby, range-raised mare. The taller your horse and the longer its neck, the later full fusion will occur. And for a male - is this a surprise? -- You add six months. So, for example, a 17-hand TB or Saddlebred or WB gelding may not be fully mature until his 8th year - something that owners of such individuals have often told me that they "suspected."

The lateness of vertebral "closure" is most significant for two reasons.  
One: in no limb are there 32 growth plates!  
Two: The growth plates in the limbs are (more or less) oriented perpendicular to the stress of the load passing through them, while those of the vertebral chain are oriented parallel to weight placed upon the horse's back.

Bottom line: you can sprain a horse's back (i.e., displace the vertebral growth plates) a lot more easily than you can sprain those located in the limbs.

And here's another little fact: within the chain of vertebrae, the last to fully "close" are those at the base of the animal's neck (that's why the long-necked individual may go past 6 yrs. to achieve full maturity). So you also have to be careful - very careful - not to yank the neck around on your young horse, or get him in any situation where he strains his neck."