A Publication of Alpha Omega Institute

March-April 2012

The Amazing Leg of a Horse*

by Lanny and Marilyn Johnson

Have you ever jumped on a pogo stick? When you take hold of the pole on a pogo stick and push down or jump on its foot rests, a strong spring is pushed down. This spring is storing energy. As the pole gets to the bottom of the stick, the spring releases that stored energy and hurls or launches you and the pogo stick up into the air like a catapult.

Scientists have known for some time that legs on fleas and grasshoppers work very much like a pogo stick, allowing them to jump great distances. Now they have discovered a large animal that has a catapult system – the horse.

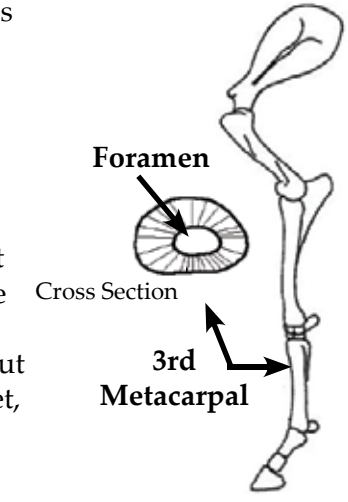
As a galloping horse's legs and feet land, the shoulder bends forward and the knee (carpus) locks straight. This stretches 2 foot (60 cm) long very elastic tendons. The knee then folds, and the stored energy in the tendons flick the leg forward off of the ground, ready for the next gallop. The amazing designed stretchiness of these tendons works very well, releasing most (93%) of their stored energy. The 7% of energy that is not used to launch the leg forward is given off as heat.

As a horse thunders along, its feet pounding the ground, strong vibrations shoot through its legs and tendons. Normally, these vibrations would cause fatigue damage in the thin stretchy tendons. However, some very short, ¼ inch (6mm) muscles that connect the tendons act as dampers or shock absorbers, softening the vibrations. These muscles are very important, because if the tendons had to also act as dampers, they would not be as springy, so would build up extra heat, which would in turn damage the tendons.

Evolutionary scientists guessed that these muscles were left over parts from "horse evolution" and were useless or had no purpose in the horse of today. As you can see, these scientists were wrong … we now know that these muscles are very important and are not useless at all.

Some evolutionary scientists also guess that the chestnuts on horse legs are left over toes from the evolutionary idea of the first horse, a little creature named Eohippus. Eohippus was about the size of a small dog, and had 4 toes on the front foot and 3 toes on the back foot. They teach that the 1 toed horses living today no longer needed those extra toes, so one of the toes - a chestnut - is left over and useless. Hmm … as before, maybe we just have not yet discovered what God's design was for the chestnut!

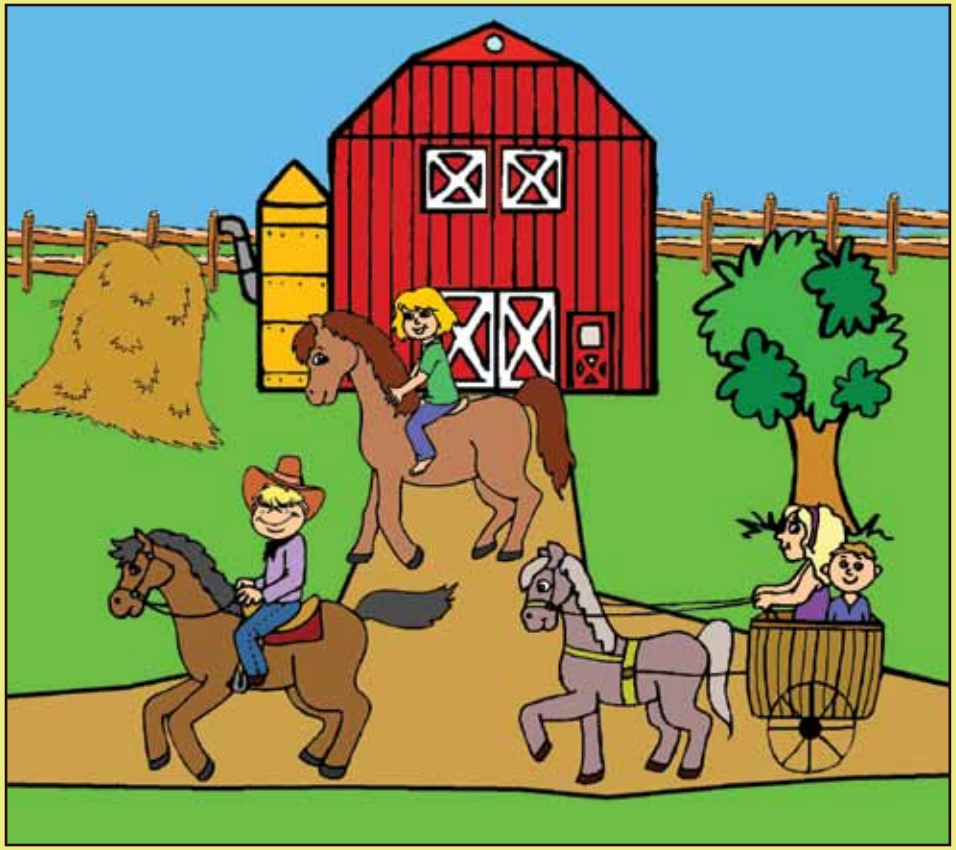
There is still another amazing design in the leg of a horse. A horse's small shin bone (third metacarpal) is just below the front knee. These bones are only about the size of our wrist bones, yet they carry the whole weight of the horse. As a horse gallops along, a lot of pressure and force is put on these shin bones. Yet, the bones don't break!

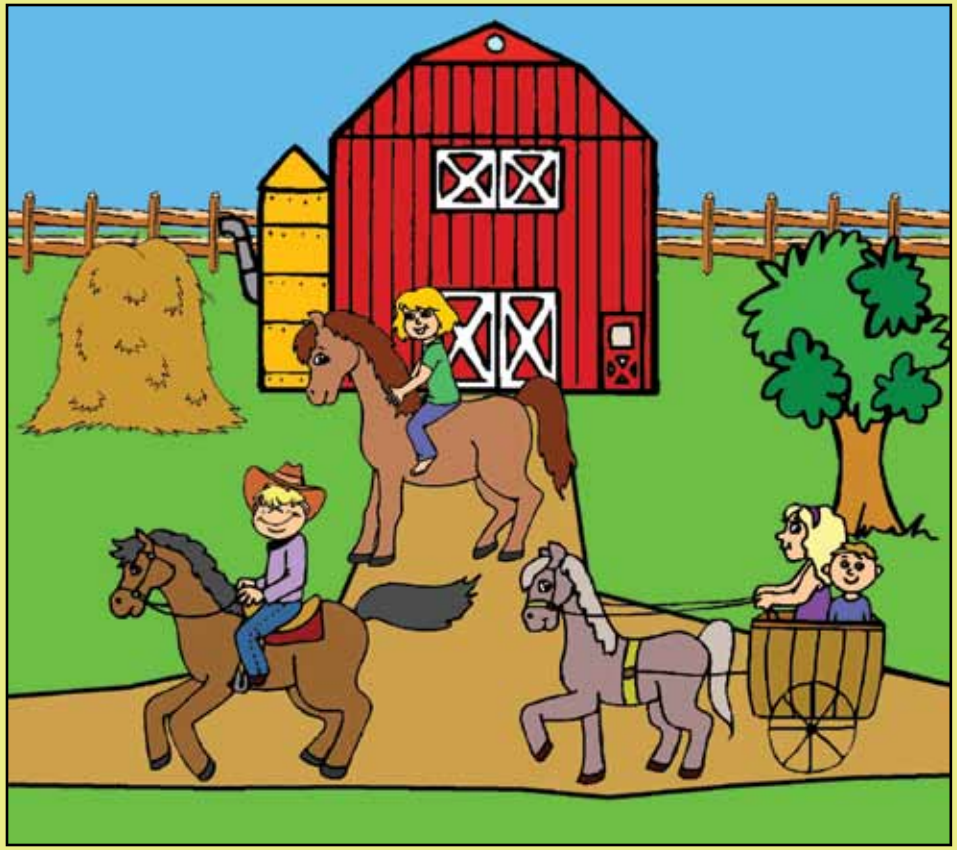


These shin bones are strong because of a special design. They have a hole (foramen) running right through them. Now you might be thinking that a hole in the bone would make it weak. However, the elliptical (oval-shaped or egg-shaped) foramen is made so that it directs the stress away from the hole towards stronger leg bones, making the shin very strong. Because of the elliptical shape, if the shin does fracture or break, it will normally break along the bone, not across it.

Could the chance and accidents of evolution ever come up with the special designs found in the legs of a horse? No! Design does not come about by accidents, but by an intelligent designer. That designer is God, and from His designs, you can see that He is very intelligent … a super engineer! Read Job 39:19-25 to see what God says about the horse – He is the one who made it!

*(Information for this article found in: [Don De Young, "A Hole in the Design Argument". *Answers Magazine*, April-June 2010, pp.36-37] [Jonathan Sarfati, "Horse legs: the special catapult mechanism", *Creation* 25(4):36, September 2003] [Jonathan Sarfati, "Useless horse body parts? No way!", *Creation* 24(3): 24-25, June 2002])





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Find the 20 differences between the 2 pictures above

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Kid's Think & Believe Too is published bi-monthly by Alpha Omega Institute, P.O. Box 4343, Grand Junction, CO, 81502. Editors: Lanny and Marilyn Johnson.