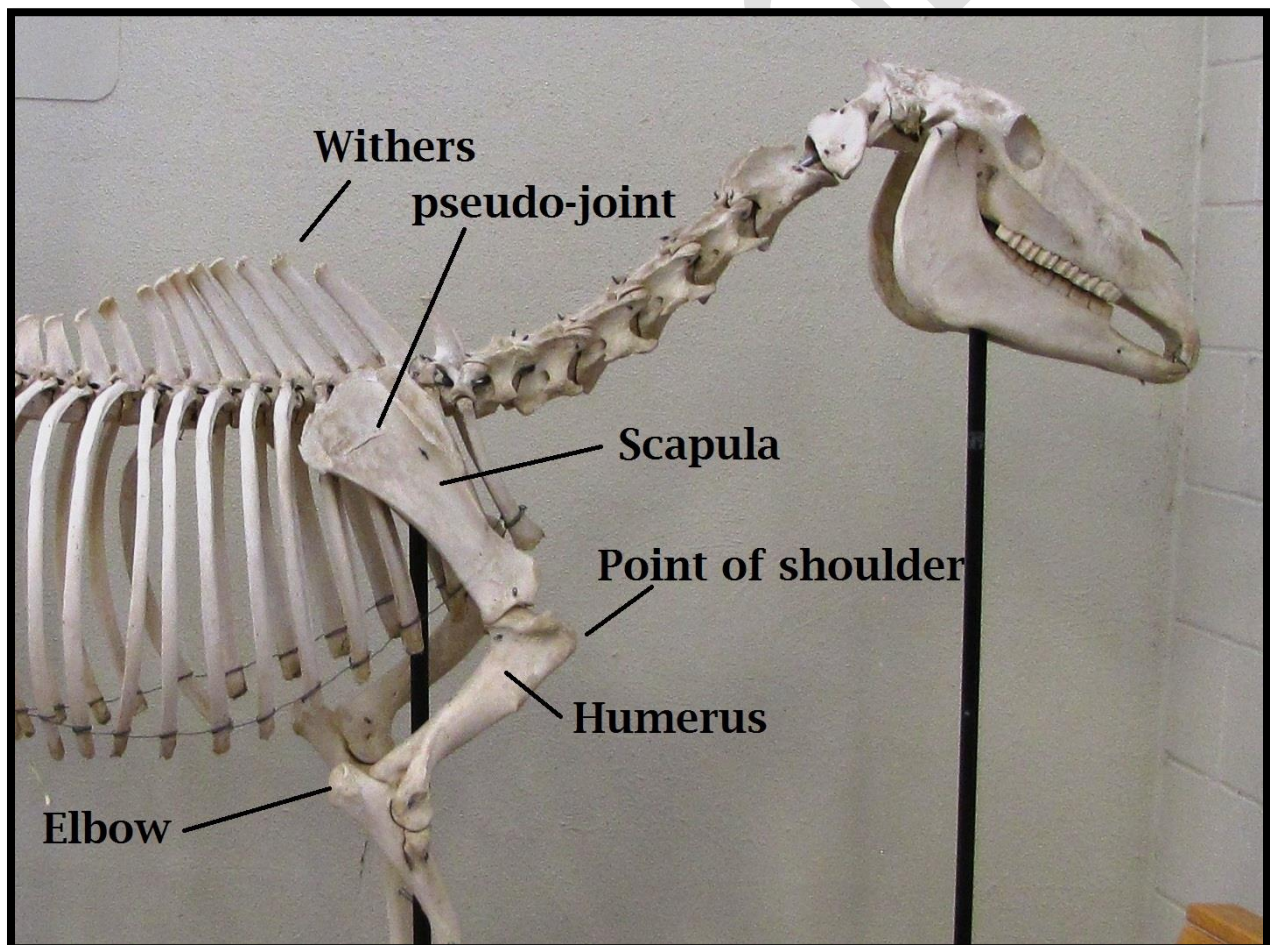




The Shoulder: Out of sight, Out of mind

It turns out that confusion or glazed eyes are understandable when it comes to an equine shoulder. The elegant exterior that we see every day belies the complex mechanics underneath. Yet at some point we eventually are forced to learn a little more about those complex mechanics, whether it's because we're buying a new pony for breeding, a new saddle, a harness, or pondering switching from a breast-strap to a neck-collar harness. Hopefully it's for one of those reasons and not because a sore or injury has manifested.

We all understand enough anatomy to know that bodies have bones, muscles (and other connective tissue), and nerves. The shoulder indeed has each of these, but from there things get a little more complicated because the word shoulder doesn't commonly refer to just a bone or just a muscle or even just a joint. The word shoulder typically refers to the collection of these things found in the general vicinity of the front of the animal. To understand the shoulder and ultimately the movement it allows, then, we need to understand the many component parts and how they all work together.



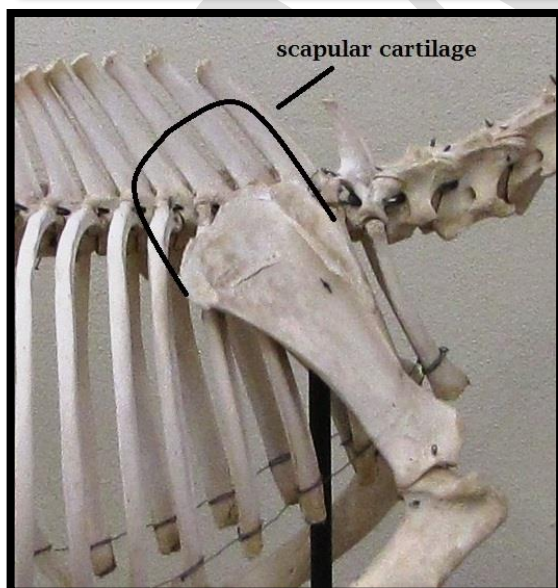
The most internal parts of the shoulder are of course the bones. It turns out that there are two bones, two joints, and one pseudo-joint that are important to how a pony moves. The scapula (or shoulder blade) and humerus (or arm bone) are the principle bones of the shoulder. While not strictly part of the



shoulder, visually the withers are another important set of bones because they serve as a reference point. You can see in the photograph of the skeleton that the withers are actually the bony upward extensions of the vertebra. The elbow, also not strictly part of the shoulder, is a critical landmark for understanding shoulder function, despite it being at the end of the forearm. We will return to the relationship of the scapula and humerus to movement in a future article. The angles between the scapula, humerus, and forearm and their impact on movement will also be covered in a future article.



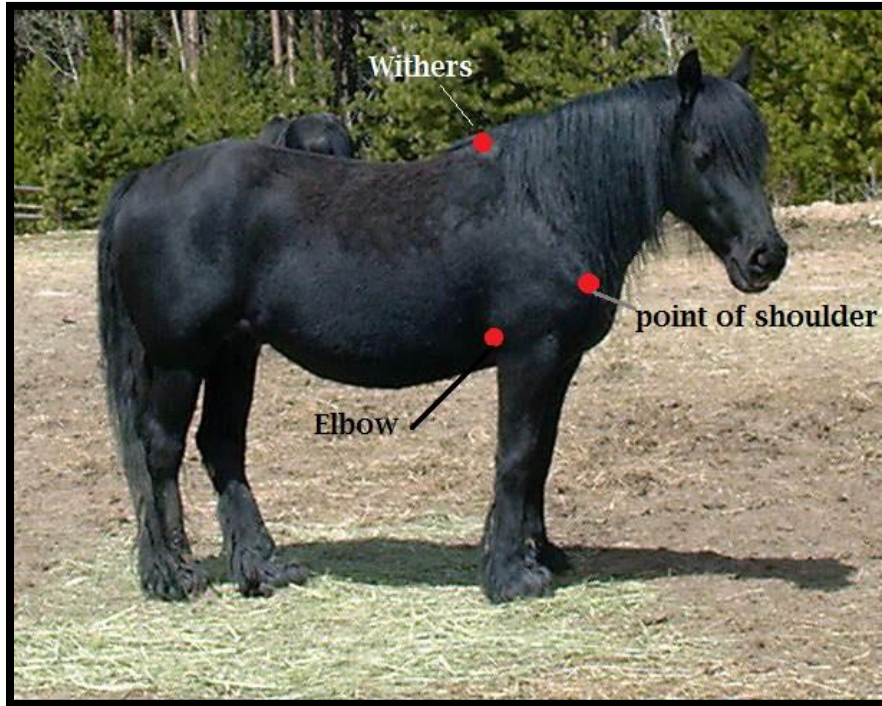
Equines are unlike humans in that the upper end of their scapula isn't fixed in place (ours ties into the collar bone). It's often a surprise to learn that indeed the front legs of an equine are only attached to the rest of the equine's body via a sling of muscles. As riders we can be thankful for this, as this sling of muscles helps to reduce the concussion of the front feet hitting the ground. The scapula at the withers end, then, is able to move up and down, back and forth and even rotate slightly because it is a pseudo joint, not a true joint. This mobility of the scapula contributes to the equine's style of movement.



You may have looked at the skeleton pictured here and noted the large distance between the top of the withers and the top of the scapula. Perhaps you thought that didn't resemble any equine you've ever seen. You're right; the reason is that the scapula is capped with a large piece of cartilage at the withers end, and that is what you are feeling when you palpate near the withers. The cartilage serves to increase the area to which muscles can attach. It extends towards the withers roughly half the width of the head of the scapula. The additional muscle mass in this area creates the smooth outline we're accustomed to seeing and feeling as well as giving strength to the 'joint.'



The Shoulder: Inside Out



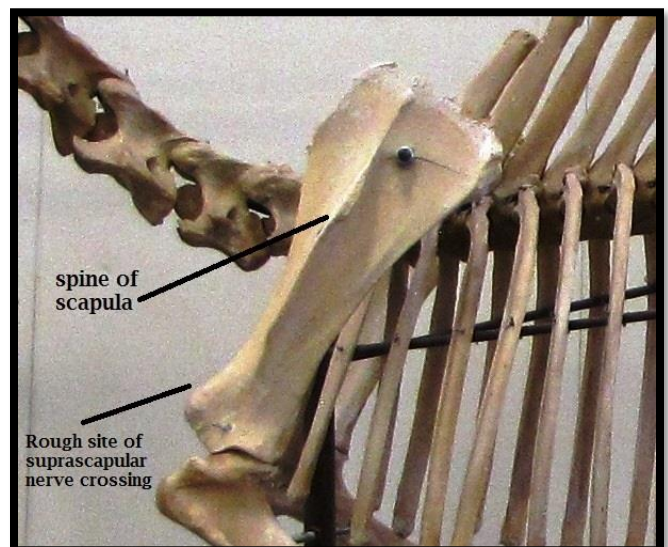
We can of course feel some of the bones in the shoulder area through our pony's skin. For instance, the withers are typically prominent, though on some ponies they can be quite low. And we may be able to feel the outline of the scapula or shoulder blade, especially at the withers end. In other places it may be sufficiently covered with muscle to be hard to find. The point of the shoulder is palpable, as is the elbow (the uppermost part of the upper bone of the foreleg). If you haven't ever felt for these

features on your pony, I highly recommend you do so.

If you regularly ride in a saddle, then you need to know where the scapula is to stay out of its way with the bars and sometimes even the skirting of the saddle. If your harness has a saddle, then you also need to know where the scapula is to make sure the harness saddle isn't interfering with it. (To see a nice drawing of a scapula placed over a typical saddle horse, [click here](#).) Remember, of course, that the scapula isn't fixed in place. Often proper saddle fit results in placing the saddle further back than we're accustomed to.

If you use a neck-collar-style harness, a particular characteristic of the scapula is important: its spine. The spine of the scapula serves to define the beds for two important muscles. You can imagine, though, that a collar needs to sit forward of, not on, the spine for the comfort of your pony; otherwise important tissues in this area will be pinched between the collar and the scapular spine. On many ponies, especially older ones or ones that are thin, it's possible to feel the spine of the scapula through the skin. It's worth exploring this area on your pony and finding the spine.

Have you ever heard of 'sweeney'? The term conjures for me a draft collar, but the term for most





people refers to front end lameness and atrophy of the muscles overlaying the scapula due to injury of the suprascapular nerve. When real horsepower was the dominant power source for the world, sweeney was predominantly seen in harness horses because of ill-fitting collars. In modern times, sweeney is often seen in polo ponies due to colliding and is seen in horses suffering traumatic injury to the point of the shoulder due to running into fences, gates, or trees. The photo of the scapula points to the rough point that the nerve crosses from the underside to the upper side of the scapula. If ever there was a design flaw in the form of an equine, the placement of this nerve would certainly qualify! Sweeney is usually difficult to fully recover from; [click here](#) and scroll down to the post dated July 16, 2011 to read a story about a pony who recovered thanks to diligent therapy.