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The stifle joint in the horse

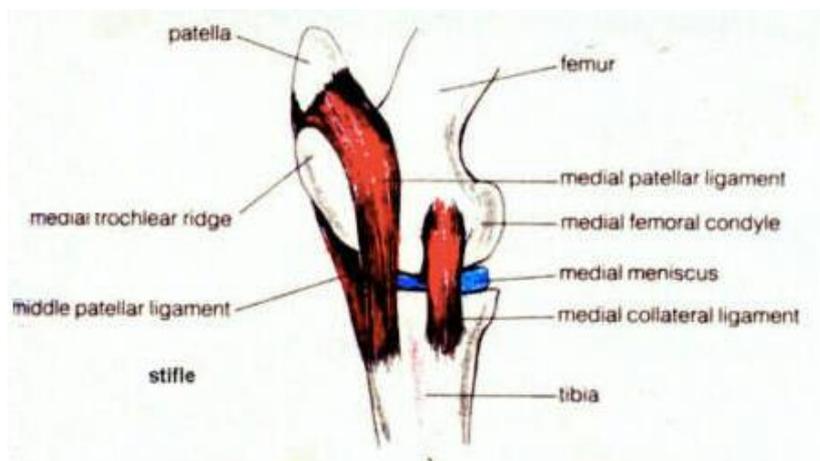
The stifle joint is the equivalent to the human knee joint. In the horse it is made of 2 joints- the femeropatella joint where the large femur bone meets the patella and the femerotibial joint where the femur meets the tibia. The femerotibial joint is split into 2 compartments- the medial (inside) and lateral (outside).

In the majority of horses the medial femerotibial joint and the femeropatella joint communicate and the lateral femerotibial joint does not communicate with either. However, there is individual variation to this rule.

The stifle is part of the stay apparatus in the hind limb. This allows horses to passively stand with minimal muscular effort. In the stifle the patella is able to move upwards and inwards from its normal position where it locks and prevents further flexion of the stifle joint. To unlock the patella and return it to its normal position the horse shifts its weight to the other leg and contracts its quadriceps. In some horses this unlocking mechanism can be slow or fail temporarily resulting in 'locking stifle'. This is rarely a problem for the horse but can be very alarming as an owner and can warrant investigations. Please see our 'Intermittent upward fixation of the patella' document for more information on this condition.

Often when a stifle joint has an acute or chronic injury the body responds by increasing the volume of joint fluid within the stifle joint which we can palpate as an effusion of the joint.

If we are suspicious a lameness is due to pain within this joint we may recommend blocking the joint which requires a large volume of local anaesthetic to be injected into the 3 compartments of the stifle joint.



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If we have localised the lameness to a horse's stifle joint it's important we image the joint with a combination of radiographs, to assess the bone structures, and ultrasonography to assess the soft tissues. It is important we use both imaging modalities in most cases as the stifle joint is made up of lots of soft tissues as well as the main bones discussed above.

Sudden onset stifle lameness is most commonly due to an injury to one of the soft tissue structures. There are several ligaments which act to stabilise the joint, as well as the shock absorbing pads, menisci, which sit between the tibia and femur. These structures can become inflamed and even tear causing lameness.

More chronic low-grade lameness is most commonly due to osteoarthritis. This results from wear and tear in the joint causing damage to the cartilage which covers the ends of the bones. We can see characteristic, sometimes subtle changes on radiographs which confirm this diagnosis. In these cases, ultrasound scan will give us information on how inflamed the joint is, which helps us target our treatment.

Because the stifle joint can be difficult to fully evaluate on imaging we sometimes recommend arthroscopy to determine a definitive diagnosis. This keyhole surgery allows us to evaluate the internal joint structures and treat certain conditions such as osteochondritis dissecans (OCD).

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