

Joints and Joint Disease

Words by Matt Hanks BVSc MRCVS from Central Equine Vets

Every time we move, we utilise a clever piece of biological technology called a 'joint'. The joint is unusual in that it creates its own microenvironment, separate from the rest of the body.

The diagram shows a representation of a joint. You can see the bone covered in cartilage, which is the part that actually does the moving, and is slippery with little friction. Surrounding this is the synovium (also known as synovial membrane) which secretes clear joint fluid. This is like oil that protects and lubricates the joint. Surrounding the synovium we have the joint capsule to keep this environment separate. Thickened regions in the joint capsule are called ligaments and they keep the bones together.

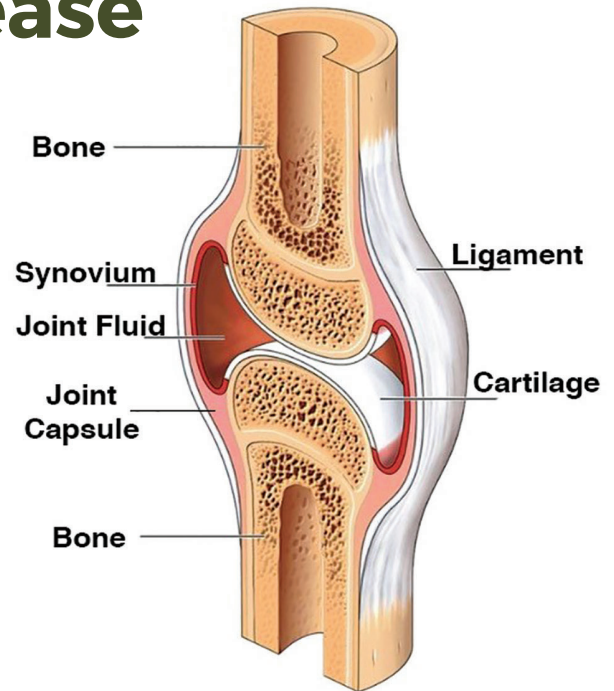
This system works very well until some damage occurs. When the cartilage is damaged either through wear and tear or trauma, this causes pain. The bone under the cartilage is very sensitive and any abnormal loading or contact can lead to excruciating pain in some cases.

When the joint is inflamed we call it 'arthritis' and there are a few different types but basically the end result is the same, damage to cartilage. The diagram shows the cycle of arthritis. Mechanical factors cause the synovium to become inflamed, leading to less lubrication and eventually leading to cartilage breakdown. At the same time, enzymes are released which further damage the cartilage. Once the process has started, it cannot be reversed. Treatment is aimed at slowing the cycle of cartilage damage and controlling the pain that is associated with the

damage, but specific equine research is still lacking and this lack of research often drives the need to extrapolate from other species, such as humans, on the class of substance to use, specific compound within a class (e.g. corticosteroid), dose, and frequency of administration. The equine vet is often left to make a plan based on anecdotal information rather than substantial evidence showing safety or efficacy of a specific treatment. Advances in equine-specific studies are occurring, thus confirming or refuting many anecdotal or uncontrolled published studies. Much work is left to be completed.

The most common treatments are the injection of steroids into the joint but this can be expensive and impossible in some horses. There is also a risk of introducing infection which could require surgery to treat. We can use oral anti-inflammatories and occasionally joint supplements but response to treatment seems to vary from case to case. It is often a 'try it and see' approach that is taken to control the condition as much as possible.

We have described the basic model of arthritis development but there is another joint condition that can rapidly lead to arthritis in young horses. This is called 'Osteochondrosis'. This is caused by malformation of the cartilage leading to cracks appearing that can eventually break off and 'float free' in the joint. When this happens it is called 'osteochondritis dissecans' (OCD) and can be a career ending condition. Surgery is usually required to remove the fragment and clean up the remaining cartilage covering the joint. Fibrous (scar) tissue



covers the defect to produce 'fibro-cartilage' but this is not as good as genuine cartilage and so can lead to early formation of arthritis as described above.

Arthritis is a challenging disease to treat and manage but a lot of horses do 'OK' with minimal pain relief. You may have to change how you ride or manage your horse and although it can end competition careers, it doesn't always mean you cannot use your horse. Treatments such as corticosteroids or Phenylbutazone always have side effects and these need to be weighed up against the potential benefits they can provide. Joint supplements can be useful but it is always recommended to use a product from an established and reputable company. The nutraceutical industry is poorly controlled and claims on the side of a packet may not bear any relation to what the product can actually do. Your vet will be able to guide you if this is the direction you would like to go.

General causes of arthritis

- Wear and tear e.g. age related change
- Incorrect wear and tear when joint is poorly conformed
- Infection of joint e.g. septic joint as a foal
- Ligament damage, especially if joint is unstable
- Cartilage malformation such as too thick or too thin cartilage

If you have any questions about arthritis, please contact your vet or call Central Equine Vets on 0131 6645606.



Central Equine Veterinary Services Ltd

Edinburgh: 0131 664 5606

Kinross: 01577 863333

info@centralequinevets.co.uk - www.centralequinevets.co.uk

