

The joints of the horse are complex structures, composed of a number of types of tissue including bone, articular cartilage and the surrounding soft tissues, all of which play a part in normal joint function and can undergo changes in disease. The most important component is probably the articular or hyaline cartilage, made up of a precise arrangement of collagens and proteo-glycans. This cartilage is responsible for the load-distributing functions of the joint and the cartilaginous joint surfaces should glide almost frictionlessly over one another even when under load. In osteoarthritis or Degenerative Joint Disease (DJD) the cartilage structure is damaged and has a concurrent effect on other tissues. The damage can progress with time if not treated and DJD is a prime cause of lameness and an expensive equine health problem.

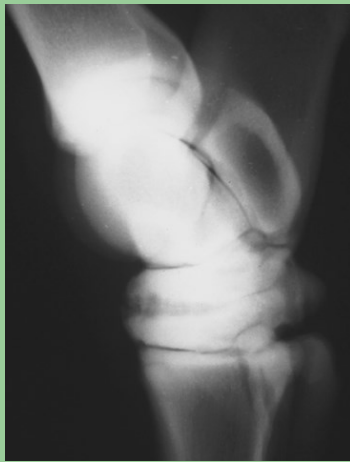
### Components of Normal Joints

- **Synovium and synovial fluid** -The synovium is the vascular connective tissue lining the inner joint surface. The cells of the synovium synthesise substances like collagen and hyaluronan which form part of the synovial fluid and also make inflammatory substances in DJD.
- **Soft Tissues** - These include muscles, tendons, ligaments and the joint capsule, and are important in movement and joint stability.
- **(Subchondral) bone** - The type of bone found close to joints is more deformable and this is important in force attenuation. The bone stiffens (sclerosis) in DJD.
- **Articular cartilage** - This is made up of water, collagen and proteo-glycans and is crucial to allow motion and weight-bearing with minimal friction.

DJD is characterised by degeneration and loss of articular cartilage and the development of new bone on joint surfaces and margins. It is a common response of joint tissue to many potential causes including;

- Inherently defective or damaged cartilage
- Repeated excessive trauma or work
- Mechanical damage to the cartilage

Initially, DJD may be suspected due to two main clinical observations; a reduced range of motion in a joint and a joint effusion or swelling. Radiography is the standard method of confirmation of the diagnosis, usually after a series of nerve and/or joint blocks to isolate the source of the pain.



This radiograph of the hock shows new bone growth as a result of DJD between the smaller bones of the hock.

The horse is usually treated medically and a number of options exist.

- We now sell our own brand of Joint Supplement, formulated with high levels of glucosamine and chondroitinsulphate
- Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), such as equipalazone, “Danilon” or “Metacam”
- Corticosteroids, injected directly into the affected joint.
- Hyaluronan which can either be injected into the joint or intravenously.
- Polysulphated Glycosaminoglycan either injected into the joint or intramuscularly.

In some situations surgery may be an option, for example if a fragment of articular cartilage is loose within the joint. In this case arthroscopy is used to remove the fragment. The joint can also be lavaged or washed using this method to remove inflammatory substances. In horses that are to be kept for non-athletic purposes a technique called arthrodesis can be employed where the joint is immobilised. This abolishes the source of pain. The joint is fused, using either metal pins and plates, or by chemical means.

To sum up, DJD is a common condition seen in the horse, especially those that have had a very hard athletic career and the older horse, but it is one that can be managed through the use of drugs, supplements and controlled regular exercise to give the animal a pain-free life.