

## **Path physiology and clinical management of degenerative joint disease**

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### **Abstract**

Degenerative joint disease is a common and important disease that affects humans as well as domestic animals, especially dogs and cats. The etiological factors for the disease in humans and animals are similar. The disease is characterized by progressive deterioration of the joint, thinning of hyaline cartilage, joint effusion and periarticular osteophyte formation. Trauma, sepsis, prolonged immobilization, immune-mediated disease, congenital malarticulation (e.g. hip dysplasia or developmental diseases (e.g. osteochondrosis), may incite the development of degenerative joint disease. The insults stimulate the release of degenerative enzymes from chondrocytes and these destroy the articular cartilage matrix. Two distinct functional processes in injured chondrocytes are responsible for the positive feed-back cascade that ultimately results in joint destruction. The catabolic process is induced by proinflammatory stimuli and causes secretion of protease inhibitors and cell replication. In the recent past, a lot of basic and clinical research on degenerative joint disease has been conducted. Deeper understanding of the path physiology has resulted in the development of new treatment modalities for the disease. Practicing clinicians need to keep abreast with new knowledge and biomedical technology in order to manage their patients in the best way possible. This paper collates the current knowledge of the path physiology and clinical management of degenerative joint disease with special reference to the canine patient.