

Osteoarthritis and Hip Dysplasia

VETERINARY ORTHOPEDIC
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Diagnosis and Treatment

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Osteoarthritis and Hip Dysplasia

Osteoarthritis is one of the most common diseases of dogs, affecting up to 25% of all dogs during their lifetime. Osteoarthritis of the hip and knee are the most common locations but have dramatically different causes and treatments.

The majority of osteoarthritis of the hip is due to hip dysplasia. This disease is a result of genetics which lead to poor hip conformation and laxity and subluxation (loose joints) while the dog is young. As the dog ages the joints actually tighten up but the resulting poor fit of the joint (incongruence) leads to grinding of cartilage and inflammation of the joint. Many adult dogs with severe hip dysplasia and osteoarthritis have no normal cartilage remaining in their hip joint.

In adult dogs the pain of osteoarthritis comes from multiple sources:

- exposure of nerve endings in the bone under the cartilage
- inflammation of the joint
- stretching of the fibrosed joint

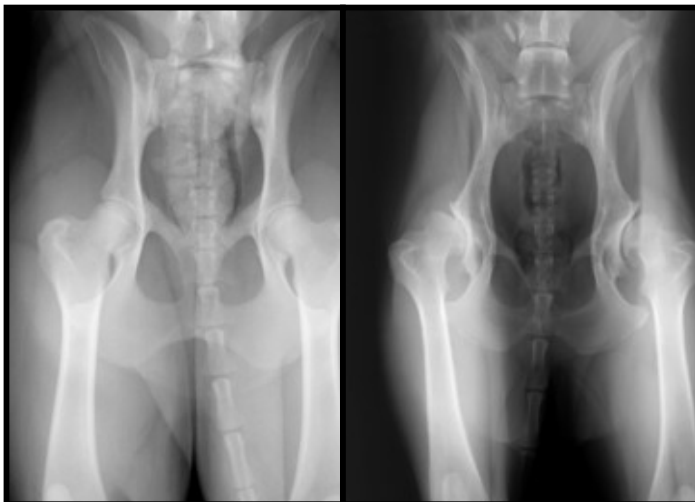


It is estimated that the majority of dogs with hip dysplasia and osteoarthritis never have clinical signs. This may be because dogs tend to be stoic or because we don't recognize the signs of osteoarthritis in dogs very well. The common signs of osteoarthritis of the hips in dogs are:

- limping
- exercise intolerance

Exercise intolerance is actually the most common while fewer dogs actually limp with hip dysplasia.

There are two broad categories of management of hip dysplasia and osteoarthritis in dogs. They are medical and surgical. It is important to remember that even when surgical management is elected, medical management may be necessary still. This is particularly true when one hip receives surgical therapy but the opposite side remains diseased.



Normal Hip Joints

Severely Arthritic Hips

Medical Management

Medical management of hip dysplasia include 5 treatment principles:

- management of body weight
- nutritional supplementation
- moderation of exercise
- physical therapy
- medications

Management of body weight is by far the most important of all of the medical therapies. Dogs with proper body weight live an average of 22 months longer, have a later onset and less chronic disease and have fewer signs of osteoarthritis. We will work with you and your dog if there is a weight problem. Diet plans are relatively simple to formulate but need to be followed for the diet to be effective.

We do recommend nutritional supplementation for our patients with osteoarthritis. The biggest problems with nutritional supplementation is the reliability of the product. We only currently recommend the Dasuquin brand of glucosamine and chondroitin. We do recommend the use of joint disease diets with Omega-3 fatty acids but must be sure that they do not add extra calories.

Exercise in dogs with hip arthritis should be moderated to encourage activities that help strengthen the hips (swimming, hill walking) and limit activities that cause pain (rough playing and running). Don't eliminate the activities your dog loves to do just try and moderate them so your dog does not become too sore. Physical rehabilitation therapy and acupuncture can be used successfully for patients with hip osteoarthritis. For patients who are not surgical candidates (due to medical conditions or financial constraints) rehabilitation therapy may help with maintaining long-term pain relief. Additionally, rehabilitation therapy may be used preoperatively to build muscle mass, improve comfort and increase range of motion. This improved muscle mass and range of motion helps to decrease the likelihood of post-surgical complications and can improve postoperative recovery.

We may prescribe analgesics including anti-inflammatory medications (rimadyl, deramax, previcox). We often recommend routine blood work before starting these medications and monitoring blood work every 6 months to a year depending on age. These medications should always be discontinued if there is evidence of stomach upset, vomiting, or anorexia. In some cases we may recommend the use of other medications such as joint protective agents (Adequan) or intra-articular cortisone injections.

Surgery

Surgery for hip dysplasia is indicated when medical management no longer maintains quality of life and function. It may also be indicated when medical management causes complications. The decision to pursue surgical treatment should be made by the owner in consultation with the veterinarian but the owner must decide on quality of life.

There are two surgical options for the mature dog with hip osteoarthritis. They are femoral head and neck ostectomy (FHO) and total hip replacement (THR).

FHO

FHO is an excellent option in small dogs (and cats). In this surgery the ball of the ball and socket joint is removed. The hip then works by having the leg supported by the gluteal muscles. (This procedure was developed for treatment of hip infection in people.) Because of their small body weight small dogs and cats tolerate this procedure very well. In larger dogs the outcome is not always as good but it may be necessary for financial or medical (infection) reasons. Ultimately the outcome of this procedure is unpredictable but is improved by combining the procedure with professional rehabilitation therapy.



Femoral Head and Neck Ostectomy

THR

Total hip replacement has been performed in thousands of dogs in the US and the world. The outcome is generally excellent in 85% to 90% of dogs; however when complications occur they can be frustrating and expensive. Traditionally THR was always performed as late in life as possible because of concern for the implants wearing out. The development of cementless implants has made us question this philosophy although it is still generally a good rule.



There are two types of joint replacement available: cemented and cementless. Cemented hip replacements use the cement as a form of mortar between the implants and the bone. Cemented implants are at their strongest shortly after implantation but the cement can crack or fail over time. Cemented implants are also more susceptible to infection. We recommend cemented implants for our older THR patients. Cementless implants rely on the body growing bone into the implant to provide stabil-

ity. Cementless implants are at their weakest immediately after surgery and get stronger over time. We recommend cementless implants in our younger patients. Cementless implants require more surgical detail to implant.

The possible complications associated with total hip replacement include:



Cementless THR

Cemented THR

Luxation

- some dogs with very lax hips are predisposed
- some dogs are treated with slings immediately after surgery
- treatment rarely requires removal of the implants
- rate of luxation in 2-4%

Infection

- more common with cemented hip replacement
- cemented implants must be removed completely
- the cement contains antibiotics to fight infection
- rate of infection is 1-2%

Fracture

- fracture is more common with cementless implants
- usually occurs within the first few weeks of surgery
- some fractures may be repaired with the implant in place
- some fractures require permanent removal of the implant
- some may be repaired and replaced with a cemented implant

Subsidence

- This is when the implant slides down inside the bone (femur)
- this occurs only with cementless implants
- in some cases this does not need to be treated
- in some cases the stem is replaced with a larger stem
- in some cases the stem is replaced with a cemented stem

Aseptic Loosening

- this means loosening without infection
- this can occur with either the stem or the cup
- in some cases the implants may be replaced
- in some cases the implants may be removed



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