HIP DYSPLASIA

Hip Grade Classifications

Screening Procedures

Treatment Options

What is Hip Dysplasia?

Hip Dysplasia typically develops because of an abnormally developed hip joint, but can also be caused by cartilage damage from a traumatic fracture. With cartilage damage or a hip joint that isn't formed properly, over time the existing cartilage will lose its thickness and elasticity. This breakdown of the cartilage will eventually result in pain with any joint movement.

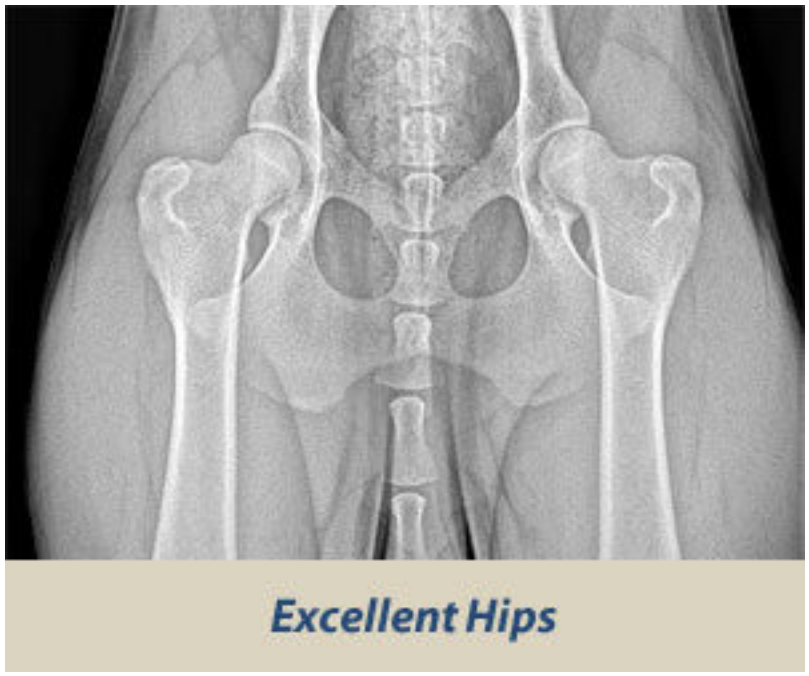
Severe Hip Dysplasia

No one can predict when or even if a dysplastic dog will start showing clinical signs of lameness due to pain. Severity of the disease can be affected by environmental factors, such as caloric intake or

level of exercise. There are a number of dysplastic dogs with severe arthritis that run, jump, and play as if nothing is wrong and some dogs with barely any arthritic x-ray evidence that are severely lame.

Check **hip dysplasia statistics by breed (/diseases/breed-statistics)**.

Screenings for Hip Dysplasia are performed by a veterinarian with x-rays sent to OFA for grading and certification. Click here for details on **vet screening procedures (/diseases/hip-dysplasia/hip-screening-procedures/)**, or to learn more about **how the OFA handles those screenings (/diseases/hip-dysplasia/hip-screening-procedures/)**.



Excellent Hips

Click here for the database application.

(/pdf/hdedapp_bw.pdf)

Hip Screening: Grade Classifications

The OFA classifies hips into seven different categories: Excellent, Good, Fair (all within Normal limits), Borderline, and then Mild, Moderate, or Severe (the last three considered Dysplastic).

- **Excellent**: Superior conformation; there is a deep-seated ball (femoral head) which fits tightly into a well-formed socket (acetabulum) with minimal joint space.
- **Good**: Slightly less than superior but a well-formed congruent hip joint is visualized. The ball fits well into the socket and good coverage is present.
- **Fair**: Minor irregularities; the hip joint is wider than a good hip. The ball slips slightly out of

Good Hips

the socket. The socket may also appear slightly shallow.

- **Borderline**: Not clear. Usually more incongruency present than what occurs in a fair but there are no arthritic changes present that definitively diagnose the hip joint being dysplastic.

- **Mild**: Significant subluxation present where the ball is partially out of the socket causing an increased joint space. The socket is usually shallow only partially covering the ball.

- **Moderate**: The ball is barely seated into a shallow socket. There are secondary arthritic bone changes usually along the femoral neck and head (remodeling), acetabular rim changes (osteophytes or bone spurs) and various degrees of trabecular bone pattern changes (sclerosis).

Fair Hips

- **Severe**: Marked evidence that hip dysplasia exists. Ball is partly or completely out of a shallow socket. Significant arthritic bone changes along the femoral neck and head and acetabular rim changes.

Mild Hip Dysplasia

The hip grades of excellent, good and fair are within normal limits and are given OFA numbers. This information is accepted by AKC on dogs with permanent identification and is in the public domain. Radiographs of borderline, mild, moderate and severely dysplastic hip grades are reviewed by a team of consultant radiologists and a radiographic report is generated documenting the abnormal radiographic findings. Unless the owner has chosen the open database, dysplastic hip grades are closed to public information. Learn more about **how the OFA handles hip screenings (/diseases/hip-dysplasia/hip-screening-procedures/)**.

For more detail on these classifications, see **What Do Hip Grades Mean** (/diseases/hip-dysplasia/grades).

See an approximation of international hip registries. (/diseases/hip-dysplasia/hip-international-ratings-matrix/)

Screening Procedures

Moderate Hip Dysplasia

General Overview

Radiographs submitted to the OFA should follow the American Veterinary Medical Association recommendations for positioning. This view is accepted worldwide for detection and assessment of hip joint irregularities and secondary arthritic hip joint changes. To obtain this view, the animal must be placed on its back in dorsal recumbency with the rear limbs extended and parallel to each other. The knees (stifles) are rotated internally and the pelvis is symmetric. Chemical restraint (anesthesia) to the point of relaxation is recommended.

Find more details on **veterinary screening procedures (/diseases/hip-dysplasia/hip-screening-procedures/)**, or learn about **how the OFA handles those screenings (/diseases/hip-dysplasia/hip-screening-procedures/)**.

For dogs under two (2) years of age, **preliminary screenings are available (/about/policies/preliminary-evaluations/)**.

Treatment Options

Once osteoarthritis is present on a radiograph, dysplastic changes are irreversible and usually continue to progress over time. If a dysplastic dog has secondary arthritis and pain, most owners elect to first treat their dog with medical management. The key is weight control and exercise.

Studies have shown that up to 76% of severely dysplastic dogs with arthritis secondary to Hip Dysplasia are able to function and live comfortable, quality lives with conservative management. With weight control, the goal is to prevent the dog from becoming overweight to reduce mechanical stresses applied to the hip joints. In general terms, the ribs should be easily palpated and there should be an indentation in front of the pelvic wings (waist line).

Severe Hip Dysplasia

Controlled exercise is indicated to prevent or relieve the inflammatory process that leads to the pain associated with arthritis. The amount and difficulty of the activity are determined on a trial and error basis. Exercise should start with short leash walks and be gradually increased until the dog reaches the desired level of activity. If clinical signs start to reappear, the amount of exercise is scaled back to a level that will not cause clinical signs. Overall, exercise should fit to an individual dog's maximum intensity level with the goal to maintain muscle tone and cardiovascular function without causing pain, stiffness, and inflammation to the joint. The right amount of exercise helps to maintain muscle tone and strength and stabilizes the unstable dysplastic joint. Exercise also improves joint range of motion which in turn keeps the dog more comfortable. Swimming, because it is a non-weight bearing exercise, can be a very useful means of maintaining muscle tone and range of motion without placing concussive forces on the joint.

Keep the dog in a warm environment. Warmth tends to help control the pain of arthritis from Hip Dysplasia. As in people, arthritic pain in dogs tends to be worse in the damp and cold of winter. Providing a well-padded and warm bed will help alleviate some of the pain associated with osteoarthritis. An egg-crate foam bed for dogs is commercially available. Applying superficial heat in the form of heating pads may also relieve pain. Care must be taken not to burn the skin, especially with an electric heating pad. Heat works best for chronically inflamed joints from arthritis while cold works better to treat acute (sudden) types of joint injury.

There are drug treatments and surgical interventions that can help, but prior to initiating any therapy, the attending veterinarian should be consulted with a complete medical history and physical examination. To locate a surgeon in your area, the following website is available: www.acvs.org (https://www.acvs.org/). Only those veterinarians who have earned Diplomate status in the American College of Veterinary Surgery are listed.

Drug Treatments

Numerous drugs are available to control the signs of osteoarthritis secondary to Hip Dysplasia. Nonsteroidal anti-inflammatory pain relievers can be used during bouts of lameness. These drugs inhibit prostaglandin release which decreases the inflammatory process and therefore, less pain is produced. These medications can also be given an hour or so before known periods of exercise to decrease inflammation. Side effects may be seen in some dogs which include vomiting, diarrhea, and lack of appetite. Various alternative drug therapies known as disease-modifying osteoarthritis agents can be used. According to the manufacturers, these drugs work by providing the raw materials to enhance the synthesis of glycosaminoglycan and hyaluronate that cannot be adequately produced in the diseased arthritic joint. These are the molecules that form proteoglycan, which is an important constituent of the hyaline cartilage that lines the joint. These drugs may also enhance the synthesis of other macromolecules by cartilage cells that inhibit degradative enzymes produced within the arthritic joint. Controlled studies have been reported about the positive effects in people for osteoarthritis. No controlled studies, to date, have been reported on the clinical response when treating arthritis in dogs but clinically most dogs seem to respond.

Oral disease-modifying osteoarthritis agents known as nutraceuticals are now on the market. These drugs take approximately one month to reach therapeutic levels in the bloodstream. Minimal to no side effects have been reported with their use.

Injectable disease-modifying osteoarthritis agents can be injected into the joint, vein or muscle and have been shown to be a useful adjunctive treatment for osteoarthritis in dogs. Since these drugs are injected, more rapid therapeutic levels are obtained. They may be initially used with the oral nutraceuticals for a series of injections for one month since the oral agents take

approximately one month to reach therapeutic levels. The literature indicates that the earlier these drugs are administered, the more likely it will decrease inflammation and protect against cartilage degradation in osteoarthritis.

The use of these drugs should be tailored for the individual dogs and any improvement noted. If side-effects occur like GI upset, the medication should be given with food or discontinued altogether. If there is a persistence of obvious lameness/pain after approximately six months using one medication, change the therapy to a different medication from the above choices.

Surgical Options

In younger dogs — usually less than 10 months old — with only subluxation caused by hip dysplasia, a triple pelvic osteotomy (TPO) can be performed to reestablish joint stability and encourage normal joint development and minimize abnormal biomechanical forces on the joint before osteoarthritis occurs. This procedure is not indicated if osteoarthritis is already present. Recovery time is about six weeks and a good success rate has been reported with return of normal hip function. For older dogs (over 10 months) that already have established osteoarthritis and can no longer be medically managed, a total hip replacement is the treatment of choice for reestablishing normal, pain-free limb function and joint mechanics. A high degree of success has been reported with this surgery and like the TPO, post-op recovery is about 4-6 weeks. The main disadvantage of this Hip Dysplasia surgery is the high cost.

An alternative surgery is a femoral head and neck excision; this is more of a salvage procedure when there is significant osteoarthritis and a total hip replacement is cost prohibitive. This eliminates hip pain by removing the femoral head and neck and initiating the development of a fibrous false joint that permits ambulation. The false joint is less stable with a reduced range of motion than the normal joint which in turn, causes an abnormal gait. Nevertheless, pain relief with adequate function can be achieved. The procedure can be performed in all dogs of all sizes, but there are usually better long-term success rates in smaller dogs less than 20 kg (about 44 pounds). Preoperative muscle mass and early postoperative physical therapy are two important factors in determining a successful outcome. This surgery is usually not as successful if there is severe muscle wasting (atrophy) present and/or the animal is obese.

Heavier dogs usually require more extensive postoperative rehabilitation to help promote an ambulatory pain-free false joint. Rehabilitation is aimed at preserving and promoting the leg's muscle mass, strength and range of motion through early (3-5 days) postoperative weight-bearing ambulation and passive range-of-motion exercises. Early ambulation can be achieved by helping the dog stand and walk. A towel can be placed under the abdomen to make assistance easier to perform in heavy dogs. Leash walks and/or swimming beginning the day of discharge from the hospital should be performed until near normal use of the leg returns. Passive range of motion physical therapy is also necessary to increase muscle strength and flexibility. Dogs that are obese, inactive or have substantial muscle atrophy and have poor owner compliance with physical therapy recommendations are poor candidates for this surgery.

Contact Information

Orthopedic Foundation for Animals

2300 E Nifong Boulevard, Columbia, Missouri, 65201-3806

ofa@offa.org (mailto:ofa@offa.org)

(573) 442-0418 (tel:5734420418)

About OFA

Objectives (/about)

Funded Research (/about/funded-research/)

DNA Repository (/about/dna-repository/)

CHIC Certification (https://www.ofa.org/about/chic-program)

Policies (/about/policies)

FAQs (/about/faq)

Articles about OFA (/about/educational-resources/articles-about-ofa/)

Educational Resources

News & Announcements (/about/educational-resources/news)

Journal Publications (/about/educational-resources/journal-publications)

Other Articles and Publications (/about/educational-resources/articles-and-publications)

Videos (/about/educational-resources/videos)

Breed Health Surveys (/about/educational-resources/health-surveys/)

Download Quarterly Reports (/about/educational-resources/quarterly-reports)

Disease Statistics by Breed (/diseases/breed-statistics)

Links (/about/educational-resources/links/)

Noteworthy Facebook Updates (/category/noteworthy)

How to Interpret OFA Numbers (/about/educational-resources/number-key)

Connect With us

(https://www.facebook.com/OFA-212139846451/)

Website Keyword Search

Search