

# Hip Dysplasia



## What is hip dysplasia and what are the symptoms?

Hip dysplasia is a hereditary, degenerative joint disease commonly seen in dogs and, less commonly, in cats. In its more severe form, dysplasia can cause painful arthritis and eventually crippling lameness. It can affect one (unilateral) or both (bilateral) hips. Once osteoarthritis is present, changes to the bone and surrounding tissues are irreversible and usually continue to progress over time.

Certain breeds of dog, primarily larger breeds, are predisposed to hip dysplasia. Here is a partial list of breeds found to have the highest percentage of incidence, according to the Orthopedic Foundation for Animals, a non-profit organization that collects and distributes information concerning orthopedic and genetic disease of animals:

Rank	Breed	% of incidence
1	Bulldog	73.7
2	Pug	62.1
3	Dogue De Bordeaux	55.8
4	Otterhound	52.3
5	Neapolitan Mastiff	48.2
6	St. Bernard	46.6
7	Clumber Spaniel	45.5
8	Sussex Spaniel	43.2
9	Black Russian Terrier	43.1
10	Cane Corso	40.1
11	Argentine Dogo	40
12	Basset Hound	37.6
13	Boykin Spaniel	37
14	French Bulldog	33.9
15	American Bulldog	33.2
16	Norfolk Terrier	32.1
17	Perro De Presa Canario	30.7
18	Fila Brasileiro	29.3
19	Bloodhound	25.8
20	American Staffordshire Terrier	25.8

In the normal anatomy of the hip joint, the ball, or head of the femur, fits into and rotates freely within the acetabulum, a concave socket in the pelvis. The ball and socket of a normal joint are perfectly fitted to one another to facilitate movement. The interaction of the two bones are strengthened by a ligament, which directly attaches the ball to the socket. To further fortify the joint, a strong band of connective tissue, called the joint capsule, encircles the two bones and encloses a thick, jelly-like fluid called synovial fluid. In the area where they come in contact with one another, the femoral head and the acetabulum are covered by a smooth layer of spongy cartilage—the articular surface.

In the genetically dysplastic hip, there are two common abnormalities. First, the connective tissues, muscles and ligament that should support the joint have a laxity that allows the acetabulum and the femoral head to move apart rather than being held tightly in place during normal movement. Second, the femoral head or acetabulum is not smooth and rounded but is misshapen, causing abnormal wear and friction within the joint as it moves. This damages the articular cartilage lining the joint, releasing detrimental enzymes into the joint, which contaminates the synovial fluid and over time, causes the articular cartilage to lose its cushioning thickness and elasticity. Eventually, full thickness loss of cartilage allows the tainted synovial fluid to contact nerve endings, resulting in pain. In an attempt to stabilize the joint to decrease the pain, the body produces new bone (bone spurs) at the edges of the joint surface, joint capsule, ligament and muscle attachments. This also causes the joint capsule to eventually thicken and the joint's range of motion is restricted.

Clinical signs of hip dysplasia can include lameness; stiffness on rising; pain; reluctance to stand, climb stairs or jump up; bunny-hopping or other abnormal gait; subluxation or dislocation of the hip joint; or wasting away of the muscle mass (atrophy) in the hip area.

For additional information, please contact your Banfield medical team.



### How do I keep my dysplastic dog healthy and pain free?

Just as with 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 to alleviate some of the pain associated with osteoarthritis.

Beds that elevate the dog away from the floor will aid in preventing the transfer of cold and dampness from the floor to the dog. Increasing the ambient temperature of the room will also improve the comfort level of where your dog sleeps.

When a dysplastic dog has secondary arthritis and pain, many owners elect to first treat their pet with medical management. The key to medical management of arthritis is weight control and exercise management. A high percentage of severely dysplastic dogs with arthritis secondary to dysplasia are able to function and live comfortable, quality lives with conservative management. The goal of weight control is to maintain an appropriate weight, which minimizes the mechanical stresses applied to the hip joints. Your Banfield doctor can help you with a weight loss plan if your dog needs to lose weight.

Controlled exercise is recommended to prevent or relieve the inflammatory process that leads to the pain associated with arthritis. Overall, exercise should fit an individual dog's maximum intensity level with a goal of maintaining muscle tone and cardiovascular function without causing pain. This often requires some experimentation, starting with short leash walks and gradually increasing the duration and difficulty of activity until an appropriate level of exercise is reached for your pet. If your pet enjoys swimming, that can be an excellent exercise, as it improves the joint's range of motion and muscle tone without weight-bearing stresses.

The right amount of exercise helps to maintain muscle tone and strength, which helps to stabilize the dysplastic joint. Your Banfield doctor can help you determine the appropriate exercise regimen for your pet.

Medical management usually includes the administration of a nonsteroidal anti-inflammatory drug (NSAID). The right NSAID is effective as both an anti-inflammatory and a painkiller but it is sometimes necessary to try different anti-inflammatory drugs over a period of time because an individual pet may respond better to one type of NSAID over another.

Your Banfield doctor may also recommend oral medications such as a glucosamine-based nutritional supplement for the life of your pet. Glucosamine helps give the body nutritional support that may be beneficial in the restoration of cartilage. It's important to remember that glucosamine is a building block for better cartilage and takes several months of administration before you will see beneficial effect.

Sometimes injectable medications are used in conjunction with NSAIDs and oral glucosamine supplementation in order to affect quicker restoration and support for a damaged joint than the oral agents alone can produce. This involves a series of injections over several weeks, allowing the oral nutritional support to build to an effective state before injections are discontinued.

### What side effects should I be aware of with NSAID use?

In general, non-steroidal anti-inflammatory drugs are well tolerated in most dogs. However, some dogs may experience side effects such as vomiting, diarrhea, decreased appetite, increased thirst, increased urination, lethargy and, very rarely, seizures, liver toxicity or sudden death. Symptoms which can indicate a serious problem and which you should report to your veterinarian include excessive drinking or urination, bloody or dark, tar-like stools and jaundice (yellowing of eyes, ear tips or gums). For treatment in hip dysplasia, NSAID administration is usually maintained long-term. Therefore, it is necessary to perform regular blood tests, usually every one to six months to evaluate liver function and other internal measures.

## What surgical treatments are effective with dysplasia?

Surgical intervention may need to be considered if medications prove to be inadequate in maintaining your pet's quality of life. Surgical interventions include modification or even complete replacement of the joint. Modification surgeries are most effective in dogs under 10 months of age and although normally very successful, the heavier the dog or the more arthritic changes to the joint, the less effective these surgeries become.

One type of modification surgery is the triple pelvic osteotomy (TPO), in which the hip socket is realigned to reestablish stability and promote normal joint development before osteoarthritis occurs. Recovery time for either of these surgeries is about six weeks, but heavier dogs will require more extensive post-op rehabilitation. The long-term success rate for heavier dogs or those with severe atrophy of surrounding muscles is less assured.

Another surgery, which is more commonly used when significant osteoarthritis is already present is femoral head ostectomy (FHO). FHO can be performed in any size dog but is generally most effective in smaller dogs and cats and consists of the removal of the head of the femur. Instead, scar tissue is formed over the end of the bone and takes the place of the hip joint. This surgery removes the painful bone on bone grinding that frequently accompanies severe dysplasia.

Total hip replacement is sometimes the preferred surgical option for dogs over 10 months of age that are severely dysplastic and whose pain can no longer be managed medically. Hip replacement, although expensive, has the highest rate of success in advanced cases of osteoarthritis, especially in dogs over 40 to 60 pounds.

Replacement consists of complete removal of the joint and replacement with an artificial ball and socket. This usually results in restoration of complete mobility and pain-free limb function and entirely prevents recurrence. Recovery time is about six weeks.

Evaluating your pet's overall health and comfort is essential in the treatment of hip dysplasia. Although management of hip dysplasia and resultant forms of arthritis can be challenging, your Banfield doctor can help you to make the best choices to keep the pain-free spring in your pet's step. As always, if you have any questions or concerns, please contact your Banfield hospital.



---

For additional information, please contact your Banfield medical team.