

# Hip Dysplasia



## Anatomy of Hip Dysplasia

You can see on the right image (healthy hip joint) that the femoral head (ball) fits snugly into the acetabulum (socket) and there are smooth bone edges around the joint.

The image on the left (hip dysplasia) shows that the femoral head (ball) does not fit snugly into the acetabulum (socket). You can also see signs of arthritis and the bone edges are not smooth.

Hip Dysplasia



Healthy Hip Joint



# What is Hip Dysplasia?

Hip dysplasia is a disease that affects young, growing dogs. The term, hip dysplasia, refers to a malformation of the hip joint leading to excessive laxity of the joint. The body will react to the instability by thickening the joint with scar tissue, known as arthritis. Dogs may be screened for evidence of hip dysplasia as early as 4 months old. However, although some dogs may have hips assessed as normal when young, they may develop hip dysplasia as late as 2 years of age.



## What are the symptoms of hip dysplasia?

Often this condition is recognized by the "bunny hop" gait while running. As the condition worsens, dogs may exhibit soreness on rising or sitting down, going up stairs, jumping, or after exercise.

## What tests are needed?

Diagnosis of hip dysplasia is made through radiographs taken while the dog is under anaesthesia. Radiographs will show evidence of laxity at the hip as well as the progression of arthritic changes within the hip.

Also, the veterinarian will try to elicit an "Ortolani sign." This is when palpation of the hip joint reveals significant instability compatible with hip dysplasia. A normal hip has no instability. However, both palpation and radiographs are needed in order to make an accurate diagnosis, because as the hip becomes more arthritic, the instability will lessen.



## What is the treatment needed?

### **Very young dogs**

If the diagnosis of hip dysplasia is made while the dog is very young (several months old) a surgical procedure called pelvic symphysiodesis may be performed. This is a surgery where the symphysis of the pelvis is cauterized in order to retard growth and lead to outward angling of the pelvis. This will, in turn, lead to better coverage of both hip joints. Although effective, this procedure may be performed only when significant growth still exists.

### **Near completion of growth**

If the dog has neared the completion of growth, a surgical procedure called the triple pelvic osteotomy (TPO) may be performed to improve the congruity of the hip joint. With this surgery, three cuts are made in the pelvis in order to free up that half of the pelvis. The hemipelvis is then rotated outward and held in its new position with a specially bent plate. This outward rotation leads to less instability and better conformation of the hip joint. However, if arthritis is already present within the joint, this surgery is not recommended as further surgical procedures or treatment may then be needed in the future to address the arthritis. Often this surgery is performed while the dog is between 7 months and 1½ years old.

### **Arthritis already present**

If significant arthritis already exists when the diagnosis of hip dysplasia is made, conservative management is often attempted initially, consisting of exercise restriction and anti-inflammatory therapy. Often combined with physical therapy and perhaps acupuncture, pain associated with arthritis may be effectively alleviated. Further surgical management is then warranted if conservative management is not effective in controlling the pain or lameness associated with the hip arthritis.

### **Skeletally mature dogs**

A total hip replacement may be performed as long as the dog is skeletally mature. In this surgical procedure, the arthritic hip joint is removed from the body and using either a cemented or non-cemented technique, an artificial hip joint is used to replace the diseased joint. Sometimes, due to a small stature of the dog or economic concerns, a total hip replacement may not be feasible. In that case, a surgical procedure called a femoral head ostectomy (FHO) may be performed. With this surgery, the head of the femur is excised with no replacement of the joint performed. As arthritis progresses, the cartilage in the joint is worn away, leading to bone-on-bone contact and significant pain. By removing the head of the femur, this pain of bony contact is alleviated.

Although we feel this surgery is more successful in smaller dogs or cats, larger dogs may also see a significant improvement in quality of life with excellent pain relief.



## Prognosis

Most owners are concerned that if their dog is diagnosed with hip dysplasia when young, that the dog may become debilitated and necessitate euthanasia. However, with numerous successful surgical treatments as well as a myriad of anti-inflammatory drugs, hip dysplasia remains an easily treatable disease with your dog still able to enjoy an excellent quality of life.

Hip dysplasia is known to be heritable, therefore we do not encourage breeding dogs with evidence of hip dysplasia. Also, if known, the parents of the affected dog should not be bred further. There may be no history of hip dysplasia in the descendants, as it may show up anywhere within the line at any time.

