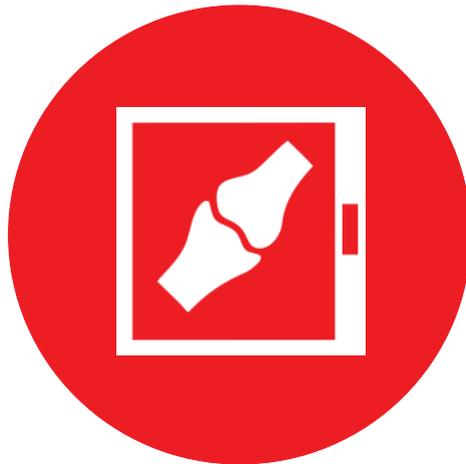




## PennHip X-rays and Hip Dysplasia



PETVET clinics are well-equipped, full-service, small animal veterinary practices providing comprehensive diagnostic, medical, surgical and dental care. We aim to offer quality service, giving your pet the maximum opportunity to lead a long and happy life.

ALL THE CARE YOUR PET NEEDS!



## What is hip dysplasia?

Hip Dysplasia is a deformity of the hip joint that develops as a puppy grows. Hip Dysplasia is caused by a variety of factors including genetics, being overweight as a young puppy and over exercise. Increased laxity in the joint results in the development of arthritis with use, eventually causing pain in the joint. The degree of lameness that occurs is usually dependent upon the extent of arthritic changes in the hip joint.

## Is this found in certain breeds of dogs?

Most breeds of dogs can be affected with Hip Dysplasia although it is predominantly seen in larger breeds, such as the German Shepherd, Bull Mastif, Newfoundland and Golden Retriever. There is equal distribution of the disease between male and female dogs.

## What are the symptoms, and when do they occur?

Early symptoms of Hip Dysplasia are weakness and mild pain in the hind legs, a lack of co-ordination, a reluctance to rise and a characteristic 'bunny hop' run. With mild changes the initial discomfort may improve, only to return later in life when arthritic changes are severe. As the condition progresses, hind limb lameness and pain increase. The dog may have difficulty rising from a lying position, the large muscle groups in the hind legs waste and the dog will be reluctant to exercise. The severity of signs and progression of the disease usually correlate with the extent of malformation in the joint. Lameness will often develop at 6-8 months of age, but dogs with mild Hip Dysplasia and minimal arthritis may not become painful and lame until 6-10 years of age.

## How is it diagnosed?

Hip Dysplasia is suspected in dogs that are slow to rise, are lame in the hind quarters after rest or exercise, or resent manipulation of the hip joints. As clinical signs may mimic other diseases, accurate diagnosis of Hip Dysplasia can only be made from x-rays. Dogs must be carefully positioned under anaesthetic to obtain diagnostic films. The x-rays are evaluated for excessive joint laxity, abnormal anatomical shape of the hip joint and for arthritic changes.

## How is it treated?

Treatment of Hip Dysplasia depends on the age at diagnosis, degree of laxity, presence of clinical signs and arthritic changes in the joints.

## Medical Treatments

The mainstays of medical treatment are; control of body weight, pain relief, appropriate exercise and nutritional support of the damaged joint.

### Diet

- Appropriate 'lifestage' diets provide correct nutrients to maintain an ideal weight and limit growth as the puppy develops. Puppies that grow very rapidly are more likely to develop Hip Dysplasia.
- Weight loss diets enable overweight adult dogs to return to an ideal weight. Excess body weight increases joint pain and reduces mobility.
- Joint protective diets are formulated to provide nutraceuticals (nutrients with therapeutic properties) that improve joint function and slow the progression of arthritis.



## Pain Relief

- Non-steroidal anti-inflammatory drugs (NSAIDs), corticosteroids and sometimes other painkillers are used to relieve acute or severe pain. The anti-inflammatory effects of these drugs when used long-term can significantly improve your pet's quality of life.
- Drugs which protect the cartilage lining of joints may also be effective in limiting pain and inflammation.

## Exercise

Excessive exercise in a growing puppy can magnify hip joint abnormalities. It is not necessary to severely restrict your puppy, but long sessions of running, jumping or chasing thrown objects can be detrimental to joints. Working Dogs with Hip Dysplasia may find sustained activity difficult. Regular short walks and swimming will keep joints mobile without causing pain. Physiotherapy such as massage or hydrotherapy may also help.

## Precautions

Most drugs can have side-effects. Non-steroidal Anti-inflammatory Drugs (NSAIDs) are generally very effective and very safe drugs but they may adversely affect blood flow to the kidneys and can sometimes lead to kidney damage. This is rarely of concern if kidney function is normal. Some can also affect liver function. Corticosteroids can adversely affect water balance and cause weight gain. Very high doses of NSAIDs and Corticosteroids have been associated with gastric bleeding. A series of trials may be needed to find the most effective anti-inflammatory drug for your dog.

## Surgical Options

### Procedures designed to prevent the development of arthritis

- If Hip Dysplasia is diagnosed in very young puppies Pubic Symphysiodesis will alter the way the pubic bones grow changing the anatomy of the hip joints.
- With Triple Pelvic Osteotomy the pelvis is cut in three places around the hip joint(socket). The cut bone is rotated to create better alignment with the femoral head (ball). It is reattached so that the joint functions in a more normal fashion without looseness and pain. This procedure is reserved for young dogs with no arthritic changes in the joint.

The challenge is to identify the condition early enough to consider these procedures.

### Procedures designed to manage arthritis

- Total Hip Replacement is available for adult dogs where medical management gives poor results or older dogs with severe arthritic changes. The arthritic hip joint is replaced with a metal and plastic socket attached to the pelvis and a stainless steel artificial ball attached to the femur. It is an expensive procedure, but may give many years of pain-free use of the hips. Although the intent is for the transplant to be permanent, the new joint may loosen after a period of time.
- Femoral Head Osteotomy is another option. The ball part of the hip joint is removed, significantly reducing joint pain. A 'false joint' is formed by the surrounding muscles. This is usually effective in small dogs but often large dogs will continue to suffer from hip pain and lameness. Femoral Head Osteotomy may also be used to salvage a failed Total Hip Replacement.



- Pectineal Myectomy and Joint Capsule Neurectomy involves removing the Pectineus muscle and destroying pain sensing nerve fibres in the joint capsule. Tightness in this muscle puts pressure on the hip joint causing pain and discomfort. Leg function is not affected and surgery usually gives good to excellent pain relief. If both hips are abnormal, both hips may be operated at the same time. This procedure does not stabilise the hip joint or stop progression of arthritic changes. It is usually reserved for older dogs with poor response to medical treatment. Within a few months to several years, pain and lameness will return.

### **I am considering breeding my dog. Can anything be done to prevent hip dysplasia in the puppies?**

Research has shown that the cause of hip dysplasia is related to a combination of genetic and environmental factors. The disease is known to be an inherited condition and the genetics of hip dysplasia are complicated. Environmental factors such as overfeeding and excessive exercise can also predispose growing puppies to developing hip dysplasia. Research at the University of Pennsylvania has shown that hip joint laxity is significant in the development of hip arthritis. There are several practical things you can do to reduce the incidence of Hip Dysplasia. At PETVET we recommend PennHip screening. PennHip x-rays can be taken at both PETVET Lower Hutt and PETVET Silverstream. If you are planning to breed your dog talk to us first about getting them hip and elbow scored.

#### **PennHip Scheme**

The PennHip Scheme measures laxity of the hip joints. X-rays can only be submitted by trained and accredited PennHip veterinarians. Training and accreditation ensures that results are reliable and repeatable. A purpose built tool is used to distract the hip joints during x-rays so that the laxity can be accurately measured. Hips are scored with a distraction index. Dogs with a low distraction index have tighter hips and are less likely to develop Hip Dysplasia. Dogs can be x-rayed from 16 weeks old. There is a high correlation between distraction index and the genetics of Hip Dysplasia. Selecting breed dogs with a low distraction index has resulted in significant reduction in the incidence of Hip Dysplasia from generation to generation. PennHip screening of all at risk breeds before mating is highly recommended.

#### **NZVA Hip & Elbow Scheme and AVA/KC Hip Dysplasia Scheme**

The New Zealand Veterinary Association no longer runs a New Zealand based Hip Dysplasia scoring scheme. However, the Elbow Dysplasia Scheme is still operational. It now recommends the PennHip Scheme. The NZVA scheme was discontinued in 2014 based on scientific evidence that the PennHip Scheme provides more reliable results. Breeders can still send Hip extended x-rays to Australia for scoring using the old method. The hips are x-rayed under heavy sedation or general anaesthesia. The x-rays are evaluated by trained veterinarians and scored for the presence of Hip Dysplasia. Only dogs over one year of age can be scored. Unfortunately there is a poor correlation between the scores provided from a hip extended x-ray and the genetics of Hip Dysplasia. As a result there has been very little improvement in hip scores over time. In some Hip Dysplasia prone breeds it is virtually impossible to find an animal that is Hip Dysplasia free.

With both PennHip and hip extended x-rays the lower the score the better. To reduce the incidence of Hip Dysplasia over time the object is to ensure that you always breed from dogs whose scores are better (lower) than the breed average.

When purchasing a puppy you should always ascertain whether the parents have been scored under an Australian or PennHip scheme and if so, what their respective scores were. Puppies should only be selected from parents with average or below average scores. Once you have obtained the necessary information, including the hip score, do discuss any breeding programme with your PETVET veterinarian.

#### **CLINIC LOCATIONS**

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