

X marks the spot where this Labrador's right hip joint is situated; the left joint lies parallel on the opposite side.



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## Signs of HD

**0-6 months:** May be abnormal gait only, swinging pelvis, bunny hopping.

**6-12 months:** Abnormal gait with lameness and pain on manipulation of the hip joints.

**Over 12 months:** Abnormal gait with lameness and pain on manipulation of the hip joints. In some cases muscular stabilisation and 'scarring' around hip joints may produce restricted movement that is pain free.

# Joint account

Vet **James Grierson** answers common questions about canine hip dysplasia and explains how to deal with this condition.

**T**he hip joint plays a key role in allowing free movement of the hindlegs of the dog and any disease that affects it can have dramatic consequences.

In dogs the hip is a 'ball and socket' joint. The 'ball' is on the end of the leg and is termed the femoral head; the 'socket' is formed from part of the pelvis and termed the acetabulum. Together they make up the hip joint (see pic 1).

## WHAT IS HIP DYSPLASIA?

Hip dysplasia (HD) is an inherited developmental disease of the hip joint. It is a common disease that often affects both hips and is characterised by hip laxity

(looseness) and the subsequent development of osteoarthritis (sometimes called osteoarthrosis or degenerative joint disease).

## WHAT CAUSES HD?

HD is a genetically inherited condition that is also affected by how a puppy grows up. It occurs because of laxity of the structures that support the hip. This laxity is present from birth and so as a puppy grows and develops the hip is not fitting together properly. The smooth cartilage of the joint then becomes damaged and worn. This leads to poor contact between the femoral head and acetabulum, leading to remodelling of both these areas and resulting in abnormal hip conformation that predisposes

to further wear and tear (see pic 2).

Although there is a genetic component, research has also shown that over-feeding puppies can worsen the disease process, as can excessive exercise at an early age.

## SYMPTOMS

HD is typically characterised by an abnormal hind limb gait. Clinical signs will vary depending on the age of the dog and the degree of inflammation and secondary change around the hip joint. (See 'Signs of HD' above right).

Indications that owners may notice at home is a reluctance to go up stairs and jump into the car, or perhaps sitting down on walks and weakness

**PIC 1:** X-rays of normal left and right hip joints of a dog showing the 'ball' and 'socket'.

**PIC 2:** This X-ray shows the result of abnormal wear and tear in the hip joint. Compare to the normal dog in pic 1.

**PIC 3:** X-ray showing a dog following a total hip replacement.

**PIC 4:** This X-ray shows the changes to the hip following a femoral head and neck excision. Compare to the normal hips in pic 1.

**PIC 4**



X-ray pics © James Grierson



Freddie's hips have responded to non-surgical treatment.

## Case study

Dorset-based Isobel Dale had a shock when her Labrador Retriever puppy, Freddie, was diagnosed with severe HD at only five months of age.

Says Isobel: "He'd begun to walk with an unusual gait and bunny-hopped when he ran. X-rays revealed the 'worst hips ever seen' by our locum vet who advised us to consider having Freddie euthanised to put him 'out of pain'. At that point, thankfully, we found vet James Grierson.

"To cut a long story short, in view of Freddie's tender age, James advised a strict six-week regime of restricted exercise followed by six weeks of hydrotherapy.

"Following all of this treatment, Freddie was showing normal gaits and movement and was pain-free, so James says that surgery is not needed at the moment – although this may be necessary later if Freddie shows discomfort or movement problems. For now, though, he's enjoying a normal life.

"If he does have surgery, then this will cost around £6,000 for one hip. Hydrotherapy cost £25 per session. Thankfully we'd insured Freddie when we got him so we've no worries about treatment costs.

"Simply by following an expert's advice on his management and treatment to the letter, we currently have a happy, healthy young dog. It just goes to show that no matter how bad the prognosis seems at first there is always hope, and that surgery is not decided purely on the state of X-rays."

in the hind limbs. More severe cases may stand with their backs arched to try to shift weight on to the forelimbs. It must be remembered that a number of conditions can cause similar signs in dogs and so examination by a vet is important.

## DIAGNOSIS

A tentative diagnosis can be made by a vet after taking a complete health history for the dog, observing the dog walking and trotting and then performing a full physical and orthopaedic examination. X-rays are required to confirm the diagnosis and rule out other problems, and these often necessitate either a general anaesthetic or heavy sedation.

It is a common misconception that an X-ray shows the severity of the problem. Many owners become extremely upset on being told that the X-ray reveals a terrible set of hips. While the X-rays are a key step in the investigation it is important not to focus too much on them.

The most important points to consider are whether the dog can currently exercise, and to what level, and also how painful the hips are on manipulation.

In the same way that your GP can refer you to a consultant you can also be referred to the canine equivalent. Further examination and assessment by a specialist orthopaedic surgeon will help determine the severity of the problem and then guide you towards the best management option for your dog.

## TREATMENT

The priority is finding a plan that will improve the patient's quality of life and improve function as much as possible. There are two main categories for treatment options, either conservative management or surgical management.

## Conservative management

This is the initial strategy for the majority of dogs with hip dysplasia. It comprises:

● **Weight management:** obese dogs are much more severely affected by osteoarthritis

than slim dogs. I have seen a number of severely lame dogs that have responded so well to weight loss that surgery no longer needs to be considered.

● **Exercise management:** regular but controlled exercise is much better for dogs with hip pain. Avoiding excessively long walks can reduce pain and discomfort. Consultation with a registered veterinary physiotherapist can help enormously here (check out [www.acpat.org](http://www.acpat.org); also see the January 2011 issue of **Dogs Monthly** – turn to p68 to order a back copy) to improve mobility and muscle mass.

Exercise management also includes appropriate rest during periods of pain and discomfort. It is important to follow advice here as allowing dogs to run unrestricted while on painkillers will not reduce joint inflammation.

● **Anti-inflammatories:** the strategic use of painkilling anti-inflammatory drugs for one to three weeks, coupled with strict rest to reduce pain and inflammation, is often enough for the majority of dogs to improve comfort levels and mobility before gradually increasing exercise levels. Occasionally these dogs may have 'off days' that require a short course of pain relief (24-72 hours) along with four to five days' rest.

## Surgical management

There are a number of surgeries available for immature dogs but as they are rarely performed they are not discussed here.

The decision for surgical management is based on a number of factors and is often not an easy decision for dog owners to make. These options are reserved for dogs that have failed to respond to appropriate conservative management; it is rarely the first line approach.

Discussion with a specialist orthopaedic surgeon, either through your own vet or directly, can help with this tricky process and is best made at the earliest opportunity so that all options can be considered.

For mature dogs there are two main surgical options. The 'gold standard' would

be to perform a total hip replacement. This involves surgery to give the dog a new hip (see pic 3); results are excellent with most dogs returning to near-normal levels of exercise. There is no limit on size as this can be performed in small dogs like Chihuahuas and also Great Danes!

Femoral head and neck excision is a simpler surgery for managing dogs with hip pain. It involves taking away the painful part of the joint (the ball) and allowing a 'fibrous joint' to form in its place (see pic 4). The results and function are not comparable to having a new hip but the vast majority of dogs are able to perform to a good level; the lighter and smaller the dog the more reliable and predictable are the results.

## IN SUMMARY...

The important thing to remember is that a diagnosis of hip dysplasia is not to be seen as a devastating one. There are many options available for dogs with only the minority requiring surgery.

Close consultation with your veterinary surgeon in conjunction with a specialist orthopaedic surgeon will aid the decision-making in these sorts of cases. ●

## Did you know?

Some breeds commonly affected by hip dysplasia are:

- Labrador Retriever
- German Shepherd Dog
- Golden Retriever
- Rottweiler
- Bernese Mountain Dog
- Newfoundland

## About the author

**James Grierson**  
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