

Hip Dysplasia

Dysplasia means “abnormality of development”.

Hip dysplasia (HD) is a common inherited orthopaedic problem and involves an abnormal development or growth of the coxofemoral (hip) joint. It is caused by varying degrees of laxity of the surrounding soft tissues, instability and malformation of the “ball and socket” joint of the hip. The ball becomes flattened and deformed, and the socket becomes more saucer-shaped. The abnormal wear and tear, then leads on to the development of osteoarthritis (a common form of arthritis).

Changes to the hip joint will begin at a young age as the puppy starts to become more active and will get worse over time. These changes can lead to excessive wear and tear of the joint, causing one or both hip joints to become defective. At this stage the hip joint(s) may be painful and can have serious effects on the health, behaviour and welfare of the dog.

The severity of hip dysplasia can vary from a poorly shaped hip joint with osteoarthritis (a common form of arthritis) to a very deformed hip joint with advanced and very painful osteoarthritis.

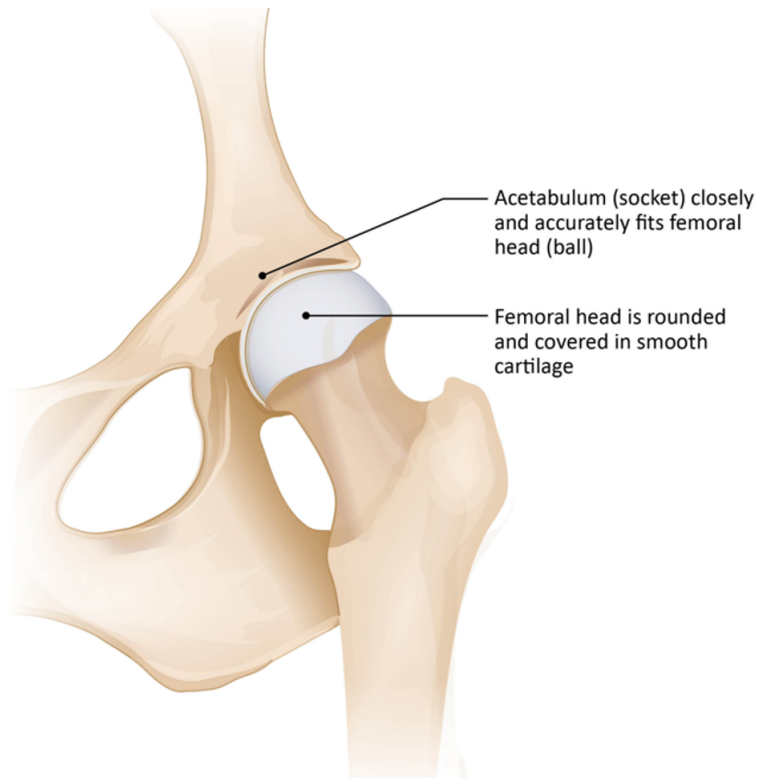


What causes hip dysplasia?

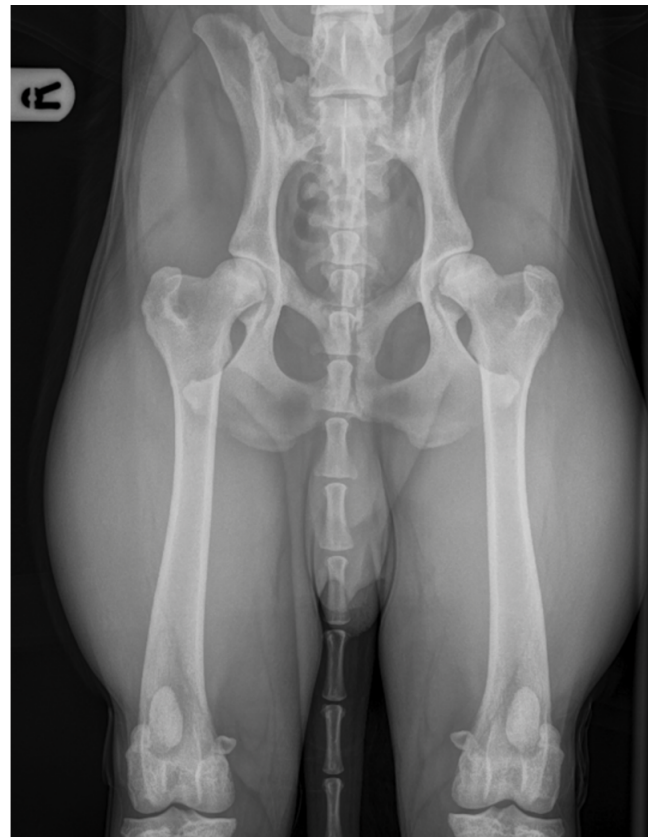
It is important to recognise that the hip joints are relatively normal at birth. The genes giving rise to the condition do not affect the skeleton primarily but rather the cartilage, the connective tissue and the muscles of the hip region. A disparity exists between the primary muscle mass and disproportionately

rapid skeletal growth. Failure of the muscles to develop and reach maturity concurrently with the skeleton results in joint instability.

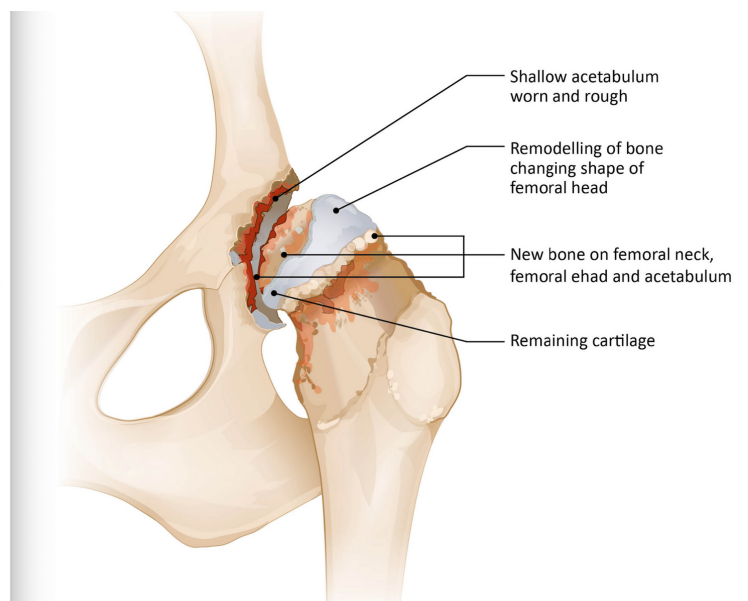
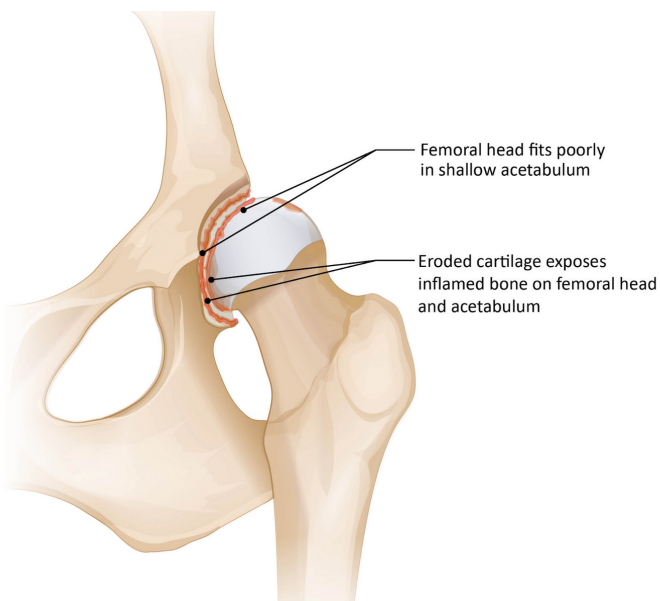
Other environmental factors during puppyhood, such as obesity and diet, may influence whether an animal with the genes coding for hip dysplasia will develop a clinical problem.



Normal hip joint



The bony changes of hip dysplasia are a result of failure of soft tissue to maintain congruity between the articular surfaces of the femoral head and acetabulum. This results in abnormal loading of the joint, microfractures of the acetabular rim and the production of new bone around the joint. These changes may not become evident on radiographs until 17-18 months of age. Due to the instability of the joint, the femoral head can subluxate (dislocate)



The symptoms

The clinical signs vary with the age of the animal. Those in the younger group often present with a *sudden onset* of unilateral disease. Owners often report a sudden reduction in activity associated with marked discomfort of the hindlimbs. **Difficulty rising** is often reported along with a **decreased willingness to walk, run and climb stairs**. At this age the femoral heads often appear normal on x-rays.

Those dogs that present in the older group have different signs as they suffer from chronic degenerative joint disease (osteoarthritis) and its associated pain.

- lameness, sometimes unilateral (one hindlimb affected) but more commonly bilateral (both hindlimbs affected)
- bunny hopping gait when running
- signs often worse after prolonged or heavy exercise
- reluctance to exercise, sitting or lying down more
- swaying hindlimb gait
- difficulty rising
- restlessness and struggling to get comfortable
- sudden reaction to unexpected pain which may manifest as whining, crying, biting or hiding
- limited range of movement in the affect joints.

Medical Treatment

Many dogs with hip dysplasia show no signs of pain early on in life while others only have mild intermittent signs. Approximately 75% of dogs in which hip dysplasia is diagnosed at an early age have minimal gait abnormalities 4-5 years later. A large number of these animals can be treated with conservative methods including minimising activity and the use of anti-inflammatory agents when required.

A multimodal approach is usually recommended involving:

- weight management
- exercise restriction
- nutraceuticals (joint supplements) such as Synoquin, Hill J/d (joint care food)
- non-steroidal anti-inflammatories (NSAIDs) e.g. Meloxicam
- other painkillers e.g. paracetamol, amantadine, gabapentin
- monthly Librela injections
- cartrophen injections
- hydrotherapy
- physiotherapy

Surgical Treatment

A large variety of surgical techniques have been introduced in an attempt to treat the clinical signs of hip dysplasia and arthrosis.

If HD is detected early enough, there are surgical procedures available to help to change the conformation of the dog's hips. However, the challenge is diagnosing suitable candidates at a young

enough age (unless 3–6 months of age) for these operations to be beneficial. These procedures include:

- **Juvenile Pubic Symphysiodesis**
- **Triple Pelvic Osteotomy and Double Pelvic Osteotomy (TPO/ DPO)**

Femoral head and neck excision

This operation is only normally considered in cases where a Total Hip Replacement (THR) is not a financially viable option. This is a non-reversible procedure and must be considered a salvage option. However, it is a valuable method for improving the quality of life of patients with hip dysplasia by *elimination of pain*.

In this technique, the femoral head and neck are completely removed allowing a false joint to form. Pain is relieved by elimination of bony contact between the femur and the pelvis. Some abnormality of gait persists due to limb now being shorter than the other leg and a slightly reduced range of motion, but the dog is pain free. This procedure can be performed bilaterally (on both legs) if required.



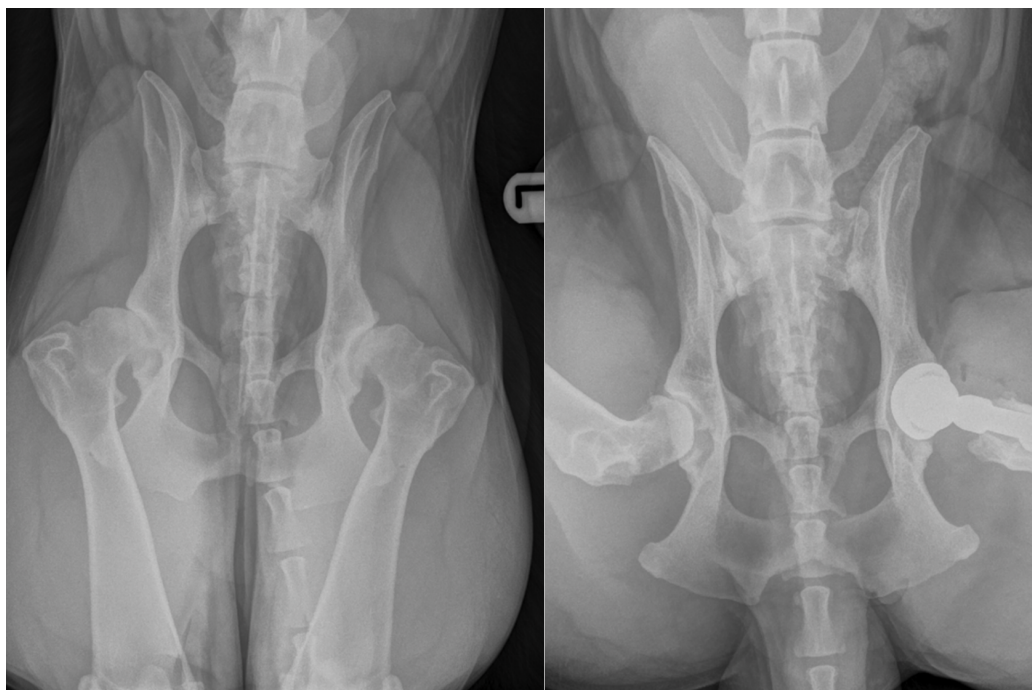
Recovery involves early active use of the limb. Exercises are performed known as “passive range of motion” exercises which are started immediately following the operation and lead walking is encouraged for two weeks. This operation is much more successful in animals which have maintained an appropriate body weight with smaller animals experiencing significantly less severe gait abnormality following surgery, however, pain relief is readily accomplished with this technique even in larger patients.

Total Hip Replacement (THR).

Not every dog with hip dysplasia is a candidate for a THR. Other causes of lameness must be ruled out before THR is considered, including knee problems and spinal disorders, and in some patients there is insufficient bone present to allow placement of the implants.

Detailed planning is required before the operation allowing measurement of required implants and assessment of the joint. For some animals, femoral head and neck excision may be the only option. As both options offer pain relief the major advantage of THR over femoral head and neck excision is that *normal biomechanical function* is maintained.

In this technique a new socket and a new femoral head and neck of stainless steel are implanted. Recently, new, smaller implants have become available making this procedure viable in any size of dog. Two different systems are available termed biologic (non-cemented) and cemented systems, and which is used depends on various factors related to each individual patient. Recovery involves **six weeks of cage rest, with twelve weeks lead only walks.**



Most dogs return to full function by eight weeks post-operatively and the operation carries a 95% success rate. Catastrophic complications can occur however with infection, fractures and loosening of the implants being the most significant causes, hence why strict rest post operatively is imperative. Failure may be perceived in the weeks following surgery or can become apparent years later.

Healthy, active, pain-free pets are important family members. Our pets cannot speak to us so we should be able to understand when they are in pain.

Unfortunately, hip dysplasia (HD) is an all too common, developmental orthopaedic condition resulting in osteoarthritis (OA). Osteoarthritis causes discomfort, chronic aching and pain. It is important for us to recognise the insidious nature of this condition and the varying manifestations of pain, therefore we can act quickly to keep your dog as comfortable and active as possible.

It is really important that when looking for a puppy, you check that the parents have been hip scored to try to reduce the chance of your puppy being genetically predisposed to hip dysplasia. The lower the score the better, ideally 0 (zero) on both hips. For more information, please visit

<https://www.bva.co.uk/canine-health-schemes/hip-scheme/>

To book in for your pet in for a health check, please call us on 01423 228080 or visit www.clarohillvets.co.uk