

Hip Dysplasia



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Hip Dysplasia

What is hip dysplasia?

In dogs with hip dysplasia the hips are normal at birth, however the joint(s) develop abnormally. Hip dysplasia is a genetic disorder where the developing joint becomes unstable resulting in laxity and changes in the weight bearing forces through the joint. This results in changes to both the femoral head and acetabulum. The femoral head becomes flattened and misshapen and the acetabulum poorly formed. The cartilage becomes damaged leading to the development of osteoarthritis and hip pain.

Clinical Signs can include:

- Hind limb lameness or stiffness which can be more pronounced after exercise or rest following exercise.
- Difficulty rising
- Reluctance to jump, ascend stairs or get onto the couch etc,
- Restlessness, moaning, licking at skin over hip are also less common but possible signs
- Neurological deficits are not part of hip dysplasia

There are generally two groups of patients that we see – young dogs with pain due to hip laxity, instability and synovitis, and older dogs where there is progression of osteoarthritis.

Diagnosis

Physical examination: This may reveal muscle wastage around the hips or pain and/or instability with manipulation of the hips. Pain is typically most pronounced during extension and abduction of the hips.

Radiographs – Radiographs (x-rays) are necessary to diagnose hip dysplasia. Both laxity and the presence of secondary osteoarthritic change can often be seen on radiographs. Special techniques are sometimes required to diagnose laxity of the hips.



Radiograph showing poor hip confirmation.



The Penn Hip distraction radiography method.

Treatment

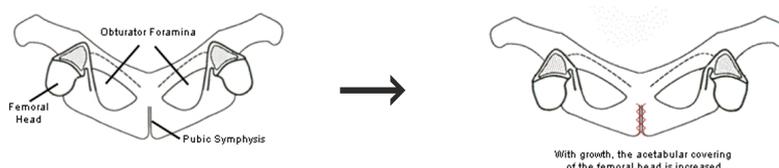
There are different diagnostic options including both imaging and palpation techniques, and each patient requires careful and complete assessment. Most patients will require sedation or preferably anaesthesia to allow adequate assessment by one of our specialists to determine the most appropriate treatment recommendations.

Medical management is generally recommended for all patients. There are many medications and supplements available for the management of osteoarthritis. Many have been shown to have little clinical benefit. Be guided by the recommendations of our specialists who are well versed in 'evidence based medicine' and can recommend those treatments that have a 'proven' benefit.

An outline of the surgical options are included below:

Young dogs less than 20 week of age:

Juvenile Pelvic Symphysiodesis (JPS). JPS is a procedure that is only effective in young, growing patients. This procedure involves surgically fusing the pelvic symphysis. As the pelvis grows with the now fused pubis there is outward rotation of the acetabulum which improves the coverage and stability of the hip joint. This technique is only effective if there is potential for growth remaining, increased hip laxity and a relatively normal acetabulum.



Young dogs less than 12 month of age.

Some dogs diagnosed with hip dysplasia are candidates for a surgery that involves reconstructing the pelvis to give greater acetabular coverage over the femoral head (ball). The pelvis is cut and the acetabulum rotated and fixed into position, with a special plate. There are two techniques called a triple pelvic osteotomy (TPO) or a double pelvic osteotomy (DPO). Case selection is crucial to maximise the success of the procedure.

X-ray showing double pelvic osteotomy.



Patients who are not candidates for the reconstructive or preventative techniques described above have different treatment options. Total hip replacement remains the 'gold standard' of surgical treatment for hip dysplasia and is the only technique that can return a patient to normal hip function. Other techniques include a cupless hip replacement, coxo-femoral (hip) denervation and femoral head and neck excision.



The Swiss Kyon system used at VSS.

Total Hip Replacement

Total hip replacement surgery is a procedure that removes the arthritic hip joint and replaces it with a prosthesis. The prostheses is implanted into the femur and pelvis and is designed to become 'integrated' with the bone and therefore last the lifetime of the patient. This procedure can be performed from skeletal maturity (typically 11mths of age) with no upper age limit.

The patients often experience a rapid resolution of pain and improved function. Full or near-full function is often achieved within 2-3mths of surgery. Those patients with chronic pain and poor function prior to surgery will benefit from post-operative physiotherapy to help stretch and rehabilitate the atrophied muscles. Recovery is quick and the expectation in the majority of cases is a return to athletic performance.

Complications of this procedure are uncommon and are minimized using the newer generation of titanium implants. Surgeons at VSS are among those who pioneered this technique in Australia and we are proud to have the most experienced hip replacement surgeons in Queensland.

Since our foundation in 2001 we have implanted hundreds of hips with an excellent success rate. Hip replacements are available in dogs weighing approximately 9kg with no upper weight / size limit. Soon implants will be available for cats and dogs from 3kg and up.



Cupless Hip Replacement

A cupless hip replacement is a modification of the total hip replacement. It is similar to the hemiarthroplasty performed in people where the femoral head and stem are replaced, however the prosthetic femoral head articulates with the patient's own acetabulum (cup) that is reamed to varying degrees to provide an appropriate 'fit' for the new femoral head.

This technique is cheaper than a total hip replacement and may be offered to those patients where there are financial constraints, or as a revision of a total hip replacement where there are cup problems.

The results are typically very good, however some mild symptoms are expected following exercise, and results are not considered quite as good or as predictable as a total hip replacement. A cupless hip replacement remains the 'second choice' procedure for surgical salvage of the arthritic hip joint.

Hip Denervation

This technique is undertaken to lessen the pain associated with hip dysplasia. Hip denervation does not however alter the progression of osteoarthritis. Sensory fibres in the periosteum and fibrous tissue that cover the joint can be removed to reduce pain. This procedure removes around 85% of the sensory (pain) nerve fibres to the hip joint. The analgesia typically lasts for around 2 years but longer in some cases. This procedure has a low morbidity and can be performed on both sides. Physiotherapy is recommended in the post-operative period.

This procedure is often mostly applicable to older patients to help palliate symptoms associated with hip osteoarthritis.



A diagram outlining the area denervated with this procedure.

Femoral Head and Neck Ostectomy

This is a salvage procedure where the femoral head is removed and a fibrous or false joint forms. Recovery is slow and limb use is often sub-optimal. This procedure often may have poor results and is not frequently recommended at VSS.

Radiograph showing femoral head removal bilaterally.



Prognosis

Once hip dysplasia develops the development of osteoarthritis is inevitable. There are procedures available to improve the stability of the joint however careful patient selection is essential for the best outcome.

Hip replacement, although expensive, gives excellent results in the majority of cases. Surgeons at Veterinary Specialist Services have undertaken this complex surgery for many years and have an excellent success rate.

**If you have any questions, please feel free to contact of the Specialist Surgeons at
Veterinary Specialist Services.**



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