

FEMORAL HEAD AND NECK OSTECTOMY (FHNO)

Rationale and Patient Selection

FHNO is a salvage surgical procedure that is intended to eliminate most of the pain caused by hip dysplasia. It is also used in the management of aseptic necrosis of the femoral head (also known as Legg-Calvé-Perthes disease); fractures or separation of the femoral head / neck or capital physis; hip luxation (dislocated hips that cannot be returned into place) and failed total hip replacement. FHNO can be performed in dogs and cats. Better outcomes are seen in cats or small-breed dogs weighing less than 20kg compared with large- and giant-breed dogs.

Dogs and cats are candidates for FHNO if clinical signs of pain and lameness cannot be managed with pain killers, weight loss or other non-surgical means AND patient factors or economic conditions dictate against total hip replacement.

Did you know?? On the VetFix website there is a video detailing the recovery of a cat called Hagrid who had a FHNO. He did really well 😊

Does my cat/dog need surgery?

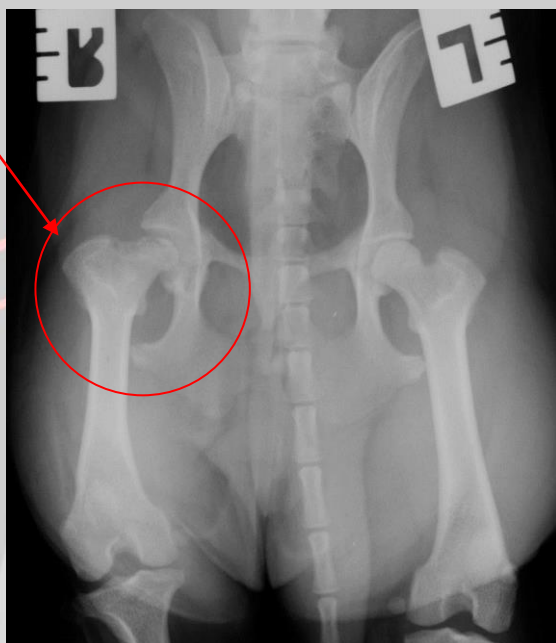
This is always worth discussing with your vet. Generally speaking FHNO is considered a bit of a last resort but often it is the only option available to control pain and discomfort in the hip. Most cats and smaller dogs do really well and within a couple of months it is hard to notice which leg was operated on! We have also operated on larger dogs that have also done great but the outcome is not as reliable in this group. FHNO is best performed early and before significant muscle wasting in the limb has occurred.

Did you know?? Sterility for orthopaedic surgery is extremely important. At VetFix we use a new set of disposable sterile drapes, gowns and of course gloves for each dog. In addition we use a high dose of intravenous antibiotic to help keep infection risk to an absolute minimum.

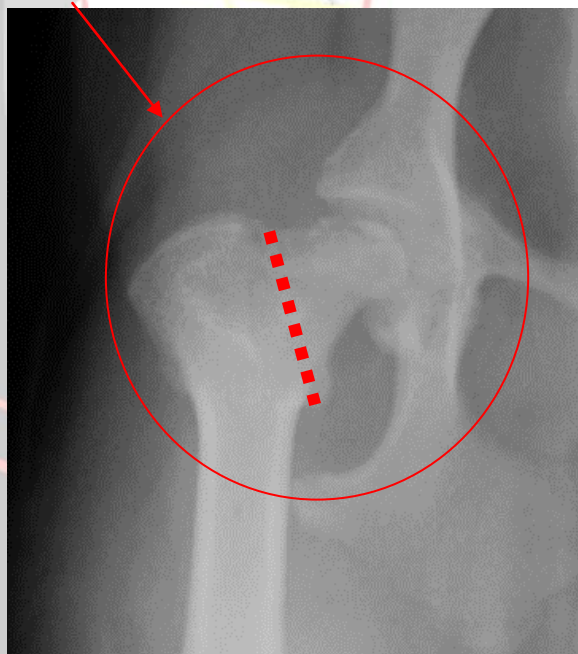
Surgical Technique

Surgical planning is critical to a successful outcome. For most patients we need to take an x-ray of the hip to diagnose the disease and plan the procedure. We perform a local anaesthetic block of the joint to make the procedure less painful for the patient. The hip is a ball and socket joint. The FHNO procedure involves making a precise cut through the top of the thigh bone (the femur) to remove the femoral head and neck i.e. the ball. This should eliminate most of the pain associated with the diseased hip joint. After the excision the femur forms a pseudo-joint made of dense fibrous connective tissue. Making a precise cut is important and we use an expensive oscillating saw to perform this rather than the old fashioned mallet and osteotome!

This is an x-ray of Monty's hips. He was suffering Legg-Calvé-Perthes disease of the right hip. Can you see that the right hip is smaller and less distinct than the left hip? It was very painful for him.



This is the same x-ray of Monty's hip zoomed in to show, by the dotted line, where we make the cut for FHNO. The diseased femoral head and neck is then removed.



AFTERCARE

Your dog will be discharged with pain killers. Please give these as directed. Please check the incision site daily and keep the bedding/room where your pet lives clean and dry. There will often be a small amount of bruising in the initial 3-5 days.

Please contact your local vet should you notice excessive swelling or discharge from the wound (other than a small amount of crusting). Your pet should not lick the incision site. An E-collar may be necessary to prevent this.

Progress checks

These are often carried out by a veterinary nurse or your vet at 3-4 days, 10-14 days, 30 days, 6-8 weeks and 12 weeks after surgery. They may be more frequent if concerns arise.

What to expect?

Your pet may feel a little groggy for the first few days after surgery. If you think he/she is in pain, please contact your local vet for advice. Your pet should initially be restricted to a single clean room (ideally with no slippery flooring) with no access to stairs. Cats should not be allowed access to surfaces that allow jumping up/down from a height greater than a foot or 30cm. For dogs to help him/her out for toileting, a towel can be used as a belly sling to take some weight off the back legs. A veterinary nurse can demonstrate this if necessary. Cats should be kept indoors for the 4-6 weeks and provided with a litter tray.

Important! We normally expect a small amount of weight to be taken on the leg within 3-4 days. If this is not the case, or if you are concerned about progress, please call your local vet for advice.

EXERCISE PLAN AND PHYSIOTHERAPY REGIME

Important! Complete cage rest and exercise restriction are contraindicated following FHNO surgery. In contrast to most orthopaedic procedures, controlled exercise and physiotherapy should be initiated shortly after surgery. No exercise should be painful or forced. Only perform exercises that you and your pet are comfortable with. Below is a guide only. Always follow veterinary advice.

WEEK 0-2

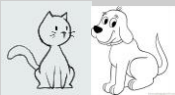
Expect slight wound swelling and holding the leg up most of the time



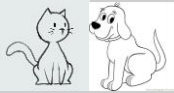
CATS: ROOM OR LARGE CAGE REST WITH LITTER TRAY. NO SURFACES ABOVE 30cm FOR JUMPING ON / OFF. *Try games or food to encourage use of the leg.*



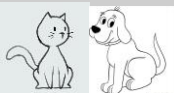
DOGS: NO STAIRS. BUILD UP TO 10-15 MINS SLOW LEAD EXERCISE THREE TO FOUR TIMES PER DAY (BELLY SLING SUPPORT IF NECESSARY). *Flat ground is best at this stage.*



ICE PACKING (DAY 1-3): Using, for example a bag of frozen peas wrapped in a tea towel, you can ice your cat/dog's hip for 5-10 minutes 2-3 times daily. Icing is one of the most important things you can do to help your cat/dog in the immediate post-operative period. It controls and decreases inflammation and will help to reduce post-operative pain. Only do this if you feel comfortable doing it and your cat/dog is happy to let you do so.



WARM COMPRESS (DAY 5+): If the incision is clean and dry. Use a hot water bottle (with cover on ie not too hot. It should be comfortable to touch) to warm the hip for 5 minutes. Then perform:



RANGE OF MOTION EXERCISES (DAY 5+): These should be very gentle with no attempt to go beyond what is comfortable for your pet. Have your pet lie on his/her good side and gently flex and extend the operated hip while supporting the leg. Being very patient and careful, perform 10 slow repetitions 2-3 times daily. Again, only do this if you feel comfortable doing it and your cat/dog is happy to let you do so!

WEEK 2-4

Expect some weight bearing on the leg



CATS: ROOM REST. TO INCLUDE SURFACES UP TO 45cm. Use games or food to encourage activity on the leg.



DOGS: 15-20 MINS SLOW LEAD EXERCISE 3-4 TIMES DAILY. Walking slowly encourages your dog to use the leg. Start to incorporate uneven ground and hills.



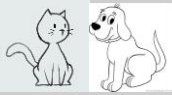
DOGS: SIT / STAND EXERCISES: Have your pet repeatedly sit and stand for 10 repetitions twice daily. Use of a small treat can help with this! This should only be performed voluntarily- do not push down on the rump. If your dog is not quite ready for this, give it a week and try again.



SWIMMING / HYDROTHERAPY: Swimming is a wonderful rehabilitation exercise when performed correctly. It can improve range of motion of the joint and musculature of the limb. It is especially useful following FHNO. You may allow controlled swimming from 2 weeks and after the progress check with your vet. Ideally you should walk your dog slowly and safely into deeper water and allow them to swim. Only perform this in a safe area and if your dog enjoys swimming. Never put yourself or your dog at risk!

There are now several excellent pet hydrotherapy centers in the UK. Standards can be variable- your local vet will advise you on a good hydrotherapy center in your area. Generally a referral from your vet is requested. This ensures communication regarding your pet's condition and allows the hydrotherapist to formulate a suitable program. Underwater treadmills can be a great way of helping your dog to begin using the leg.

Important! Pain relief is really important to help recovery following FHNO. Often a 30 day course of pain killers are dispensed following surgery.



DOGS/CATS: CONTINUE WARM COMPRESSES AND RANGE OF MOTION EXERCISES:
Continue flexion and extension exercises of the knee as described above. In addition, hold the joint in full flexion and extension for 5 seconds. Perform 10 repetitions and repeat three times daily. Again, do not go to the point of creating pain or resentment.

WEEKS 4-6

Expect full weight bearing but remember every patient is different!



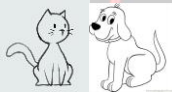
CATS: HOUSE REST. TO INCLUDE SURFACES UP TO 60cm. *Try games or food to encourage use of the leg.*



DOGS: 20-30 MINS LEAD EXERCISE 3-4 TIMES DAILY. *Walking on uneven ground and hills helps to build up the musculature in the leg.*



DOGS: CONTINUE SIT/STAND EXERCISES AND HYDROTHERAPY.



DOGS/CATS: CONTINUE RANGE OF MOTION EXERCISES.

WEEK 6+

Expect a progress check with your vet around now. They will advise on long-term exercise / physiotherapy. Below is a guide only.



CATS: Provided good progress is seen your cat can normally go outside from 6 weeks. *Try to supervise outdoor activity for the first few weeks. Slowly build up the time your cat is outside.*



DOGS: Provided good progress is seen your dog can normally start off lead exercise from 6 weeks. We would recommend continuing hydrotherapy to 12 weeks. Continue sit/stand exercises until at least 12 weeks.

LONGTERM OUTCOME AND LIFESTYLE

A good to excellent clinical outcome can be expected for most cats. In older life they may experience some stiffness / discomfort in the operated leg. Younger dogs weighing less than 15kg and without severe muscle wastage prior to surgery would also be expected to do well. Large- and giant- breed dogs may not do as well. Animals with clinical signs for more than six months prior to surgery may also have a poorer outcome. All patients that have a FHNO will have some degree of functional change to the way they move. For most, there will be less hip extension and slight shortening of the limb. As mentioned before, this is a salvage procedure to reduce pain associated with disease in the hip joint. Keeping your pet lean is, without doubt, the most useful long-term intervention you can make.

Important! Weight loss is critical to long-term joint health in overweight dogs and cats.

Nearly all dogs/cats that have FHNO will develop osteoarthritis. Glucosamine/chondroitin supplements may have some beneficial effects although this has not been clearly established. In addition, there is some evidence that omega-3 and omega-6 fatty acids (fish oil) in the diet can help. We favor fish oil in cats for ease of administration. Anti-inflammatories are often prescribed by your vet for long-term osteoarthritis management. These may be used on a continuous or intermittent dosing regimen. They are a very effective medication to control pain and discomfort associated with osteoarthritis. Remember glucosamine / chondroitin and omega-3 and omega-6 supplements are not pain killers and should not be thought of as such. If you think your dog/cat is in discomfort, see your vet.

COMPLICATIONS

With any surgery complications can and do occur. Perhaps the most common following FHNO is continued lameness. This may be functional (ie associated with a change in use of the leg and not due to pain) or because the joint is still uncomfortable. An x-ray may be taken to check the location of the cut in the bone is correct. To aid recovery following FHNO early physiotherapy is very important. Hydrotherapy is also a great way to improve outcome. Reported complications of FHNO include limb shortening, muscle atrophy, decreased range of motion of the limb and patellar luxation (slipping knee cap). Patellar luxation following FHNO is uncommon but may require surgical correction if it does occur.

Despite every attention to sterility, surgical site infections can occur in approximately 1-2% of cases. These will normally resolve with antibiotics.

Be warned! Cases of hip dysplasia, Legg-Calve-Perthes disease or slipped capital femoral epiphysis can often involve both back legs. It is possible FHNO will need to be performed on the other back leg at some time in the future.