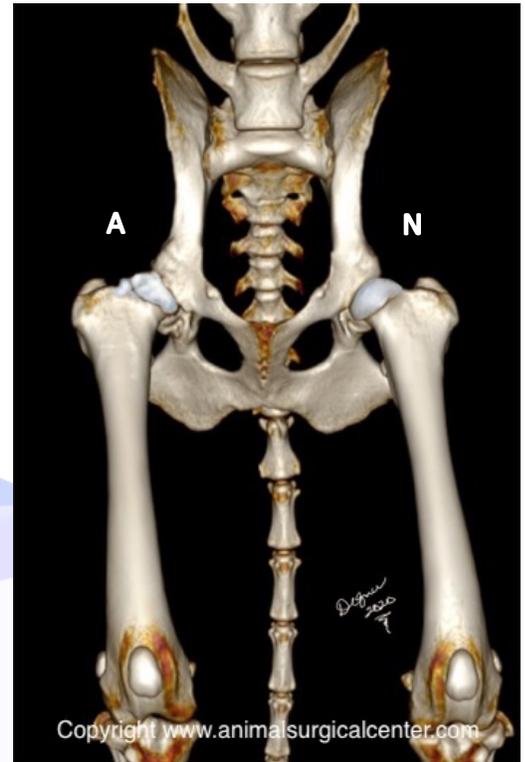


Total Hip Replacement in Dogs

What is hip dysplasia?

Hip dysplasia is a developmental condition of the hip joints which results in malformation of the hip joint and arthritic changes. Looseness of the hips in young dogs may result in arthritis of the joints over a period of months to years. The illustration right shows an arthritic hip (A) and a normal hip (N). Any breed can develop this condition, however large breeds are most commonly affected. Defective genes cause hip dysplasia. Looseness of the soft tissues and poor muscling allow the head of the femur to slip in and out of the hip when a dog runs and plays. This wears the cartilage off the head of the femur and socket (acetabulum) of the hip. In addition, the soft hip bones in puppies can become permanently deformed and the rim of the hip socket may develop small painful fractures.



Signs of hip dysplasia

Dogs commonly are 5 to 8 months of age when signs appear, yet others are older than one year. Some dogs, however, are quite geriatric when the problem is first noted. Warning signs of hip dysplasia may include an awkward gait that is frequently dismissed as “a clumsy puppy”. Waddling of the hind quarters when walking, bunny hopping, stiffness when first getting up from a nap, a clicking sound heard from the hind end, lameness on one or both hind limbs, shortened stride of the hind limbs, exercise intolerance, crying out in pain when playing and pain upon petting the hip region are clinical signs that also can be seen by pet owners. Physical examination findings that your veterinarian may discover may include narrow-based gait, waddling gait, muscle atrophy of affected limb(s), pain on extension or abduction of the hips, crunchiness of the hips and limited hip extension. Your veterinarian may also detect looseness of the hips called the Ortolani sign. In some cases, this abnormality can only be detected when your dog is under the influence of twilight sedation.

Diagnosis

The diagnosis of hip dysplasia is based on the evaluation of x-ray images of the pelvis. In order to obtain properly positioned x-ray images, your dog may need to be sedated. From these x-ray images, the surgeon will determine if your pet is a candidate for total hip replacement (THR). If the surgeon discovers that the hip is chronically dislocated or the bones are severely worn your pet likely will be denied the surgical procedure of THR. If your pet has been deemed a THR candidate, the bones will be measured to select the appropriately sized THR implants.

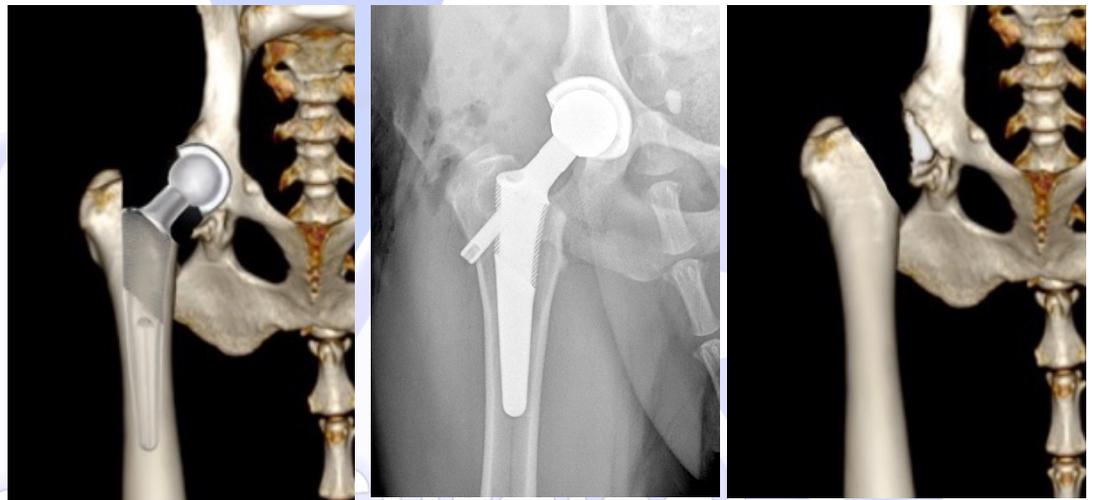
If a dog has skin infection, urinary tract infection, periodontal infection, flea infestation, chronic skin allergies or any other infection in the body, the pet may not be a candidate for THR. The pet owner must carefully evaluate the skin prior to surgery to make sure that there is no evidence of infection. During spring and summer, months, biting flies can cause skin infection that may temporarily deny your pet from THR until the skin condition resolves. Your pet should be healthy and free of serious internal organ diseases. Cruciate ligament tear, a common condition may mimic signs of hip dysplasia and should be ruled out prior to THR. Any other orthopedic or neurologic cause of the lameness must also be ruled out prior to surgery.

The day of surgery

Our anesthesia and surgical team will prescribe a pain management program, both during and after surgery that will keep your companion comfortable. This will include a combination of general anesthesia, injectable analgesics, long-lasting local anesthetic (Nocita™), oral analgesics, and nonsteroidal anti-inflammatory medication.

Treatment

The total hip replacement (THR) is the treatment of choice for medium to large breed dogs with clinical signs of hip dysplasia or other debilitating hip diseases. During the procedure, the head of the femur bone is removed to expose the hip socket. Next, the arthritic hip socket is reshaped with special reaming instruments and a metal cup lined with a very durable



plastic is carefully positioned and impacted into the hip socket. Then the marrow cavity of the femur bone is opened and shaped with reamers and broaches to receive a femoral metal implant. The metal implant is impacted down the marrow cavity to achieve a press-fit. A metal ball is then placed on the neck of the femoral stem implant and the hip replacement components are fit together to form the artificial ball and socket joint (see above left and above middle images). The joint capsule, which is vital to keep the hip together, is sutured closed.

If during surgery, your pet's degenerated hip is found to be unsuitable for THR, the surgeon will elect to perform a femoral head and neck ostectomy (FHO). This involves removal of the head and neck of the femur bone (see fig above right). Scar tissue will develop between the bones to form a false hip joint. Although FHO may not be the ideal treatment for a large breed dog, with aggressive rehabilitation therapy, an acceptable outcome may be achieved.

Aftercare and results

Upon arrival at home, your pet may be drowsy from anesthetics or analgesics that were administered in our hospital. Some dogs may whine or act delirious and this may be due to residual narcotics or anesthetic medications. These signs usually resolve by the next morning. Continue to give your pet a prescribed pain reliever to minimize discomfort. A full bladder will make your pet uncomfortable, therefore will he/she should be taken outside for elimination purposes even if he/she does not ask to go outdoors. Bowel movements are commonly lacking for a few days after surgery; however, laxatives may be

prescribed, should signs of constipation be noted. The regular diet may be fed to your pet, but if a poor appetite is noted, a home cooked meal of lean meat and rice may be offered. Antibiotics should be administered to prevent infection. Your dog's activity and exercise must be limited following THR. Running, jumping, chasing, off leash activities, and playing with other canine mates are not permitted for 3 months. Slippery floors in the home should be covered with carpeting to provide good footing for your pet in order to minimize the risk of an accidental fall. Rehabilitation exercises can be done at your home or if you choose, by professionally trained therapists at an animal rehabilitation center. Rehabilitation therapy should be continued for 6 weeks after surgery. Your companion's surgeon will monitor the healing process with a follow-up examination at 2 weeks and 12 weeks after surgery. During the second evaluation, x-ray images of the pelvis will be evaluated for bony ingrowth onto the THR implants.

For the life of your pet, dental care must be continued to prevent infection from going systemic. Your pet should be monitored for signs of infection and treated for such conditions as soon as possible. Should your pet require dental cleaning or surgery of any kind, prophylactic intravenous antibiotics should be given 30 minutes prior to the procedure and oral antibiotics continued for 7 days thereafter. These precautions will help to minimize the risk of THR infection.

Complications of total hip replacement may include infection, loosening of the implants, sciatic nerve damage, fracture of the femur or hip socket, and dislocation of the hip. Most serious complications occur within the first few weeks after THR. Should your pet show acute lameness, an evaluation by your pet's surgeon must be completed as soon as possible and x-ray images of the pelvis will be made. In general, about 90 to 95% of dogs that undergo THR will have a successful outcome.

Assessment and recommendations

Patient: _____ Date: _____

Treatment

- Total hip replacement is recommended and surgery can be scheduled
- Further diagnostics are recommended to ensure that your pet is a candidate for total hip replacement. These tests may include CT scan, MRI and/or _____
- Your pet should be monitored closely for signs of skin infection, ear infection, urinary tract infection or any other sign of illness prior to surgery
- Exercise prior to surgery
 - Unlimited
 - Confine your pet to the house other than very short leash walks necessary for bowel movements and urination
 - Restrict exercise to leash walks 10 minutes twice daily
- Preparation for surgery
 - Start fasting your companion at 10 PM the day before the surgery; water should not be withheld
 - Pepcid AC 10 mg tablets: give _____ tablet(s) with water (if needed use a syringe) 6 AM on the day of surgery