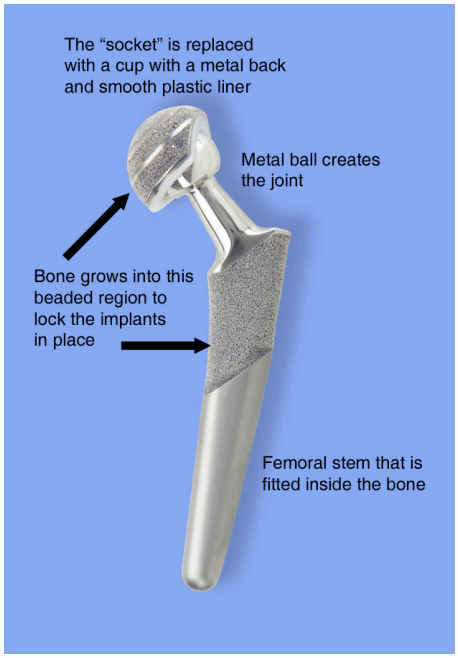
Learn about Total Hip Replacement

Many factors enter into the decision to have a total hip replacement performed on your pet and you may have many questions about the procedure. The answers to the most commonly asked questions about total hip replacement follow. We hope you find this information helpful.

What is total hip replacement?

Total hip replacement - or total hip arthroplasty - involves removal of a painful or damaged “ball and socket” hip joint and replacement with an artificial hip or prosthesis. The new ball is made from a cobalt-chromium metal alloy and the new socket from high molecular weight polyethylene plastic. The joint prosthesis eliminates the cause of pain and stiffness and dogs can return to most of the activities they enjoy. When compared to femoral head and neck ostectomy (FHO), total hip replacement provides the best return to normal function in the limb.



Why might total hip replacement be necessary?

The most frequent reason for performing a total hip replacement is relief of pain caused by severe degenerative joint disease secondary to hip dysplasia or fracture and to improve mobility. Other reasons include chronic dislocation of the hip and acute dislocation of the hip that cannot be reduced because of hip dysplasia or soft tissue damage.

Many dogs with arthritic hip joints seem to function normally or cope with their disability. When a painful joint is replaced with an artificial joint, there is often a dramatic change in the dog's personality as well as a change in activity levels.

Are there reasons why my dog should not have a total hip replacement?

Yes. If your dog has healing wounds, active infections of the skin, ears, or teeth, poor nutritional status or laboratory evidence of major metabolic disease, total hip replacement should not be performed. Other common problems such as stifle joint injury (e.g., cranial cruciate ligament rupture) and spinal disorders can be confused for hip joint problems. In these situations, total hip replacement alone will not improve the condition.

What are other options to Total Hip Replacement?

Many dogs with hip arthritis can be comfortable and active with medical management including weight control-weight loss and regular, controlled, lower impact activity. Nutritional supplements such as glucosamine and omega-3 fatty acids may reduce inflammation. Analgesic medications to treat pain of osteoarthritis, e.g., Rimadyl™, Previcox™, Zubrin™, etc., are used depending on need.

If hip pain persists, surgical options include femoral head and neck ostectomy (FHO) or total hip replacement. An FHO removes the ball portion of the hip so that there is no longer bone rubbing on bone in the diseased joint. While this can relieve much of the pain, the loss of the ball-and-socket structure of the hip usually means that the limb will not function normally. Small, light-weight dogs do better with an FHO. The advantages of FHO include easier recovery, less surgical risk, few complications and lower costs of care. See discussion below.

How will I know if my dog needs this procedure?

Complete evaluation by the orthopedic specialists at ASG will determine if total hip replacement may help your dog.

The evaluation includes thorough medical history, physical and orthopedic exam, current x-rays of the hips and laboratory testing:

- History: Includes questions about your dog's hip pain, medications, prior injury and current medical problems. Also included are questions related to which leg is causing your dog the most problems, your dog's ability to walk, exercise, climb stairs, rise and sit.
- Physical Examination: Includes a complete assessment of your dog's general health and skin condition, the range of motion in your dog's hips and observation of how your dog walks, sits, rises and moves.
- X-rays: Provides information about your dog's hip bones and hip joints. Radiographs may be used to diagnose abnormalities in the hip joint and for choosing the proper sized prosthesis but they are only part of the picture. Radiographs alone do not determine whether total hip replacement should be performed and, if so, which side is to be operated.
- Laboratory Analysis: Includes complete blood count, platelet count, serum chemistries, urinalysis and coccidioidomycosis (Valley Fever) serology.

If both hips are abnormal, do both need surgery?

For companion animals, the most affected hip is usually operated first and results in good function in about 80 percent of dogs. Approximately 20 percent continue to have pain and/or reduced mobility due to the opposite hip and bilateral total hip replacement may be considered. When performed, bilateral hip replacement is typically staged - separating surgeries by 3-4 months - to reduce risk of complications.

Are there size and age limits to total hip replacement?

Total hip replacement with the Biomedtrix modular system can accommodate dogs of just about any size. For toy and some giant breed dogs, cemented components may be needed. The BFX system can usually be used in dogs from 20–80 kg (45-175 lbs).

In the past, total hip replacement was only considered for older dogs. This was due to concerns over long term loosening of cemented protheses. With the uncemented, BFX implants that we now use, loosening is unlikely. The high quality, polyethylene plastic "cup" will help it last for the life of the dog. Implants can be placed in most dogs as young as 9 – 10 months old based on skeletal maturity and with the expectation that they will provide a lifetime of pain-free function.

How is total hip replacement performed? Do you use a cementless or a cemented total hip replacement?

Under general anesthesia, the surgeon approaches the diseased hip joint and replaces the damaged parts of the joint with the total hip replacement prosthesis. The diseased femoral head in the hip joint is replaced by a metal ball on a stem that fits inside the femur. A metal-backed, plastic cup is implanted into the pelvis to replace the damaged hip socket. The new prosthetic components are designed to allow the joint to move the same way as the normal hip.

The most commonly used prostheses at ASG are called "uncemented" and has many of the same design features found in hip replacements used in people. "Cemented" implants are held in place with an acrylic but there may be break down of the interface between the cement and bone over time. Porous-coated, uncemented implants become stable by ingrowth of bone into their beaded surface in the first few weeks to months after implantation. This bond is more likely to last the life of the dog.

What is the post-operative care for my dog?

The postoperative care of your dog is key to our success. Most dogs are able to stand and walk on the new artificial hip within the first few days after surgery. While hospitalized, exercise is restricted to cage confinement with 10 minute leash walks daily. Most animals undergoing total hip replacement are hospitalized for a total of 3 to 5 days. Follow-up x-rays and orthopedic examinations are necessary at 12 weeks and 6 months after surgery and every 18-24 months thereafter.

What is involved during the recovery period at home?

Upon discharge, and in addition to routine surgical wound care and healing, the activity level of your dog must be controlled. Home care often requires some supervision and activity must be limited to slow and brief, leash-controlled walks for 4 weeks. One month after surgery, leash walking may be gradually increased to up to 20 minutes over the next 4 week period. During weeks 9–12, leash walks of 20 minutes duration 2–3 times per day are recommended. At the end of 12 weeks, more normal activity is allowed. Vigorous play or hard work is allowed after gaining strength and conditioning.

What are the benefits of a total hip replacement?

The main benefit of total hip replacement is relief of pain and the return of more normal hip function. Some soreness in the leg and hip is to be expected for a few weeks because of the surgery and because muscles around the joint are weak from inactivity. Muscle strength and motion of the joint will improve with increased activity over the next few months. End results are often quite dramatic. In fact, many owners report that their dog can do things they have not done since they were a puppy. In most dogs, an uncemented total hip prothesis will last for the dog's life. It will provide years of pain-free activity that would not otherwise have been possible.

What are the risks and complications of total hip replacement?

The complication rate following total hip replacement is typically less than 5 percent with most significant complications occurring within the first 4 weeks of surgery. And while infrequent, complications of total hip replacement may often be serious and require revision surgery. The most common and significant problems include:

Dislocation - most likely to occur within the first 4 weeks after surgery, dislocations often require another surgery

Infection - a serious potential problem that may occur in approximately 1% of dogs. Superficial skin wound infections are usually successfully treated with antibiotics. Deep infections of bone may require removal of the prosthesis.

Subsidence or sinking of the stem – a unique problem of the uncemented, BFX™ prosthesis, a small amount of settling of the stem typically has little or no effect on function of the prosthetic joint. A large amount of subsidence or stem rotation may result in femur fracture and/or require surgical revision of the stem.

Fracture of the femur – uncemented BFX™ implants are literally hammered in to place and this impaction is responsible for the initial, press-fit stability of the prosthesis. Bone cracks or fissures can develop. If seen during surgery, encircling wire is placed around the femur to prevent fissures from expanding. If developed after surgery, fissures may lead to subsidence of the stem or fracture of the bone.

Loosening of the prosthesis is an uncommon problem with uncemented prostheses. If loosening is significant or progressive, the implant may need to be replaced or removed.

What can I do to reduce the chances of complications?

The best way to avoid complications is to closely follow the recommendations for exercise restriction, clinical and radiographic follow-up and return to normal activity.

How much does a total hip replacement cost?

The average and all-inclusive cost of total hip replacement is approximately $5,500. This includes the examination, laboratory work, x-rays, hospitalization fees, antibiotics, anesthesia, surgical fees, special surgical drapes and the cost of the implants (which accounts for 35% of the fee). Charges for follow up evaluations range from $200-$300.

Why invest in a total hip replacement instead of the more economical femoral head ostectomy?

Femoral head ostectomy (FHO) is, unfortunately, sometimes referred to as “like a hip replacement”. By any scale of measurement, FHO is not a hip replacement. And while FHO has a place in veterinary medicine based on the relative simplicity of the procedure and economy of care, FHO results in the formation of a pseudarthrosis - or false joint. Following FHO, the pain in the area is often greatly reduced but the limb will typically only regain 75 to 80 percent of function. In larger, active dogs, this dysfunction is apparent as lameness. Following a successful total replacement of the ball and socket of the hip joint, limb function can return to 100 percent normal.