Hip Dysplasia

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Introduction:
Hip dysplasia is a term used to characterize abnormal formation of the "ball and socket" joint of the hip. It has become one of the most common orthopedic conditions that leads to joint inflammation and secondary osteoarthritis (OA).

How does this occur?
Multiple causes have been proposed to lead to hip dysplasia such as genetics, and environmental influences. In general, the cause of hip dysplasia is multifactorial and is centered around joint laxity. It is suspected that in very young dogs there is laxity between the ball and socket such that when walking the ball slips partially out of the socket and then catastrophically reduces. The concept of subluxation/reduction leads to inflammation and pain as well as abnormal wear and tear of the cartilage. Furthermore, the joint laxity further contributes to abnormal formation of the joint leading to a loss of function in the limb.

Clinical Signs and Diagnosis:
The severity of clinical signs depends on the stage/severity of the disease. Dr. Dycus tends to see patients of varying ages with clinical signs. In the young skeletally immature dogs, the clinical signs are associated with laxity. Therefore, some puppies will have a "bunny hopping" gait, will not be as playful, will be lame, or may be stiff/sore upon rising or after heavy play. Any puppy that self-limits activity should be a red flag that something could be wrong and should be seen at Fusion Veterinary Orthopedics.

For the skeletally mature dogs the clinical signs are associated with osteoarthritis. In this population of dogs, we see slowing down during activity (such as on walks), reluctance to go up/downstairs, get onto/off furniture, limping, or stiffness/soreness upon rising or after heavy play. It is important to remember that these clinical signs should not occur due to "old age" so these should be red flags that something could wrong.

If you suspect an issue with your dog a thorough orthopedic examination is recommended. This will involve our team at Fusion Veterinary Orthopedics collecting a detailed history, watching your dog walk/trot, and palpating all of the joints. In addition, focus is applied to measuring the degree of hip extension as well as thigh circumference. In the young dog a test for laxity is usually completed. Following a detailed orthopedic examination, radiographs (X-rays) are usually completed for our surgeon to evaluate the confirmation of your dog's hips as well as the degree of osteoarthritis present. In some cases of young dog's specific

radiographs are completed to evaluate the degree of laxity present known as a PennHip evaluation.

How is this treated?
Treatment for hip dysplasia must be patient specific. It can be broken into conservative (non-surgical) and surgical options.

Conservative options are considered palliative in nature meaning we are recommending lifelong management strategies to improve hip extension, maintain muscle mass, and improve pain. Along with a daily exercise plan, weight control is essential. In addition, Dr. Dycus may recommend following up with our rehabilitation team for formal rehabilitation as well as to prescribe a daily at home exercise plan.

Our team at Fusion Veterinary Orthopedics is trained and experienced in various surgical treatments for hip dysplasia. The surgical procedure elected is usually related to the age of the dog as well as the clinical and orthopedic signs. In very young dogs (16 weeks or younger) juvenile pubic symphysiodesis (JPS) can be completed. This is a procedure that improves coverage of the ball into the socket as the dog continues to develop. In dogs that are 6-10 months of age with no osteoarthritis present a triple/double pelvic osteotomy (DPO or TPO) may be recommended. This is a procedure that relies on cutting portions of the bone to improve the coverage of the ball into the socket. Prior to performing a DPO or TPO hip arthroscopy (inserting a small camera into the hip) may be recommended.

Additional surgical procedures that can be completed in both young and older dogs is a femoral head and neck ostectomy (FHNO or FHO) or a total hip replacement (THR).

A FHO in the past has typically been reserved for smaller dogs and cats; however, larger dogs can also be candidates. It involves removal of the entire femoral head and neck and relies on the formation of a scar tissue. Because of this reliance on the formation of scar tissue to develop appropriately formal rehabilitation therapy is REQUIRED beginning 5-7 days following surgery. While the outcome can be satisfactory the overall athletic ability of the dog is decreased. At Fusion Veterinary Orthopedics, we recommend a THR over an FHO.

A THR or “hip replacement” is considered by most to be the gold standard treatment for severe hip dysplasia. In the past it has be reserved for larger dogs; however, it can now be completed in smaller dogs and even cats. A THR results in normal to near normal function. In addition, we can perform THRs in younger patients that will give them a pain-free great quality of life.

What happens after surgery?
The exact post operative recommendations for your pet will be discussed to you by our surgical team. However, in general, after surgery you dog will need a period of rest and relaxation of about 8-12 weeks. This means no running, jumping, or playing. They will need to be taken outside on leash to urinate and defecate; excessive climbing up and down stairs or on and off furniture should be avoided. We recommend when not directly supervised that patients be placed in a crate, small laundry room or bathroom, or a small portion of the house sectioned off so that your dog can't overdo it. Excessive activity will lead to implant breakdown, soft tissue injuries, or delayed healing.

If staples/sutures are present they will be removed, or the incision evaluated at approximately 2 weeks after surgery and radiographs will be needed at either 4-6 and 8-10 weeks after surgery to evaluate healing. At these rechecks an orthopedic exam will also be performed to ensure the surgical site is healing as expected.

Just as with people we recommend physical rehabilitation beginning 2 weeks after surgery (except for FHOs where we recommend rehabilitation beginning 5-7 days after surgery). Rehabilitation at Fusion Veterinary Orthopedics will involve once to twice weekly formal rehabilitation sessions along with at home exercises. We have noted quicker healing, maintenance of muscle mass and range of motion, and superior outcome in the patients that undergo formal rehabilitation. Furthermore, rehabilitation offers an outlet of energy in controlled manner so that your dog is still able to maintain some activity while healing.

Are there any complications?
We take great pride ensuring our patients return to as normal function as possible. As with any surgery there are small risks associated. Particularly, with the DPO/TPO or THR surgery the most common complications noted are implant breakdown (breaking/bending of the plate and/or screws), postoperative hip luxations, infection, and soft tissue injuries. Anytime implants are placed in a surgical site there is the chance of infection. Infection rates are low and during surgery your dog will be given antibiotics and in some cases will be sent home with antibiotics after surgery.

Specific complications to a THR include aseptic loosening, implant failure, infection, femur fracture, hip luxation, and sciatic nerve damage.