

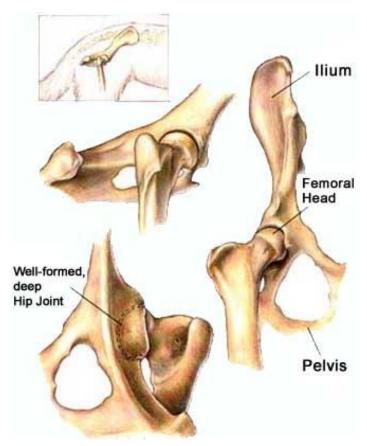
Physical and Behavioral Rehabilitation for Animals

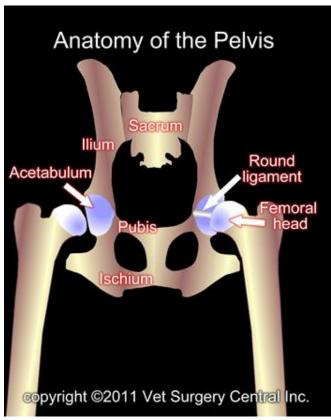


Hip Dysplasia

Symptoms seen in dogs with hip dysplasia include:

- Wobbly gait—the back end appears wobbly
- Bunny-hopping gait (in the rear legs) when running
- Difficulty manipulating stairs—particularly climbing stairs.
- Difficulty rising from sleep or a sitting position—when rising, the weight is often placed on the front legs to relieve the pressure on the hips.
- Dogs often shift their weight from the back end to the front. These dogs often have well-developed muscles in the front and lack muscular development in the rear.
- Dogs with hip dysplasia often have degenerative joint disease (arthritis). Like humans, the disease is worse in the mornings and improves after mild exercise.
- All dogs with hip dysplasia do not experience severe pain. Some dogs experience little pain and you would never know that they had the disease.





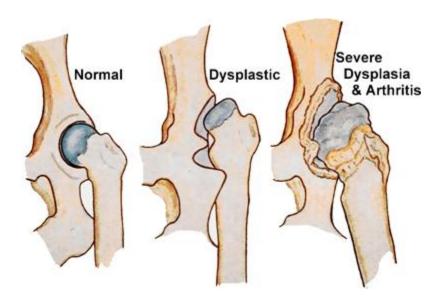


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Surgical options to treat hip dysplasia:

- 1. **Triple pelvic osteotomy**—this surgery is almost exclusively reserved for young animals (usually aged five months to one year). Radiographs of the dog's hips cannot show any signs of degenerative joint disease (arthritis). The surgery involves rotating the acetabulum (socket portion of the hip) to a more normal position in relation to the femoral head. This changes the orientation of the hip socket.
- 2. **Femoral head excision**—this procedure eliminates the pain of hip dysplasia associated with arthritis. It is considered a salvage procedure, recommended when pain and irreversible arthritis are present. The surgery involves the removal of the femoral head (ball portion of the joint). After a period of time, scar tissue fills the area between the femurand the acetabulum. This scar tissue functions like a joint and about 70% of hip-joint functionality is restored. Femoral head excision surgery is relatively inexpensive, requires minimal post-surgical home care, and can be done at any age. The surgery works well in small and medium-size dogs. There is a gait alteration after surgery and some decrease in range of motion and abduction of the limb. The muscles take up the function of transmitting forces from the femur to the pelvis and the gait alteration is often functional and not painful if the procedure is appropriately performed.
- 3. Total hip replacement—this surgery is similar to total hip replacement in humans. The ball and socket are removed and replaced with implants. Success rates are high (95 percent) as optimal joint function is generally restored. Presently, this is the best surgical technique for correcting hip dysplasia in adult large-breed dogs. After a recuperation period, most dogs regain full, pain free hip function and live normal active lives.



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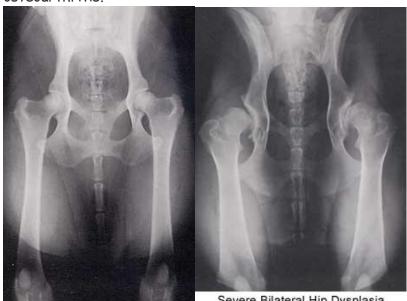


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Conservative options to treat hip dysplasia:

Physical rehabilitation is the most important thing that can be done for your dog to treat hip dysplasia. Controlled exercise and physical therapy is indicated to prevent or relieve the inflammatory process that leads to the pain associated with arthritis. The amount and difficulty of the activity will be determined by a qualified individual. Exercise also improves joint range of motion which in turn, keeps the dog more comfortable. Hydrotherapy, because it is a non-weight bearing exercise, can be a very useful means of maintaining muscle tone and range of motion without placing concussive forces on the joint. Keep the dog in a warm environment. Warmth tends to help control the pain of arthritis from hip dysplasia. As in people, arthritic pain in dogs tends to be worse in the damp and cold of winter. Providing a well-padded and warm bed will help alleviate some of the pain associated with osteoarthritis.



Normal Hip Joint

Severe Bilateral Hip Dysplasia with Advanced Degenerative Joint Disease

Physical rehabilitation after surgery:

Rehabilitation is aimed at preserving and promoting the leg's muscle mass, strength and range of motion through early (3-5 days) postoperative weight bearing ambulation and passive range-of-motion exercises. Early ambulation can be achieved by assisting the dog in getting up and walking. A towel can be placed under the abdomen to make assistance easier to perform in heavy dogs. Leash walks and/or swimming should be performed until near normal use of the leg returns. Passive range of motion physical therapy is also necessary to increase muscle strength and flexibility.

During surgery many muscles are rearranged to support the new bone placement. The dog



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does not have a normal hip articulation, so it is critical that these dogs walk very early after the surgery. Not using the limb causes a shortening of the muscle groups involved and it will sometimes be impossible to regain the normal usage of the limb. Muscle atrophy will then greatly reduce the strength of that leg. As the time increases that the limb is not used, the chances for a full recovery decrease. One day of muscle wasting allowed will take three days to regain.

Rehabilitation is critical and should be implemented within a couple of hours after the surgery.

Dogs that are obese, inactive or have substantial muscle atrophy and have poor owner compliance with physical therapy recommendations are poor candidates for surgery.