Hip Dysplasia

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What is hip dysplasia?

Hip dysplasia is a common mechanical disease affecting the hip joint. The hip joint is a ball and socket joint, and in affected dogs, the ball shaped part of the top of the thigh bone doesn't fit neatly into the socket formed by the pelvic bone. When this happens, the ball slips around in the socket, and may in fact become partially displaced from the socket on occasion before slipping back in. A hip like this is often called "loose".

Although the condition usually affects large or giant breeds, there are a number of smaller breeds that are also genetically predisposed to developing it.

What are the signs or symptoms?

A loose hip joint is unstable, and the abnormal slipping of the ball in the socket will cause degenerative joint disease, (osteoarthritis) getting progressively worse over time. It is painful and may severely limit a dog's ability to play, jump, run or even walk. The onset of symptoms can be quite variable, with severe cases causing lameness in dogs as young as 12 months, and milder cases showing up as gradual onset or intermittent lameness later in life. It is important to note that some breeds (for example retrievers) can have a very high pain threshold and may not show signs of pain until the disease is quite advanced.

How is it diagnosed?

If Hip Dysplasia is suspected due to the onset of pain and/or lameness in the hips of a predisposed breed, then X-rays can help to confirm a diagnosis. The two most accepted methods used to assess the tightness of the joint, along with any associated degenerative changes are:-

Visual Assessment of X-rays - This is the traditional method of hip assessment, and is conducted by a panel of certified veterinary radiologists who examine X-rays, and provide a subjective assessment based on a strict grading scheme. In Australia and UK, the examinations can be conducted once a dog reaches 12 months of age. In USA however, the examining body (Orthopaedic Foundation for Animals - OFA) will not provide certification until a dog is 2 years old, although they will conduct ‘preliminary evaluations' at a younger age, which in most cases will offer quite a reliable assessment.

Quantitative Assessment - The PennHIP (Pennsylvania Hip Improvement Program) method of "hip-scoring" is a more recently developed system, and evaluates the hips on their degree of looseness. This is an objective method based on mathematics. In some breeds, the PennHIP evaluation can be done on puppies as young as 16 weeks with good reliability, but with most, the age for a reliable evaluation is still to be determined. However, it does appear to be able to provide an evaluation earlier than the visual assessment alone can give.

Talk to your veterinarian about which of the assessments will be best suited to your situation. They will then arrange for X-rays to be taken, and referral to the relevant specialists for scoring.Unfortunately there is no cure for Hip Dysplasia, however you can help to manage the pain and slow the progression of degenerative joint disease by a combination of drug therapy, exercise modification and weight control.

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It is also important that young dogs in predisposed breeds not be allowed to grow faster than their bones, muscles and ligaments can cope with. The extra strain that an overweight puppy will put on newly developing joints may be enough to begin the early onset of Hip Dysplasia symptoms.

Dogs with severe Hip Dysplasia may benefit from surgery. Surgical options are expensive but may provide good results. This is a serious condition and one that will require extensive commitment from you and your veterinarian to manage.

How can I avoid buying a dog with hip dysplasia?

Hip Dysplasia is most commonly an inherited disease, caused by the actions of many different genes (polygenic). Unfortunately however, there is no simple DNA-based test to determine whether a particular dog is carrying the combination of genes that will cause it to either exhibit or pass on the defect. Another complication in assessing the hip status of a puppy is that Hip Dysplasia cannot generally be reliably detected until a dog reaches 1 - 2 years of age. Therefore, the best way to improve the chances of your puppy having good hips is to ensure that the puppy's parents have good hips, by looking at screening results from one of the established schemes for assessing X-rays. Bear in mind however, that this won't guarantee healthy hips in your puppy, due to the complicated mode of transmission of the disease. You should therefore also ask about the health of the aunts and uncles of your puppy, as a dog with normal hips from a litter where the siblings have dysplastic hips may be still be at risk of producing dysplastic offspring themselves - a dog with normal hips can produce puppies with dysplastic hips. The further you can look back into the hip health of the ancestors of a puppy you are interested in, the greater will be your chances of getting a dog without the disease.

In USA, contact the Orthopaedic Foundation for Animals (OFA) for their Hip Dysplasia assessment scheme. In UK, contact the British Veterinary Association (BVA), and in Australia, contact the Australian Veterinary Association (AVA) for examinations conducted under the Canine Hip and Elbow Dysplasia Scheme - CHEDS. The PennHIP assessment scheme can be accessed worldwide by contacting the University of Pennsylvania Hip Improvement Program.

An Explanation of Hip Scores and Breeding Recommendations.

Visual Assessment of X-rays - Three veterinary radiologists examine and grade the X-rays. Although the assessment criteria around the world are similar, countries may vary in how they describe the final result.

In USA, OFA separates results into seven categories - Excellent, Good, Fair, Borderline and dysplastic Mild, Moderate and Severe. The top 3 grades are considered to be within normal limits and acceptable for breeding. The borderline and dysplastic grade X-rays are further reviewed by an OFA radiologist and a report is provided to the owner with details of the abnormal findings. Scores are available on the public domain through the OFA database, but it is important to note that owners of dysplastic graded dogs have the option to not be listed on the open database.

In Australia and the United Kingdom, a numerical hip score is awarded to each dog based on the sum of points given for nine different areas of the hip joint. The scores for each hip are then added together giving a possible best score of zero and a worst of 106. This data is then collected by the national veterinary association and the national kennel council or club to compile breed averages. Breeding is generally not recommended for any dogs at or above the breed average hip score. Ideally, only dogs well below the breed average with relatives also below the average should breed. Of course this mean score will only be a true reflection of the problem in the breed if enough dogs have been tested. In the UK, hip scores are published by the Kennel Club and are also available in the dog's pedigree record and that of its progeny. In Australia, hip score results are not published but the owner of the dog will receive papers showing the hip evaluation.

Quantitative Assessment

The PennHIP assessment scores hip laxity or looseness as a number between 0 and 1. They call this the Distraction Index (DI). In other words, a breeder may show you papers giving a dog's score as DI 0.2 which would be a great result. A score of DI 0.3 means the dog has tight and healthy hips whereas DI 0.7 indicates very loose hips. Because this test has not been around as long, breed averages for PennHIP scores are not yet accurate. Breeding recommendations are that ideally only dogs with scores of 0.3 or lower should be bred.

Regardless of your country, registered breeders will be bound by the Code of Ethics (or similar) of their breed association. This means they will be having their dogs' hips graded and will make responsible breeding decisions based on these results.