



Understanding Hip and Elbow Dysplasia

Hip and elbow dysplasia are two relatively common conditions that can affect the skeleton of the dog.

More commonly seen in large and giant breed dogs, dysplasia can occur in dogs of any size or breed (or mixes of breeds).

The word **dysplasia** means '*abnormal growth or development*'.

What is hip dysplasia?

Hip dysplasia occurs when there is abnormal development of the hip joint - a ball and socket type joint. The result is that the ball and socket end up not fitting together properly, leading to altered joint function.

Instead of sliding smoothly against each other during everyday movement, the two joint surfaces end up rubbing and grinding against each other due to the abnormal shape and position of the ball relative to the socket.

What is elbow dysplasia?

In the front leg, elbow dysplasia refers to a number of different conditions that affect the three bones that form the elbow joint. These changes may occur alone or in combination, but the result is the same - a joint that does not function properly.

Both hip and elbow dysplasia can be quite painful and, over time, can lead to increased wear of the joint surfaces, the development of osteoarthritis, and a reduced range of movement.

At what age is dysplasia usually diagnosed?

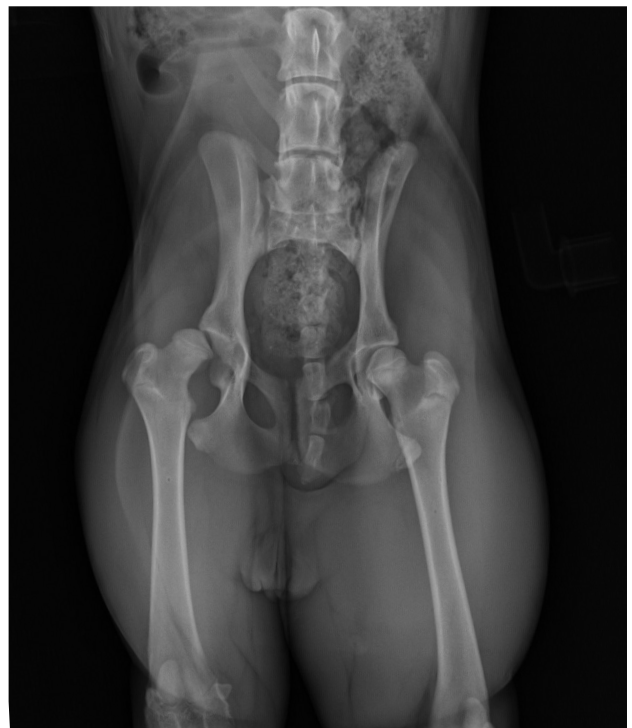
Because dysplasia relates to abnormal growth and development, symptoms are most commonly seen in young, growing animals - usually dogs under 12 months of age - with varying degrees of lameness, pain, or reluctance to exercise.

However, some animals with abnormal joint development may not have any obvious symptoms or display signs of pain or reduced movement until later in life when arthritis develops in the joint.

How is hip or elbow dysplasia diagnosed?

In most cases, diagnosis is confirmed by an x-ray examination of the affected joint or joints. Specific positions are used to evaluate both the hips and elbows by x-ray, and sedation of the animal may be required.

Your veterinarian will be looking at the shape and fit of the joint, as well as for signs of arthritis developing within the joint.



What causes hip and elbow dysplasia?

Dysplasia is thought to have several contributing factors - with the biggest risk factor being genetics.

This genetic 'potential' for dysplasia can be further exacerbated by poor/unbalanced nutrition, over-feeding and obesity, rapid weight gain and growth, and early joint stress caused by certain types of exercise.



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Can hip and elbow dysplasia be treated?

Depending on the severity of the symptoms, there are a number of options aimed at reducing pain and improving the animal's quality of life.

Treatments can vary from lifestyle and diet changes, supplements and medications, through to surgical options aimed at improving joint function or reducing the pain associated with dysplasia.

Can hip and elbow dysplasia be prevented?

Because the biggest contributing risk to the development of dysplasia is genetic inheritance, the selection of breeding stock that have normal, healthy joints is one of the most important ways to reduce the risk of dysplasia in subsequent generations.

The inheritance of hip and elbow dysplasia is considered 'polygenic' - caused by the interaction of a number of different genes - so there is no simple DNA test that can be used to test potential breeding stock.

Instead, reputable breeders actively partake in screening programs that use x-ray pictures to look at hip and elbow anatomy of potential breeding stock before they are bred from.

Screening programs involve specialist Veterinary Radiologists examining the hip and elbow x-rays of potential breeding stock and grading them using one of a number of internationally accepted protocols.

Addressing the other contributing factors, such as nutrition and exercise in growing and developing puppies, is another way to reduce the risks of dysplasia.

There are specially formulated diets for large-breed puppies which aim to promote slower growth whilst still ensuring vital nutrients are provided in the correct ratio, and many breeders of large and giant breeds will have very strict instructions for their puppy purchasers relating to appropriate exercise and activity for growing puppies.

Understanding the Scoring Protocols

There are two internationally recognised scoring protocols, each with its own supporters.

In Australia, the most widely used scoring protocol is the British Veterinary Association (BVA) scheme. This system gives a numerical score to nine different aspects of each hip joint.

The scores are then totalled for each hip, with a '0' score representing the best result and 53 the worst possible result for each hip. The scores for the two hips are then added to give a total score (from 0 to 106), and this is what is compared to the breed average.

For a score to be recorded on the Dogs Australia 'ORCHID' database (Officially Registered Canine Health Information Database), the x-rays must be scored by one of the [Veterinary Radiologist panellists](#) listed on the ORCHID website. Scoring for official results can only be done on animals over 12 months of age.

Another protocol for assessing hip conformation is the PENN Hip evaluation developed by veterinarians at the University of Pennsylvania.

The PENN Hip screening technique uses different body positions compared to the BVA testing. This protocol looks at 'passive hip laxity' - the degree of looseness in the hip joint when the muscles are completely relaxed. This scoring can be done from 16 weeks of age.

The result is shown as a 'distraction index', and breeders aim to select animals with 'tighter hip joints' than the breed average.

The veterinarian taking the x-rays needs to be PENN Hip certified, so there are fewer clinics offering this protocol. You can search for a clinic near you that offers this service by visiting the [PENN Hip website](#).



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The Breeder's role in reducing the incidence of dysplasia

Dogs Victoria breeder's goal is to produce healthy, happy puppies that are excellent examples of their breed, both in looks and temperament.

To do this, they are aiming to not only produce puppies that are true to their breed standard but who are as free as possible from inherited diseases or conditions that could impact the welfare of the animal during its lifetime.

When it comes to reducing the incidence of hip and elbow dysplasia, breeders of large and giant breeds (or any breed where dysplasia is a concern) should ensure that all of their potential breeding animals undergo hip and/or elbow 'scoring' BEFORE they are considered for any breeding program.

Dogs Victoria Regulations 20.3 states:

- *Members will take responsible action to reduce the incidence of hereditary diseases in their breeds.*
- *Where there is a control program, approved by Dogs Victoria, covering a breed for a disease known or considered to be inherited, then breeders within the breed should participate and comply with the requirements of the program.*

The aim is for breeders to select animals with scores that are the same or better than the breed average and to only consider using animals that score worse than the breed average if there are other breed health issues that also need to be addressed. In this case, the deliberate selection of a mate with exceptional scores is preferred.

Any animals that have obvious signs of hip or elbow dysplasia or who score very poorly at screening should be removed from the breeding population altogether.

Mandatory testing for certain breeds

Under the Dogs Australia rules, some breeds have mandatory health testing requirements – called *litter registration limitations*.

For these breeds, both the sire and the dam must undergo required testing before the litter is able to be registered, and breeders must submit a copy of the testing results with their litter registration paperwork.

Hip **and** elbow scoring is currently mandatory for Flat-Coated Retrievers, Golden Retrievers, Labrador Retrievers, German Shepherd Dogs, Bull Mastiff and Rottweiler breeds.

Hip scoring is mandatory for Australian Shepherds.

So what should puppy purchasers expect from a Dogs Victoria breeder?

These days, puppy purchasers are far better informed thanks to easy access to the internet. Those that do their homework properly know to ask their breeder about the hip and elbow scores of their puppy's parents (and even grandparents).

Reputable breeders are always concerned about breed-specific health issues and not only take all of the required steps to select only the healthiest breeding animals but take time to educate potential puppy purchasers about health testing and selection of breeding animals to minimise disease.

Many breed clubs have also taken proactive steps to promote awareness of breed-specific health problems and may have publicly accessible health databases available through their club website or actively promote health testing of breeding stock through membership requirements.

Sadly though, there are plenty of less scrupulous, backyard-type breeders out there who are selling pups from parents who have not been assessed for these diseases.

Their reply when asked for scores may be to say that 'both the mother and father have no signs of lameness, so testing is not necessary', or they may lie and say that their breeding stock has been x-rayed - but will have no test results or scores to provide to potential puppy purchasers.



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Puppy purchasers of all large and giant breeds should expect to receive a copy of both of the parent's hip, or hip and elbow, scores in their puppy packs.

Like all health tests, the results should be linked to the animal's microchip number. Positive identification at the time of testing is important to prevent mistakes or the deliberate falsification of results.

Did you know that all ORCHID certificates now come with a QR code on them linked to the original certification document? Simply scan the QR Code with your mobile device to check that the information shown matches the original.

There should also be information provided about the importance of correct diet and exercise in growing puppies and its link to health issues such as dysplasia.

What happens if you sell a puppy that develops dysplasia?

Despite your best efforts as a breeder, there may be times when a puppy that you have bred develops hip or elbow dysplasia, despite selecting breeding animals with scores better than the breed average.

On the other hand, if you have failed to screen your breeding stock for hip and/or elbow dysplasia, and it is a known condition in your breed, you may be considered negligent if you sell a puppy that goes on to develop these diseases.

When you breed and sell animals, the same consumer laws apply to you as to any other person or business offering products or services.

Victorian State law provides a level of protection to the 'purchaser' of an item through a number of different pieces of legislation overseen by Consumer Affairs Victoria. This includes rules relating to refunds, returns, and a process for the handling of disputes.

Dogs Victoria breeders are required to provide their puppy purchasers with a written health declaration and provide a '**sale guarantee**' (Dogs Victoria Regulation 20.1.25).

Dogs Victoria Regulation 20.1.25 outlines the minimum standards in relation to sale guarantees:

With the exception of matters disclosed in the health declaration, a member shall abide by the following as a minimum practice when selling dogs;

- » *Where a dog is returned to the member within 3 days of sale, for any reason not supported by a statement from a veterinary practitioner, the member must take back the animal and refund 75% of the purchase price.*
- » *Where a dog is returned to the member within 21 days of sale accompanied by a statement from a veterinary practitioner that the animal is unacceptable for health reasons, the member must take back the animal and refund 100% of the purchase price.*
- » *If an animal is diagnosed with, suffering from, dies of, or is euthanased from a physical defect or disease that is directly traceable to the point of sale within 3 years of purchase, the member must, subject to a second veterinary opinion, refund 100% of the purchase price where the owner of the animal provides supporting statements from a veterinary practitioner, including test results where a suitable test is available.*

Owners of the animal must make veterinary reports and test results available to the breeder for the breeder to obtain their own veterinary advice (second opinion) and for the purpose of informing future breeding management.

Even if you provide a full refund to a purchaser should things go wrong, the purchaser is within their rights to pursue further action and potential compensation, such as reimbursement for veterinary fees and other costs incurred, through the Victorian Civil and Administrative Tribunal (VCAT).

Purchasers can also make a complaint against a member if they feel the member has breached Dogs Victoria's rules and regulations. If you have not screened your breeding stock, and a complaint is made, you may be subject to disciplinary action under the Dogs Victoria rules for breaching Regulation 20.3.