

HIP OSTEOARTHRITIS IN GREYHOUNDS

Dr Ray G. Ferguson BVSc.
Monash Veterinary Clinic
1662 Dandenong Road East
Oakleigh 3166

Osteoarthritis (OA) may be classified as primary or secondary.

Primary OA is associated with ageing and so can be considered a wear and tear condition.

Secondary OA occurs when there is an apparent cause of the condition rather than wear and tear. Factors such as infection, heritability, trauma, obesity or conditions such as rheumatoid arthritis and acromegaly may be involved.

OA in greyhounds is a common problem.

The affected joints tend to be those which are prone to injury during racing or susceptible to diseases during growth.

These include:

Hocks, as a sequel to sprains, fractures and OCD.

Stifles, as a sequel to an avulsed tibial tuberosity.

Shoulders, as a sequel to fractures and OCD.

Carpal joints, as a sequel to fractures and sprains.

Metacarpal phalangeal joints and metatarsal phalangeal joints as a sequel to dislocations and fractures.

The hip joint of racing greyhounds is rarely affected. Fractures of the acetabulum which occur during racing are a major cause of hip OA in racing greyhounds.

Hip Arthritis

Hip arthritis is a common problem in most breeds of dog with the exception of the greyhound, whippet and the borzoi

If primary hip arthritis were to occur in the greyhound then older greyhounds should show signs of OA as they age.

The same postulate will apply to other breeds of dogs.

If the main type of hip OA in dogs is secondary, then the aetiological factors need to be defined.

The incidence of hip OA from septic arthritis, hip trauma from car accidents and avascular necrosis of the femoral head, rheumatoid arthritis and acromegaly is small.

The 2 most common factors involved in hip OA are inherited joint diseases and obesity. ^{1 2} Canine Hip Dysplasia (CHD) is the most common inherited hip condition affecting dogs. It is described as a laxity of the hip joints which progresses to OA.

CHD is seen mostly in the larger breeds of dogs but can also be seen in smaller breeds.

Methods used to predict the potential to develop hip OA rely on radiographs taken using either the Extended Hip View (EHV), or by assessing passive hip laxity. There are no papers in the literature to suggest that the EHV has any value in assessing the likelihood of developing hip OA. There are papers showing its failure to reduce the incidence of CHD³ and also papers which discredit this system⁴.

Passive hip laxity as measured by PennHIP's distractive index (DI), or the dorso lateral subluxation view has been shown to be an accurate tool to use in the prediction of hip OA⁵. The DI is calculated by measuring the distance the femoral head can be distracted out of the acetabulum, divided by the radius of the femoral head. (Fig 2)

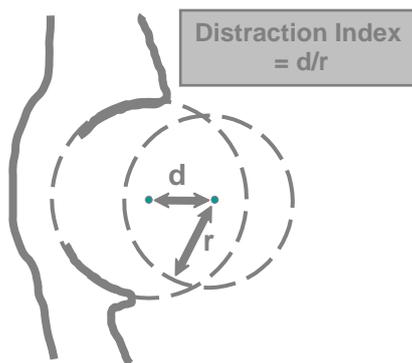


Figure 2.

The higher the DI the greater the risk the dog will develop OA. A DI of less than 0.3 indicates a very low likelihood of developing OA. A DI of greater than 0.7 indicates that the dog will almost certainly develop OA. This probability can be graphed⁶ (Fig 2)

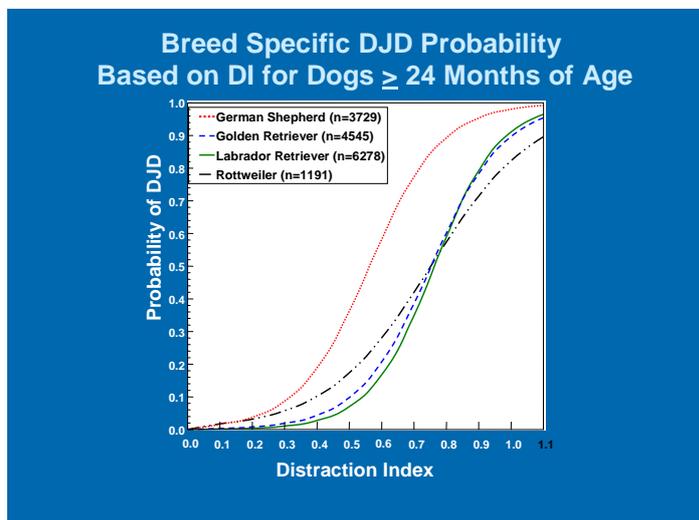


Figure 2

Since CHD is the most common cause of hip OA in the dog, all cases of hip OA should be considered as CHD unless another cause can be found.

Data ⁷ from the PennHIP data base on the DI for some breeds shows:

Breed of dog	Number of dogs	Minimum DI	Maximum DI	Mean DI
Golden retriever	11192	0.17	1.56	0.55
German Shepherd	7810	0.11	1.27	0.43
Labradors	16969	0.08	1.78	0.49
Greyhound	40	0.07	0.35	0.22

These figures suggest that it is highly unlikely that most greyhounds would develop secondary OA as a result of CHD. Therefore if primary OA were to occur in greyhounds, radiographs of old greyhounds should show the presence of OA. The DI assessments of older dogs should show DI's < 0.3.

Study

29 greyhounds varying from 8 – 16 years of age were radiographed using either the EHV or the EHV plus a PennHIP compression and distraction view.

Interim Results

The results of the PennHIP distraction view have not been calculated at the time of writing but casual observation suggests that the DI's will fall within the published range. No dog in the study was found to have OA.

Conclusion

Greyhounds reach very old age without the development of hip OA. The Greyhound is a breed of dog which has very low DI's and is highly unlikely have CHD and so develop hip OA.

References

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