

## Thoughts on Hip Testing — Part 3

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This is the third and last column on hip testing, although much more could be written. (If you haven't already, you may find it helpful to review Part 1 and Part 2.)

Just to review the terminology: CHD is Canine Hip Dysplasia. OA is osteoarthritis, a late-onset condition associated with CHD; joint laxity may be described as excess space where the femoral head meets the acetabulum, the cup-shaped hip-joint socket. Subluxation is partial dislocation and DJD is degenerative joint disease.

According to researchers hip-joint laxity is the primary indicator of future OA—the most common disease in large breed dogs, but not necessarily in Norwich Terriers, as no studies have been done. Still, the NTCA's Code of Ethics stipulates hip testing as one of the required Norwich health tests.

Breeders should therefore be aware that proper X-ray positioning is crucial for accuracy. The Orthopedic Foundation for Animals uses the hip-extended X-ray position for evaluations. Unlike PennHIP's requirement that screening images be done by certified veterinarians, OFA accepts screening X-rays taken by any practitioner. This can be a major factor in the final OFA grade; in short, poor positioning can make good hips look bad. It is also important to understand that it is difficult for many vets to properly position a short-legged dog like a Norwich Terrier without the use of general anesthesia. Another factor to consider is that young dogs, like children, may have looser ligaments. They are simply more flexible, and this can impact positioning as well.

The assigned OFA grade indicates a tendency toward or away from CHD. A less favorable rating doesn't mean, however, that a dog will suffer the debilitation of OA when he reaches his senior years. This may come as a surprise but there is no individual predictive value between an OFA X-ray of the hips today and the development of future DJD.

PennHIP's distraction index (which measures hip-joint laxity) offers a better predictive tool for some of the large breeds studied, but other studies have shown that dogs with poor scores still were free from CHD after a long life. To date all tests only measure passive laxity. There are still no tests to measure functional laxity—that is, when the hips are actually bearing weight—when walking, running or jumping, activities that may predispose to development of hip arthritis.

OFA breed statistics show that from January 1974 through December 2010, 602 Norwich Terriers were tested. Of these, 7.5 percent were deemed excellent, and 12.8 percent were graded dysplastic, with the majority falling into the normal range. However, a recent University of Pennsylvania study (Powers M.Y. et al., *Journal of the American Veterinary Medical Association*, 2010 Sept 1; 237:532-41) calls not only these statistics into question but the whole OFA method. According to the study, a shocking "80 percent of dogs judged to be normal by the traditional method are actually at risk for developing osteoarthritis and hip dysplasia." The sample included 439 of the larger dogs more commonly susceptible to CHD—but, of course, no Norwich Terriers.

Still, while that particular study projects a grim overall outlook, it is not one that's supported by anecdotal evidence provided by long-term Norwich and Norfolk breeders. The database in both systems is limited; PennHIP has very few NT's, and OFA is self-selected.

## What You Can Do.

Despite testing limitations, we can use the tools we have and try to breed away from laxity. We are not going to find a “cure,” but at least we can progress in the right direction. Study vertical (familial) pedigrees and make sure of proper radiograph positioning. Stay informed on current research. Both PennHIP and OFA offer a wealth of information on their websites. If you wish to participate in events like agility, be sure your athlete’s hips are up to the task.

Be aware too that it’s been shown that over-exercising a young dog can cause microfractures on the acetabular rim, which can then accelerate the onset of OA. Good muscle tone supports proper bone growth, so it’s a question of the right kind and amount of exercise. Well-balanced muscular support is necessary to support proper joint alignment. Weight control is also crucial. Gail K. Smith, VMD, PhD, at University of Pennsylvania, summarized the published research to date on the relationship between canine obesity and OA: “Restricted feeding delayed or prevented development of radiographic signs of hip joint osteoarthritis.”

At the end of the day, we must realize that canine hip dysplasia is a complex, polygenic disorder. Despite years of research and countless tests both here and abroad, CHD has not been eliminated, but it has been reduced in certain large breeds prone to severe OA. Research is needed in our breed to draw meaningful conclusions. At the same time, we must set priorities in terms of overall health issues. Above all, we must make our breeding decisions wisely—based upon a real understanding of the various health-screening tests available and how to interpret the results. Choices we make today will impact untold future generations.

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