An explanation of the PennHIP method of screening for canine hip dysplasia and a comparison between it and the OFA method. OfA, PennHip, Hip dysplasia

THE PENNHIP METHOD OF HIP EVALUATION

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The Code of Ethics of The Soft Coated Wheaten Terrie Club of America, Inc. requires that member have the hips of all breeding stock evaluated by The Orthopedic Foundation for Animals (OFA). In recent years, a second method of evaluating hips known as PennHIP has been developed. The purpose of this article is to familiarize readers with this new method. At this time, OFA is the only method currently recognized by SCWCTCA, but in all likelihood, the Board of Directors will propose to the membership that a change be made in the Code of Ethics to include PennHIP as well as OFA as an acceptable means of hip evaluation.

Over the years, we have all come to recognize the value of having our breeding stock evaluated for hip dysplasia. We are attempting to determine the likelihood that a given dog or its offspring, are going to develop degenerative joint disease (arthritis) during their lifetime. The organization we have turned to for this evaluation has been the Orthopedic Foundation for Animals located in Columbia, Missouri. When our dog was 24 months of age, our veterinarian could take radiographs of his hips and send them to OFA for evaluation. These radiographs would be “read” by several radiologists (independent of one another) and the dog’s hips would be rated from excellent to dysplastic. We would then all anxiously await the results to see if we should breed our dog.

Although OFA has served the needs of breeders well over the years, the system has, in my opinion, several basic flaws. One, all dogs need to be two years of age before OFA will accept their radiographs for evaluation (and issue a permanent rating). Two, breeders and their veterinarian could choose to send only those radiographs that they felt would pass OFA’s analysis. By making the decision not to send a radiograph because the breeder/veterinarian felt the dog would not “pass,” the breeder/veterinarian were selectively eliminating dogs with bad hips from being included in the OFA’s database on that particular breed. Three, the films were being evaluated by human beings. This, by its very nature, interjects an element of subjectivity into the process. Most people have heard stories where a dog’s radiographs were initially scored as dysplastic only to have the same radiographs given a passing evaluation when resubmitted at a later date. These criticisms are in no way intended to diminish the fine work done by OFA; rather, I point them out only so the reader can appreciate the differences between this method and PennHIP.

Dr. Gail Smith developed PennHIP at the U of PA, School of Veterinary Medicine. This method involves the measurement of passive joint laxity. As we know, the hip is a ball and socket joint. How well the ball part sits in the socket is what is important when evaluating the hip joint. The PennHIP measures how far the ball can be caused to move out of the socket when external force is applied. (This is a very simplistic way of looking at things) PennHIP has developed a measurement they call the Distraction Index (D.I.). The D.I. is measured on a scale of 0.0 to > 1.0 with 0.0 being full congruency of the hip joint (the ball fits tightly into the socket) and 1.0 being full luxation of the hip (the ball is completely out of the socket). In order to obtain the measurement, the dog must be sedated and a special device positioned over his pelvis. The device is adjusted to exert outward forces on the hip joint. Radiographs are then taken and the distance the ball was distracted from the socket is measured. This number is then used to arrive at the distraction index. On the surface, this method appears to be rather cut and dried; however, that is not the case. Dr. Smith and his colleagues have come to learn that data needs to be collected on every breed in order to establish normal values for that breed. Some good data has been collected on Wheatens so a “passing” D.I. for our breed is close to being established.

In those breeds for which sufficient data has been obtained, a D.I. of <0.3 has been indicative of good hip conformation and these dogs are not at great risk to develop arthritis. However, that is not to say that dogs with a D.I. >0.3 will always develop arthritis as other factors such as muscle mass, level of activity, etc. can influence the development of degenerative changes. What really is important about the D.I.
value is that it may better indicate whether a given dog has the potential to pass genes for degenerative joint disease on to its offspring. Isn’t what we need to be concerned about if we are to breed a dog?

With all this said, what advantages, if any, does the PennHIP method have over OFA? In my opinion there are two major ones. One, the PennHIP method can be used on dogs as young as 16 weeks of age. This means that a breeder does not need to wait until a dog is two years old only to find out then that his hips are bad and the dog should not be bred. Secondly, the D.I. is based on objective measurements and not the subjective opinion of a given group of individuals.

But, there are also some potential downsides to PennHIP depending on how one looks at them. First, not all veterinarians are approved to do PennHIP. To gain such approval a veterinarian must attend a course (this may require travel) and then the veterinarian must submit multiple radiographs that they have taken using the PennHIP method for evaluation. Provided that these films are acceptable, the veterinarian will be approved to do PennHIP. The time and expense to go through this procedure may be more than some veterinarians are will to do. Secondly, all dogs must be sedated/anesthetized for the procedure to be done. With OFA sedation is an option, but not required.

There is no question that the incidence of hip dysplasia in many breeds has been greatly reduced by the combined efforts of breeders and the OFA. PennHIP now adds another method for breeders to use, a method which ultimately may prove to be superior.