

Checking Hips

What is Penn HIP?

PennHIP stands for the University of Pennsylvania Hip Improvement Program.

PennHIP is a multifaceted radiographic technology (x-ray) for hip evaluation. The technique assesses the quality of the canine hip and quantitatively measures canine hip joint laxity. The PennHIP method of evaluation is more accurate than the current standard in its ability to predict the onset of osteoarthritis. Osteoarthritis, also known as degenerative joint disease (DJD), is the hallmark of canine hip dysplasia (CHD).

PennHIP is more than just a radiographic technique. It is also a network of veterinarians trained to perform the PennHIP methodology properly and, perhaps most importantly, it is a large scientific database that houses the PennHIP data. The radiographs are made by certified PennHIP members worldwide and are sent to the PennHIP analysis center for evaluation. The resulting data is stored in the database, which is continually monitored as it expands. As more information becomes available, the PennHIP laboratory is able to obtain more precise answers to questions about the etiology (cause), prediction and genetic basis of CHD.

The PennHIP laboratory publishes its findings in scientific journals. Published information is disseminated to all PennHIP members; it is also shared with interested breed clubs.

To summarize, PennHIP is composed of three major components
 A diagnostic radiographic technique
 A network of trained veterinarians
 A medical database for scientific analysis

A Brief History

In 1983, Dr. Gail Smith from the University of Pennsylvania School of Veterinary Medicine conceived and developed a new scientific method for the early diagnosis of CHD. Research conducted in his laboratory proved the diagnostic method to be capable of estimating the susceptibility for CHD in dogs as young as sixteen weeks of age.

In 1993, Dr. Smith established PennHIP, a cooperative scientific initiative, to serve as a multi-center clinical trial of the new hip dysplasia diagnostic technology.

The program was successful and quickly grew beyond the capacity and purpose of a university research laboratory. Initially, the University of Pennsylvania licensed PennHIP to outside biotech companies in order to make the technology available for widespread public use and to allow Dr. Smith and his colleagues to continue their research at the School of Veterinary Medicine. PennHIP has recently been reacquired by the University of Pennsylvania and is now a not-for-profit organization.

PennHIP Radiographic Evaluation at a Glance

The PennHIP method is a different way to assess, measure and interpret hip joint laxity. It consists of three separate radiographs: the distraction view, the compression view and the hip-extended view (right). The distraction view and compression view, developed by Dr. Smith, are used to obtain accurate and precise measurements of joint laxity and congruity. The hip-extended view is used to obtain supplementary information



Distraction View



Compression View



Hip-extended View

The radiographs above are of the same dog, yet the hip joint laxities (looseness) in each view look very