

# A New Look at Loose Hips



## How to Bring the Roof Down on Hip Dysplasia

Congenital hip dysplasia is old news. It is a developmental condition characterized by loose coxofemoral joints that, over time through the rough ride of walking/running through life, results in progressive degenerative joint disease/osteoarthritis. Seen most commonly in certain classic breeds, it can manifest in most purebred dogs, crossbred dogs and cats as well. So, what is new?

**Actionable intelligence.** If you are privy to a military background, that phrase is commonplace. (If not, it still is quite intuitive and, I'd suggest, highly sought after in daily veterinary life!) The PennHip radiographic technique (*performed as early as 4 months of age*) provides a repeatable measurement of hip laxity, the Distraction Index (DI), that has been correlated to the progression of hip DJD/OA in lifetime studies and large databases of various breeds. A Distraction Index over 0.3 says there will be hip changes to some degree in the patient's lifetime. Generally speaking, dogs with a DI <0.3 (i.e. tight hips) are unlikely to have hip DJD/OA later in life. Additional work has been done to provide a ranking within each breed, allowing a concerted selection pressure to drive hips toward a tighter state.

All of this intelligence gained through PennHip data on patients allows for three actionable items.

- 1) Select dogs, with other characteristics valuable to service work, can be screened early in life for hip laxity. Valuable training time and resources can then be directed toward dogs with tight hips and a good lifetime hip prognosis for service dogs.
- 2) Potential breeding candidates can be screened early in life; only those with the tightest hips for the breed can then move forward in a breeding program. Future generations of pet and working dogs will have tighter hips and improved lifetime hip prognoses.
- 3) And perhaps most importantly to the current generation of pet dogs, the PennHip allows us to assess the risk of hip DJD/OA **as young as 4 months of age**. With this data and for those pets at higher risk, we can begin discussions with pet owners about how to prevent progression and clinical manifestation of hip DJD/OA.

This is where we bring the roof down! One minimally invasive method of altering hip anatomy to improve the outcome of a loose hip is to close the pubic symphysis prematurely. This surgical alteration results in an outward, arching effect on pelvic development that brings the "roof" of the acetabulum further laterally to provide support for the femoral head during weight bearing. The procedure is the **Juvenile Pubic Symphysiodesis (JPS for the tongue-tied!)** In two large studies, mildly to moderately loose hips were improved relative to progression of DJD/OA when JPS was



performed at 4-5 months of age. Both timing and severity of DI appear important to outcome for this procedure.

Perhaps the most common-sensicle and least invasive means for preventing clinical progression of hip DJD/OA in predisposed loose hips is the maintenance of a lean body condition. (Listen up, Choir! I know I am preaching to you!) **The PennHip is perhaps another piece of data that may sway pet owners away from the Dark Side of food-loving their dogs.** The Lifetime Labrador Study showed at 2yrs of age, lean-fed hip DJD 4% (vs. over-fed 25%), at 5yrs of age, lean-fed hip DJD 13% (vs. over-fed 39%), at 8yrs of age, lean-fed hip DJD 14% (vs. over-fed 64%) and at 14yrs of age, lean-fed hip DJD 50% (vs. over-fed 83%). The onset of clinical signs of hip DJD was on average 3 years sooner for over-fed dogs.

Other management advice with little formal data to support it are things like chondroprotectants, low-impact activities (especially in formative months), and targeted physical therapy directed toward pelvic muscles that support hip reduction during weight bearing. Perhaps as the science of veterinary physical therapy grows, we will get answers to these questions to guide us better.

**Direct Veterinary Surgery offers both the PennHip radiographic study and the Juvenile Pubic Symphysiodesis for your patients and clients.** Timing is critical for JPS, so building a screening plan into your young puppy visits is important. Both the physical findings of a positive Ortolani and Bardens sign offer a suggestive peak into the tightness of puppy hips and can be an early flag during vaccine appointments. As you discuss your findings with clients, we are happy to help those interested in gathering more data with the PennHip diagnostics. (For the next few months, we will be offering the study at our Northwest Animal Hospital partner-clinic location; we will send out an additional announcement when the service goes mobile!) Please call with any questions you have; love to talk hips!

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