

Second opinions can be very important in both veterinary and human medicine. The attached article contains findings from a group of dogs initially evaluated as affected or borderline for hip dysplasia because of a diagnosis of subluxation in the evaluation of the original films. These dogs were subsequently re-radiographed by the author with an emphasis on the OFA-recommended positioning. A second opinion from OFA based upon the new radiographs often differed from the original diagnosis. It is important to remember that the owners of these dogs undoubtedly had reasons for seeking a second opinion, the sample is not random, and the dogs may well have been significantly older and may have been in different physical condition than when originally x-rayed. However, clearly second opinions can provide useful information to owners. Importantly, most of the radiographs described in this paper were taken in unanesthetized dogs. Some veterinarians [including member(s) of the Health and Genetics Committee] feel that OFA x-rays should be taken only in anesthetized dogs, while other veterinarians [including member(s) of the Health and Genetics Committee] feel that a well-positioned unanesthetized x-ray is adequate for hip evaluation and does not involve the relatively small risk of anesthesia. The Health and Genetics Committee also recognizes that PennHip evaluations provide an excellent means for quantifying the joint laxity that can be reflected in a diagnosis of subluxation in standard OFA radiographs. This article is, therefore, published to provide GRCA members with findings that they can then discuss with the veterinarian who provides the routine care for their Golden Retriever. H&G

Hip X-rays: The Importance of Radiographic Positioning

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For many years I have routinely taken 250 to 400 Orthopedic Foundation for Animals (OFA) hip x-rays annually. The vast majority are done awake.

Since 1978, I have been intensely interested in why a dog/bitch can get a failing OFA grade and then later the same dog/bitch gets a passing OFA grade when a new x-ray is submitted.

I was finally able to figure out the "WHY" after the OFA started returning x-rays to the owners. Also, with the advent of digital x-rays, I have been able to compare the previously submitted hip x-ray to the hip x-ray I took later and then submitted.

I found that positioning is the critical factor.

A radiographic diagnosis of hip dysplasia can involve many different types of x-ray abnormalities, which are used by the radiologist in interpreting whether or not hip dysplasia is present. Based upon our cases, the radiographic impression of *subluxation* can be affected by positioning, whether or not the subluxation was originally believed to be present in one or both hips.

Subluxation means the head of the femur (the ball) is not deep enough in the socket.

In an initial study, I found that 25 of 27 dogs who had previously not passed an OFA evaluation of their hips, did pass OFA when the radiographs were retaken with careful attention to positioning.¹ In January 2012, I decided to do another study on dogs that failed their OFA hip x-ray because of subluxation only.

In that new study, 27 of 33 (81.8%) passed when I retook the hip x-ray and then resubmitted the new film to OFA. This study was from January 1, 2012 to October 13, 2012.

- 1 dog (3%) improved by four grades going from mild hip dysplasia to an excellent
- 15 dogs (45.5%) improved by three grades (for example from mild to good)
- 9 dogs (27.3%) improved by two grades (for example mild to fair; borderline to good)
- 2 dogs (6.1%) improved by one grade (borderline to fair and passed)
- 1 dog (3%) improved one grade from mild to borderline and still failed
- 2 dogs (6%) received the same grade and still failed
- 3 dogs (9.1%) dropped by one grade and still failed

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¹The technique used in this study uses a positioning technique I have trademarked, Precise Positioning Technique™, but the radiographs result in the position recommended by OFA, the American Veterinary Medical Association (AVMA) and the American Animal Hospital Association (AAHA) to facilitate the accurate evaluation of a dog's hip x-ray.

Below is a chart that shows the dogs in the study. As you can see, most dogs (81.8%) went from failing to passing OFA hip x-rays.

No.	ID	Breed	Previous	New	Change
1	43151	Golden Retriever	borderline	fair	+1
2	42822	Border Collie	mild	good	+3
3	43027	Labrador Retriever	mod/mild	fair	+3
4	43199	Golden Retriever	mild	fair	+2
5	43198	Portugese Water Dog	mild	moderate	-1
6	43289	Golden Retriever	mild	good	+3
7	43529	Leonberger	mild	good	+3
8	43291	Rottweiler	mild	borderline	+1
9	43609	Golden Retriever	borderline	good	+2
10	43672	St. Schnauzer	mild	fair	+2
11	43411	Mastiff	mild	fair	+2
12	43629	Labrador Retriever	mild	good	+3
13	43637	Pointer	mild	good	+3
14	43291	Rottweiler	mild/border	good	+3
15	43490	Golden Retriever	mild	excellent	+4
16	42866	Bernese Mtn Dog	borderline	fair	+1
17	43924	Labrador Retriever	mild	fair	+2
18	43731	Golden Retriever	mild	fair	+2
19	44065	Mastiff	mild	good	+3
20	44138	Bullmastiff	mild	good	+3
21	44162	Golden Retriever	mild	good	+3
22	41158	Golden Retriever	mild	moderate	-1
23	44352	Labrador Retriever	borderline	excellent	+3
24	44367	Keeshond	mild (R side)	good	+3
25	44375	German Shepherd	mild (R side)	good	+3
26	44386	Golden Retriever	mild (L side)	good	+3
27	44409	Golden Retriever	mild	mild	same
28	44335	Weimaraner	mild	fair	+2
29	44484	Newfoundland	mild	fair	+2
30	44417	Havanese	mild (prelim)	mild	same
31	44540	German Shepherd	mild (L side)	good	+3
32	44600	Labrador Retriever	mild (L side)	moderate	-1
33	44409	Golden Retriever	mild	fair	+2

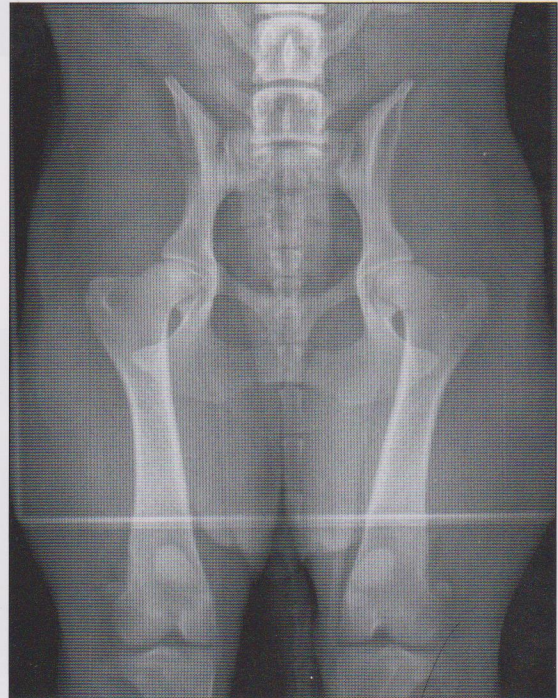
So *how* does this happen?

Let me first show you an x-ray image (at right) of a dog I x-rayed for OFA that got an excellent OFA grade.

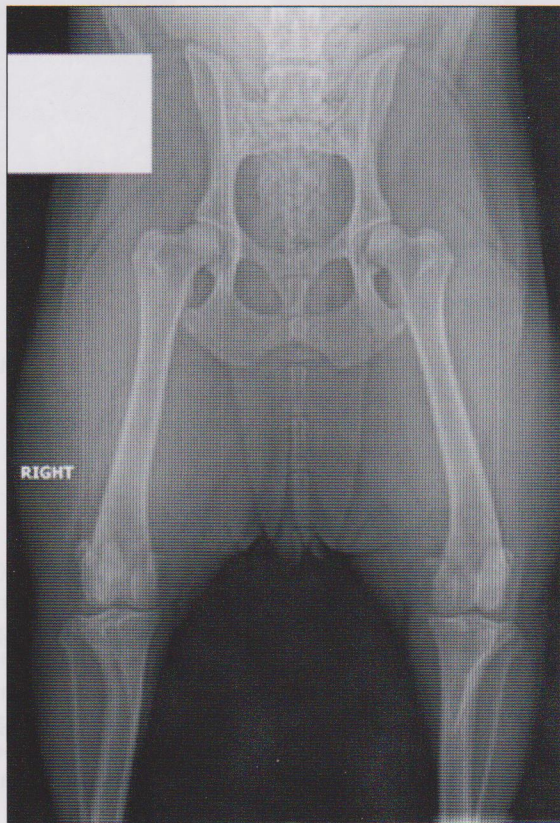
This x-ray isn't perfect, but it closely conforms to the OFA required position.

The OFA Hip Application form states the following in reference to positioning:

"Dorsal recumbency with the rear legs *extended and parallel* to each other is the preferred positioning. This standard ventrodorsal view is the basis for evaluation of hip joint status with respect to hip dysplasia. Care should be exercised to be sure the pelvis is not tilted."



Now, what do I see in the real world?



Original film – mild hip dysplasia



Second film with different positioning – OFA good

This is the same dog.

As you can see, the second radiograph is positioned almost exactly as the OFA required position dictates.

The other film shows the femurs not parallel, the pelvis is tilted and the kneecaps are rotated to the outside.

The question for you is this – which x-ray do you want OFA to read and grade?

Both were accepted and graded by OFA

As you can see, the OFA required position shows the true anatomy of your dog's hips.

Submitting a second carefully positioned hip x-ray can make the difference between passing and failing the OFA hip evaluation in some dogs. ❖