

RISK ANALYSIS

Questions and Answers

Risk Analysis

- “What is a risk analysis?”

Risk analysis is a mathematical computation of the percentage of risk derived from the cumulative contribution of ancestors in a particular disease process. Verified information received from the owner or breeder regarding affecteds and producers of the diseases is entered into the database. The computer program then calculates the risk value of a disease for a particular dog or for a prospective mating. The computations are only as good as the amount of information in the database. The more complete the data; the better the analysis.

Risk analysis is computed for idiopathic epilepsy, PCD and PRA. In addition, the results of published testings for hips, elbows, eye and heart are included. The names of owner, breeder or dog are not mentioned unless permission is received in writing to share information.

Wherever possible, copies of requested risk analyses will be sent to the owners of both dogs involved in each analysis. Several breeders have mentioned that they would prefer that the inquirer contact them prior to requesting a risk analysis.

- “Can you give a sample risk analysis and explain what the information is saying?”

Definitions of Terms

Anecdotal - Anecdotal affecteds are IWs that have had one of the diseases included in the risk analysis and are entered by its owner or breeder but a diagnosis by a qualified professional has not been made. Many of these animals have not been tested so we do not know what form of disease they actually had or what mode of inheritance, if known, is associated. (An example is a breeder who reports an IW of their breeding as having had seizures but no tests were done) These animals are not calculated in the risk analysis, even at the request of the breeder of the anecdotally affected animals. I will, however, note that there are X number of anecdotal producers and/or affecteds for a given disease.

Autosomal – a chromosome that is not an X or Y (sex) chromosome. In other words, not sex linked.

Recessive - a mode of inheritance that requires genetic contributions from both parents.

Incomplete penetrance – the gene for the disease is present but is not expressed in all individuals in a litter (family) with the gene.

Modifier – a gene that modifies the expression of another gene

Inbreeding coefficient - The inbreeding coefficient is the total percentage of identical gene contributions from all ancestors common to both parents, not just one ancestor in particular.

IE = idiopathic epilepsy

IEL = late onset idiopathic epilepsy (after 3 1/2 years for bitches and after 4 1/2 years for males). The seizures in this category are also considered genetic but may be different than the earlier onset type.

PCD (primary ciliary dyskensia)/rhinitis (same disease)

PRA (progressive retinal atrophy)

OFA – Orthopedic Foundation for Animals. This is an open health registry for hip, elbow, patella, eye, thyroid, heart and Von Willebrand's testing.

PennHip – This is a closed registry dealing with hip testing. It is based on the degree of laxity in the hips.

CERF – Canine Eye Registration Foundation. This is an open registry for eye testing.

Mode of inheritance for

Seizures: autosomal recessive with incomplete penetrance (2 to 3 modifiers)

PCD = autosomal recessive

PRA = autosomal recessive

The **explanation of the numbers** in the risk analysis is:

The first number is the percentage of the risk of being an affected. The second number is the percentage of risk of being a producer. Examples only: 1) a number written as S = 0 / 12 would mean that the animal in question has a zero % risk of being affected and a 12% risk of being a producer. 2) a number written as SL = 0 / 9 means that that animal has 0% risk of being affected and 9% risk of being a producer for late onset seizures.

In the case of a “what if” analysis, EACH pup has the risk percentage stated. For example, if you wanted to breed Stud Muffin to Doodles and the seizure risk were 3 / 45. It would mean that each prospective pup would have a 3% risk of being an affected and a 45% risk of being a producer.

As of April 1, 2012, PSS recommendations will not longer be included in risk analysis. Breeders should include testing for this disease in their routine puppy health evaluations.

As of May 1, 2005, we have added results of testings for Hips, Elbows, Eyes and Hearts, where published records are available or where owners can provide private test results.

The hip, elbows and eye certification information is based on published testing data - such as OFA and CERF. In Europe, especially in Germany, heart testing is mandatory in breeding animals and a rating is given and published in their yearbook. If any of these things are privately tested, I mark them as OK - which lets me know that the owners did test for these things but did not send them to OFA etc. (i.e. data is unpublished) but they must have documentation if asked.

Explanation of the ratings is:

USA - Hips: E = excellent G = good F = fair.

Elbows: Normal

Europe – Hips: A = Free B = Under suspicion C = Light D = Middle E = Grave

Elbows: 0 is Free

Elbows = OFA rated elbows as Normal until recently when people can decide to allow the failed tests to be published. You have to send in the information and pay a fee for diagnosis of the x-rays before it is entered into the published registry.

Many people x-ray hips and elbows but do not send them to OFA. Also, some people do PennHip instead, which has a different form of rating and is not published.

Eye Cert - In the US a number is assigned if a dog passes the CERF eye test. Information about eye diseases sent in by owners who did independent testing, has to be backed up with an

examination certificate. Some of the eye diseases that are reported, not including PRA, are retinal dysplasia, retinal folds, iris cysts, juvenile cataracts, old age cataracts etc.

Cardiac testing - The German year book lists the animal as having a rating of OB (no abnormality detected - OK) and MB (abnormality detected – did not pass). I then add the age at which the last test was done = e.g. OB3 means it was last tested at 3y and was found to be OK for breeding.

“No data available” generally means that there were no published test results or there was no documentation of private testing available.

- Who can provide information on health issues for a specific hound and what is necessary to submit information?

Any breeder or owner of a hound may submit health or longevity information. The data needed are

Registered name
Pet name
Date of birth
Parents

I may already have your dog in the database but this is a good way to verify my entries.

Optional information

Date of death

Cause of death (was a necropsy done? Do you have documentation?)

Any health issue during the hound's lifetime (is documentation available?)

Tests results for hips, elbows, eyes, heart, and thyroid. If these results are not published, I will need documentation in the form of a certificate or a note from the veterinarian.

I am also collecting information on the following diseases for future use – Megaesophagus (genetic or acquired), FCE (fibrocartilagenous emboli), bloat and torsion (any type), lymphosarcoma, pneumonia (single occurrence, recurring or secondary to another health issue), OCD (osteocondritis dissicans).

All information on an individual hound will be kept confidential unless I have written permission to share that individual hound's information. Please be specific as to what can or cannot be shared.

Information can be emailed, snailmailed or faxed. Please contact me at iwstudies@comcast.net .