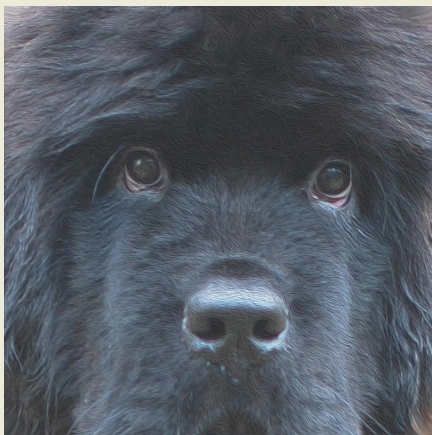


# NEWFOUNDLAND CLUB OF AMERICA

## *Breeder's Corner*



### The Case for Knowing Your Numbers



Three articles in this issue circle the same idea from different angles: good breeding decisions start with understanding the data, not just the pedigree.

The OFA hip and elbow study shows that statistics can be startlingly precise — a Combined Parent Score correlates with dysplastic offspring, and the gap is the difference between a rule of thumb and an actual, quantifiable risk. But it also shows the limits of a single number: even two normal parents can still produced dysplastic offspring, because polygenic traits carry risk through generations, not just through the dogs standing in front of you.

The genetic diversity piece makes a parallel point at the population level. Selection pressure, popular sires, and sudden population drops all narrow the gene pool in ways that feel invisible litter by litter but compound over generations — and every pairing either protects that diversity or spends it down.

And the color genetics article is a reminder that even "simple" recessive traits require real understanding to predict — a solid black dog can carry brown, pattern, and dilute recessives invisibly, and breeders who don't grasp the underlying math can be blindsided by outcomes, or worse, chase novelty colors at the expense of health and type.

The through-line: pedigrees, DNA panels, and OFA scores are only as useful as the breeder's ability to read them. A basic fluency in genetics and statistics turns paperwork into foresight — the difference between reacting to what a litter produces and actually shaping what future litters are likely to produce.

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| Parental Combination | OFA (all breeds)                |
|----------------------|---------------------------------|
| Clear × Clear        | ≈ 10.1% affected                |
| Clear × DJD1         | ≈ 22% (all dysplastic pooled)   |
| Clear × DJD2         | ≈ 31% (all dysplastic pooled)   |
| DJD1 × DJD1          | ≈ 41.5% (all dysplastic pooled) |

## The Science and Statistics Behind Health-Based Breeding Decisions

Courtesy of the NCA Health & Longevity Committee

Every Newfoundland breeder has heard "breed clear to clear" — but what does that actually buy you in terms of odds? A landmark OFA study of nearly 500,000 hip and 67,000 elbow evaluations puts real numbers behind the advice, and a few of them are surprising: two hip-clear parents still produce dysplastic puppies at a measurable rate, two elbow-normal parents produce dysplastic offspring 10% of the time, and a dog with a "mild" Grade I elbow rating passes on meaningfully more risk than many breeders assume.

The data also makes a case for looking past a single dog's paperwork to the whole pedigree — parents, grandparents, and siblings all shift the odds in ways OFA's vertical pedigree tool can show you before you commit to a pairing.

[READ MORE](#)

## Understanding Genetic Diversity Loss

Courtesy of the Royal Kennel Club

Genetic diversity doesn't disappear overnight — but it can erode faster than breeders realize. The RKC's latest infographic maps out the four main culprits:

- Selection pressure — breeding for health, temperament, or aesthetic traits narrows the gene pool with each generation.
- Popular sires — overuse of a single male concentrates his genetics across the population.
- Sudden population drops — bottlenecks (disease, restricted imports, breed fads) wipe out variation fast.
- Chance — even random pairing choices can lose genetic lines that are never recovered.

The graphic contrasts two paths from the same six founding dogs: managed breeding retains a wide spread of genetic variation, while unmanaged, heavy-handed selection funnels the population down to offspring sharing nearly identical genetics.

**Bottom line:** some diversity loss is expected in any closed population — but rapid loss limits future breeding options and can undermine health and adaptability. Every pairing decision either protects the gene pool or draws it down further.

*For Newf breeders: worth keeping in mind as we plan future litters — the health of the breed decades from now starts with the choices we make today.*

# Genetic Diversity: **How is it lost?**

Over time, genetic diversity can decline for a variety of reasons including...



In a restricted population, *some* loss is expected, however **rapid loss of diversity** reduces health, adaptability and future breeding options

Every breeding decision affects genetic diversity, either **protecting it** or **damaging it**.  
Protecting *genetic diversity* protects the *future of your breed*



## Color Genetics : Really a Roll of the Dice?

Newfoundland coat color isn't random — it's simple recessive inheritance, and once you know the rules, it's predictable. Three independent gene pairs control the outcome:

- B/b — color (Black dominant, brown recessive)
- S/s — pattern (Solid dominant, patterned/white recessive)
- D/d — saturation (Full color dominant, dilute recessive)

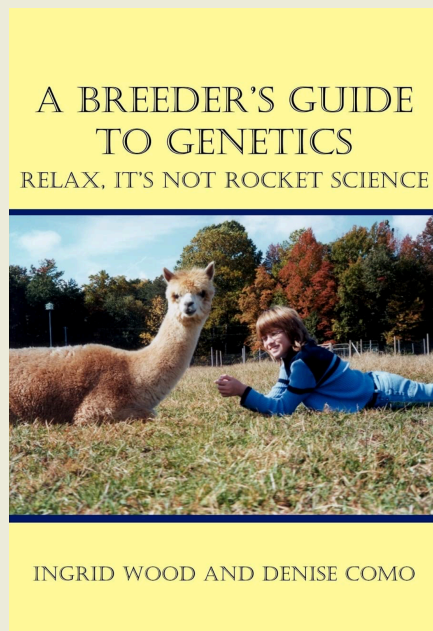
Each parent contributes one gene from every pair. Think of it as each dog carrying three "dice" — and a dog's coat only tells you what's showing, not what's hiding underneath. A solid black dog can still carry recessive genes for brown, pattern, or dilute, and pass any of them on without ever showing them itself.

That's why two solid black parents can still produce a brown, landseer, or grey puppy — if both parents happen to carry the same hidden recessive. In the past, breeders had to study pedigrees for generations to spot these hidden recessives. Now, a simple DNA cheek swab reveals a dog's full genetic makeup before a single pairing decision is made.

**One caution:** some breeders deliberately stack multiple recessive traits to chase novelty "rainbow litters" — solid black, brown, grey, cream, and white variants all in one litter. Producing that requires finding dogs that carry every recessive at once, which often means overlooking health, temperament, structure, and breed type to fill a demand for unusual colors.

*Bottom line for Newf breeders: understanding the genetics behind color removes the guesswork — and helps keep the focus where it belongs, on health and type, not just what's fashionable.*

## [READ MORE](#)

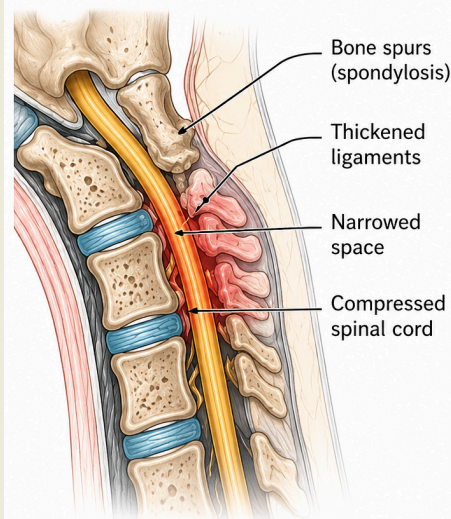


### **Breeder's Guide to Genetics**

Introduces concepts such as dominant and recessive genes, polygenic inheritance, and genomic imprinting. Issues such as breeding fads and common myths are candidly addressed. Also information on DNA testing, hybrid vigor, understanding pedigrees, and sex chromosomes. All scientific concepts and terms are clearly explained, often by using practical examples.

[BUY THE BOOK](#)

### **CSM (WOBBLER SYNDROME)**



### **Studies Needing Participants**

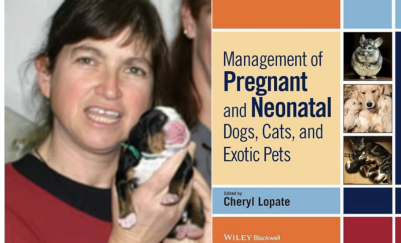
Unraveling the Genetic Basis of Cervical Spondylomyelopathy (wobbler syndrome)

The primary goal of this study is to identify genes or genomic areas that may be associated with cervical spondylomyelopathy (CSM). The second goal is to identify breed-specific genetic variations and potential mutations that may contribute to CSM.

[LEARN MORE](#)

## **2027 National Specialty Education - Featured Speaker**

The Newfoundland Club of America is thrilled to announce Dr. Cheryl Lopate as our featured seminar presenter at the 2027 NCA National Specialty.



Dr. Lopate is a board-certified specialist in theriogenology (veterinary reproduction) and a Diplomate of the American College of Theriogenologists, honored in 2023 as the College's Theriogenologist of the Year. She earned her BS from Colorado State University, a Master's in Reproductive Physiology and her DVM from The Ohio State University, and

completed her residency in comparative theriogenology at Purdue. Board certified since 1997, she has practiced companion animal and equine reproduction for decades and now co-owns a companion animal practice in Oregon.

She's the author of *Management of Pregnant and Neonatal Dogs, Cats, and Exotic Pets*, a widely used reference on small animal reproductive medicine, and has written numerous journal articles and book chapters on the subject. A frequent speaker at breed club meetings and veterinary conferences worldwide, she also shared her expertise on canine semen evaluation with the AKC Canine Health Foundation's podcast series and mentors rising specialists through the American College of Theriogenologists' Credentialing Examination Committee.

Newf breeders and owners alike will benefit enormously from her practical, experience-driven approach to canine reproduction. Dr. Lopate's seminar promises real-world insight grounded in both science and hands-on expertise.

Details on her seminar topic and schedule will follow soon!

## Breeder of Distinction Updates

If you are listed as an NCA Breeder of Distinction (either active or emeritus) you should have received an email from Lynn Nuss, chair of the Breeders of Distinction Committee to confirm your website, preferred contact information and if you are still actively breeding. Please respond to this email in a timely manner. If you haven't seen an email come through, please contact Lynn: [soundbaynewfs@gmail.com](mailto:soundbaynewfs@gmail.com) - thank you for serving as an educational resource for prospective buyers and up and coming breeders!



[www.newfoundlandbreeder.org](http://www.newfoundlandbreeder.org) | [breedered@ncadogs.org](mailto:breedered@ncadogs.org)

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