OFA

HIPS, ELBOWS… AND *BEYOND*

THE FOUNDATION'S SCOPE CONTINUES TO EXPAND WHILE ITS CORE MISSION REMAINS THE SAME: TO IMPROVE THE HEALTH OF ALL DOGS.

By Sue M. Copeland

"U.S. breeders who health test their dogs – and breed to other health-tested dogs and bitches – have made huge progress in decreasing the incidence of heritable disease in their breeds," states OFA's president, Dr. Frances Smith.

The idea for Orthopedic Foundation For Animals (OFA) started in a lab. Not a laboratory, but a Labrador Retriever.

It grew out of a breeder's concern after seeing some of his aging Labs go lame. That observation and the deep care he had for his breed launched what is now the largest animal health database in the world.

"OFA's founding principle came through philanthropist John Olin, who owned Winchester Arms," says the Foundation's president, and top Labrador Retriever breeder Dr. Frances O. Smith, DVM, PhD, DACT. "His interest in orthopedic disease started when he observed some of his Labrador Retrievers becoming lame in their later life. He provided the seed money to start OFA, whose veterinarians' and radiologists' work eventually led to the discovery of hip dysplasia in dogs, how to diagnose it, and how to make inroads in controlling it through selective breeding."

She continues, "Without a caring owner who loved Labradors, OFA probably never would have existed."

"The way a breeder makes progress in decreasing heritable disease is through shared information," says Dr. Frances Smith, shown here.

As a result of that research, breeders found that by only breeding dogs without hip dysplasia could they decrease its crippling incidence. OFA's subsequent research has identified testing that can help identify genetic links for other heritable diseases, such as elbow dysplasia, spinal issues, dilated cardiomyopathy (DCM), brachycephalic obstructive airway syndrome (BOAS), and cataracts, thus helping breeders reduce the incidence of those conditions–and more.

A VOLUNTARY (AND SUCCESSFUL) MISSION

Some countries make health screenings mandatory in dogs to be bred. "But in the U.S.," Dr. Smith says, "all canine health tests are voluntary. There's a payoff: Those U.S. breeders who health test their dogs–and breed to other health-tested dogs and bitches–have made huge progress in decreasing the incidence of heritable disease in their breeds."

According to OFA Chief Operating Officer, top Beagle breeder, Westminster Kennel Club winner, and AKC Judge Eddie Dziuk, "For instance, if you look at testing stats by breed on the OFA website, you'll see most breeds have experienced gradual declines in their dysplasia rates. Portuguese Water Dogs had a more than 20 percent hip dysplasia rate through the late 1980s, which dropped to roughly 13.5 percent in the '90s, then 11 percent in the early 2000s, and now is down to around

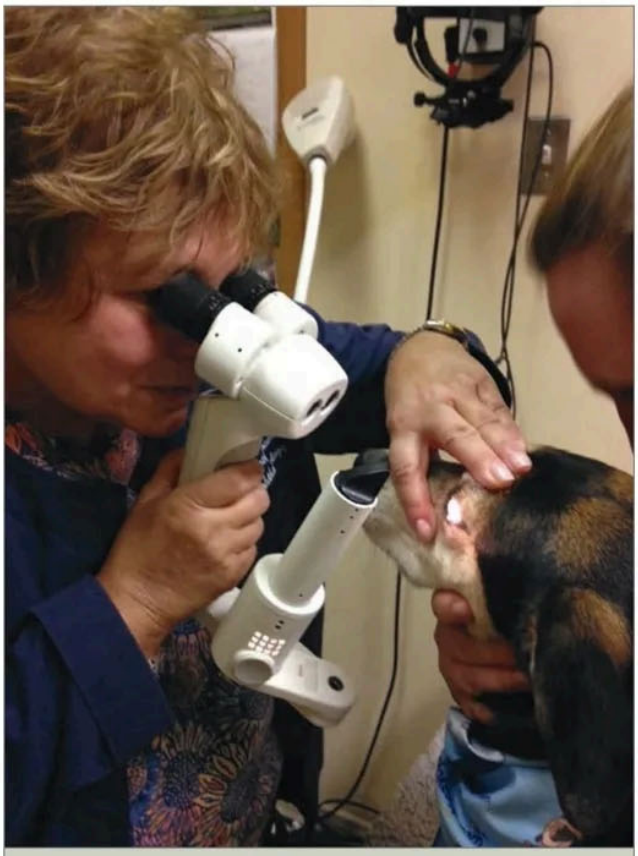
8 percent."

Golden Retrievers have also seen lowered dysplasia rates. "In addition to hip improvements, Golden breeders have focused on elbow dysplasia and have seen that dysplastic rate decline to roughly 11 percent in the most recent stats," he says.

"Focus on breed-specific predispositions has also resulted in improvements, such as the decrease in abnormal thyroid function in English Setters," Dziuk continues. "And, while difficult to accurately measure specific reductions, DNA tests are beginning to have huge impacts, in some cases virtually eliminating once common diseases such as progressive retinal atrophy (PRA) in Irish Setters or Fanconi Syndrome in Basenjis."

OFA works closely with American Kennel Club (AKC) parent clubs. Each club can recommend specific health screenings for their members' dogs. "But because testing is voluntary," explains Dr. Smith, "only a very small percentage of dogs in this country are tested. For example, I'm also the president of AKC's Labrador Retriever Club. Our breed has been one of the most popular breeds in the country for the last three years–we register over 100,000 dogs per year. But less than two percent of them are health tested." (For more stats, see "OFA By The Numbers", above.)

"If you want healthy puppies or dogs of any breed, go to



Dr. Nancy Bromberg, VMD, DACVO, OFA Board member, and veterinary ophthalmologist performs an eye exam on a patient. "Our goal at OFA and CHIC is for people to have healthy dogs. That's our passion," says Dr. Frances Smith.

OFA BY THE NUMBERS

1966 – The year OFA was founded.

2.5 Million – Number of individual dogs currently in the OFA database. (Screening data includes more than 1.8 million hips, 775,000 elbows, and 500,000 eyes. It's the world's largest animal-health database.)

21 – Number of board-certified veterinary radiologists who read radiographs for OFA. (Note: All radiographs are randomly assigned, and are "blind," meaning radiologists see only each dog's age, breed, and sex.)

$3 million – Amount of money OFA has contributed to canine health research, grants, scholarships, and educational programs to help discover links to heritable disease in dogs.

2,500 – Number of screenings per year that OFA does for service-dog organizations to ensure the service dogs will be physically able to do their jobs.

$0 – The amount OFA charges service-dog organizations for screening those service dogs.

501.(c)(3) – OFA's status as a not-for-profit corporation.

3 – Number of veterinary radiologists who review each radiograph on dogs 24 months of age or older, so there is a consensus opinion on every dog that is OFA certified. (Radiographs on dogs younger than 24 months old are reviewed by one board-certified veterinary radiologist.)

95% – The chance that a dog certified to have normal hips (OFA "Fair," "Good," or "Excellent") at 24 months of age has of those hips staying dysplasia-free throughout his or her lifetime.

2% – Percentage of the 100,000-plus Labrador Retrievers registered per year with the American Kennel Club that come from OFA health-screened parents.

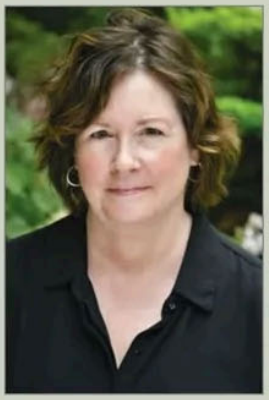
+/-$655 – Potential cost per dog to get breed-relevant screenings and have them read/registered with OFA/CHIC. (Can be about $345 for hips, $175 for elbows, $70 for eye exam, $65 for cardiac auscultation, $290 for a cardiac echo. Note: Recommended breed screens vary from breed to breed and are determined by parent clubs.)

OFA VOICES

Diane Brown, DVM, PhD, DACVP, OFA Board Member: "OFA collects and maintains a large bank of breed-specific DNA samples through CHIC (with owner permission), which have been utilized for years of canine health research. There have been over 30 different studies at 20 different veterinary schools or research centers utilizing CHIC DNA samples. Identity of breeders and dogs is always protected."

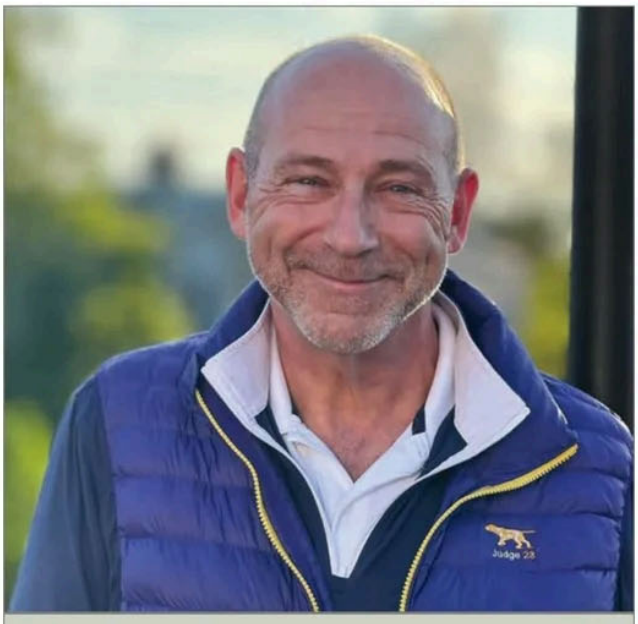
She continues, "OFA worked with the late Dr. Gary Johnson and his collaborators at the University of Missouri (MU), resulting in a wealth of knowledge on heritable canine diseases, including identification of gene associations leading to new genetic tests. Prior to Dr. Johnson's death in 2024, he and OFA worked to ensure longevity of the Canine Molecular Genetics Laboratory through OFA's $1.5 million gift to establish the Dr. E. A. (Al) Corley OFA Program Endowment at MU. This ensures maintenance of the sample bank and ongoing canine genetic health research for years to come."

Frances O. Smith, DVM, PhD, DACT, OFA President and top Labrador Retriever breeder: "OFA was originally headquartered on the University of Missouri campus; our offices remain nearby. We still collaborate closely with the University, providing financial support to the Genetics Laboratory and the Veterinary College's Radiology Department, at which we've funded radiology residencies. Veterinary students cycle through our OFA office to learn our testing procedures—and the benefits they provide to companion animal health."



Diane Brown, DVM, PhD, DACVP, OFA Board Member

Gabriela Baers, DVM, DACVR, DACVR-EDI: "Thanks to OFA, I was able to participate in the University of Missouri's veterinary radiology residency program, complete my training, and become board certified. This connection allows me to now mentor students and residents while continuing to contribute to OFA's mission and maintain a strong partnership with the University. The OFA is currently sponsoring another veterinarian through his radiology residency, and all Missouri veterinary radiology residents regularly spend time at the OFA office gaining experience with congenital and developmental musculoskeletal diseases and learning the OFA's testing protocols."



OFA Chief Operating Officer, top Beagle breeder, and AKC Judge Eddie Dziuk says, "Open sharing of all test results–normal and abnormal–allows us as breeders to make more informed assumptions regarding the underlying genetics, thus more informed breeding decisions to reduce disease."

breeders who health test with OFA and can show proof of that testing," she says. "You'll up the odds that your puppy will grow up to be healthy," she adds, "and if you want to breed him or her in the future, you'll increase the odds that he or she will get the health clearances needed to ensure future puppies have their best odds at a long, healthy life."

SO...CHIC

The Canine Health Information Center (CHIC) is a key part of what OFA offers to breeders and buyers committed to maximizing their odds for healthy dogs. It also aids scientists who are conducting research to help improve the understanding—and detection—of heritable canine disease. (Go to OFA.org and search "CHIC.")

Through CHIC, each AKC breed's parent club identifies health issues endemic to that breed. When your dog is screened via OFA for those issues, he or she gets a permanent ID number, and you agree to share the information in the CHIC database. That info-sharing is key.

"The way a breeder makes progress in decreasing heritable disease is through shared information," states Dr. Smith.

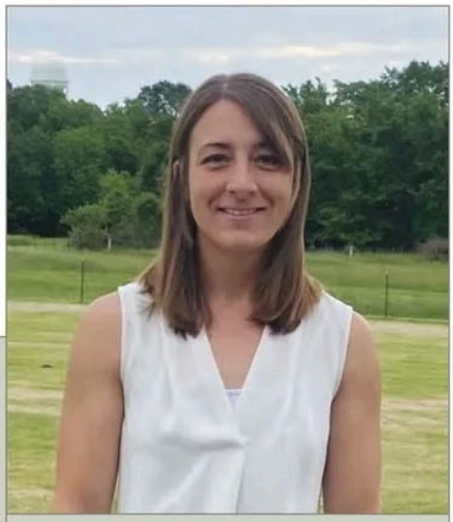
Dziuk adds, "Open sharing of all test results—normal and abnormal—allows us as breeders to make more informed assumptions regarding the underlying genetics, thus more informed breeding decisions to reduce disease."

Dr. Smith continues, "Breeders and owners have the right to say that if the results are abnormal, they want that information shared, too. Doing so is key—it allows users to get what is

called 'pedigree depth.'"

"For instance, if you have a Golden Retriever bitch and are looking for a stud dog, you can go to the OFA CHIC database and look up dogs with a certain kennel name or type you like," she explains. "Maybe you find two dogs. One of them has OFA 'Good' hips and 'Normal' elbows, and the other has OFA 'Normal' elbows and 'Excellent' hips."

She continues, "Because these dogs have CHIC and microchip numbers, you can see their vertical pedigrees in the database, which includes their relatives. It turns out that the dog with OFA 'Good' hips had parents, grandparents, and siblings that each had 'Good' or 'Excellent' hips. But the dog with 'Excellent' hips had parents who each had 'Fair' hips. Plus, one of his grandparents had hips that didn't pass but was bred anyway."



Gabriela Baers, DVM, DACVR, DACVR-EDI

"If you're trying to decrease the incidence of hip dysplasia in your pedigree, you're better off breeding to the dog whose hips are 'Good,' and whose relatives were 'Good' or 'Excellent' than to the dog whose hips were 'Excellent,' but had relatives in his pedigree that didn't pass."

"In that scenario, CHIC allowed you to get as close to hip-dysplasia genetics as you can get at this point," she says. "You have much more critical information than you could possibly have without it."

That info is invaluable for puppy buyers, too. "If a buyer finds someone selling Golden Retriever or other purebred puppies, and that person can't provide proof both parents passed AKC parent-club recommended screenings, the risk of variable genetic issues in the litter is high."

She continues, "Education is key. Our goal at OFA and CHIC is for people to have healthy dogs. That's our passion. Without the research we do and the screening OFA offers, we'd never make progress in getting–and keeping–all dogs healthier.

OFA PILOT PROGRAMS SOAR

The Orthopedic Foundation For Animals (OFA) is constantly working with AKC parent clubs, breeders, and researchers to identify heritable breed issues, and new screening methods to check for them.

"Partnering with AKC Breed Clubs to establish breed-specific health tests, plus the identification of new health concerns, can involve refining screening protocols as new research emerges to improve the health and well-being of dogs through the reduction of genetic diseases," says Eddie Dziuk, OFA Chief Operating Officer, top Beagle breeder, AKC judge, and Westminster Kennel Club Best In Show winner explains.

OFA's "Pilot Programs" enable the foundation to test new screening methods for heritable conditions on a small scale before wider implementation into the OFA's database.

Dziuk describes two recent such programs. "The spine database to check for vertebral anomalies that have a heritable basis was launched at the request of the French Bulldog Club of America," he says. "It also applies to the Bulldog and Boston Terrier breeds. It requires radiographic evaluation of the spine on dogs over 5 months of age and remains in the Pilot phase.

"The Respiratory Function Grading Scheme (RFGS) for Brachycephalic Obstructive Airway Syndrome (BOAS) has moved from Pilot Program to the regular OFA database," he says.

BOAS is a progressive condition that may cause breathing issues in brachycephalic breeds such as Bulldogs, French Bulldogs, and Pugs. It's caused when soft tissue in the nose and throat is excessive for the airway, partially obstructing it and making it hard to breathe normally. It can affect breathing, heat tolerance, and the ability to swallow–resulting in a poor quality of life.

"Unfortunately," says Dziuk, "many owners are unaware and think the breathing noises or difficulties are normal for the breeds. With the soaring popularity of brachycephalic breeds, especially Frenchies, BOAS is gaining traction as a health and welfare issue. Mild cases can be managed; severe cases can require surgery, which has risks."

Researchers at the University of Cambridge in the United Kingdom developed RFGS and launched it in the U.K. in 2019. The U.S. licensed the RFGS in 2022. OFA began using it in their Pilot Program that same year. OFA continues to train veterinary examiners, and to get them geographically dispersed so all interested owners and breeders can have access. (To see the RFGS Breeding Recommendations, go to OFA.org.)

Acceptance has been an issue. "The brachycephalic breed parent clubs have embraced the RFGS effort," says Dziuk. "But members have been less enthusiastic because they feel that BOAS calls attention to a negative aspect of their breeds. We're working on that, too."