

FROM THE FOUNDATION



Cairn Terrier Participation in the OFA-CHIC Program

by Pat Joyce, Trustee, Foundation of the CTCA

The Orthopedic Foundation for Animals (OFA) was founded in 1966 to promote testing of breeds with orthopedic issues. In 2001 OFA formed an alliance with the AKC Canine Health Foundation creating the Canine Health Information Center (CHIC). They created an organized database of dog breeds, recording minimal core health testing results as determined by the national breed clubs. Healthy dogs undergoing all recommended tests and with normal results recorded into the OFA-CHIC database would receive a unique CHIC number as a marker of participation in the program. An additional development was the merger in 2012 of all eye screening results previously recorded under the Canine Eye Research Foundation (CERF) into the combined database of the Companion Animal Eye Registry (CAER) and OFA. All canine health records are voluntarily submitted by dog owners. Eye examinations recorded in the CERF records were submitted voluntarily by the owners before being rolled into the CAER database.

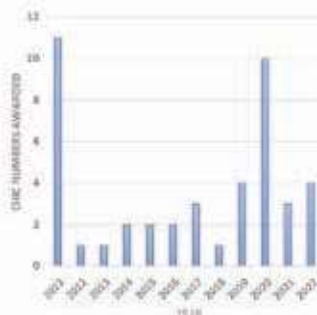
The Cairn Terrier Club of America joined the OFA-CHIC program in 2011. The previous Health-Related Committee of the CTCA identified health tests to be required for a Cairn to receive a CHIC number. The four tests included a patellar examination, a cardiac examination, an eye examination, and a DNA test for Globoid Cell Leukodystrophy (GCL). Only these four tests were specified to OFA. Other testing such as bile acid screening was not required for OFA despite common use by Cairn breeders.

Since the CTCA joined the OFA-CHIC program and through the year 2022, only 43 Cairns have been issued a CHIC number for completing the required testing scheme and having normal results. The highest number of Cairns were enrolled in the first year of CTCA participation, followed by the year 2020.

While all 43 Cairns completed the required 4 tests, other health testing results were submitted to OFA-CHIC and recorded as information about these dogs. Hip screenings and pyruvate kinase deficiency (PKD) testing were the most recorded results although not needed for a CHIC number. Only 1 of 43 Cairns had serum bile acid testing recorded. Of interest is that 25 of the 43 Cairns were bitches, which might be explained that their owners wished to have them certified as healthy breeding stock by obtaining a CHIC number.

Cairn Terriers Assigned CHIC Numbers 2011-2022 (43 Total)

Year	Cairns Assigned CHIC Numbers
2011	11
2012	1
2013	1
2014	2
2015	2
2016	2
2017	3
2018	1
2019	4
2020	10
2021	2
2022	4
Total: 43	



Data source: OFA Website

Data on 43 Cairns	Tests Reported
Sex: Dog	18
Sex: Bitch	25
Eyes*	43
Patella*	43
Globoid Cell Leukodystrophy*	43
Cardiac*	43
Hips	9
Elbows	3
Degenerative Myelopathy	4
Dentition	4
Legg-Calve-Perthes	2
Pyruvate Kinase Deficiency	8
Serum Bile Acids	1
Thyroid	11

*Required testing

Cairn Terrier OFA-CHIC Health Data Recorded Through 2022

Test/Disorder	Tests Reported	Tests Normal	Normal %	Tests Abnormal	Abnormal %	Carrier %
Eyes	1735	1574	90.7	161	9.3	0
Patella	333	321	96.4	12	3.6	0
Globoid Cell Leukodystrophy	96	95	99	1	0	1
Basic Cardiac	42	42	100	0	0	0
Congenital Cardiac	196	196	100	0	0	0
Advanced Cardiac	96	79	82.3	13	13.5	0
Hips	190	175	92.1	15	7.9	0
Legg-Calve-Perthes	74	73	98.6	1	1.4	0
Elbows	60	59	98.3	0	0	0
Shoulder	1	1	100	0	0	0
Thyroid	61	59	96.7	1	1.6	0
Dentition	17	17	100	0	0	0
Cranio-mandibular Osteopathy	35	31	88.6	0	0	11.4
Pyruvate Kinase Deficiency	15	15	100	0	0	0
Degenerative Myelopathy	13	13	100	0	0	0
Serum Bile Acids	6	6	100	0	0	0
Von Willebrand's	3	3	100	0	0	0
Baer Hearing Test	1	1	100	0	0	0
Kidney	1	1	100	0	0	0
Macrothrombocytopenia	1	1	100	0	0	0
Spinocerebellar Ataxia	1	1	100	0	0	0

Data source: OFA Website

Cairns completing CHIC requirements and issued a number are publicly listed by name on the OFA-CHIC website. While their individual test results are not given (and therefore only the required 4 tests can be presumed to be normal) it is interesting that the owners voluntarily submitted the information to OFA. A breeder-owner might not submit any results, normal or not, unless willing to pay OFA to include that result. A breeder-owner must actively desire to obtain a CHIC number on his dog or he may never participate in the program at all.

The OFA-CHIC website also contains information on all health testing submitted on Cairns through the year 2022. These data are not limited to the 43 Cairns obtaining CHIC numbers and are not identifiable. Of 1735 total eye examinations included in the CERF/CAER database, 161 or 9.3% are recorded as abnormal. A far more detailed description of eye testing results in Cairns is included in the Blue Book published by CAER and the American College of Veterinary Ophthalmologists (ACVO). This publication gives detailed breakdown of specific eye abnormalities found, as well as recommendations that Cairns with ocular melanosis (OM) or cataracts be removed from the breeding pool. While only a few OM cases are included in the Blue Book data, “significant” cataracts were reported in as many as 16.1% of Cairns examined during the years of 2018-2022. (This free publication is available for download at <https://ofa.org/diseases/eye-disease/blue-book/>.)

Testing for craniomandibular osteopathy (CMO) shows that 11.4% of included Cairns were carriers for that genetic marker. Screening tests for GCL, PKD, degenerative myelopathy, and

congenital macrothrombocytopenia are now part of the commercially available DNA panels. OFA has accepted these panels as approved for the results to be used for CHIC number issuance. Submitting a dog’s panel results to OFA will automatically include all information into the OFA database.

Of traditional orthopedic examinations submitted on Cairns, 175 of 190 hip results were normal (92.1%) as documented by approved radiography. Elbow results showed 59 of 60 x-rays normal (98.3%) with 1 test “equivocal” but not abnormal per se. Radiographs for Legg-Calve-Perthes were normal in 73 of 74 (98.6%) and only abnormal in 1 Cairn. Thyroid panel testing was normal in 59 of 61 results submitted (96.7%), abnormal in 1, and equivocal in 1 Cairn.

Of note is that only 6 bile acid testing results on Cairns have ever been sent into OFA despite the importance of this screening for a major health issue in Cairns. There has only been one “normal” kidney test result ever submitted to OFA.

The following chart outlines specific health testing currently required by the CTCA, as well as other medically important health conditions not included in the OFA program.

While the CTCA and its Foundation have long recommended that Cairns be routinely screened for systemic portal shunt/ microvascular dysplasia, this testing was not specified when the Cairn requirements were set in 2011. Furthermore, the OFA will only accept bile acid testing performed within an accredited laboratory. Testing performed in a veterinarian’s office itself is

Testing of Cairns for OFA-CHIC Number Assignment

Health Condition	Test Required	Comments
Patellar Luxation*	OFA Evaluation	Physical exam by primary veterinarian or specialist. Form and fee mailed to OFA. Required that dog is over 12 months old.
ACVO Eye Exam*	Eye examination	Exam by board-certified ACVO Ophthalmologist. Form and fee mailed to OFA. Screens for Ocular Melanosis and more. May test at any age. No requirement for retesting of a Cairn.
Cardiac Evaluation*	Basic Cardiac Congenital Cardiac, or Advanced Cardiac	Basic test by primary veterinarian. Form and fee mailed to OFA. Congenital and advanced exams require echocardiogram and Veterinary Cardiologist. Required that dog is over 12 months old.
Globoid Cell Leukodystrophy*	DNA-based test	Must be performed by OFA-approved laboratories only. Form and fee mailed to OFA. May test at any age.
Serum Bile Acids#	Paired bile acid tests	Must be performed by OFA-approved laboratories only. Form and fee mailed to OFA. Screens for Systemic Portal Shunt/ Microvascular Dysplasia. Testing age not specified.
Craniomandibular Osteopathy#	DNA-based test	Must be performed by OFA-approved laboratories only. Form and fee mailed to OFA. May test at any age.
Pyruvate Kinase Deficiency#	DNA-based test	Must be performed by OFA-approved laboratories only. Form and fee mailed to OFA. May test at any age.
Hips and Elbows#	OFA Evaluation	Xray by OFA-approved clinic and read by certified radiologist. Form and fee mailed to OFA. Required that dog is over 24 months old.
Legg-Calve-Perthes#	OFA Evaluation	Xray by OFA-approved clinic and read by certified radiologist. Form and fee mailed to OFA. Required that dog is over 12 months old for LCP only. Must repeat for hips at 24 months.
Thyroid#	Required blood panel	Specified thyroid tests must be performed by OFA-approved laboratories only. Form and fee mailed to OFA. Required that dog is over 12 months old.
Kidney#	Urine Protein-Creatinine Ratio	Form may be completed by primary veterinarian. Not specified where lab testing is performed or the minimum age of the dog. Form and fee mailed in to OFA. No provision for renal ultrasound results.

*Required testing #Important medical conditions but not required for CHIC

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not acceptable.

All results

must be submitted by the dog owner and include an official form and payment to OFA. The CTCA has recommended this testing be done at 12 to 16 weeks of age and prior to breeding, but no minimum age is specified for OFA submission.

Multiple test DNA panels are now commercially available and their results are approved by OFA regulations as valid to be used to apply for a CHIC number. While GCL testing is required for Cairns, other diseases screened by the panels can be passively recorded when the dog owners submit the DNA information to OFA.

Of particular note is that the OFA specifies minimum ages when health tests may be performed to meet CHIC requirements. While no minimum age is specified for eye examinations in any breed, a Cairn must be older than 12 months of age for usable cardiac and patella exams. Results done before this age cut-off will not count for the CHIC requirement and must be repeated and resubmitted.

Ocular melanosis (OM) remains a condition found almost exclusively in Cairn Terriers. The disease may first present itself anytime in a dog's lifetime even into advanced years. To date there is no known genetic marker to screen for risk of OM in Cairns. The current recommendation from the Foundation of CTCA and approved by the parent club is to perform an initial eye screen at age 2 years or older and before breeding. Periodic re-examinations may be done at unspecified times during a dog's lifetime if desired by the Cairn owner. A proper eye examination for OM must include dilation of the eyes and tonometry (pressure measurement) if secondary glaucoma is suspected. Within the OFA-CHIC program only a single exam need be done and anytime within a dog's lifetime. Therefore, a single normal eye examination might make a Cairn eligible for a CHIC number, but it cannot guarantee the Cairn is free of OM risk and might still develop the disease many years later. Until we have a genetic marker for OM, we cannot identify whether a dog is a carrier for the disease.

Currently there are no instructions for inclusion of renal ultrasound testing results in the OFA-CHIC database. There is an OFA form to submit status of kidney health but the only required measurement of normal renal function is a urine protein-creatinine ratio. The minimum age for this testing is not specified.

The data available on the OFA-CHIC website gives a view into Cairn health screening despite a number of limitations. All information submitted is given voluntarily, presumably in order to obtain a CHIC number as a marker of quality breeding material. Owners must pay for testing and associated veterinary fees, must use official OFA forms to submit the test results, and then pay fees to OFA for each report to be filed. All laboratory testing must be done within OFA-approved laboratories. Testing done on dogs before the minimum age cut-off might be recorded but will not count for a CHIC number unless repeated and resubmitted. Most importantly, there is no means to estimate how many normal or abnormal tests are performed on our Cairns but never submitted to OFA-CHIC by choice of the owners. Only "normal" results are ever likely to be submitted by the owner. Still, while the OFA dataset has severe limitations, there is great potential for this system to provide information on Cairn health if the requirements for a CHIC number were reevaluated by CTCA to better fit the recognized needs of our dogs.

Disclaimer: All Cairn data described in this article was taken directly from the OFA-CHIC website (<https://ofa.org/>) using their search features to extract information. Required testing protocols and costs were taken directly from official instructions and forms posted on their website. The author desires only to describe the working of the OFA-CHIC dataset and does not endorse either participation or non-participation in this program. All data must speak for itself.

Editor's Note: The opinions expressed in this article are solely those of the author and do not express the views or opinions of the Cairn Terrier Club of America.

Required Testing Ages for OFA-CHIC Certification



Thyroid: 12 months
Legg-Calves-Perthes: 12 months
DNA-based genetic tests: Any age
Serum Bile Acids: Not specified
Kidney: Not specified

Source: OFA Facebook page