

Cairn Terrier Club of Canada
Recommendations for Health Testing for Breeding Dogs and Puppies
2022

Table 1: Summary of Health Testing Recommendations for Cairn Terriers (Breeding Dogs)

Test	Testing Recommendations for Breeding Dogs
Genetic testing	<ol style="list-style-type: none"> 1. Panel testing with Embark or other genetic testing company. If using companies other than embark, confirm that testing includes all conditions listed below under bullet 3. Panel testing will usually be less expensive than using individual tests. 2. For some genetic disorders, individual dogs may be considered ‘clear by descent’ – see the full Health Recommendations document for information on when dogs may be considered clear by descent. 3. Genetic tests should include all the following conditions. <ol style="list-style-type: none"> a. Craniomandibular osteopathy b. Globoid Cell Leukodystrophy c. Pyruvate Kinase deficiency d. Congenital macrothrombocytopenia e. Hemophilia B f. Von Willebrand’s Disease
Ophthalmological assessment	<ol style="list-style-type: none"> 1. OFA eye examinations for breeding stock every 1-2 years, preferably yearly, starting at age 2. 2. Testing should be done by board certified ophthalmologists.
Bile acids or serum ammonia	<ol style="list-style-type: none"> 1. All breeding stock prior to first breeding if not done as a puppy. See Summary of Health Testing Recommendations for Cairn Terriers (puppies) (table 2) for testing guidelines.
Renal ultrasound	<ol style="list-style-type: none"> 1. All breeding stock prior to first breeding 2. Renal ultrasound should be done by a board-certified radiologist or experienced ultrasonographer. 3. Recommend including bladder scan with renal ultrasound to identify precipitates and /or stones. 4. Cost: \$200-500, depends on location. Scanning clinics may provide low-cost options.
Cardiac examination	<ol style="list-style-type: none"> 1. Auscultation by general veterinarian. 2. Referral to cardiologist +/- cardiac echo to further evaluate murmurs detected on auscultation.
Orthopedic screening	<ol style="list-style-type: none"> 1. Hip Dysplasia (HD) <ol style="list-style-type: none"> a. Hip dysplasia screening radiographs for dogs with clinical signs of HD or HD in the pedigree. b. Insufficient evidence to support universal screening 2. Patellar luxation <ol style="list-style-type: none"> a. Physical examination for patellar luxation for all dogs prior to breeding (after 1 year of age) 3. Legg Calves Perthes (LCP) <ol style="list-style-type: none"> a. No role for routine screening - consider screening for dogs with multiple cases of LCP in pedigree.

Table 2: Summary of Health Testing Recommendations for Cairn Terriers (Puppies)

Essential testing	
<p>Serum bile acids (paired bile acids or single 2-hour post prandial sample)</p> <p>OR</p> <p>Serum ammonia testing</p>	<ol style="list-style-type: none"> 1. Test as late as possible: 16 weeks is ideal but not practical. 12 weeks is a reasonable compromise. 2. If puppies are placed prior to 10 weeks, consider use of serum ammonia testing instead of bile acids, if available. Technical considerations for serum ammonia testing will limit availability of serum ammonia testing. Testing must be done by a qualified reference lab. 3. There is insufficient evidence to recommend a preferred bile acid strategy (paired bile acids vs single 2 hr post prandial bile acids). 4. There are a variety of differing recommendations regarding what type of meal should be given prior to 2 hour post prandial bile acid testing. There is insufficient evidence to recommend any particular type of meal. A small amount of fat is helpful, but too much can give inaccurate results. 5. Check bile acid reports for 'lipemia' as this may signal inaccurate results and need for repeat testing. 6. See the Portosystemic Shunt briefing document and full Health Recommendations document for more information on testing protocols.
Cardiac examination	<ol style="list-style-type: none"> 1. Auscultation by general veterinarian 2. Innocent murmurs should be followed for resolution 3. Murmurs that are not clearly innocent should be evaluated further (cardiologist referral +/- other investigations)
Patellar luxation examination	<ol style="list-style-type: none"> 1. Physical examination by general veterinarian//
Recommended testing	
Genetic testing	<p>Genetic testing of puppies is recommended if:</p> <ol style="list-style-type: none"> 1. One or both parents is not already tested for genetic mutations of concern in Cairn Terriers (see Table 4, Genetic testing, #2) and clear for all conditions. 2. One or both parents are carriers of autosomal recessive traits 3. One or both parents have an autosomal dominant condition with incomplete penetrance
Ophthalmological evaluation	<ol style="list-style-type: none"> 1. Examination by general veterinarian for: <ol style="list-style-type: none"> i. Persistent Pupillary Membranes: although PPMs are generally benign, more serious PPMs (Iris to cornea or Iris to lens) may be a 'caution' for breeding with OFA and may cause interference with full vision. ii. Congenital cataracts.
Suggested testing	
Renal Ultrasound	<ol style="list-style-type: none"> 1. Consider renal ultrasound of puppies to facilitate selection of puppies to be retained in breeding programs. 2. The cost of renal ultrasound is high and requires expert interpretation especially in young puppies. 3. Renal ultrasound testing is not easily available to all breeders. 4. Renal ultrasound on puppies should only be done by someone with experience of the normal appearance of juvenile kidneys (development of the kidneys is incomplete in young puppies). Testing should be done as late as possible. Deferring testing until 16 weeks or later would be ideal but not practical for making placement decisions. If puppies are placed at 12 weeks, ultrasound should be done just prior to placement. Minor changes should not preclude retention of a puppy in a breeding program but may indicate the need for repeat ultrasound prior to breeding.