**NTCA HEALTH COMMITTEE REPORT**
September 4, 2020
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Co-chairs

## 2020 NTUAS Study Update

Resources to guide the diagnosis of Norwich Terrier Upper Airway Syndrome are now available on the NTCA website: https://norwichterrierclub.org/ntuas/

These new tools are a result of the multi-site clinical study, Characterization of Upper Airway Syndrome in Norwich Terriers, conducted by a multi-disciplinary team led by Dr. Bryden Stanley and Dr. Grace Lai. The new web pages contain information developed for veterinarians to evaluate the Norwich terrier upper airway. These resources include a protocol for a full upper airway exam, the NTUAS Score Sheet with a visual guide, history questionnaire, exercise tolerance test and a video of a normal upper airway exam. Those who enrolled their dogs in the study have received their score sheets. The study team will submit a manuscript reporting the full results to a peer-reviewed journal this year. We are planning to have an interactive virtual event with Dr. Stanley and a geneticist in November. If you have any questions in the meantime, please contact Jane Schubart (ascot.js@gmail.com).
The generosity and collective commitment of our Norwich community has made this work possible.

## Puppy Lung Development Study

[Update from Dr. Kurt Williams]
We have made considerable early progress in advancing our understanding of developmental lung disease in the Norwich Terrier. Developmental lung disease (DLD) appears to be an important contributing factor in early life death in puppies of this breed of dog. We are using a 2-pronged approach to investigate this poorly understood disease: investigating intricacies of the structural abnormalities in lungs from affected puppies, and pursuing a genetic basis for this disease in the Norwich Terrier (NT). We used specialized computer software to take 2D images and structures in the lung and convert them into 3D images to investigate abnormalities in the lungs of affected puppies, especially abnormalities in blood vessels. Using this technique we have data that strongly suggests that there are abnormal pathways that allows a percentage of blood flow to bypass the normal pathway through the lungs.

The second major goal of our research is to look for a genetic basis for this disease in the NT. Our initial efforts to identify a genetic basis for this disease utilized genome wide sequence analysis (GWAS). These efforts did not identify an obvious genetic defect. This is not entirely unexpected. GWAS may miss complex genetic diseases. Because of this we are now going forward with sequencing the entire genome of related normal and affected Norwich Terriers.

## Norwich Terrier Breed Health Survey

The Health Committee is currently developing a survey to evaluate the health, morbidity and mortality of the breed. We will attempt to organize the questionnaire using a systems approach for a better understanding of our breeds overall health. The survey questionnaire will be distributed to NTCA members and the wider Norwich community. We found this approach effective in prior surveys.

# ** SAVE THE DATE **

## NTCA Health Committee Webinar

Monday, November 9, 2020
8:00-9:00 PM (EST)

### NORWICH TERRIER UPPER AIRWAY SYNDROME (NTUAS): RESULTS OF A CROSS-SECTIONAL STUDY

### Speaker: Dr. Bryden J. Stanley

Study Background

The multi-site NTUAS Study Group* comprised 4 academic institutions (Michigan, California, Texas and Pennsylvania), and enrolled 154 Norwich terriers. The Study Group evaluated 56 variables from recorded airway examinations and computed tomography (CT) of the head and neck. Five variables distinguished between dogs clinically-affected with NTUAS and dogs not clinically-affected and form the basis of the NTUAS Score. This score could be used to evaluate dogs before breeding. A subset of these dogs had several airway examinations, at least one year apart. These data have been analyzed to look at progression of NTUAS over time.

Dr. Stanley will present the NTUAS Study results. Objectives are to:

1. Understand and recognize signs of upper respiratory compromise.
2. Realize the importance of a full upper airway examination and why all components should be evaluated.
3. Recognize which components appear to contribute to NTUAS.
4. Understand how the NTUAS Score was developed and what it means.
5. Understand the nature of progression of NTUAS over time.

The webinar will include Questions & Answers. A geneticist will provide insights into strategies to find alleles and/or loci that contribute to NTUAS.

**The webinar will be hosted and recorded by VetVine, and available for later viewing.**
Additional information about the webinar will be forthcoming. If you have questions, I can be reached by email: ascot.js@gmail.com.
Jane Schubart, NTCA Health Committee

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