

Guide for veterinarians from NTUAS Study Group

NOTE: A full upper airway examination is always recommended and should evaluate the nares, tongue, hard palate, soft palate, tonsils, pharynx (laterally and dorsally), epiglottis, hyoepiglottis and valleculae, cuneiform and corniculate processes, piriform recesses, laryngeal mucosa, vestibular and vocal folds, ventricles, immediate infraglottic lumen. Presence of phlegm, pharyngeal gag, laryngeal sensitivity and laryngeal function should also be assessed. Although anatomically not part of the upper airway, it is useful to include the trachea, mainstem bronchi and choanae. The nasal cavity, choanae, nasopharynx and soft palate thickness can be evaluated with CT using a slung maxilla positioning.

Only the variables that significantly correlated with clinical signs of NTUAS are included in the NTUAS score.

Dog grade is highlighted in yellow: Grade

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| DORSAL PHARYNGEAL WALL <i>Ensure that you do not inadvertently elevate the dorsal pharynx when elevating the soft palate.</i> | NORMAL or MILD | High roof to the pharynx, can see esophageal aditus, or dorsal pharynx may extend down to, but not covering, dorsal commissure of glottis. | 0 |
| | MODERATE | Dorsal pharynx displaced ventrally, covering part of the corniculate processes. | 3 |
| | MARKED | Dorsal pharynx displaced ventrally, cannot see the corniculate processes at all. May be touching the cuneiform processes. | 6 |
| SUPRAGLOTTIC LARYNGEAL MUCOSA | NORMAL or MILD | No wrinkles or some wrinkled mucosa, but deep piriform recesses (PR), no redundant laryngeal mucosa covering dorsal commissure of glottis. Can see corniculates and dorsal commissure clearly. | 0 |
| | MODERATE | Excess (with folds or wrinkles) or swollen mucosa in the piriform recesses, but they are still recessed . Dorsal commissure of glottis and corniculates may be partially covered with mucosal 'scarf'. | 3 |
| | MARKED | Piriform recesses completely or almost completely obliterated with excessive folds or edematous mucosa. Mucosa may protrude out of the piriform recesses. Corniculates may be covered with excess mucosa. Redundant mucosa may be sucked into the airway. | 6 |
| CUNEIFORM PROCESSES <i>Assess at rest. Ensure that you do not distort the cuneiforms when pressing down on the epiglottis or tongue base</i> | NORMAL or MILD | Wide or standing upright, may tilt inwards slightly | 0 |
| | MODERATE | Medially displaced, almost but not <i>quite</i> touching | 3 |
| | MARKED | Touching, overlapping or medially flattened | 5 |
| VENTRICLES <i>Assess at beginning of exam. Assess at rest, not abduction. If asymmetrical, classify based on more severely affected.</i> <i>NOTE: If dog has undergone previous sacculotomy, grade as 5.</i> | NORMAL | Can see the vocal folds their entire length, and there is a deep cleft entrance to the ventricles immediately rostral to the vocal folds. | 0 |
| | SUB-EFFACED | Edematous ventricular mucosa can be seen sitting within the ventricles, but can still see ALL the vocal folds. | 1 |
| | EFFACED | Edematous mucosa is bulging to the vocal folds. The ventral aspect of the ventricles may be touching but can still see most of vocal folds. | 2 |
| | PARTIALLY EVERTED | Most of vocal folds are obscured by everting/bulging mucosal sacs, which are touching and becoming plump. Can see less than 50% of vocal folds dorsally. | 3 |
| INFRAGLOTTIC LUMEN | FULLY EVERTED | Mucosa is ballooning out into the rima glottidis, completely obscuring vocal folds and occupying the ventral rima glottidis. Everted mucosal sacs may overlap each other. | 5 |
| | NORMAL | O shape, may be a slight V shape | 0 |
| | KEYHOLE | Significantly narrowed lumen, especially ventrally, similar to a keyhole or Y shape | 3 |

Range = 0-25

SUM for NTUAS Score:

17

ADDITIONAL COMMENTS:

Examination date: 9/6/2017

Other findings (not associated with NTUAS): Moderate periodontal disease, curved epiglottis, pharyngeal phlegm