



# What do we mean by Quality-of-life (QoL)?

Summary of Schofield *et al* (2019) Development and evaluation of a health-related quality-of-life tool for dogs with Cushing's syndrome. JVIM DOI: 10.1111/jvim.15639

- Assessing the QoL of animals is an integral role of vets and is required during clinical decision-making to optimise the health and welfare of animals under their care. A recent issue has been that assessment of QoL in dogs with Cushing's has not been standardised or validated. The assessment is nearly always subjectively inferred by veterinary professionals and animal owners
- Any factor impacting on a dog, because of having Cushing's disease, is considered to impact their QoL. Therefore this is not just the physiological impact of the disease. The tool developed in this study takes all factors impacted by Cushing's into account in its design, including the strain of Cushing's disease on the owner. As owners play a huge role in the decision making process of their pet's care, any negative impact of disease and treatment on the owner could lead to cessation of treatment or even euthanasia

*“The state of an individual animal's life as thought to be perceived by them at a point in time by their owner. This includes the physical, social and environmental needs and impacts which are reflected by the animal's health and behaviour”*



## The study

- In this study, development of the QoL tool (“CushQoL-pet”) followed a standard psychometric process. All areas potentially impacting the QoL of Cushing’s disease in dogs were considered
- The 19-question CushQoL-pet was completed by 210 owners of dogs with Cushing’s disease and 617 owners of dogs without Cushing’s disease to evaluate its reliability and validity
  - Reliability was assessed by comparing repeated owner responses at 2 weeks (intra-rater), repeated owner responses at 3 months (test-retest) and paired owner responses at the same point in time (inter-rater). All indicating good reliability of the CushQoL-pet score:
    - inter-rater (n=13, ICC=0.88, 95% CI 0.55 - 0.97) and intra-rater agreement (n=15, ICC=0.78, 95% CI 0.49 - 0.92).
  - Test-retest results showed a correlation between the difference in the two CushQoL-pet scores (n=71, Spearman’s rho=0.64, p<0.001) and how owners described a change in their dog’s QoL. The 71 owners who repeated the CushQoL-pet at 3 months indicated that a decreased score of about -0.10 shows improvement in QoL of a dog with Cushing’s and an increase of +0.10 shows deterioration in QoL
  - Cronbach’s alpha assessed the reliability of all questions in the CushQoL-pet to measure the same concept (quality-of-life of dogs with Cushing’s disease). Good reliability was found (Cronbach’s alpha = 0.83)
  - Psychometric validation was assessed by principal components analysis, finding interpretable grouping of similar question responses. Also increasing CushQoL-pet scores of dogs with Cushing’s disease were seen with increasing owner assessment scores (Spearman’s rho=0.40, p<0.001)
- Further information about QoL of dogs with Cushing’s was investigated. The questions reported as most important, by owners of dogs with Cushing’s, were those that explored whether Cushing’s disease affects the bond with their pet and how much they worry about their pet’s future health. The least important items were about their pet’s appearance and interaction with other people/dogs
- A number of factors were examined to assess their effect on QoL. Increasing age, having a co-morbidity, or increasing length of time since diagnosis were not statistically associated with having a better QoL in dogs with Cushing’s disease (p=0.84, 0.34 and 0.08 respectively). Dogs currently on treatment with trilostane (0.33, IQR 0.23 - 0.44) were reported to have a better QoL than those on alternative or no treatment (0.36, IQR 0.33 - 0.54, p=0.04). The median CushQoL-pet score for dogs with Cushing’s disease was 0.35 (range 0.07-.77, interquartile range (IQR) 0.25-0.46)
- CushQoL-pet is rated between 0 and 1 (0 indicating the best possible QoL and 1 indicating the worst possible). The scoring is calculated as follows:

$$\text{CushQoL-pet Score} = \frac{\sum \text{of the question scores}}{\text{total maximum score}}$$

## Benefits of assessing QoL using CushQoL-pet:

- The CushQoL-pet quantifies the QoL of dogs with Cushing’s disease and can be an additional tool to aid clinical assessment of dogs with this disease
- Using the CushQoL-pet in practice provides additional information about the patient without solely assessing laboratory results or clinical outcomes. Studies in humans show that patient assessment of QoL may correlate poorly with results of routine blood tests. Therefore a lack of assessment of a dog’s QoL could result in inadequate relief from suffering and sub-optimal clinical decision-making
- Quantification of QoL is increasingly promoted to optimise and standardise decision-making in this area. The British Veterinary Association’s Animal Welfare Strategy highlighted the use of welfare and QoL assessments as one of their six priorities
- The factors impacting the QoL of dogs deemed of highest importance to owners generally relate to areas of ‘owner impact’. This reflects similar findings in other studies and highlights the importance of considering the pet-owner relationship during the management of pets with a chronic disease such as Cushing’s disease. The CushQoL-pet takes these factors into consideration
- Studies in human medicine show integration of QoL questionnaires into monitoring consultations improve patient-clinician communication, without increasing the length of the consultations