Canine Frailty Index

Healthcare

1. Has the patient been hospitalized for illness in the last six months? **Yes (1)** **No (0)**

2. Does the patient take any chronic therapies prescribed or recommended by a veterinarian? **Yes (1)** **No (0)**

Physical Characteristics

3. Has the patient developed any greying or lightening of the hair? **Yes (1)** **No (0)**

4. Has the patient developed any cloudiness or opacification of the lenses? **Yes (1)** **No (0)**

5. Has the patient experienced any unintentional weight loss, not the result of deliberate dieting or increased exercise? **Yes (1)** **No (0)**

Function

6. Does the patient need assistance for standing up? **Yes (1)** **No (0)**

7. Does the patient need assistance climbing stairs? **Yes (1)** **No (0)**

8. Does the patient show weakness during exercise? **Yes (1)** **No (0)**

9. Does the patient need physical support or assistance with eating? **Yes (1)** **No (0)**

10. Has the patient shown a general or persistent decrease in energy or activity in the last six months? **Yes (1)** **No (0)**

11. Has the patient shown any abnormal or unusual behaviors in the last six months, including: disorientation, disrupted sleep patterns, and changes in interaction with familiar people or animals? **Yes (1)** **No (0)**

12. Has the patient shown any persistent or recurring decrease in food consumption in the last six months? **Yes (1)** **No (0)**

13. Has the patient developed any new fecal or urinary incontinence in the last six months? **Yes (1)** **No (0)**

Pathologic Conditions

14. Does the patient have any congenital defects that cause ongoing or recurring symptoms? **Yes (1)** **No (0)**

Pathologic Conditions (cont.)

15. Does the patient have any chronic or recurring infectious disease? (currently active or not) **Yes (1)** **No (0)**

16. Does the patient have any chronic or recurring inflammatory disease? (currently active or not) **Yes (1)** **No (0)**

17. Does the patient have any chronic or recurring endocrine disease? (currently active or not) **Yes (1)** **No (0)**

18. Has the patient every been diagnosed with diabetes mellitus? (symptomatic or asymptomatic, treated or untreated) **Yes (1)** **No (0)**

19. Has the patient ever been diagnosed with benign or malignant neoplasia? (treated, in remission, resolved, or untreated/active) **Yes (1)** **No (0)**

20. Does the patient have any persistent impairment of hearing? **Yes (1)** **No (0)**
    If Yes, How severe is the hearing impairment?
    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

21. Does the patient have any persistent impairment of vision? **Yes (1)** **No (0)**
    If Yes, How severe is the visual impairment?
    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

22. Does the patient have any disease of the oral cavity? **Yes (1)** **No (0)**
    If Yes, How severe is the oral disease?
    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

23. Does the patient have any cardiac disease? (treated or untreated) **Yes (1)** **No (0)**
    If Yes, How severe is the cardiac disease?
    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

24. Does the patient have any chronic or recurring disease of the upper or lower respiratory system? (currently active or not) **Yes (1)** **No (0)**
    If Yes, How severe is the cardiac disease?
    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

25. Does the patient have any chronic or recurring hepatic disease? (currently active or not) **Yes (1)** **No (0)**
    If Yes, How severe is the hepatic disease?
    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

26. Does the patient have any chronic or recurring neurologic deficits? (currently active or not) **Yes (1)** **No (0)**
    If Yes, How severe is the hepatic disease?
    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

Pathologic Conditions (cont.)

27. Does the patient have any chronic or recurring gastrointestinal disease? (currently active   **Yes (1)**   **No (0)**
or not)

    If Yes, How severe is the gastrointestinal disease?

    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

28. Does the patient have any chronic or recurring disease of the hematopoietic system?   **Yes (1)**   **No (0)**
(currently active or not)

    If Yes, How severe is the hematopoietic disease?

    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

29. Does the patient have any chronic or recurring dermatological disease? (currently active   **Yes (1)**   **No (0)**
or not)

    If Yes, How severe is the dermatological disease?

    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

30. Has the patient ever been diagnosed with chronic kidney disease? (symptomatic or   **Yes (1)**   **No (0)**
asymptomatic, treated or untreated)

    If Yes, How severe is the chronic kidney disease?

    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

31. Has the patient every been diagnosed with osteoarthritis? (symptomatic or   **Yes (1)**   **No (0)**
asymptomatic, treated or untreated)

    If Yes, How severe is the osteoarthritis?

    Mild (0.5)   **Moderate (0.75)**   **Severe (1)**

Scoring

A score of 0 (No) or 1 (Yes) is assigned to items 1-19.

A score of 0 (No, condition not present), 0.5 (Mild), 0.75 (Moderate), or 1 (Severe) is assigned to items 20-31.

The Frailty Index is calculated as: the sum of score on all items divided by 31

Non-frail = 0.0-0.19

Mild frailty = 0.2-0.39

Moderate frailty = 0.4-0.59

Severe frailty >/= 0.60

Tips for Using the Canine Frailty Index

As a frailty index, the Canine Frailty Index (CFI) is designed to capture a broad range of health deficits and abnormalities that cumulatively represent the state of physiologic and functional resilience of the patient. Items are drawn from the history, physical examination, and clinical laboratory testing. Therefore, **the CFI should be completed once all available sources of information have been reviewed.**

Specific items contribute to the overall frailty score, but the general pattern is more important than the individual elements. The CFI is robust enough to allow for some variability in how individual items are assessed by different veterinarians, at different times, and based on different sources of information. If sources conflict, **the clinician should use their best judgement to determine how an individual item should be scored at the time they are completing the instrument.**

Chronic or recurring diseases may have waxing and waning symptoms, so a patient may be asymptomatic or controlled by treatment at the time of assessment. However, **chronic or recurring diseases that are not curable should be counted even if they are asymptomatic, in remission, or controlled with treatment at the time of assessment.**

Many conditions or health deficits can be scored under multiple items on the CFI. For example, atopic dermatitis with recurrent secondary pyoderma or otitis externa can potentially be scored as a recurring infectious disease, a recurring inflammatory disease, a recurring dermatologic disease, and as a reason for chronic veterinarian-prescribed or recommended therapies.

When any health condition meets the definition of multiple items on the CFI, it should be scored under as many of these items as are applicable.

Some items refer to symptoms or problems that may not always be present (e.g. the subject needs assistance standing up, climbing stairs, or eating). **Problems which occur intermittently should be counted unless the owner reports them to be rare or isolated events.**

Some pathologic conditions are grades as mild, moderate, or severe. In most cases, this is an inherently subjective assessment on the part of the veterinarian. A few specific conditions have established standardized grading schemes, and these have been mapped to the designations of mild, moderate, and severe used in the CFI. **Unless the severity of a particular medical condition is linked to a standardized grading system in this guide, the veterinarian should use their own clinical judgment and experience to grade the severity of pathologic conditions.**

Guidance on Specific Questions

This section provides detailed guidance to support answers to specific questions numbered on pages 2 and 3.

22. If using the American Veterinary Dental Colleges staging system for periodontal disease:

    Stage 0 indicates dental disease is absent

    Stages 1-2 correspond to mild disease

    Stage 3 corresponds to moderate disease

    Stage 4 corresponds to severe disease.

23. If the patient has myxomatous mitral valve disease (MMVD) and you are using the American College of Veterinary Internal Medicine staging system for MMVD:

    Stage A indicates MMVD is absent

    Stage B1 corresponds to mild disease

    Stage B2 corresponds to moderate disease

    Stage C may correspond to moderate or severe disease depending on the judgement of the investigator and the extent to which congestive heart failure is reliable controlled

    Stage D corresponds to severe disease

30. If using the International Renal Interest Society (IRIS) staging system for chronic kidney disease (CKD):

    Stage 1 and 2 correspond to mild disease

    Stage 3 corresponds to moderate disease

    Stage 4 corresponds to severe disease

    The presence of hypertension or proteinuria may affect the severity assessment if, in the judgement of the investigator, these conditions are poorly controlled or have significant clinical manifestations.

31. If using the Canine OsteoArthritis Staging Tool (COAST):

    Stages 0-1 indicate arthritis is absent

    Stage 2 corresponds to mild disease

    Stage 3 corresponds to moderate disease

    Stage 4 corresponds to severe disease

This modified frailty index is based on the original CFI (Banzato *et al* 2019).

Banzato, T., Franzo, G., Di Maggio, R. et al. A Frailty Index based on clinical data to quantify mortality risk in dogs. Sci Rep 9, 16749 (2019). https://doi.org/10.1038/s41598-019-52585-9