



Introducing the LOAD questionnaire

Understanding, administering, and incorporating LOAD into clinical practice

Objective measures for osteoarthritis (OA) in dogs are few and far between. Most often, mobility and quality of life are measured subjectively, creating disparity in interpretation. There exists a need for a reliable, repeatable, and sensitive tool that captures the different aspects of disease, quantifies them, and uses the evidence to guide clinical decision-making.

Administering the questionnaire

Owners complete one **initial** LOAD questionnaire on the first visit and one **follow-up** questionnaire at each subsequent visit. LOAD takes approximately five minutes for owners to complete, and offers a stable and reliable way to assess the incidence of OA^{1,2}. There are currently two versions of the questionnaire, a printed version and an electronic version – the only difference being that the electronic version auto-calculates the aggregate LOAD score.

Owners and the LOAD questionnaire

Owners should be instructed on how to complete the questionnaire, and any points of clarification resolved. If repeat LOAD scores are acquired from the same client, he or she should not see the previous responses or scores.

Scores range from 0–4, from left to right in the Mobility section, with 0 representing a healthy animal and 4 representing extreme/severe disease.

1. Based on their experiences and observations, owners select individual responses for each question (owners **must not** be aware of the numerical value associated with each response in the scoring section).
2. After the owner has finished, the questionnaire is returned to the attending health care member of staff so that the corresponding score can be inserted in each right hand box - either manually (printed version) or automatically (electronic version - this occurs when the LOAD score button is selected).
3. If completing the printed questionnaire, the individual question scores must then be added together by the attending member of staff to determine the aggregate LOAD score. The aggregate LOAD score is inserted in the final box.



The LOAD questionnaire

The Liverpool Osteoarthritis in Dogs (LOAD) questionnaire is a 13-item clinical metrology instrument (CMI) used to assess canine articular disorders like OA. Individual question scores are summed to provide an overall "LOAD score" suggestive of the animal's disease presence and severity.

LOAD was originally tested on a population of dogs with elbow osteoarthritis.² However, a recent article published by MB Walton et al. (2013), "[Evaluation of Construct and Criterion Validity for the 'Liverpool Osteoarthritis in Dogs' \(LOAD\) Clinical Metrology Instrument and Comparison to Two Other Instruments](#)", describes much more extensive validation of LOAD on a population of over two hundred owners of dogs with arthritis of the elbow, hip, and stifle.³

From these articles, it can be concluded that LOAD:

- Can be recommended for the measurement of canine osteoarthritis
- Is convenient to use
- Has received peer reviewed validation
- Has a correlation with force-platform data

Interpreting LOAD scores

The aggregate LOAD score helps determine the presence and severity of articular disorders like OA.



LOAD score is a recommendation only. Each patient should be carefully evaluated and examined by a registered veterinarian and the diagnosis of OA confirmed. Treatment options - including the benefits and risks of all available modalities - should be carefully considered and discussed with owners to determine the best course of action.

Implementing LOAD in clinical practice

Practitioners are encouraged to use LOAD on individual clinical cases to assist their decision-making and clinical monitoring. The applications of LOAD in general clinical practice might include the identification of OA in dogs presented for other reasons, to assess the severity of disease at the outset of treatment, and to assess the response of patients to any treatment implemented.

Consider the following questionnaire administration options:

Prior to arrival:

Email owners a PDF version of LOAD, instructing them to bring a completed, printed version in for their visit. (The above “*Owners and the LOAD Questionnaire*” can be leveraged as needed in communications with owners.) Alternatively, owners may complete the PDF version at home and email the completed questionnaire back to the clinic.

Upon arrival:

Have owners complete a printed or electronic version of LOAD. This way, a comprehensive and repeatable clinical history can be collected before the consultation begins.

During consultation:

Pre-load the LOAD questionnaire onto an in-clinic laptop or tablet device. This will allow the veterinarian/veterinary nurse and the owner to quickly navigate the questions together and arrive at aggregate results.

¹ Muller C, Gaines B, Gruen M, Case B, Arufat K, Innes J and Lascelles BDX (2009). Evaluation of Clinical Metrology Instrument in Dogs with Osteoarthritis. *Journal of Veterinary Internal Medicine* 30: 836-846

² Hercock CA, Pinchbeck G, Giejda A, Clegg PD, and Innes JF (2009). Validation of a client-based clinical metrology instrument for the evaluation of canine elbow osteoarthritis. *Journal of Small Animal Practice* 50: 266-271

³ Walton MB, Cowderoy E, Lascelles D, and Innes JF (2013). Evaluation of Construct and Criterion Validity for the ‘Liverpool Osteoarthritis in Dogs’ (LOAD) Clinical metrology Instrument and Comparison to Two Other Instruments. *PLOS One* 8(3): e58125

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Liverpool Osteoarthritis in Dogs (LOAD)

Owner questionnaire for dogs with mobility problems

Dear Owner,

Thank you for agreeing to complete this questionnaire.

Your assistance in this endeavour will enable us to gather valuable information about your pet, and is a vital component in our ongoing quest to combat painful and debilitating diseases such as arthritis. It is important that all questions are answered to the best of your ability and if you have a question regarding the questionnaire, please contact a health care member from your veterinary clinic.

Thank you again for your help.



Answering the questions

Most of the questions are fairly simple. It is important that you only check one box per question except where otherwise requested (e.g. Question 4 under Lifestyle).

If you are in any doubt as to how to answer a particular question, please contact a member of staff for assistance.

Owner's name:	Pet's name:	
Owner's phone number:	Client number:	Today's date:
Breed of pet:	Pet's age:	Sex: M <input type="radio"/> F <input type="radio"/>

For office use only

Reference limb:

LF

RF

LH

RH

Background

1. How long has your pet been suffering with his/her mobility problem?

- Up to 6 months 6–12 months 12–24 months 24–36 months more than 36 months

2. Has your dog been diagnosed as suffering from any other problems in addition to his/her orthopedic disease?

No

Yes

Please list these if you can:

3. If you can, please list any medications that your pet is currently receiving, stating when he/she received the last dose of each:

Lifestyle

1. In the last week, on average, how far has your dog exercised each day?

- 0–0.6 miles 0.6–1.2 miles 1.2–1.9 miles 1.9–2.5 miles more than 2.5 miles

2. In the last week, on average, how many walks has your dog had each day?

- 0 1 2 3 4 more than 4

3. What type of exercise is this?

- Always on leash Mostly on leash Mostly off leash Always off leash Working

4. Are there particular days of the week upon which your dog has significantly more exercise? (Check more than one box if necessary.)

- Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Reset

5. On what sort of terrain does your dog most often exercise?

- On level grass In woodland On street Over rough ground

6. At exercise, how is your dog handled?

- Walk on leash Walk off leash Trot Run freely

7. Who limits the extent to which your dog exercises?

- You Your dog

Mobility

Generally

For office
use only

1. How is your dog's mobility in general?

Very good

Good

Fair

Poor

Very poor

2. How disabled is your dog by his/her lameness?

Not at all disabled

Slightly disabled

Moderately disabled

Severely disabled

Extremely disabled

3. How active is your dog?

Extremely active

Very active

Moderately active

Slightly active

Not at all active

4. What is the effect of cold, damp weather on your dog's lameness?

No effect

Mild effect

Moderate effect

Severe effect

Extreme effect

5. To what degree does your dog show stiffness in the affected leg after a 'lie down'?

No stiffness

Mild stiffness

Moderate stiffness

Severe stiffness

Extreme stiffness

At exercise

6. At exercise, how active is your dog?

Extremely active

Very active

Fairly active

Not very active

Not at all active

7. How interested is your dog in exercising?

Extremely interested

Very interested

Fairly interested

Not very interested

Not at all interested

8. How would you rate your dog's ability to exercise?

Very good

Good

Fair

Poor

Very poor

For office use only

9. What overall effect does exercise have on your dog's lameness?

- No effect
- Mild effect
- Moderate effect
- Severe effect
- Extreme effect

10. How often does your dog rest (stop/sit down) during exercise?

- Never
- Hardly ever
- Occasionally
- Frequently
- Very frequently

11. What is the effect of cold, damp weather on your pet's ability to exercise?

- No effect
- Mild effect
- Moderate effect
- Severe effect
- Extreme effect

12. To what degree does your dog show stiffness in the affected leg after a 'lie down' following exercise?

- No stiffness
- Mild stiffness
- Moderate stiffness
- Severe stiffness
- Extreme stiffness

13. What is the effect of your dog's lameness on his/her ability to exercise?

- No effect
- Mild effect
- Moderate effect
- Severe effect
- Extreme effect

Thank you once again for completing this questionnaire.
Please return the form to a staff member.

For office use only

Clicking LOAD Score will tabulate your score once.
Reset is not available for this function.

LOAD Score

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Liverpool Osteoarthritis in Dogs (LOAD)

Owner follow-up questionnaire for dogs with mobility problems

Dear Owner,

Thank you for agreeing to complete this follow-up questionnaire.

Your assistance in this endeavour will enable us to gather valuable information about your pet, and is a vital component in our ongoing quest to combat painful and debilitating diseases such as arthritis. It is important that all questions are answered to the best of your ability and if you have a question regarding the questionnaire, please contact a member of staff from your veterinary clinic.

Thank you again for your help.



Answering the questions

Most of the questions are fairly simple. It is important that you only check one box per question.

If you are in any doubt as to how to answer a particular question, please contact a staff member for assistance.

Owner's name:	Pet's name:	
Owner's phone number:	Client number:	Today's date:
Breed of pet:	Pet's age:	Sex: M <input type="radio"/> F <input type="radio"/>

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Reference limb:

LF

RF

LH

RH

Reset

Mobility

Generally

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1. How is your dog's mobility in general?

- Very good
 Good
 Fair
 Poor
 Very poor

2. How disabled is your dog by his/her lameness?

- Not at all disabled
 Slightly disabled
 Moderately disabled
 Severely disabled
 Extremely disabled

3. How active is your dog?

- Extremely active
 Very active
 Moderately active
 Slightly active
 Not at all active

4. What is the effect of cold, damp weather on your dog's lameness?

- No effect
 Mild effect
 Moderate effect
 Severe effect
 Extreme effect

5. To what degree does your dog show stiffness in the affected leg after a 'lie down'?

- No stiffness
 Mild stiffness
 Moderate stiffness
 Severe stiffness
 Extreme stiffness

At exercise

6. At exercise, how active is your dog?

- Extremely active
 Very active
 Fairly active
 Not very active
 Not at all active

7. How interested is your dog in exercising?

- Extremely interested
 Very interested
 Fairly interested
 Not very interested
 Not at all interested

8. How would you rate your dog's ability to exercise?

- Very good
 Good
 Fair
 Poor
 Very poor

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9. What overall effect does exercise have on your dog's lameness?

- No effect
 Mild effect
 Moderate effect
 Severe effect
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10. How often does your dog rest (stop/sit down) during exercise?

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 Hardly ever
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