

**Additional File 5.** Data extraction items.

1. What is the hypothesis/aim/objective of the study?
2. What is the biomarker(s) of interest?
  - 2a. What is the location of the body tissue from which it was imaged?
3. Describe any experimental challenge during which biomarkers and/or MSD severity was assessed.
4. What is the MSD/pain outcome(s) of interest?
  - 4a. How is symptom/case severity described? State the average severity and severity range, if given.
  - 4b. What is the duration of symptoms/MSD? State the average duration and duration range, if given.
5. Is there a control group in the study?
  - 5a. Is the study longitudinal?
6. What is the study population from which potential participants were selected from? Specify for cases and controls.
  - 6a. What inclusion and/or exclusion criteria were used?
  - 6b. What was the size of the study population – specify for cases and comparison group (if there is one)?
  - 6c. What is the mean age and range (or SD) of cases and controls?
  - 6d. Which genders are study participants?
  - 6e. What was the participation/response rate?
7. State results in terms of effect sizes and precision (ex., OR = 3.2 [95% CI: 2.2-4.6]), if possible.
  - 7a. Is there at least one statistically significant association between MSD(s) and biomarker(s) in the study?