



## Global Leadership Initiative in Sarcopenia (GLIS) Survey

Dear colleague,

As an expert in the field, you are personally being invited to take part in the Global Leadership Initiative on Sarcopenia (GLIS) survey. GLIS is an international initiative aiming to produce an inclusive definition of sarcopenia which can be widely accepted by all current consensus groups. Launched by consensus groups from America, Asia, Europe and Oceania, GLIS intends to involve experts from all fields related to sarcopenia and to produce a definition that can be used widely both in clinical practice and in research.

Experts' responses on this survey will be used to inform conceptual statements on sarcopenia using a modified Delphi approach. Experts will rate their level of agreement with a set of statements or questions. Please note, information on this survey is confidential and not to be shared. By submitting this survey you agree to have this information presented at scientific meetings and societies, and published in medical journals.

To ensure accuracy and transparency of information, please complete the following two tasks prior to beginning the survey below:

1. Read further information on GLIS [here](#).
2. Download and read the open-access glossary of terms on sarcopenia [here](#).

## Declaration

1. I confirm that I have completed the relevant DOI form prior to beginning/submitting this survey

Yes

No

## Demographic information

2. Contact details

Name

Email  
address

3. Age

4. Gender

Female

Male

Other

Prefer not to say

5. Which race/ethnicity best describes you? (Please choose only one.)

- American Indian or Alaskan Native
- Asian / Pacific Islander
- Black or African American
- Hispanic
- White / Caucasian
- Prefer not to say

Other (please specify)

6. In what country do you live?

7. On which continent or region do you live?

- Africa
- Antarctica
- Asia
- Australia
- New Zealand
- Pacific Islands
- Europe
- North America
- South America

8. What is your primary role?

- Academic professional (e.g., University research and education)
- Health professional (e.g., hospital, rehabilitation or clinical setting)
- Industry professional (e.g., development of diagnostic techniques or drug/nutrition therapies)
- Other (please specify)



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9. Academic professional (e.g., University research and education)

- Professor  Lecturer
- Associate professor  Research assistant
- Research fellow (e.g., postdoctoral, senior, assistant professor)
- Other (please specify)



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10. Health professional (e.g., hospital, rehabilitation or clinical setting)

- |  |  |
|--|--|
| <input type="radio"/> Chiropractor           | <input type="radio"/> Nurse                  |
| <input type="radio"/> Dietitian              | <input type="radio"/> Occupational therapist |
| <input type="radio"/> Endocrinologist        | <input type="radio"/> Physician              |
| <input type="radio"/> Exercise physiologist  | <input type="radio"/> Physiotherapist        |
| <input type="radio"/> Gastroenterologist     | <input type="radio"/> Psychiatrist           |
| <input type="radio"/> Geriatrician           | <input type="radio"/> Rehabilitation         |
| <input type="radio"/> Hepatologist           | <input type="radio"/> Rheumatologist         |
| <input type="radio"/> Other (please specify) |  |



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11. Industry professional (e.g., development of diagnostic techniques/equipment or drug/nutritional products)

- Scientific director
- Senior scientist
- Scientist/researcher
- Other (please specify)



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## Aim of the survey

The GLIS survey aims to identify the level of agreement between experts on the concept of sarcopenia (for instance, some experts may strongly agree or disagree that muscle mass is important to the concept, regardless of whether an accurate measure would be available). Thus, the responses on this survey will be used to inform conceptual statements on sarcopenia using a modified Delphi approach, with the ultimate aim of developing a global definition of sarcopenia. To do this, experts will first rate their level of agreement with a set of statements relating to the concept of sarcopenia (first round). Depending on the level of agreement between experts, these statements will then be updated (second round). Experts will also have the option to propose new statements or suggest the rewording of existing statements. Once this first conceptual definition has been developed, future work will then develop an operational definition (for example with recommendations for specific instruments and cutpoints).

## Information on completing the survey

In this survey, there are 25 statements. With each statement, you are asked to rank the statement from 0 (strongly disagree) to 10 (strongly agree) on how much you agree with the statement. Below each statement, a comment box is available to motivate your answer and/or propose any changes to the way the statement is worded. If you are unsure of the content or how to answer, please refer back to the glossary of terms on sarcopenia. At the end of the survey, there are 2 questions to allow you to 1) propose new statements and 2) to provide general comments, concerns or feedback relating to the survey.

Survey completion time is roughly 15 minutes.

Thank you for your valuable contribution.

## General aspects of the concept of sarcopenia

12. Sarcopenia is a generalised disease of skeletal muscle

0 (Strongly disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

13. The prevalence of sarcopenia increases with age

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

14. The conceptual definition of sarcopenia should not vary by setting of care (e.g., inpatient vs. outpatient)

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

15. The conceptual definition of sarcopenia should not vary by age or condition (e.g., heart failure, kidney disease, cancer etc.)

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

16. The conceptual definition of sarcopenia should be the same for clinical practice and research

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

17. The conceptual definition of sarcopenia should include levels of severity of the disease

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

For the following questions (15-22), assume that there were perfect, highly feasible assessments of each measure available.

18. Muscle mass should be part of the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

19. Morphological characteristics of muscle tissue (e.g., muscle fat infiltration, muscle density or muscle texture) should be part of the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

20. Muscle strength should be a part of the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

21. Muscle strength should be a marker of severity for the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

22. Muscle specific strength (e.g., muscle strength/muscle size) should be part of the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

23. Muscle power should be part of the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

24. Physical performance should be part of the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

25. Physical performance should be a marker of severity for the conceptual definition of sarcopenia

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Consequences of sarcopenia (outcomes will operationalise consequences)

26. Sarcopenia increases the risk of impaired physical performance

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

### 27. Sarcopenia increases the risk of mobility (walking) limitations

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Comments

### 28. Sarcopenia increases the risk of mobility (transfer from chair or bed to rising) limitations

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Comments

### 29. Sarcopenia increases the risk of falls

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Comments

### 30. Sarcopenia increases the risk of fractures

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Comments

31. Sarcopenia increases the risk of inability to perform instrumental ADLs

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

32. Sarcopenia increases the risk of inability to perform basic (self-care) ADLs

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

33. Sarcopenia increases the risk of hospitalizations

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

34. Sarcopenia increases the risk of new admission to care (nursing) homes

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

35. Sarcopenia increases the risk of poor quality of life

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

36. Sarcopenia increases the risk of mortality

0 (Strongly Disagree)	1	2	3	4	5	6	7	8	9	10 (Strongly agree)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

37. Apart from the statements already listed in this survey, do you think there are any statements missing or new statements worth exploring within the concept of sarcopenia? Are there topics in sarcopenia that are controversial and not addressed in this survey?

38. Do you have any further comments, concerns or feedback on this survey? If so, please comment below.