Bioelectrical Impedance Spectroscopy (BIS)

Materials required:

- Bioelectrical impedance spectroscopy scale or device (+ electrodes)
- Disinfectant wipes to clean the electrode pads between use

Procedure:

- Ask participant to remove all jewelry/watch.
- Participants should stand on the scale with hands and feet on the corresponding electrode pads ensuring that arms should not be in contact with the torso.
- For accurate measurements, participants should refrain from moving or talking during the measurement.

Example Cut Points:

	Males	**Females**
Appendicular skeletal muscle index (ASMI)* for BIA	<7 kg/m^2	<5.7 kg/m^2
Fat-free mass index (FFMI)	<17 kg/m^2	< 15 kg/m^2
Appendicular lean mass adjusted for BMI* (ALM/BMI)	< 0.725	< 0.591

*Assumes BIS device provides output on appendicular skeletal muscle or appendicular lean mass.
These cut points are examples of currently published cut points; however it is important to consider the cut point most appropriate for the population you are assessing.

Frequently asked questions:

Q: Do I need to ask participants to empty their bladder prior to taking the measurement?
A: No. The amount of fluid held in the bladder is relatively small and will have an insignificant effect on the measurement output.

Q: Should I take repeat measurements at the same time of day as previous measurements?
A: Yes, it is good practice where feasible to take repeated measurements at a similar time of day, particularly if you want to compare measurements over time.

Key references:

- Sheean P et al., American Society for Parenteral and Enteral Nutrition Clinical Guidelines: The Validity of Body Composition Assessment in Clinical Populations. Journal of Parenteral and Enteral Nutrition 2020; 44(1): 12 – 43.
- Price K, Earthman C. Update on body composition tools in clinical settings: computed tomography, ultrasound, and bioimpedance applications for assessment and monitoring. European Journal of Clinical Nutrition 2019; 73: 187 – 193.
- Cederholm T, et al. GLIM criteria for the diagnosis of malnutrition - A consensus report from the global clinical nutrition community. Clin Nutr. 2019 Feb;38(1):1-9.