

Table 1. Operational domains of the evidence-informed bioelectrical impedance measurement protocol.

Domain	Protocol components	Operational objective
Participant pre-analytical control	General preparation; pre-measurement food/caffeine guidance; relevant clinical and medication history; removal of metal objects; body temperature/acute illness; same-day anthropometry; contextual biological variables.	Reduce transient biological variability and document factors that may alter hydration, peripheral blood flow, or the skin-electrode interface.
Measurement setup and execution	Ambient thermal control; non-conductive surface; standardized supine rest; skin preparation; standardized tetrapolar electrode placement.	Improve anatomical and procedural consistency and reduce variability related to posture, grounding, skin contact, and electrode position.
Instrumental, reporting, and longitudinal control	Pre-session checklist; device-function/metrological verification; detailed device/configuration reporting; raw-variable reporting; consistent conditions for repeat measurements; cautious interpretation at body-composition extremes.	Improve traceability, distinguish technical from biological variation, and support reproducible longitudinal interpretation.