

# BODY COMPOSITION ASSESSMENT

## CONSIDERATIONS RELATING TO DISORDERED EATING



These considerations have been developed to guide policy and practice within high performance sport in the area of body composition assessment and the specific considerations that arise in relation to disordered eating. They may be used as a reference for the development of minimum standards by National Sporting Organisations (NSOs) or adopted in full. The AIS recommends NSOs and National Institute Network (NIN) partners adopt these considerations.

While these considerations are specific to the assessment of body composition, the same principles should be considered when related assessment of athletes' bodies are undertaken. This includes but is not limited to:

- Monitoring changes in body mass to assess hydration themes
- Assessing power to weight ratios in strength testing
- Marking up for movement analysis

## OVERVIEW

Assessments of body composition provide a useful tool to determine the impact of nutrition strategies and training interventions. However, in particular athletes, such activities have the potential to cause harm. Protocols should be established and implemented before, during and after assessments of body composition to reduce this risk.

## METHODS AND PROTOCOLS OF BODY COMPOSITION ASSESSMENT

For the purposes of these considerations, the term "body composition assessment" will be used to describe a range of methods including, but not limited to:

- Body mass weighing (via scales)
- Surface anthropometry (including skinfolds)
- Dual X-ray densitometry (DXA)

Best practice protocols to optimise the reliability and precision of these techniques can be found elsewhere; the current considerations represent complimentary information that consider the impact of the protocol on the athlete.

## PRINCIPLES OF BODY COMPOSITION ASSESSMENT

- The underpinning philosophy of body composition assessment is 'first do no harm', with the aim to ensure positive outcomes for the athlete
- Any body composition assessment should be justified and have a supporting rationale: unjustified routine periodic screening should be avoided
- Each athlete should be empowered to have ownership over body composition assessment, by being provided with choice and decision making capacity and personal control of how their body is being assessed
- Body composition assessments that are compulsory or involve group settings should be avoided; each athlete should be treated as an individual
- Potential benefits and risks of body composition assessment are identified and considered for each and every EACH individual athlete
- Considerations are made to ensure all athletes and their bodies are treated with due respect

## INDIVIDUAL ATHLETE CONSENT

- Athlete consent can be provided in either a verbal or written form. Valid consent should involve several components:
  - Consent should be voluntarily given; there should be no actual or perceived ramifications for self-exclusion from body composition assessment
  - Consent should be informed; practitioners breach their duty of care if they fail to warn the athlete of the risks associated with treatments or procedures they are going to perform
  - Consent should be obtained from those with legal capacity to do so; adults (18 years and over)
  - Children and athletes with intellectual disability require parental or legal guardian consent [NSO coaches within the AIS daily training environment are seen as holding legal guardianship]. While common law recognises that the rights of a child to consent increases as their ability to understand and comprehend increases, caution must always be exercised. Where parental consent is provided, minors need to be informed in a manner they can understand
  - In the case of verbal consent, the athlete's permission should be noted at the time in the relevant AMS record or clinical notes
  - In the case of personnel changes in the athlete's coaching or support team, consent should re-confirmed
- Consent to share body composition assessment data with others (coaches, support team members) is to be given by the athlete.

## CONFIDENTIALITY

- All data related to body composition assessment (assessment, feedback, storage of data) should be treated as confidential medical information
- The athlete should be informed where and for how long information is stored, and who has access and for what purpose
- An athlete should have the right to choose or deny access to their body composition assessment data
- Body composition assessment data should not be displayed in a common area
- Individual body composition assessment data should not be discussed in a group setting

## FACTORS THAT PRECLUDE BODY COMPOSITION ASSESSMENT

- Failure to gain consent or denial of consent (see section above)
- Lack of availability of personnel who are appropriately trained and credentialed
  - the **AIS Sports Science Sports Medicine Practitioner Minimum Standards** require all personnel conducting skinfold testing to hold current International Society for the Advancement of Kinanthropometry (ISAK) accreditation
  - Radiation training and certification is required for any personnel conducting DXA assessment through the Australian and New Zealand Bone Mineral Society (ANZBMS)
- Lack of availability of appropriate equipment
  - equipment used in the assessment of body composition should be calibrated and maintained as per manufacturer's specifications and according to industry quality assurance standards
- Lack of valid purpose for testing
  - The data gained from the assessment should be used to assess or inform training and/or nutrition interventions. The assessment should not be used in a punitive, derogatory or non-informative way.

## FACTORS THAT MAY PRECLUDE BODY COMPOSITION ASSESSMENT

- Past or current history of disordered eating (DE) or eating disorder (ED)
  - The appropriateness of testing an individual athlete should be discussed with the athlete and relevant members of the disordered eating core multidisciplinary team (CMT) including sports dietitian, psychologist and/or doctor
- Body image concerns
  - An evaluation should be made of the risk that the assessment may exacerbate body image concerns, with consideration of processes and support that are in place to safeguard the athlete.
- Para athletes
  - According to the type of impairment, some modification of the assessment protocol and interpretation of results may be needed. If these cannot be accommodated then the assessment should not proceed. For an athlete with an intellectual disability, considerations around the level of understanding of the entire process needs to be considered.
- Athlete support systems
  - Consideration should be given to the medical, psychological and/or nutrition support systems available to the athlete in the daily training environment. If a change in body composition is suggested as a result of the assessment, adequate expertise and support for the athlete should be provided. Where there is no access to relevant support and expertise, body composition assessment should be avoided.
- Athlete age and level of competition
  - Variation in testing methods and frequency of testing is required according to the athlete's age and level of competition. Full consideration of both these factors are required.

If appropriate safeguards concerning the above factors cannot be put in place, the rationale to proceed with body composition assessment should be reconsidered.

Table 1 summarises considerations that should be addressed when body composition assessments are undertaken.

**Table 1**

<b>Issue</b>	<b>Comments</b>
<b>Assessment method</b>	Consideration should be given to the suitability and availability of different techniques
<b>Assessment frequency</b>	<p>Protocols need to consider the precision and reliability of the technique in comparison to the likely change in body composition of the athlete</p> <p>ISAK guidelines recommend that anthropometric assessments (e.g. “skinfolds”) are not undertaken less than 6 weeks apart</p> <p>ANZBMS guidelines typically recommend that there should be at least 2-3 months between DXA assessments of body composition</p> <p>It is important to manage or integrate all assessments into a single program to ensure that the athlete is not having different assessments within different squads or activities in which they are participating</p>
<b>Assessment safety</b>	DXA scans involve exposure to a small radiation dose
<b>Gender</b>	Ideally the practitioner conducting the assessment should be the same gender as the athlete. If this is not possible, a recorder/observer of the same gender as the athlete should be present.
<b>Location and environment</b>	<p>Adequate privacy should be provided to the athlete during assessment. Assessment should occur in a designated room rather than in an open space.</p> <p>If the practitioner is communicating results to a recorder, they should not be able to be overheard by others. The coach should not be involved in the body composition assessment process.</p>
<b>Assessment scheduling</b>	Although it is tempting to schedule a body composition assessment with an efficient and rapid timetable, particularly in the case of a sporting group, it is important to build enough time into each assessment to address any concerns of the individual athlete.
<b>Data storage</b>	The data should be treated as confidential medical information and stored appropriately
<b>Pre assessment education</b>	Prior to a new assessment, the athlete should be supported with education regarding the rationale for the testing, the protocol itself, and how results will be used and stored. Group education may be appropriate, but should also allow for athletes to discuss their individual concerns. Rushing through a tight time schedule can compromise the athlete’s experience of an already potentially compromising situation
<b>Communication of results</b>	<p>Careful decisions should be made about the timing of the communication of the results (e.g. at the point of collection or at a specific consultation), and the personnel involved in the communication.</p> <p>Results should be discussed confidentially and separately with each athlete, rather than in a group forum or posted in a common space. Athletes should be encouraged not to share their results with other athletes. It is advised that images of the athlete generated from the body composition assessment tool not be provided to the athlete.</p>
<b>Access to results</b>	The athlete should be aware of (and have consented to) the group of people with whom their results will be shared and the reason for this access.
<b>Performance plans/contracts</b>	Performance plans and/or contracts should not include weight or body composition targets for athletes.
<b>Follow up</b>	Any concerns that arise during body composition assessment and feedback activities should be discussed with the athlete’s medical, psychology or nutrition core multidisciplinary team (CMT). Communication processes for referral should be established where the practitioner conducting the body composition assessment is not a member of this CMT.

**Additional resources:**

- [AIS-NEDC Position Statement on Disordered Eating in High Performance Sport](#)
- [Disordered Eating Early Identification and Prevention Guideline/Policy template](#)

