

BMI and Assessing Dancers' Health and Fitness

What is the best practice to ensure dancers are working at a safe, healthy weight? Dr Carlo Bagutti, doctor to the Prix de Lausanne, shares his thoughts.



"BMI should be included in more general evaluations, and should not be used alone." - **Dr Carlo Bagutti**

Body Mass Index (BMI) is one of many elements you can use to evaluate the nutritional status of a dancer. In fact, the nutritional status of a dancer is really a big deal to assess in a practical and easy way. The use of biological and hormonal exams, combined with a calorimetric evaluation would obviously be of great help, but are expensive and of limited access. BMI is a commonly used and practical method – it can give an idea of nutritional status, but it has some positives and negatives. You need to have other elements to evaluate the health of the dancer.

BMI is one of several assessments for understanding a dancer's health – other tools include medical and gynaecological history, and physical examination. The clinical exam should be directed to look for signs of malnutrition (skin, hair and body hair, teeth, muscle, etc.). You must also consider age, gender and ethnicity of the dancer and compare the dancer's data with the growth charts and percentiles of the reference population. A longitudinal record of weight, height and BMI values (a single value is like a picture at one moment, but one would ideally be like a video) is an excellent tool to appreciate the growth velocity or changes in speed of growth of the adolescent dancer.

To complete the picture and especially in situations in which you suspect an eating disorder, other measurements can also be useful, such as body composition evaluation by skinfolds or by DEXA (which has the advantage of including a bone density measure). Diet questionnaires are also a tool that can be used, such as the eating attitude test (EAT-26 or EAT-40), or a 3 day diet record. However, these can be difficult tools to use. It depends on the situation; if you need to evaluate the nutritional status of many dancers in a short period of time, questionnaires and diet records are not an easy assessment.

Furthermore, skinfold measures change based on who takes the measure, so it is a tool used for follow up by the sametester. What is important is the change in a long-term evaluation. Fat free mass is a key element to consider – diet of the dancer will influence body composition, and if caloric intake is not balanced with energy expenditure it leads to loss of fat mass, among other conditions.

Bioelectrical impedance analysis (BIA) is also useful, but it should be used with rigorous attention to the measurement technique, as the results may contain multiple errors. It is highly dependant on water content. If a dancer has done physical activity, has been to the loo, if they are perspiring, if the dancer has just drunk something, if they are standing or lying down, or if they have body crème on their skin – are all examples of factors that can change the value of the BIA. It is not the most precise scientific tool. It can provide an idea, but it often evaluates body fat higher than actual values, which can also send the message to the dancer that they should try to lose more weight – potentially increasing the risk of an eating disorder.

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