



Advice / guidance to schools regarding the use of Physical Fitness Testing in Physical Education lessons.

Definition

Physical fitness can be defined as a set of attributes that people have or achieve that relate to the ability to perform physical activity¹. It can be separated into two broad areas, that is:

- **health-related fitness**, which involves the physical capacities that contribute to health, and can be broken down into five components:
 - cardiorespiratory endurance
 - muscular endurance
 - muscular strength
 - flexibility
 - body composition.
- **performance-related fitness**, which refers to the skills that will improve a person's ability to perform in sport and physical activity. These are the core capacities or skills that enable an individual to perform at the best of their ability. Performance-related fitness can be broken down into six components:
 - agility
 - coordination
 - balance
 - power
 - reaction time
 - speed.

Physical Fitness Testing

Physical fitness testing includes any standardised test which aims to measure performance in any of the above components.

If appropriately employed, physical fitness testing can potentially make a useful contribution to the physical education curriculum and play a positive role in supporting healthy active lifestyles and physical activity. However, it is important that the limitations of physical fitness testing and physical fitness test scores are understood, and physical fitness testing is incorporated as just one component of a broad, balanced and educational health programme. Additionally, evidence suggests that physical fitness testing can be counterproductive to healthy lifestyle and physical activity goals for some children, and that some physical fitness testing commonly practised in schools is questionable².

The Association for Physical Education (AfPE) cautions against the over use of physical fitness testing as a means of helping children adopt healthy, active lifestyles. Instead, the association favours the monitoring of physical activity levels to determine which pupils are and are not meeting the physical activity guidelines for health; this can occur instead of, or alongside, the monitoring of health-related fitness components.

¹ American College of Sports Medicine (ACSM)

² Association for Physical Education (AfPE) <http://www.afpe.org.uk/physical-education/fitness-testing/#>

Maximal aerobic testing

Maximal aerobic testing is one of five elements of physical fitness testing, which are tests of exhaustion. This can be compared to other elements of fitness testing, such as the Sit and Reach (SAR) test which assesses flexibility, and the Standing Broad Jump (SBJ) test which assesses explosive power. Among the more commonly used tests of maximal aerobic capacity are the Bleep Test and Cooper Test.

Primary Schools

Limited use of non-invasive tests that do not require a pupil to push themselves to exhaustion, such as the SAR and SBJ test, may be used in certain circumstances in Primary schools, provided the teacher has the appropriate level of knowledge to safely administer these tests and can help pupils to interpret the results correctly.

Maximal aerobic testing should not be used in a primary school setting. This is in line with the position adopted by the Irish Primary Physical Education Association (IPPEA) in its Position Statement on Physical Fitness Testing in Irish Primary Schools (2015). In exceptional circumstances, maximal aerobic testing in primary schools is permissible when conducted by trained personnel as part of research that has received ethical approval from a third level institution (or another recognised research body) and written informed consent has been received from the participant's parent/guardian, along with assent from the participant themselves (for example. The 2018 Children's Sport Participation and Physical Activity (CSPPA) Study).

Post-primary Schools

The use of whole-class physical fitness testing to assess who is the fastest or strongest etc. is strongly discouraged, as these types of activities are de-motivating for students whose physical fitness levels are low.

Post-primary students who elect to engage in maximal aerobic testing, through examples such as the Bleep Test or Cooper test as part of their learning in the Senior Cycle Physical Education (SCPE) Framework or Leaving Certificate Physical Education (LCPE), should be allowed to do so. If tests of maximal aerobic capacity are used, students should also be given the option of using sub-maximal alternative tests (such as the Step Test), which also give indications of aerobic capacity. Although rudimentary field tests such as the Step Test offer less validity and accuracy in terms of predicting maximal oxygen uptake (VO_2 max), they are sufficient from an educational perspective for a student who does not wish to undertake a maximal test and push themselves to exhaustion.

Safe practice when administering fitness tests

A range of good practice procedures should be put in place when students are performing maximal aerobic tests. These include, but are not limited to:

- clear instructions to students explaining the context and purpose of the tests and what it purports to achieve and the possible provision of individual feedback from their physical education teacher
- clear instructions to students about the need to drop out if they are feeling excessively tired or unwell
- good ventilation in the room
- availability of cool drinking water
- instructions for post-exercise recovery

- respect for confidentiality and potentially sensitive nature of student scores should mean that for these and all other fitness tests, there is no public display of student results. Displaying the results achieved by professional or elite athletes as a reference for students would be acceptable, however.

Physical Activity Readiness Questionnaire

In line with general good practice principles, schools and physical education teachers should ensure procedures are in place to ensure that parents and/or students provide information pertaining to any underlying medical condition which a student has to the school and especially to the physical education teacher. Physical education teachers need to be particularly conscious of this, particularly if tests of maximal aerobic capacity are being undertaken. For instance, if a student suffers from asthma, particularly exercise-induced asthma, it may be appropriate that they do not participate in a test of maximal aerobic capacity. The physical education teacher might also consider the completion of a Physical Activity Readiness Questionnaire (PAR-Q) by students annually.

Developmental context

It is important to remember that a physical education class is, first and foremost, an educational setting. It is not limited to testing students in the belief that this testing will somehow make them physically fitter. As such, overuse of general testing sessions should be avoided in the spirit of upholding the educational values of the subject.

Where physical fitness testing is used in a post-primary setting, it should always be used in a developmentally appropriate context, with an educational focus that forms part of a broader educational unit, that is, to provide personal information to students as to how their growth, maturation and development can impact on their performance across a range of physical fitness indicators. For example, it would not be unusual for a student to experience decreases in flexibility and specific ranges of motion immediately after a developmental growth spurt.

Physical Education aims to enable students to develop the knowledge, skills and attitudes to allow them to live healthy, physically active lifestyles. If physical fitness tests are used and administered appropriately, that is, in a pedagogically sound, student-centred manner in which learning is the focus, they can provide valuable information to the individual student about their health and wellbeing, and can provide the motivation for them to lead healthier, more physically active lives in line with the aims of Sport Ireland's LISPA (Lifelong Involvement in Sport and Physical Activity) model.³

³ LISPA. <https://www.sportireland.ie/coaching/coaching-development-programme-for-ireland/lispa-model>