

The validity of a 1000m distance test as a predictor of swimming competence

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Introduction

Distance is probably the most common criterion used to assess the ability to swim. Most place this distance at between 25m and 200m. 'How far' – is usually considered more important than 'how'. The importance of all around skill development is usually under-estimated. Being able to swim 1000m continuously would probably be accepted by most as proof of being 'able to swim'.

The idea of all-around development is not new (1). However, only in the last 20 years have efforts been made to conceptualize it and later to quantify it. A model exists to measure swimming competence (3). The model is operationalized in a combined test of 200m.

Methods

Grade 4 pupils (n=339), attempted two tests, within 10 days: 1000m continuously and a 200m combined test. The distance completed was recorded or they stopped at 1000m on the distance test. The combined test was scored for each element as well as a total score (max 12pts). Each element failed was registered. The combined test consisted of: a) jump or dive into deep water, surface and level off, b) swim 100m on the front, c) stop and rest 90 sec. on front, and 90 sec. on back, d) swim 100m on back. (3 pts. pr. element). Seventy-four percent (n=251) succeeded in swimming 1000m. Randomly, half (169) swam the 1000m first and half (170) swam the combined test first. The 200m combined test was accepted as the conceptual criterion of 'can swim'. Total score on the combined test was correlated with the number of meters achieved on the 1000m test using the Spearman r.

Results

Of those who successfully swam 1000m, 11% failed to jump or dive into deep water; all succeeded in swimming 100m on the front; 59% failed to stop and rest 3 min.; 29% failed to swim 100m on the back and only 37% received a total score of 11 or 12 pts (can swim) on the combined 200m test. The Spearman r for total score vs meters achieved was $r = 0.57$.

Discussion

When making decisions about teaching content, setting goals and evaluating progress, one thought should guide us; to what extent are our pupils able to cope with an unexpected and involuntary fall into deep water. An 'aquatic episode' can take many forms and might require one or more of many solutions. The ability only to achieve a certain distance may fail to preserve life if the 'episode' should require e.g. the ability to stop and rest, re-orient ones self, catch the breath, a quick submersion, rolling over and changing strokes, turning around, etc.

Conclusions

The ability to swim even 1000m is a poor predictor of the total score on the 200m combined test and thus not a good predictor of swimming competence.

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The validity of swimming speed as a predictor of swimming competence

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Introduction

If distance achieved is a common criterion for assessing swimming competence (2), another is swimming speed. In the school setting, time trials are sometimes used to appoint marks to pupils. Within the competitive swimming world, it is often simply assumed that children and youth who swim systematically and achieve improving times, become somehow, even safer as they swim faster. But is faster better? The aim of this study was to examine the degree to which time achieved on a 200m swim could predict performance on a 200m combined test.

Methods

The conceptual 200m combined test described elsewhere (2) was used as the criterion test. Grade 6 school pupils (n=89), from three different schools, participated in the study. All pupils from the classes involved swam two tests, within 10 days. Randomly, one half of the subjects swam the 200m time trial first and the other half swam the 200m combined test first. The times recorded were correlated with the total score on the combined test using the Spearman correlation coefficient.

Results

This is a study in progress which will be completed in Sept/Oct 2010. From plots of data pairs already gathered, it is expected that the correlation will be low.

Discussion

Swimming speed is considered to reflect technique, strength, muscular endurance, physiological endurance, flexibility, etc. Among Grade 6 school pupils, most are at the threshold of puberty, of course with wide variation, some nearly finished, some not yet started. For such youth, the two most probable contributors to swimming speed are strength or lack thereof (depending on the stage of puberty) and technique. The latter need not be related to pubertal development. Those who are advanced may swim faster simply because of strength yet not exhibit economic movement nor possess a broader repertoire of skills. Those with better technique may also lack a broader base of skill. As discussed elsewhere (4, 1) an aquatic accident may take many forms, requiring one or more of many possible solutions. Langendorfer and Bruya (1995) (3) describe this as 'aquatic competence'. The need for all around development in a drowning prevention context is obvious.

Conclusions

If the criterion test represents a desired level of competence, a low correlation to swimming speed indicates that swimming speed alone is a poor predictor of aquatic competence.

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