241 HF P

Correlation between a new aerobic fitness shuttle test and YoYo-intermittent recovery level 1. A preliminary research

F. Cereda[1–3], F. Borri[2], A. Gambaretto[3]

[1]Department of Education, University Cattolica del Sacro Cuore, Milan, Italy
[2]Athletic Trainer, AS Varese1910, Varese, Italy
[3]Degree in Sport and Exercise Sciences (1st level), University Cattolica del Sacro Cuore, Milan, Italy

Aim: The two Yo–Yo intermittent recovery (IR) test evaluate an individual's ability to repeatedly perform intense exercise. The YoYo-IR level-1 (YoYo-IR1) is a maximal test focuses on the capacity to carry out intermittent exercise leading to a maximal activation of the aerobic system, with an average duration of 18 minutes and a distance of run of 20 m before change directions (Bangsbo, 2008). The aim of this preliminary study is to evaluate the correlation between YoYo-IR1 and a new incremental shuttle test (IST).
Methods: 19 young soccer players of professional sports team (age: 18.5 ± 0.6 years, height: 178.9 ± 7.6 cm; body mass: 71.1 ± 8.7 kg) performed YoYo-IR1 and IST which consists in a test with a duration of 8', a run of 40.32 m (width of soccer's penalty area) before change directions without rest. Starting speed was set at 12.5 $km \cdot h^{-1}$, with an increase of 0.5 $km \cdot h^{-1}$at each step of 1 min. An acoustic signal must be respected at three points set at 0, 20.16 and 40.32 m. With this protocol final speed results at 16 $km \cdot h^{-1}$. Test finished when a subject was not able to run and match the acoustic signal.
Results: The total distance covered during the YoYo-IR1 test was 2434 ± 309 m, time spent was 19 ± 2.4 min and session RPE (CR10) was 6.4 ± 0.7. The total distance covered during IST test was 1581 ± 240 m, time spent was 6.5 ± 0.9 min and session RPE (CR10) was 5.7 ± 1.0. Distance in IST shows a good correlation with YoYo-IR1 ($r = 0.85, p < 0.001$); RPE found a difference of 9.9 % ($p < 0.01$).
Conclusions: Trainers are always looking for methods low cost, non-invasive and of short duration to assess physical fitness. In this preliminary study, data suggest the use of this IST to assess the aerobic fitness in young soccer players. For practical purposes the shorter duration and lower intensity should involve both trained and untrained players and become a useful tool for the trainer. Obviously more research is needed to better define this new IST.

References

Bangsbo J, Iaia FM, Krustrup P. (2008) The Yo–Yo intermittent recovery test: a useful tool for evaluation of physical performance in intermittent sports. Sports Med. 2008; 38 (1): 37–51.

Cereda F., Borri F., Gambaretto A. (2015). Correlation between a new aerobic fitness shuttle test and YoYo-intermittent recovery level 1. A preliminary research., Sport Sci Health 11 (Suppl 1):S1–S102, DOI 10.1007/s11332-015-0234-0