

Physiological Assessments for Referees in Ice Hockey

Anthropometry

Hight [cm]



Fig. 1: Hight

Body weight [kg]



Fig. 2: Bodyweight

and body composition (fat and lean mass)
Dual-energy X-ray absorptiometry

Trunk Strength

Dynamic trunk muscle strength test

Subject has to do 3 different trunk testforms. Position and movement have to be hold as long as possible. Between the exercises is a ten minute rest.

1. Ventral trunk muscle chain



Fig. 3: Ventral trunk strength

2. Lateral trunk muscle chain



Fig. 4: Lateral trunk strength

3. Dorsal trunk muscle chain



Fig. 5: Dorsal trunk strength

Speed and Agility

30m- Sprint with split times

Subject should sprint 30m (electronically measured)

Measured parameters: Split times of 10m, 20m and 30m [sec]

Trials: 2, better trial is counted



Fig. 6: 30m- Sprint with Split times

Pro Agility Stop and Go (20m)

Subject should sprint from the starting line to the cone by touching the it (5m), back through the light gates (10m) to the other side by touching the cone (15m) and finally through the light gates again (20m).

Measured parameters : time [sec]

Trials: 2, better trial is counted

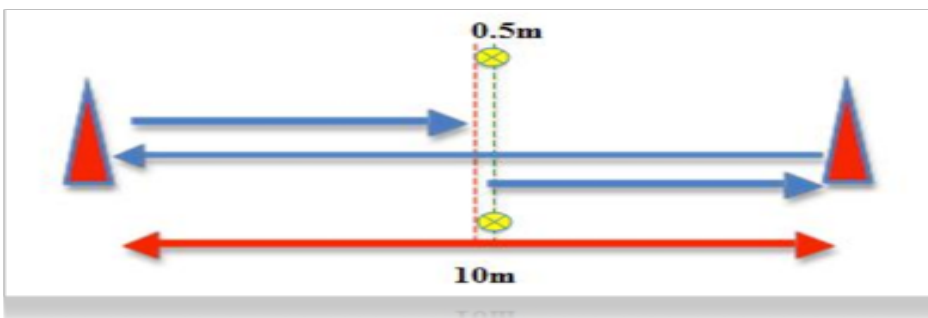


Fig. 7: Testdesign Pro Agility Stop an go (20m)



Fig. 8: Pro Agility Stop an go (20m)

Aerobic Endurance

Yo-Yo intermittend recovery test, Level 1

Subject has to run 2x20m back and forth between the starting line, turning and finishing line at a progressively increased speed controlled by audio beeps. Between each running bout, subject has a 10s active rest period, consisting of 2x5m walking around the cone. When subject twice have failed to reach the lines in time, the test is over.

Measured parameters: maintained speed [km^{-1}], and distance [m], maximal heart rate [bpm]

Trials: 1

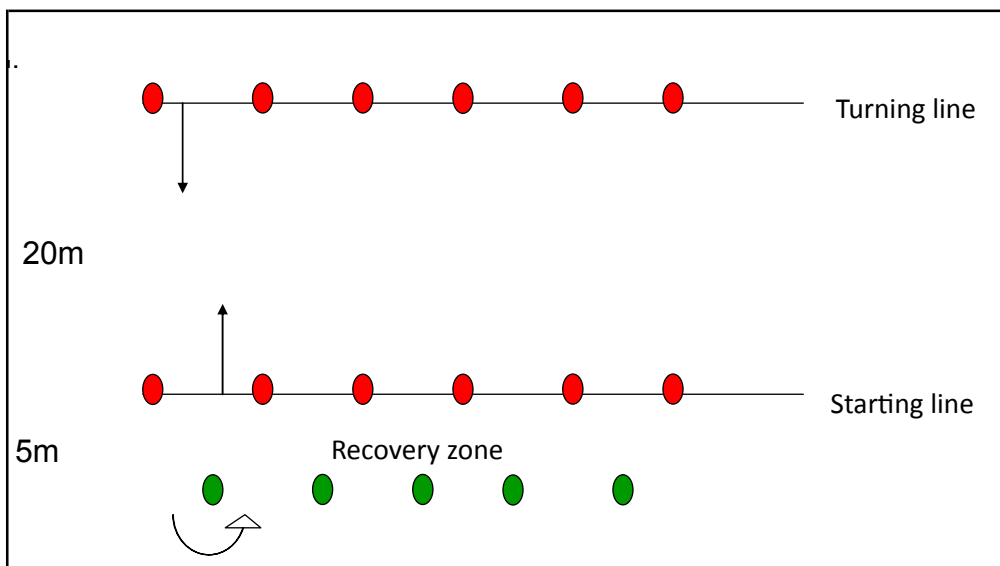


Fig. 9: Testdesign Yo- Yo Intermittent recovery test



Fig. 10: Yo-Yo Intermittent recovery test, turning line

Explosive Strength

Quattrojump

Subject has to jump on a force plate. The protocol consists of 3 Counter movement jumps (CMJ) aswell 3 unilateral CMJ and 3 Squat jumps (SJ). Both jumps have to be done without armswing.

Measured parameters : Peak power CMJ an SJ, unilateral CMJ
Leg Equilibrium Index (<10% normal)
Effect of Prestretch (4%-8% is normal)



Fig. 11: CMJ on force plate