UNIVERSITY OF LIMERICK
OLLSCOIL LUIMNIGH

UNIVERSITY OF LIMERICK RESEARCH ETHICS COMMITTEE

RISK ASSESSMENT FORM – PROCEDURES INVOLVING HUMAN SUBJECTS

For Office Use Only: EHSREC No: 2018_xx_yy_EHSRA

Title of Procedure	**Multistage Aerobic Fitness Test (Shuttle Test)**

Name of Assessor(s)	Prof Phil Jakeman	**Assessment Date**	01 / 02 / 2018

Does this procedure already have Ethical Approval ? ~~YES~~ / **NO**

If YES please enter approval number and expiry date

Approval No:	Expiry date
	1 / 2 / 2028

1	**Please provide a brief description of the procedure**

The subject is pre-screened according to the EHSREC approved study protocol;

The subject is familiarised with the testing procedures under the supervision of a qualified researcher;

The subjects undertakes a pre-assigned warm-up;

The subject is required to undertake a shuttle run between 2 cones placed 20m apart as a set pace. At the end of a timed interval or stage, the pace is increased. The subject attempts to complete as many stages as possible, i.e. to the point when no longer able to maintain the required pace. The subjects is supervised by the researcher to ensure pacing is correct;

The subject performs a maximal effort and the stage level at finish recorded as the maximal endurance capacity.

The subject is supervised through a 15-minute warm-down and recovery before release.

2	**Location in which the procedure may take place**
√	Multi-purpose gym (PG053)
√	Large Gym (PG056)

3	**Eligibility of subjects to be used**
√	Male and female members of the university community aged between 18 and 35 y with no contra-indication identified by pre-test questionnaire in the SOP

√	Male and female members outside of the university community aged between 18 and 35 y with no contra-indication identified by pre-test questionnaire in the SOP

4	Potential risks. To be explained before obtaining consent
X	Non or minimal discomfort only

Risk to the subject:

The subject should not participate in the tests if there is a recent history of illness, pregnancy, recurrent injury or medication. These are identified in the pre-test questionnaire.

A standardised warm-up is conducted prior to any test.

Discomfort should not exceed that experienced during regular training by the subject.

Risk to the researcher:

There is no or minimal risk to the experimenter in the Standard Operating Procedures for this test. The following are precautions specific to this procedure:

1. Care must be taken to avoid a possible slip hazard due to excessive sweating by the subject or residual water on the test surface from the previous test subject.

5	Action to be taken in a foreseeable emergency

Action to be taken with reference to the subject feeling unwell at any stage throughout this procedure:

1. Stop the procedure immediately.
2. Check vital signs airways, breathing and circulation (ABC). Subject placed supine with lower limbs raised to improve blood flow and counteract the vasovagal influence. Check blood pressure.
3. Apply CPR if required.
4. First aid personnel contacted, and an ambulance requested if necessary.
5. The University Medical Centre number is 2534 (9:00 am to 5:00 pm)
6. The University emergency number is 3333

6	Level of supervision required for the procedure
√	Named researchers on EHSREC Approved Study trained to the level stated within the SOP for this procedure

7	Other documentation required
√	Standard Operating Procedure (SOP)

STANDARD OPERATING PROCEDURE (SOP)

Multistage Aerobic Fitness Test (Shuttle Run Test)

Purpose: The Multistage Aerobic Fitness Test (Shuttle Run Test) is a validated test of endurance capacity. This document provides guidance to researchers on the conduct the multi-stage shuttle run test.

Environment: Environment-controlled exercise laboratory or gym with solid floor. Minimum area required to conduct the test is 75 m^{-2} (i.e. 25 m x 3 m)

Equipment: Sound system playback for pacing tape and instruction

Personnel

For the purpose of this document, a ***researcher*** is a member of staff, post-graduate or undergraduate researcher of the University of Limerick trained in the procedures referred to below.

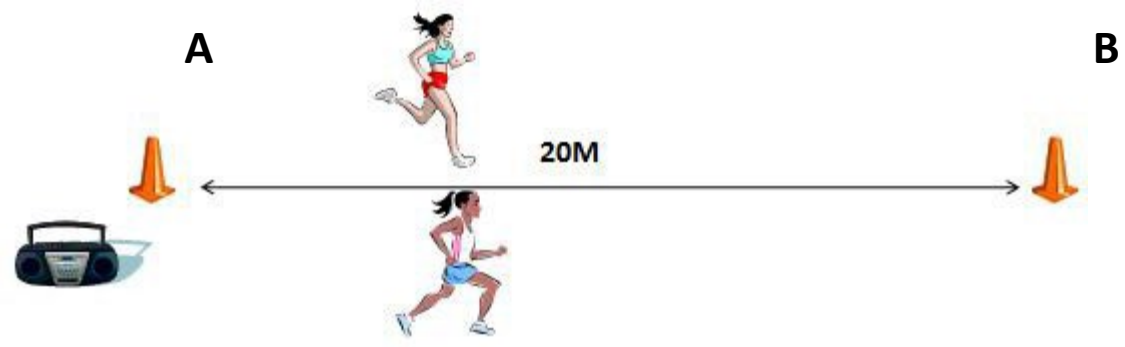
Qualification of the researcher:

1. Researchers must hold an up-to-date First Aid certificate and have demonstrated competence in CPR;
2. Researchers must have been trained to competency by the PI or his/her nominee.

The researcher is responsible for:

1. The laboratory area/environment for the conduct of the test;
2. Ensuring the required subject informed consent and pre-test checks are complete and signed off by the principal investigator or person delegated by the principal investigator to this task;
3. The calibration and safe operation of the Test Equipment.
4. The appropriate level of feedback to the subject (as dictated by the research design) and appropriate storage of data (as dictated by relevant EHSREC approval).

Setup



Protocol

The test comprises of 23 levels with each level lasting approx. 1-minute. The starting speed is 8.5kph and increases by 0.5kph at each level thereafter. As the individual progresses through the levels, the time for each decreases – leaving the participant less time to complete each shuttle. Pacing is set by pre-recorded, pre-calibrated tape played at high volume by an audio player. A single beep indicates the end of each shuttle, whilst three successive beeps indicates the start of the next level.

Test Procedure

1. Participants begin the test at the start line as outlined by the researchers (Cone A)
2. When instructed by the audio player, the participant must run towards the opposite 20m line (Cone B) within the sound of the beep. They must run back and forth in the same pattern, continuously, until unable to maintain the required pace.
3. If the participant fails to reach the line on the beep they will be given a verbal encouragement/warning. Subjects are withdrawn, and the test terminated, following two successive fails and their highest stage attained at completion recorded.
4. If the participant reaches the line ***before*** the second consecutive beep, the number of fails recorded is reset.
5. Upon completion, the researcher guides the subject through an active 15-minute warm-down and recovery period before release from the test environment.