UNIVERSITY OF LIMERICK
OLLSCOIL LUIMNIGH

UNIVERSITY OF LIMERICK RESEARCH ETHICS COMMITTEE

RISK ASSESSMENT FORM – PROCEDURES INVOLVING HUMAN SUBJECTS

Procedure No	SS035
Title of Procedure	Assessment of strength by one repetition maximum test
Name of Assessor(s)	Mark Lyons
Assessment Date	December 2018
Does this procedure already have ethical approval ?	**Yes**
If so, enter ethical number and expiry date	**Approval No: 2021_01_SS035_RA** **End Date: December 2028**

1 Please provide a brief description of the procedure

Normal healthy adult subjects will initially complete a warm up routine including activation exercises and 6-8 repetitions of the said exercise at a sub-maximal load (approximately 50% of predicted 1RM). 2-5 minutes rest follows. The subject will then perform of the resistance training exercise at a sub-maximal load (approximately 80% of predicted 1RM) that will allow them to perform 3 repetitions. 2-5 minutes rest follows. The resistance is then gradually increased (typically 5-10% for upper body exercises and 10-20% for lower body exercises) each time, until the subject cannot lift the said weight any more. Rest periods remain at 2-5 minutes between reps. The final weight they lift is known as their one-rep-max (1RM). Appropriately certified and experienced spotters will be present to assist the subject at all times and for all maximal and sub-maximal lifts. They will communicate at all times with the subject. A clear command will be agreed prior to testing between the spotters and subject (e.g. 'my bar' command by subject when they are ready to commence the lift; a simple 'no' command when the subject feels they are unable to complete the lift at which point the spotters will immediately spot the weight of the bar again). All subjects will either be experienced or be trained by the investigator as to the correct technique to be used. The subjects may also be located on a force plate to measure ground reaction forces during the lift if required.

2 Location in which the procedure may take place

X	Teaching Laboratory (PG040)
X	Research Laboratory (PG043)

X	A&K (PG039)

Others, please specify

X	University Arena Gym
X	University Arena Elite Gym

3	Eligibility of subject(s) to be used

X	PESS student (U.G. or P.G.)
X	University of Limerick staff or campus personnel
X	Members of the general public engaged in research projects granted ethical approval.

4	Potential risks. To be explained before obtaining consent

X	Low Risk

All resistance training carries risk of muscular strain in those who are susceptible or not accustomed to resistance training. The participants will complete a standard lab questionnaire prior to participation, and anyone with a history of any musculoskeletal injuries will not be asked to undertake this procedure. Additionally, all labs, undergraduate and taught post-graduate work will include an informed consent document prior to participation, that will explain all the risks in full.

The risk of muscular and connective tissue injury during this procedure is minimal. Participants will undergo a thorough warm-up that will include activation exercises and a number of sub-maximal lifts starting at light loads (50% 1RM) and gradually increasing the weight until they reach their one rep max. Subjects will not be asked to lift more weight than they feel they can comfortably lift using the correct technique.

It should be noted that in teaching labs, resistance training is currently undertaken by PESS students of Physical Education, Sport and Exercise Sciences, Masters in Sports Performance, and Masters in Applied Sports Coaching, who are usually exercise tolerant. In final year projects and dissertations, all participants would be healthy adults with no musculoskeletal injuries.

5	Action to be taken in the event of a foreseeable emergency

A clear command will be agreed prior to testing between the spotters and subject. This will include a 'my bar' command by the subject when they are ready to commence the lift. A simple 'no' command will be given by the subject in the event that they are unable to complete the lift. When a 'no' command is given by the subject, the spotters will immediately spot the weight of the bar and re-rack the bar to its starting position again.

The procedure will be terminated if the volunteer shows any sign of distress.

Standard first aid procedures may be required depending on the severity of the situation. The following standard procedure should be followed in the event of an incident occurring in the PESS building / UL Facility:

1. Stop the procedure. Position the subject to prevent self-injury.

2. If appropriate, raise the subject's lower limbs to improve blood flow. Should the subject fail to respond summon help immediately.
3. Check vital signs airways, breathing and circulation (ABC)
4. If required attempt CPR as soon as possible.
5. Requesting Help: Emergency Contact telephone numbers are listed on laboratory door:
   - During normal working hours 9am-5pm, use lab phone to contact the Student Health Centre on **061-20**2534
   - Outside of normal working hours, or if the Student Health Centre number is engaged/busy, use the laboratory phone to dial 3333 for UL security personnel who will then contact the ambulance service. Contact one of the PESS First Aiders – names are listed on the PESS laboratory door.
6. When contacting the above clearly state: Location, Building, Room Number, Nature of Incident/Accident and provide a contact number.
7. Complete the UL 'Accident & Emergency' form (completed by the investigator, not the volunteer). Forms available on UL HR website: https://www.ul.ie/hr/hr-policies-procedures-and-forms-z

6 Level of supervision required for procedure

X	PESS lecturing/research staff /teaching assistant (with resistance training, weightlifting or equivalent qualifications)
X	PESS postgraduate researcher (with resistance training, weightlifting or equivalent qualification)

Others, please specify

7 Other documentation required for this assessment

X	PESS Pre-test Screening questionnaire (PAR-Q)
X	Detailed protocol

Others, please specify

X	Participant Information Sheet
X	Participant Consent Form

For Office Use Only: ULREC No: __ /_

FOR COMPLETION BY HEAD OF DEPARTMENT

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S **Approval of procedure**

[Granted

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Others, please specify

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Comments/conditions

- Wann-up for I-RM
- Individuals supervising must have an appropriate resistance training, weightlifting or equivalent qualifications
- Spotters must be present
- lnfonned consent must be completed

Signed: (Head of Department)

Date:) /)J I()