



UNIVERSITY OF LIMERICK RESEARCH ETHICS COMMITTEE

RISK ASSESSMENT FORM – PROCEDURES INVOLVING HUMAN SUBJECTS

	Procedure No	SS 060
Title of Procedure	Plyometrics exercises	
Name of Assessor	Drew Harrison	Assessment date February 2002
Does this procedure already have ethical approval ?	YES	
If so, enter ethical number	Approval No:	

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Please provide a brief description of the procedure

Plyometrics are any exercise where the muscle is contracted eccentrically then immediately, concentrically, i.e. the muscle is stretched (i.e. loaded) before it is contracted. They are used to improve power.

Lower Body

Drop Jumping: - This exercise involves the athlete dropping (not jumping) to the ground from a raised platform or box, and then immediately jumping up. The drop down gives the pre-stretch to the leg muscles and the vigorous drive upwards the secondary concentric contraction. The exercise will be more effective the shorter the time the feet are in contact with the ground. The loading in this exercise is governed by the height of the drop which should be in the region of 30-80 cm. Drop jumping is a relatively high impact form of plyometric training and would normally be introduced after the athlete had become accustomed to lower impact alternatives, such as two-footed jumping on the spot.

Bounding and hurdling: If forward motion is more the name of your game, try some bounding. This is a form of plyometric training, where over sized strides are used in the running action and extra time spent in the air. Two-legged bounds reduces the impact to be endured, but to increase the intensity one legged bounding, or hopping, can be used. Bounding upstairs is a useful way to work on both the vertical and horizontal aspects of the running action. Multiple jumps over a series of obstacles like hurdles is a valuable drill for athletes training for sprinting or jumping events.

These exercises are all aimed at the lower body, but a variety of drills can be used to make the upper body more explosive.

Upper Body

Press ups & hand clap: Press-ups with a hand clap in between is a particularly vigorous way to condition the arms and chest. The pre-stretch takes place as the hands arrive back on the ground and the chest sinks, and this is followed quickly by the explosive upwards action. Once again, to get the best training effect keep the time in contact with the ground to a minimum.

Medicine Ball: Another means of increasing upper body strength popular with throwers is to lie on the ground face up. A partner then drops a medicine ball down towards the chest of the athlete, who catches the ball (pre-stretch) and immediately throws it back. This is another high-intensity exercise and should only be used after some basic conditioning.

2 **Location in which the procedure may take place**

- PESS Building
- Other locations within and outside of UL where ethical approval has been granted

3 **Eligibility of subject(s) to be used**

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

4 **Potential risks. To be explained before obtaining consent**

- None, or minimal discomfort only

All exercise carries risk of cardiovascular accident in those who are susceptible. The subjects will complete a standard lab questionnaire prior to participation, and no one with a history of cardiovascular disease would be asked to undertake this procedure. Subjects with pre-existing muscle or joint problems carry more risk of injury than healthy subjects. Therefore subjects will complete a standard pre-test questionnaire and exercise history questionnaire to ascertain whether or not they should be allowed to carry out the activities involved.

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

If the subject shows any signs of distress, the procedure will be terminated immediately.

In the case of dizziness or fainting, subjects will be placed in the supine position with legs raised. Windows will be opened for fresh air and any restrictive clothing slackened.

If the subject feels nauseous, a suitable receptacle should be provided. The subject should be kept as comfortable as possible, until fully recovered.

If a minor physical injury occurs (e.g. minor cut, sprain, or strain), the subject will be kept comfortable and recommended to seek medical treatment as soon as possible.

In the case of more serious situations (e.g. fractures, dislocations), or should the subject fail to respond, help would be summoned immediately:

1. During normal working hours 9am-5pm, use nearest internal telephone to contact the Student Health Centre on extension **2534** (or **061 202534** if an external phone/mobile phone is used)
2. Outside of normal working hours, or if the Student Health Centre number is engaged/busy, use the nearest telephone to dial **3333** (or **061 213333** if an external phone/mobile phone is used) for UL security personnel who will then contact the ambulance service.
When contacting the above clearly state the location of the incident, and briefly what happened.
3. If necessary, personnel should attempt CPR.

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Level of supervision required for procedure

Trained PESS lecturing or research staff

Trained PESS postgraduate researcher

Trained PESS undergraduates

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Other documentation required for this assessment ?

Pre-test subject questionnaire

Detailed protocol