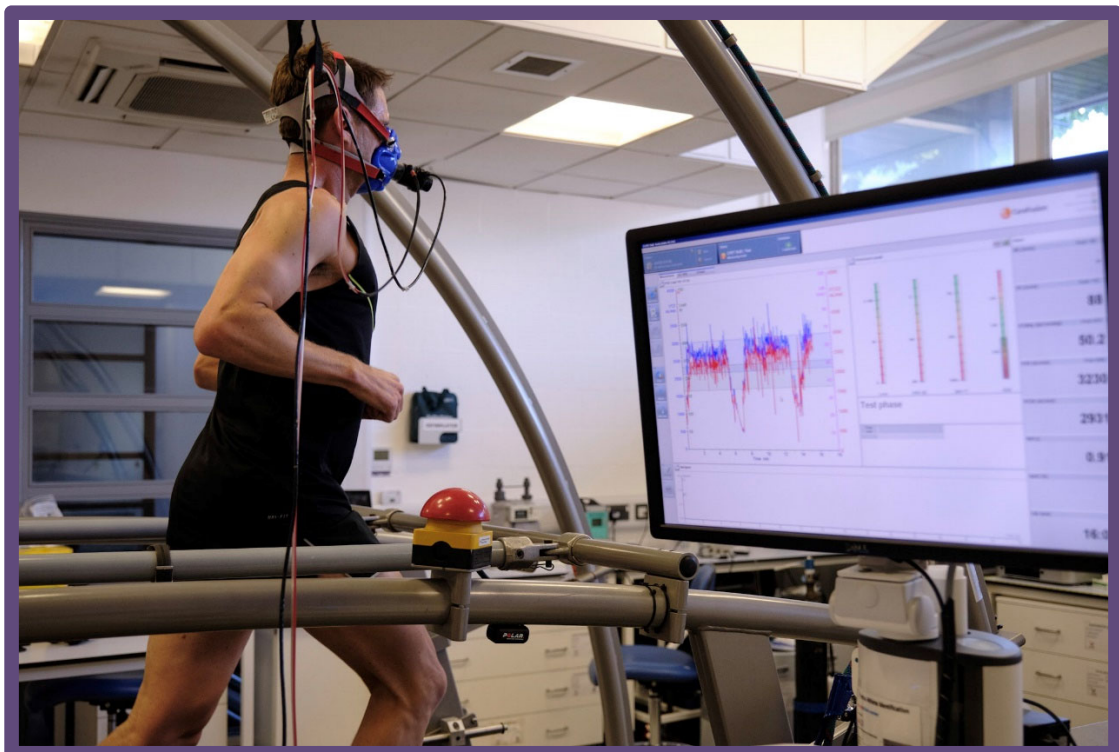




LOUGHBOROUGH SPORT

Running Physiology Assessment Information





Running Physiological Assessment

TEST INFORMATION:

DO'S:

1. Bring appropriate footwear for treadmill running.
2. Bring your own sports drink if you wish to drink this during the test. Otherwise water will be freely available.
3. There is a shower in the lab so feel free to bring a change of clothes for afterwards.
4. Complete and bring the training questionnaire.

DON'T'S:

It is essential that you follow these guidelines to ensure pre-test standardisation:-

1. Do not do heavy sessions (running or weights) the day prior to the treadmill test. Easy/light runs are okay.
2. Do not run on the morning of the test or warm-up prior to the test (warm-up included in test).
3. Do not eat a large meal within a 3 hour period before the test (snacks are okay).

TEST INFORMATION:

You will need to allow 1.5 hours in total for your visit.

TEST ONE: SUBMAXIMAL ASSESSMENT

This test allows us to assess and monitor your endurance fitness by measuring your physiological response to exercise of increasing intensity.

The test involves running for four minute stages for 6 - 10 different speeds on a treadmill. This is not a maximal test so none of the speeds should be strenuous. The actual speeds at which you will run will be selected according to your running ability. The intention will be to start you off at a very easy pace and increase the speed such that you are working at around 85% max heart rate in the final 4 min stage. This is likely to require you to run for between 6 and 10 stages. At the end of each stage, a small blood sample will be taken from the earlobe. These blood samples will be analysed to determine blood lactate concentration. During the test oxygen uptake (using a face mask to link to an on-line gas analyser) and heart rate will also be measured.



TEST TWO: MAXIMAL OXYGEN UPTAKE (VO₂ MAX) TEST

The purpose of this test is to determine your maximum ability to use the oxygen you breathe in to provide energy for working muscles (known as your VO₂ max). You will be required to run for as long as possible (usually between 5 and 10 min) at a constant speed on the treadmill – 2km/hr slower than the speed at which you finished the first test. The treadmill gradient (slope) will initially be set at a 1% incline and will increase by 1 % every minute thereafter.

POSSIBLE RISKS/ DISCOMFORTS

During the VO₂ max test you will reach your maximal ability to extract oxygen from the air that you breathe in. This will require maximal effort for a duration of around 1 to 2 minutes. Following this however, athletes usually fully recover within 5 minutes. If at any point in time during the test you experience intolerable discomfort, then stop exercising immediately. The sport scientist will be vigilant at all times during the testing and will be ready to end the test should you report, or even appear, unduly stressed.

The procedures for blood sampling will be carried out in accordance with the Code Of Practice For Workers Having Contact With Body Fluids thereby minimising any risks of infection.

FEEDBACK

The information from the first test will be used to determine your lactate thresholds and associated heart rates as well as your running economy. The second test will give information on your VO₂max and maximal heart rate. Within a week of your assessment you will receive a detailed written report. It will contain all the data collected, and we will look at all this data to put together a complete picture of your current fitness, including potential limitations and areas where you have room to improve. The report will explain your results, highlight your strengths and weaknesses and give personalised training advice and guidelines.

Contact Us: sportscienceservices@lboro.ac.uk, Tel: 01509 226259

Other Relevant Services

Body Composition Assessments: (£25 for one assessment; £75 for a block of 5)

Our Body Composition Assessment uses skinfold callipers to measure the thickness of skinfolds at 8 sites around the body. You receive results presented as a sum of skinfolds (mm), and information about how this relates to normative values and how much you might be able to change your body composition for performance.

Heat Acclimation: (bespoke, contact us directly to discuss your requirements)

Preparing for an event in the heat? Exercising in the heat places severe stress on the human body and will impair performance. Athletes who aren't used to living, training and competing in warm climates are placed at a disadvantage when an event is scheduled for hot and humid conditions. Implementing a heat training strategy is the best way to overcome this.

We have a chamber in which the temperature and humidity can be increased to help you adapt. Regular exercise in hot, humid conditions causes several physiological adaptations that can reduce the adverse effects of heat on exercise performance.

Altitude Training: (bespoke, contact us directly to discuss your requirements)

We have an altitude chamber which can mimic altitudes up to 4000m. Training at altitude has been shown to have the potential to provide benefits such as increased haemoglobin mass, allowing for increased oxygen delivery and VO_2 max, which potentially improves endurance performance. There is also evidence emerging that training at altitude can have benefits for high-intensity intermittent sports.

Sports Nutrition Consultation: £108

This involves you keeping a record of everything you consume for 2 - 3 normal days, and then you would spend around an hour with our nutritionist going through this and discussing your training and goals, and how you can alter your nutritional habits to achieve those goals.

You would also receive a diet analysis and written report after your session with lots of practical advice to follow based on your consultation.

For more information email: a.shepherd2@lboro.ac.uk

Physiotherapy Screening: £99

Here at Loughborough University Physiotherapy Clinic we respect you as an individual – and understand that the “one size fits all” approach is not appropriate when dealing with the unique elements of your body.

We have an experienced team of specialist physiotherapists who tailor each treatment to the individual through a full assessment and screening process.

The screening process allows us to have a full understanding of your strengths and areas to focus on in your training. It also enables us to recognise any previous injuries and areas of inefficiency helping us to create a tailored programme for injury prevention and improving performance.

The screening process assesses:

- Joint range of movement
- Flexibility
- Core strength
- Functional strength
- Quality of movement

We also offer physiotherapy appointments, sports massage, podiatry

For more information: Email: physioreception@lboro.ac.uk | Phone: 01509 226240 | Web: www.lboro.ac.uk/sport/physiotherapy-clinic/