

SPORT SPECIFIC ASSESSMENT & TRAINING



PACKAGES OFFERED

VO2 peak and blood lactate transition thresholds:

VO2max and Lactate test	R1200.00
Lactate test	R 800.00

Program Design:

Event specific periodisation	R 450.00
Monthly program	R 350.00

Physical / Sport Specific Assessments:

Biomechanical analysis, Body composition, Speed, agility & power, Muscle endurance	R 450.00
Monthly program (without personal training)	R 350.00

Professional training:

Personal training (per 1 hour session)	R 250.00
Individual stretching (per 30 minute session)	R 150.00

...Read more below...



What are VO2max and lactate?

VO2max: Your VO2 is the rate of oxygen ventilation while you breathe. The basic formula of your VO2 is the difference between the amount of oxygen you breathe in and breathe out. That gives an indication of how much oxygen you have used and is measured in ml of O2 per minute per kilogram of body mass. During a VO2max test you wear latex or silicone based mask which is connected to a device that measures partial pressures of gases in the air around you and the air you breathe out. Various parameters are measured and used to determine the maximal amount of oxygen you are able to use during exercise.

Lactate: Carbohydrates are a major nutrient in all the food we eat on a daily basis. When you eat carbohydrates the body breaks it down into various forms of sugars which are stored in the body as glycogen. During metabolism glycogen is broken down via different 'systems' depending on the type of bodily activity you doing to provide the body with energy. During exercise, there is a higher demand of energy so the body will use faster 'systems' to provide this energy. As glycogen is broken down in the 'fast system' lactic acid is produced. Lactic acid is measured by taking blood from the finger tip or ear lobe. Lactic acid provides an indication of metabolism taking place in the body and the efficiency of other metabolic 'systems'. At a specific point during exercise lactic acid increases rapidly in the blood and this point is measured as the so-called lactate or anaerobic threshold.

Who conducts VO2 and lactate tests?

These tests can be conducted by an exercise physiologist, sport scientist or biokineticist. An exercise physiologist and sport scientist specialise in the field of sport specific testing and program design for everyone from the average person to an elite athlete. Biokineticists are able to perform these tests provided they have sport specific experience since their predominant expertise is rehabilitation.

Why are these tests conducted?

VO2 and lactate testing have been developed as indicators of cardiovascular fitness and metabolic efficiency during exercise. The tests are conducted in a laboratory setting according to strict protocol parameters so that the test can be repeated at a later stage on the same person. Increases in fitness can be monitored by repeating the tests periodically.

These tests are conducted to understand the current physiological state of a person during exercise and compare people to norms of similar population groups and/or elite athletes of that sport.

Based on the results retrieved from the tests, individualised heart rate training zones are formulated. Physiological formulas are then used to calculate the amount of training that needs to be done in each of the heart rate zones depending on the training phase you in and the event you training for.

Why is a periodisation plan recommended along with a VO2 and lactate test?

Results from the tests are used to develop individualised heart rate and training zones. It is therefore advisable to follow a specifically designed program that is formulated especially for you. Remember that the best athletes don't just train and by luck win races and do well. All athletes who wish to be successful follow a detailed periodisation plan that is designed for their individual needs. A periodisation program strategically carries you from today to your race day or your big event on an individual basis. Periodisation programs are designed by an exercise physiologist or sport scientist and provide a detailed description of how much training needs to be done per week and how much time should be spent in the different heart rate zones.

These programs are over-looked on a monthly basis and each month is designed a new based on the original periodisation plan.

Can it predict my future possibilities?

Inherently, VO2 and lactate have developed the reputation as the 'gold standard' in sport testing. There are ideas out there that these tests can tell you everything about yourself and that it's the ultimate predictor. This is not true! VO2 and lactate testing provides us with a snap shot view of where you are now and based on some scientific norms and research, we can provide some indication of how "fit" you possibly can be. However, your genetic pre-disposition and inherent desire to train and work hard cannot be measured.

The ultimate benefit of these tests is the ability for us to see where you are and then design a training program to get you to where you want to be.

What are the limitations of a VO2max and lactate test?

The greatest limitation to these tests is that because it is conducted in a controlled environment, it does not imitate what actually happens out there on the sports field. Your work load is pre-determined and it may not be at a work load that you are well-conditioned at. And as wonderful as technology is in this new day and age, all technological equipment has formula and calibration requirements, which already will place an error on certain measures. The overall standard error of estimation in these tests is 2-5% in all world-standard laboratories.

However, to measure VO2max, you need to be pushed until you can't go anymore so how we get you there is irrelevant to your prior conditioning. Measuring of the anaerobic threshold occurs at a sub-maximal level (a level that is not your maximal work output), and it will occur at a specific heart rate and corresponding work load irrespective of your conditioning.

Are VO2max and lactate tests useful to me?

VO2 and lactate tests are useful to anyone from the average person to an elite athlete. Anyone who engages in sport and would like to improve based on a professional and well-developed, scientific program will definitely benefit from these tests.

It is important to remember that the tests are not once-off. For best results, a lactate test is conducted every 8 weeks and a combined VO2 and lactate test is conducted every 16 weeks.

There are a lot of people out there offering these tests. How will I know who to choose and be assured of their legitimacy?

Never be afraid to question a person's education. Only a professional sport scientist or exercise physiologist can conduct these tests! Personal trainers are not educated or qualified to conduct laboratory tests. As a reference point, those who graduated in the past 5 years or so require an honours degree to conduct the tests.

There are many myths about VO2 and lactate out there on the internet and in magazines. So don't be afraid to ask questions about the tests and question the knowledge of your tester!

What is a physical / sport specific assessment?

A physical assessment is a basic protocol to measure your overall fitness without pushing you to maximal exertion. It involves body composition (body fat, lean mass etc.), a biomechanical analysis, and some muscle endurance and strength tests. A cardiovascular test is also conducted, but it is normally sub-maximal.

These assessments provide us with a basic idea of your overall fitness and current physique.

Do I need a physical assessment?

Anyone who desires to follow a well-structured gym program that will be designed specifically for your needs will benefit from a thorough assessment. It provides a benchmark from where to start a gym program.

Why consider personal training?

There are many people out there employed as personal trainers without much knowledge about the human body and training principles.

Once we have conducted an assessment on you, it is advisable to attend just a few personal training sessions with our scientists. This will help you to perform the exercises properly and to follow a well-structured and most importantly a safe gym program.

How many sessions per week do I need to spend with a personal trainer?

The largest determining factor for personal training is the costs involved, so it mostly depends on your budget. It is recommended to have 2 supervised gym sessions per week. These sessions should be your resistance or weight sessions. Cardiovascular training can be done alone, unless you want and can afford the continuous encouragement.

Do I need a stretching session with a professional?

Most people don't know how to stretch properly and cause injuries to themselves or even delay recovery. Stretching with a professional allows you to perform stretches you cannot do on your own and it is far more relaxing, safe and effective!