



Exercise Physiology and Human Performance Lab

Services and Price List

$\dot{V}O_{2\max}$ Test (Maximal Oxygen Consumption) + Body Composition

$\dot{V}O_{2\max}$ is the maximum capacity of an individual's body to transport and utilize oxygen during exercise. It is considered as the best indicator of cardiorespiratory fitness level and an excellent estimation of aerobic performance potential. It is possible to estimate ventilatory threshold (an estimate of lactate threshold) and establish training zones and intensities for any athlete.

-Body Composition (Anthropometry).

Through an anthropometry it is possible to measure percentages and total weight for body fat as well as muscle mass and individually determine an ideal weight according to the sport and level of any individual.

Price: \$200

Lactate Profile and Metabolism + Body Composition

Blood lactate concentration measurement is probably the best indicator for endurance athletic performance that we have nowadays. As exercise intensity increases, blood lactate production increases as well. The net blood lactate accumulation is the result of the lactate production and lactate removal. By measuring blood lactate concentration we can indirectly measure muscle metabolism during exercise, estimate muscle fiber recruitment pattern, predict athletic performance, find out about nutritional status of the athlete and prescribe specific individual trainings. Therefore, lactate metabolism testing is of great importance for every athlete, from the competition level to the recreational one. We have worked extensively studying lactate metabolism with new approaches and testing protocols, successfully applying them to athletes as well as in the research field (*San Millán et al.; Differences in Cycling Performance at the Same Blood Lactate Concentration: Elite vs. Recreational Cyclists. Med Sci Sports Exerc 36:112. 2004.; San Millán et al.; Physiological Differences Over Time in Cyclists at a Fixed Workload of 75 % and 80 % of Peak Power Output. Med Sci Sports Exerc 40:384. 2008. San Millán et al.; Physiological Differences Between Road Cyclists of Different Categories. A New Approach. Communication, ACSM annual congress 2009*)

Price: \$150



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Individual Exercise Metabolic Profile and Metabolic Crossover Point + Body Composition

It is possible to estimate fats and carbohydrates rate of utilization (grams/minute) at different intensities during exercise so we can more accurately and individually determine exercise zones where an individual can burn the most amount of fat and therefore be more successful in prescribing specific and individual training intensities to lose weight. We can also study an individual's metabolic behavior during exercise as well as the "crossover" point which represents the point at which the body starts using more carbohydrates (sugars) than fat during exercise. We have recently done a slight modification of the original "crossover concept" proposed by Brooks and Donovan so that it can be more easily applied to any individual (*San Millán et al.; Sensitivity of Crossover Concept to Discriminate Different Levels of Performance: A New Approach. Med Sci Sports Exerc 40:293. 2008. Gonzalez Haro and San Millán; Application of Crossover Concept to UCI Pro Tour Level Professional Cyclists: A New Approach. Med Sci Sports Exerc 40:396-397. 2008*)

Price: \$250

Blood profiling consultation

Through blood profiling it is possible to detect ahead of time decreases in performance, fatigue and overtraining and help any athlete to return back to form as well as to monitor the assimilation of training and competition. There are a number of blood parameters that help us to detect overtraining and fatigue ahead of time or when once overtraining has showed up, they help us to detect the cause and help the athlete to get back on track as soon as possible.

Price: \$100

Follow-up consultations: \$65

Note: Blood work is done outside our facilities (under the athlete's expense) and sent to us for reviewing. We can connect the athlete to his/her nearest laboratory and according to his/her convenience and at excellent prices.



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Packages:

- $\dot{V}O_{2\max}$ + Lactate Metabolism + Body Composition: \$250
- $\dot{V}O_{2\max}$ + Lactate Metabolism + Body Composition + Individual Exercise Metabolic Profile (IEMP): \$300

Team/Club/Group members (10 or more members) + CU and DU Students will receive a discount of 20%

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