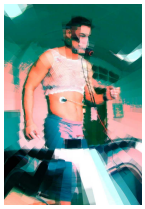
Combined test: bone density and stress test

Bone densitometry (DXA) enables assessment of bone health and bodily composition. The stress test studies cardiac and respiratory response to physical exercise, assessing physical condition and the body¿s response to physical effort.



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Technological Offers type

Technological scientific services

Research and innovation areas

- Health and Wellbeing

ODS

Available from: 2018

Where?

Physiology of Exercise Laboratory Research Group

Keywords: | body composition | Bone mineral density | cycle ergometer | Electrocardiogram | Ergospirometry | Functional assessment | heart rate | Oxygen consumption | treadmill

Force Physiology Laboratory (FPL)

Combined test: DXA + stress test

The FPL carries out combined DXA and stress test testing. Bone density testing, known as DXA, enables assessment of the bone¿s mineral density and bodily composition, while the stress test enables assessment of the cardiac and respiratory response to physical exercise. Once these tests have been done, a detailed report is delivered with the results which is explained by the medical team as well as by the technical team of professional trainers.

Description of the services offered

DXA is a non-invasive X-Ray test, which gives an image to measure bone mineral density and assess bone health. It also measures body fat mass and fat-free mass, reporting on bodily composition.

The FPL¿s stress tests are direct tests, as they are carried out with an analysis of respiratory gases (ergo-spirometry). Moreover, during the entire assessment, cardiac response is evaluated using an electrocardiogram (ECG). The tests can be carried out running on a treadmill or pedalling on cycle ergometers.

Once the test has been done, the report is given to the user and a simple explanation is given of the results obtained, from both the medical and sports point of view.

Needs requested and applications

There is currently a huge need for this service, from people who are starting to train as well as whose who already habitually do physical exercise. Being able to do physical exercise with guarantees of safety is a social necessity that can only be covered by cardio-respiratory assessments of exercise as a stress test.

After doing a stress test of this type, it is possible to know if the your body’s response to exercise is normal, of if there is any anomaly that should be looked at in more depth. It is also possible to know what intensity can be reached before the response is prejudicial or anomalous.

With DXA it is possible to get to know about the state of the bones, and if there is a risk of osteoporosis, as well as obtaining interesting data about bodily composition, which nowadays are essential for overweight and obesity treatment programmes.

Sector or area of application

Everyone doing physical exercise, regardless of the level or experience.

Differential skills

The main differential feature of our service is care from a multi-disciplinary team that not only carries out a medical evaluation, but also a sports assessment, which highlights the main results to be taken into account when programming training.

The assessment report is also delivered as soon as the stress test is over.

Previous references for provision of services

A multitude of sports federations, sports clubs, and sports associations, etc., have used our services.

Where it is

The tests are done at the FORCE PHYSIOLOGY LABORATORY (FPL) (6th floor) at the Faculty of Physical Activity and Sports Sciences (INEF) at the Universidad Politécnica de Madrid.

The FPL has all the equipment needed to carry out these tests: bone densitometer, gas analysers, ECG, treadmill, and cycle ergometer, etc.

Request for service

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