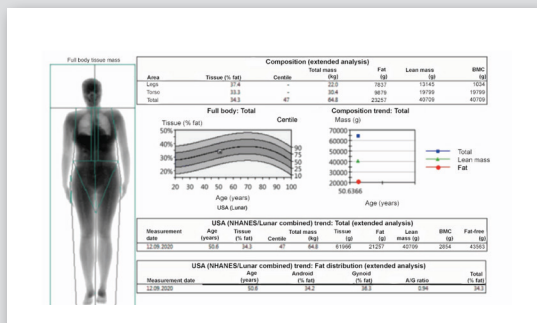


Young male athlete, first examination, good training condition with well-developed muscle tissue, no significant side asymmetries, examination before escalating the intensity of training in order to monitor effects.



Perimenopausal woman. Basic examination before starting training. Normal weight, normal proportion of fat. Training goal is to build muscle mass to counteract the insidious development of sarcopenia—age-related muscle loss that can begin from as early as 50 and speeds up after 70—at an early stage.



Body analysis

The goal of this brochure is to help you better understand the body and assess the effectiveness of training in athletes.

Why a body analysis with DXA (Dual Energy X-Ray Absorptiometry)?

This method is the gold standard—the most reliable method—for body analysis and it is considerably more accurate than Bioelectrical Impedance Analysis (BIA), for example.

DXA accurately measures the body's total fat mass in kilograms, as well as the total lean tissue mass, and it determines the percentage distribution and regional distribution, such as lean tissue mass asymmetry on both sides of the body, or problematic abdominal fat versus subcutaneous fat tissue.

BMI (Body Mass Index) does not differentiate between muscle and fat proportions, so muscular, heavy athletes will have an unfavorable value despite having very little fat tissue. Both amateur athletes and professionals benefit from an accurate measurement of the effectiveness of their training and diet thanks to precise DXA data. The effects of training can be very accurately determined and training and nutrition plans customized accordingly.

How should you prepare?

There are no particular measures to be taken in preparation; however, the following should be taken into account:

- Clothing recommendations: Things that could reduce x-ray radiation should be removed, e.g. clothes with zippers and buckles, underwired bras, etc. as well as items in pockets, such as coins. Light clothing is recommended.
- The bladder must be emptied before the examination (otherwise, the fluids will be identified as lean mass).
- You must lie still on the scanning area of the table during the 5-minute examination.
- The examination should not be carried out during pregnancy.

- You should not have received any radionuclides or contrast agent in the three to five days before the DXA examination.

How does the DXA body analysis work?

The DXA (Dual Energy X-Ray Absorptiometry) device looks like a large examination couch. During the examination, you can lie on the couch and relax. Two radiation beams of different energies will be projected through your body. Your body composition can be determined from the different attenuation of the two beams in the various tissue types.

How high is the level of radiation?

The level of radiation exposure is the same as natural radiation exposure over 18 hours, i.e. less than a day out in nature.

What data will be collected?

In addition to Body Mass Index (BMI), total lean mass and total proportion of fat will be measured. The weight of the arms, legs and torso will be measured and split into fat and lean mass. Fat mass will be further split into subcutaneous fat and visceral fat in the android region. (region around the abdomen).

What information do the collected data provide?

GE HealthCare has collected data from reference groups on the percentage proportion of fat. These serve as a point of reference and allow the values gained from your first measurement to be compared against a control group of the same age and sex. After that, we can estimate the progress of your body composition as a consequence of training by comparing it to previous examinations.



*** Important:** Although DXA produces very low X-ray dose, please inform the technician in advance if you are pregnant or may be pregnant.