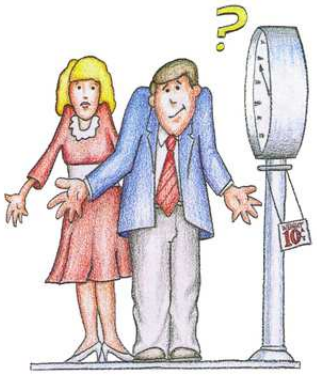
Why is Body Composition Important ?



Scale weight is not an indicator of an individuals fat, lean or health. Body composition is the amount of lean tissue compared to fat. Body composition data can form the basis for a wide variety of therapeutic health and fitness prescriptions. In clinical applications body composition analysis along with non-pharmacologic nutrition and exercise prescriptions provide the foundation upon which further treatment is based. Only body composition analysis can determine how much muscle and fat are lost or gained as the result of any nutrition, exercise, or pharmaceutical prescription.

How is abnormal body composition managed?

When there is an imbalance between calorie intake and calorie burn we change our body composition. The quantitative management of abnormal body composition, i.e. obesity, anorexia, disease, etc. must be associated with daily calorie intake and expenditure. The successful application of body composition analysis must have a three compartment assessment. These compartments are:

The energy storage compartment, Fat Mass

Fat is the energy storage mass of the body and is the total lipid mass (triglycerides) with a density of .9 g/ml. Fat mass is equal to actual weight minus fat free mass

The functional compartment, Body Cell Mass

BCM is the functional mass of the body where work is done. All oxygen consumption, carbon dioxide production, glucose oxidation, protein synthesis and other metabolic work takes place within the body cell mass. The body cell mass is, in effect, the total mass of all the cellular elements in the body, and therefore, represents the metabolically active component of the body. In the normally nourished individual, muscle tissue accounts for approximately 60% of the body cell mass, organ tissue for 20% of body cell mass, with the remaining 20% made up of red cells and tissue cells. It also contains the majority of the body's potassium, (98 - 99%).

The support compartment, Extracellular Mass

ECM is the support mass of the body and is metabolically inactive, consumes no oxygen, produces no carbon dioxide and performs no work. The extracellular mass consists of extracellular fluids and solids, such as bone and cartilage, with its primary function that of support and transport. ECM is located outside of the cellular compartment or outside of the body cell mass. Lean body mass is the sum of body cell mass and extracellular mass.

The RJL Systems Quantum II assesses three compartment body composition with accuracy and repeatability. RJL Systems software products allow you to manage three compartment information and interact with the data to create and evaluate custom prescriptions for change. This is a significant step beyond all other analyzers, which only report body composition as fat and fat-free mass.

What are the long-term benefits of a good body composition prescription?

The ability to (1) analyze body composition data interactively, (2) create prescriptions for change and (3) visualize the effectiveness of those prescriptions and professional recommendations with projected and historical graphs helps increase motivation for positive change.

The ultimate outcome is improved health and increased longevity!