TANITA

Healthy Habits for Happiness

A guide to body composition analysis

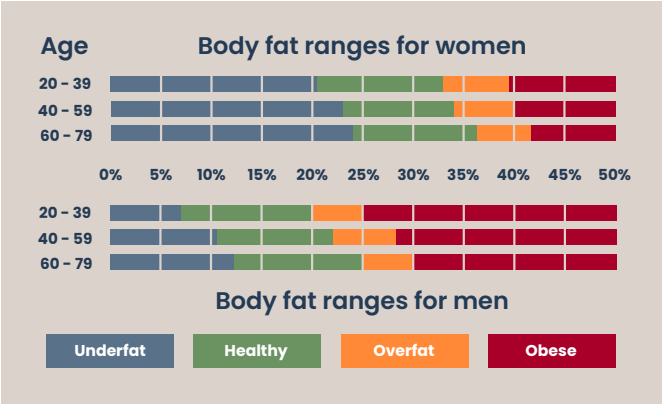
Whole Body Analysis

Fat % / Fat Mass

Fat Mass is the weight of fat in your body. Fat % is the proportion of Fat to the total body weight. Body Fat is essential for maintaining body temperature, cushioning joints and protecting internal organs.

Yet, too much fat can damage your health. Reducing excess levels of body fat has shown to reduce the risk of certain conditions such as high blood pressure, heart disease, type 2 diabetes and cancer.

Too little body fat may lead to irregular periods in women and infertility. Check your body fat results against the healthy body fat ranges shown at the bottom of your printout.



Fat Free Mass (FFM)

Fat Free Mass is comprised of non-fat components of the human body. Muscle, bone and water are all examples of fat free mass.

Muscle Mass

The predicted weight of muscle in your body. As you exercise more, your muscle mass increases, which in turn burns more calories. Check your muscle mass rating against the desirable range.

Body Mass Index (BMI)

Body Mass Index is a standardised ratio of weight to height, and is used as a general indicator of health.

Your BMI can be calculated by dividing your weight (in kilograms) by the square of your height (in meters).

BMI is a good general indicator for population studies but has serious limitations when used for individual analysis.

Metabolic Age

Metabolic Age compares your basal metabolic rate to other age groups. If the age indicated is higher than your actual age then you need to increase exercise levels. Building muscle will burn more calories, even at rest!

Protein

The weight of protein in the body, protein is essential for the maintenance of muscle within the body. Check for significant changes over time.

Bone Mass

The predicted weight of bone mineral in your body. It has been proven that increased muscle mass through sport activities promotes stronger healthier bones. Check for significant changes over time.

Bone Mass

Female Weight	Healthy BM Weight
less than 50kg	1.95kg
between 50kg - 75kg	2.40kg
over 76kg	2.95kg
Male Weight	**Healthy BM Weight**
less than 65kg	2.65kg
between 65kg - 95kg	3.29kg
over 95kg	3.69kg

Basal Metabolic Rate (BMR)

Basal Metabolic Rate is the daily minimum number of calories your body will burn when at total rest. Increasing muscle mass will speed up your metabolic rate. A person with a high BMR can burn more calories at rest than a person with a low BMR. Check how efficient your body is at burning calories in the indicator section of your print out.

- = low burn
your body is slow at burning calories

0 = average burn
your body is efficient at burning calories

+ = high burn
your body is highly efficient at burning calories

Visceral Fat Rating

Visceral fat is located deep in the abdominal area surrounding and protecting the vital organs.

Ensuring you have a low level of visceral fat reduces the risk of certain conditions such as heart disease, high blood pressure and type 2 diabetes.

Rating from 1 to 12: healthy

Rating from 13 to 18: moderate/ high

18+ : high/ very high

Sarcopenic Index

Sarcopenia is the degenerative loss of skeletal muscle mass (0.5–1% loss per year after the age of 50), quality, and strength associated with aging. TANITA can measure this by looking at your muscle mass, age, gender and height.

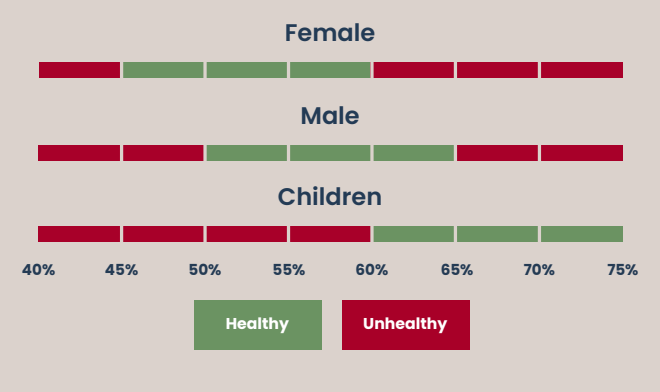
To be at risk of Sarcopenia, the SMI must be below 7.25kg/m^2 for men and 5.67kg/m^2 for women.

Total Body Water (TBW) %

Total Body Water Percentage is the total amount of fluid in the body expressed as a % of total weight.

Being well hydrated will help concentration levels, sports performance and general wellbeing. Drinking a minimum of 2 liters a day will ensure a good hydration level.

The average TBW % ranges for a healthy person are:



Individuals with a high body fat % may fall below the recommended body water percentage. As body fat is reduced over time the TBW % should gradually improve.

Intra Cellular Water (ICW)

Intracellular Water is the fluid found inside cells and should take up approximately two thirds of total body water.

Extra Cellular Water (ECW)

Extracellular Water is the body fluid found outside of cells. Approximately one third (33-35%) of TBW should be stored in the extracellular space. Any ratio other this is not optimal for health and can be an indicator of malnutrition, edema or inefficient nutrition intake.

Physique Rating

Physique rating assesses muscle and body fat rating into 9 body types. As your activity level changes over time the balance of body fat and muscle will gradually alter which in turn will change your overall physique.

Segmental Body Analysis

Segmental Muscle Mass

The muscle mass content for each section of the body, right/left leg, right/left arm and trunk, the figure for trunk includes the internal organs. Blue/Green/Amber indicators show whether this falls into healthy ratings. *A high muscle mass is healthy, so high ratings should not be viewed as 'unhealthy'.

Minus figures = low muscle tone

Zero = healthy muscle tone

Plus figures = high muscle tone

Ideally you should aim for Zero or plus figures to be healthy.

Segmental Fat Rating

Body Fat is broken down for each section of the body, right/left leg, right/left arm and trunk. Blue/Green/Amber indicators show whether this falls into healthy values.

Minus figures = low fat level

Zero = healthy fat level

Plus figures = high fat level

Ideally you should aim for Zero or a little under to remain healthy.

Phase Angle

Phase Angle is an estimation of cellular integrity (health) and can be used to monitor any changes to cell health over time. Preferred Phase Angle:

5° Female **6°** Male **10°** Adolescent **12°** Athletic

Muscle Mass Balance

Compares the balance of muscle mass between the left and right side of the body.

Leg Muscle Score

A score is given for your physical condition, and plotted against average healthy values for gender and age. The score is based on your leg muscle mass divided by your body weight. e.g. a healthy 20-25 year old should achieve a score of 100.

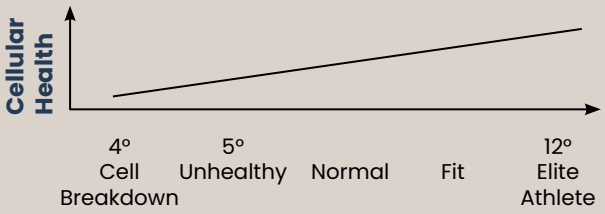
Body Fat Distribution

The ratio of upper to lower body fat is calculated, and plotted against average healthy values for gender and age.

Reactance & Resistance

The Reactance Resistance table at the bottom of the page indicates measurements for the impedance flow at each of the multi frequency levels.

H-L = Hand-Leg	**RH** = Right Hand
RL = Right Leg	**LH** = Left Hand
LL = Left Leg	**L-L** = Leg to Leg



Helping you get the most from TANITA

How does TANITA BIA work?

Low electrical frequencies pass through the electrodes and calculate 'resistance', body fat slows down the signal and offers a resistance and 'reactance', intracellular data can be collected on the conductivity or reactance of a cell and an estimation of its water content. This allows for a much more accurate estimation of body composition as muscle cells contain approximately 70-80% water and fat cells 10-15% water.

Is it accurate?

Yes, very, to within a few percent (dependant on your device) of the gold standards in assessing body composition such as DEXA, Air Dispensation (BodPod) and Deuterium Dilution.

Remember to think of accuracy on a sliding scale from more to less and not in terms of right and wrong. To achieve and maintain optimal accuracy try and be consistent. Inconsistency, such as testing before and after exercise, leads to inconsistency of result.

Here are the key things to remember

- Do not take measurements while using transmitting devices, such as mobile phones or GPS watches.
- Ensure the weighing platform is level and placed on a solid surface with no movement.
- Ensure electrodes are free from dust, debris and are cleaned regularly.
- Use the equipment under the same conditions and in the same position as much as possible for accurate tracking and monitoring changes in an individual's results.
- Remove outdoor clothing, jackets, jumpers and any heavy jewellery.
- Remove items from any pockets, such as mobile phones, keys, wallets etc.
- Avoid exercise or other strenuous activities eight hours prior to assessment.
- Avoid food and drink in large quantities 3 hours prior to assessment.
- Bladder must be empty prior to assessment.
- Feet must be clean, free of hard skin or corn plasters.
- In the case of very obese clients, arms should not be touching sides and inner thighs should not be touching each other.
- If necessary, place a dry towel between the arm and side and/or between the thighs.
- Readings can be affected by the level of hydration and position of the body, therefore measurements should ideally be taken at the same time of day each time and under the same conditions. Affects body fat % in particular, remember to monitor the mass not just %.
- Check the client is not fitted with a heart pacemaker or other medical implant: TANITA BIA technology involves sending a very low electrical signal through the body. There is a minute risk that this signal could cause a pacemaker or other implanted medical device to malfunction.
- When assessing a female, it is advisable to take readings when she is not menstruating or pregnant.
- An individual must remain still during the assessment and their feet must be bare and have good contact between skin and the four electrodes. When using a model with hand- held electrodes, hands must also be bare and have good electrode contact.