Q&A

Answers to Frequently Asked Questions about Tanita's TBF Series of Body Fat Monitor/Scales.

TANITA®

A Step Toward A Healthier Life.

The following Q&A is designed to answer some of the most frequently asked questions regarding Tanita's Body Fat Monitor/ Scales. If you have additional questions, please call one of the numbers listed on the back of this pamphlet.

True Value

Q: Why is it important to measure body fat percentage?

A: Measuring weight alone is not an accurate assessment of a healthy lifestyle or a commitment to fitness. It is only half the story, because it doesn't distinguish pounds that come from fat and those that come from lean muscle mass. Too much body fat results in obesity—one of the most prevalent health and fitness problems in the United States. According to new Government guidelines, approximately 97 million adult Americans—more than one third of the population—are either overweight or obese.[1]

Q: Are there any illnesses directly linked to obesity?

A: Obesity is directly linked with Diabetes Type II, and is a contributing risk for many chronic conditions including hypertension, heart disease, sleep disorders, arthritis, gall bladder disease, and several forms of cancer.

Awareness and monitoring of body fat percentage is a motivational tool for any weight management program. Additionally, with any chronic degenerative disease, monitoring body fat and lean body mass is critical to evaluation, treatment, and management of the condition. This information is helpful in determining a suitable exercise and nutritional program on an individual basis.

Q: How does the Tanita Body Fat Monitor/Scale measure my body fat?

A: Tanita uses a state of the art method of body composition assessment called Bioelectrical Impedance Analysis (BIA). Body impedance is measured when a safe, low electrical signal (about 50kHz, 500Ma) is passed through the body, carried by water and fluids. Fat tissue does not contain much water and creates resistance or impedance to the signal. (Fat is approximately 10-15% hydrated, whereas muscle is normally between 50-70%.) This impedance information is then used to estimate the amount of lean and fat tissue within the body.

Through a process called multiple regression analysis, Tanita has developed highly researched proprietary formulas that are based on impedance, height, weight, gender, body type (normal adult or athletic build), and in some cases, age. Tanita's reference method is Dual X-ray Absorptiometry (DEXA), which many experts now believe is better than Hydrostatic Weighing because of its accuracy and reliability. All analytical methods use equations derived from large, multi-ethnic population studies to predict body composition.

The integrated monitor/scales are easy to use, provide clinically accurate results, and make body composition assessment accessible in professional environments as well as the home. Tanita's patented foot pad pressure-contact electrodes have revolutionized weight management.

Reliable

Q: How does Tanita's BIA compare with other methods in terms of accuracy, repeatability, cost, convenience, and length of procedure?

A: **DEXA** (Dual Energy X-ray Absorptiometry). This method allows fat distribution throughout the entire body to be read in a single scan. It is extremely reliable and provides a high degree of precision requiring only one measurement. However, the equipment is very expensive and a person must lie perfectly still for 10-20 minutes while the scan is taken. DEXA is used mainly in research studies.

Hydrostatic Weighing. Done correctly, this method is also quite accurate, and the results are often repeatable. However, the test is somewhat subjective because it relies upon the subject's ability to expel all oxygen from their lungs while submerged in a tank of water. Oxygen remaining in the lungs will skew the results. In clinical settings, this procedure is repeated a number of times, and an average is taken. The "tank" is expensive and the inconvenience to the user is considerable. Because of the cost, lengthy testing process, and physical burden to the subject, this method is more suitable for research studies.

Conventional BIA. Conventional Bioelectrical Impedance Analysis methods are accurate, but the process is not as convenient as the Tanita BIA method and may be somewhat subjective based on the placement of electrodes. The user must be in a horizontal position while electrodes and conductive jelly are placed on a wrist and ankle. This procedure is usually performed in a physician's office or clinic. Most conventional BIA manufacturers use Hydrostatic Weighing as the reference method.

Tanita BIA. Tanita's leg-to-leg version of BIA produces very accurate results that are highly correlated with both DEXA (Tanita's reference method) and Hydrostatic Weighing. Measurements are very repeatable when tests are performed under consistent conditions. The equipment is not expensive, making Tanita the only professionally-accepted method that can be adapted easily for home use. There is no physical imposition to the user; no need for a trained technician to operate the equipment; and the entire procedure takes less than one minute.

Calipers. Skinfold measurements taken by calipers are easy to do, inexpensive, and the method is portable. However, results can be very subjective depending on the skill of the technician and the site(s) measured. The quality of the calipers is also a factor. Inexpensive models sold for home use are usually less accurate than those used by an accredited technician. Additionally, the more obese the subject, the more difficult to "pinch" the skin correctly. Many people find calipers to be uncomfortable and invasive.

NIR (Near Infra-Red). This method has become popular because it is simple, fast, non-invasive, and the equipment is relatively inexpensive. However, studies have produced mixed results, and a high degree of error has occurred with very lean and very obese people. Numerous sources report that more research is needed to substantiate this method.

More in-depth comparisons can be found in our recent publication, "Understanding Body Fat Analysis." Call 1-800-TANITA-8 to request a copy.

Flexible

Q: Why do Tanita Monitor/Scales have different modes? Isn't fat just fat?

A: Tanita currently offers modes for three body types—Adult, Athlete, and Child—that engage the appropriate prediction equation contained in the monitor's computer chip. For example, the more athletic a person is, the more muscle they have and the more water. Therefore, the electrical signal encounters less resistance when it passes through this type of body, and the monitor must be specially calibrated. Tanita's equations are generalized based on standard population data for male/female adults, athletes, and children.

Q: What are the criteria for the different modes?

A: **Child Mode** for children up to the age of 18, over 3.6 ft. (107 cm) tall, whose bodies are still developing.

Adult Mode for adults aged 18 or older who have moderately active or sedentary lifestyles.

Athlete Mode for adults involved in intense physical activity (approximately 10 hours per week) and who have a resting heart rate of approximately 60 beats per minute or less—excluding professional athletes and bodybuilders. Tanita's Athlete description also includes "Lifetime of Fitness" individuals, but not "Enthusiastic Beginners" whose bodies have not yet reached "athlete" status.

Q: Are there people for whom the monitor is not appropriate?

A: Although there are no known health risks, some categories of people are advised not to use the monitor:

- Pregnant women and people with pacemakers.
- People who exceed the weight capacity of the scale (models vary) and/or exceed 75% body fat.
- Professional athletes and bodybuilders. However, in most cases, the unit may be used to successfully monitor trends and accurately show degrees of change.

Accurate

Q: How accurate and reliable are Tanita's products?

A: Independent research at several major universities (including Columbia University in New York City) has confirmed that in clinical settings, the Tanita Body Fat Monitor is accurate within +/- 5 percentage points of the institutional standard—Dual Energy X-ray Absorptiometry (DEXA). (There is no 100% accurate method to measure exact percentage of body fat—other than an autopsy.) Tanita believes they have developed the most convenient method to accurately predict body composition; results are repeatable to within +/- 1 percent variation when used under consistent conditions.

Q: What conditions might cause skewed results or an 'Error' reading in the display?

A:

- Severe dehydration or over-hydration which may result from alcohol or food consumption, sleep, intense exercise, or pre-menstruation.
- A very full bladder.
- Severe calluses on heels or soles of feet (about 1/400 people tested).
- Unclean foot pads may interfere with conductivity.
- Nylons interfere with conductivity. If it is absolutely necessary to measure in nylons, use a drop of isopropyl (rubbing) alcohol on the foot pads to act as a conductor.

Q: What are the optimal conditions for measuring body fat percentage?

A:
- Between 5–6:00 p.m.
- With an empty bladder
- When normally hydrated.
  Things that can affect hydration include:

– *strenuous exercise*
– *recent food intake*
– *diuretics such as caffeine, alcohol, certain medications*

If the recommended time is not convenient, select one that is, and stick to it consistently. Early morning or before bed are not recommended because the body is often dehydrated. Once you have established your baseline, measure body fat about twice a month.

Q: How long will this monitor/scale last? Is there a warranty?

A: The product's length of durability, accuracy, and reliability is measured by the amount of times it is used, not calendar time. All of Tanita's monitor/scales are extremely reliable, providing up to 10,000 uses or more. There is a one-year warranty for parts and labor; an "After Warranty" is also available (see Warranty Card).

Q: What type of maintenance is necessary?

A: There is simply no maintenance other than the use of alcohol to wipe the foot pads clean and to use glass cleaner to keep them shiny—always apply to a cloth first and then to the product; avoid soaps.

Q: How would I know if my Tanita Body Fat Monitor/Scale needs re-calibrating?

A: An "Error" or "Sub" code might appear on the readout; the digital display might not "zero out" after your last measurement; or the results might be erratic and non-repeatable. Call customer service at 1-800-TANITA-8.

1. Federal clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults, NHLBI and NIDDK, National Institutes of Health, 1998.

Tanita is committed to the research and development of products that help people achieve healthier lives. This commitment can be seen in our Body Fat Monitor/Scales. In 1992, Tanita was the first company to introduce an integrated system of body fat monitors and precision weighing scales for professional use. Since then, our efforts have been focused on constantly improving already great products for professional use and making them available for the consumer market.

For Further Assistance:

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