



BodyMetrix™ Pro System Mac User's Guide



PLEASE READ INSTRUCTIONS BEFORE USE



Important Operating Instructions

Intended Use:

The BodyMetrix™ Personal System is only intended to be used on generally healthy adults and children (6 or older) and is not for diagnosis of disease or condition. For more information please review Page 4 of this User's Guide.

Environment:

Operating Temperature: 0° to 60° Celsius
Operating Humidity: 5% to 95%
Operating Altitude: 0-3500 meters

Power Requirements:

USB Cable 2.5 Watts, 5V, and maximum 500 mAmps

Computer Requirements:

Mac Pro or Air
Mac OS X 10.5 or later (64 bit)
1 GB RAM
USB Port

Device Model Number:

BX2000 Professional

BodyMetrix™ System User's Guide
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Indications for Use

(1) The BodyMetrix™ BX2000 is indicated for the measurement of localized fat layer thickness and localized muscle layer thickness. When used with BodyView™ software it can be used to estimate total body fat percentage. The BX2000 is only intended to be used on generally healthy adults and children (6 or older) and is not for diagnosis of a disease or condition.

(2) The BodyView software is indicated for the calculation of estimated total body fat percentage, localized fat layer thickness, and localized muscle layer thickness. The BodyView software is indicated for calculating Waist-to-Hip Ratio (WHR) and Body Mass Index (BMI). The BodyView software is indicated for estimating Basal Metabolic Rate (BMR). The BodyView software can track changes in measurements and generate body composition reports.

Warnings & Precautions

NEVER use the device if the device or cord is broken or damaged.

NEVER use the device if the device is wet.

NEVER use the device on an open sore or cut.

DO NOT use abrasive or harsh chemicals to clean the device.

DO NOT drop the device as it may damage it.

DO NOT store the device near a heat source or subject to high temperatures, humidity, or direct sunlight as damage may be caused.

ALWAYS use an antiseptic wipe or cloth with 70% isopropyl alcohol to clean the contact surface of the device.

Installing Software

Step 1:

Turn on your computer. Insert the CD that came with your BodyMetrix.

Step 2:

Open the CD and launch the installation package: **BodyView Professional**



Follow normal installation procedures.

Step 3:

Now plug the BodyMetrix device into the USB port on your computer. The green light should go on followed by flashes of a red light and then return to green. At this point the device is installed on your computer and ready to use.

Step 4:

At this point you can start the BodyView Professional application by going to the Application folder and launching **BodyView Pro**. This will launch the application and if it is your first time, a short training video will play. Please watch the video and review the rest of the user's guide.

Using the BodyMetrix™ System

Before starting the BodyView software make sure the BodyMetrix is plugged into the USB port as described in the previous section. The **Green** light should be on to indicate the device is connected. To start the BodyView software, go to the Application Folder and launch the BodyView Personal Application. The software may take a few seconds to load; after it has the Home page will appear.

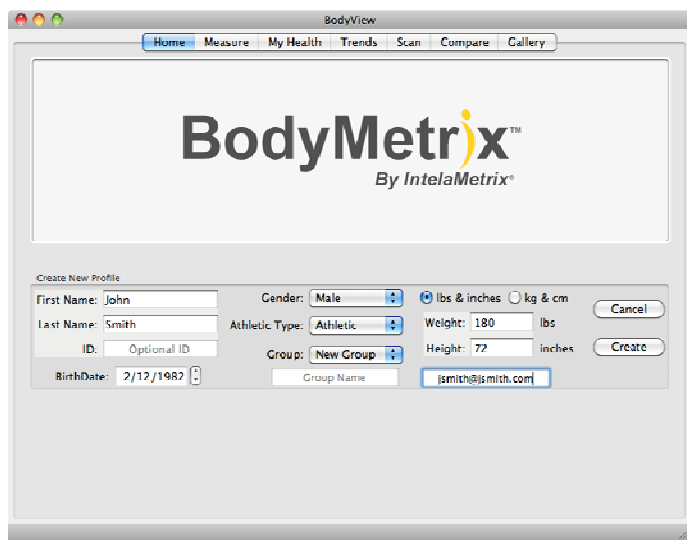
Home

The Home page allows user to open existing profiles by simply clicking on the profile. The profile button can be personalized as shown below by simply dragging an image onto the button.



Creating New Profiles

To create a new profile, simply click on the Create New Profile button (or New Profile menu) to display the following input form. Enter your name, birth date, gender, weight, height in the selected measurement units (lbs & inches or kg & cm). Make sure you also select the appropriate athletic type. The athletic type options are: Elite, Athletic, and Non-Athletic.



The screenshot shows the 'BodyMetrix By IntelMetrix' logo at the top. Below it is a 'Create New Profile' form with the following fields and values: First Name: John, Last Name: Smith, Gender: Male, Athletic Type: Athletic, Weight: 180 lbs, Height: 77 inches, Birth Date: 2/12/1982, and Group Name: jsmith@jsmith.com. There are 'Cancel' and 'Create' buttons.

Choosing an Athletic Type:

The Athletic Type provides additional information which is used by *BodyView* to correctly process the ultrasound signal. It's important that you select the correct athletic type using the following guideline.

- **Elite** - individuals generally have good muscle definition ("six pack abs") and little excess fat, they generally exercise regularly and can include small frame (e.g. marathon runners) to large frame individuals (body builder). You can always change the athletic type once the profile has been created.
- **Athletic** - individuals do NOT look overweight and generally exercise occasionally. Most people fall into this category.
- **Non-Athletic** - individuals are visibly overweight.

If in doubt, select the more athletic category (e.g. Elite instead of Athletic). You will have the opportunity to change the athletic type if necessary. Click create to continue.

Opening Client's Profile

To open an existing client's profile, click **Open Client's Profile** in the "Home Screen".

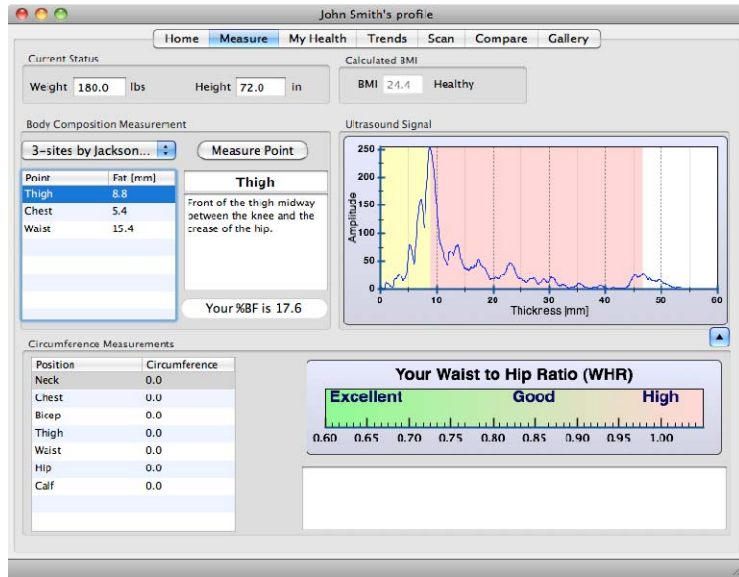


The screenshot shows the 'BodyMetrix By IntelMetrix' logo at the top. Below it is an 'Open Profile' dialog box with the following fields and values: First Name: John, Last Name: Enter all or Part, and ID: Enter all or Part. There is a 'Search for Profile' button and a 'Cancel' button.

You can search by Client ID, First Name, or Last Name. You do not have to enter the entire name or Client ID to search for the client. For example, if the client is John Smith, just enter Smith in the last name and the software will display all Clients with the last name of Smith. To open the client's profile, click on the **Client ID** and it will open the client's profile.

Measuring Body Fat Percentage

To measure the body fat percentage, click on the profile you would like to make a measurement for. This will open up the Measure page as shown below.



NOTE:

The first time you use the BodyMetrix System, the software will prompt you to calibrate the device. Simply press and hold the button for a few seconds to complete the calibration process.

To make a measurement you must first select a formula to use. In most cases the default 3-point formula is a good option. For more accurate assessments, formulas with more points can be used. Simply use the drop down menu as shown above to select the desired formula. The number of available formulas depends on gender and age. New formulas can be added upon request.

The anatomical points used are identical to those used when making skinfold caliper measurements. Before starting a new measurement you should clean the device with an antiseptic wipe.

To make a measurement, select the anatomical point and then click on **Measure Point** to begin the assessment.

Step 1:

Apply a dime sized amount of ultrasound gel to the center of the BodyMetrix device as shown. This is usually 2-3 pumps of our ultrasound gel dispenser.



Step 2:

Place the device on the measurement site and move the device to spread the gel uniformly over an area of approximately 2 inches. When you have completed doing this, slide the device to the measurement site and press the button for 3-5 seconds while sliding the BodyMetrix device about 1/4 of an inch to either side of the start position. When sliding the device back and forth, make sure you maintain good contact with the skin. Typically you would perform the back and forth motion 2-4 times per second or at a rate that is comfortable to do. Performing this during the measurement averages the fat thickness over the scan area and provides more consistent measurements. Please watch the training video to see the recommended technique.

Step 3:

After the 1st measurement you will be asked to repeat the measurement a second time. If the two measurements differ by more than 10% then you will be asked to repeat the measurement for a third time. When completed, the measured value is automatically entered in the Points List.

Step 4:

Repeat steps 1-3 for each of the measurement sites.

Step 5:

After all measurements are complete, the software will calculate and display the Body Fat Percentage.

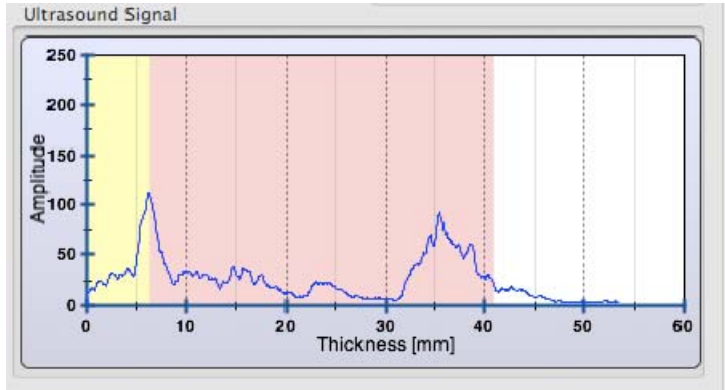
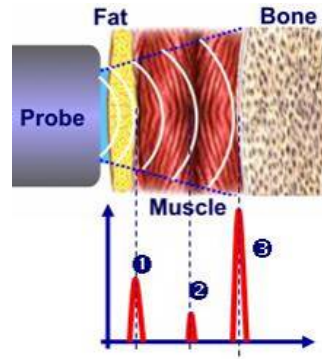
Step 6:

After completing the assessment, clean the device with an antiseptic wipe.

Analyzing Body Fat % Assessments

The measurement graph displayed on the Measure Screen may look intimidating, but if you've ever heard an echo you're a long way to understanding the graph and how the BodyMetrix System uses ultrasound to measure tissue thickness. You hear an echo when sound travels through air and reflects from a wall or mountain and comes back to your ear. If you time how long it takes for you to hear the echo you can calculate how far away the reflecting object is. The BodyMetrix System generates an ultrasound signal that travels through tissue and then records the reflected signal.

Continuing the echo analogy, the BodyMetrix device plays the role of your mouth and your ear. Ultrasound waves travel in tissue and strong reflections occur at the boundary of different tissue types, for example, fat-muscle and muscle-bone.



The graph above shows a typical measurement. The horizontal axis corresponds to the thickness or depth of tissue and the vertical axis is the reflected signal. The first peak ① is the fat-muscle boundary. The smaller peaks ② are different interfaces which can include connective tissue, or fat in the muscle layer. The last peak ③ is the muscle-bone interface since ultrasound does not penetrate. It's important to note that the BodyMetrix measures the true tissue thickness unlike calipers which measure a skin fold thickness which can be anywhere from 1 to 3 times the true fat thickness.

Recording Circumference Measurements

You can also record and track circumference measurements and Waist-to-Hip ratio (WHR). Use the tape measure provided with the BodyMetrix System to accurately make circumference measurements. To record these measurements, simply select the point and type in the measured value.

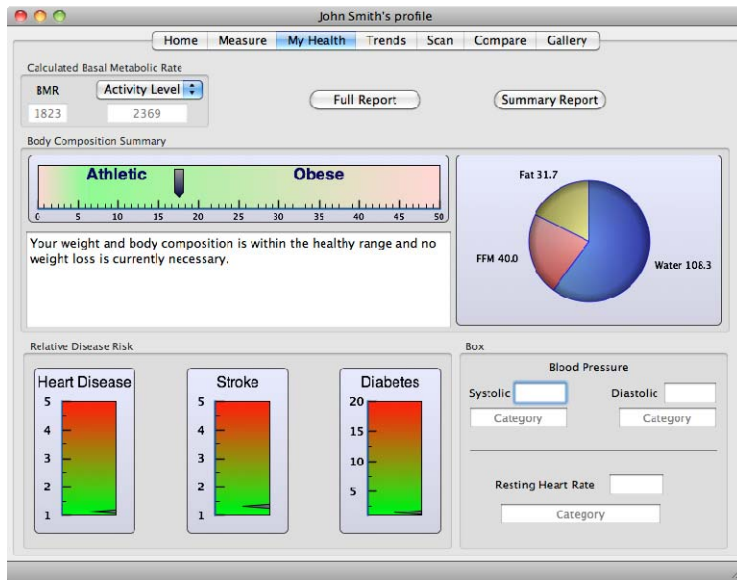
You can record and track the following circumference locations:

- Neck
- Chest
- Bicep
- Thigh
- Waist
- Hip
- Calf

Once the Waist and Hip circumferences are recorded the software will automatically calculate the Waist to Hip ratio and show the value on the scale. The scale categories are based on World Health Organization (WHO) guidelines.

My Health

The “My Health” screen communicates the results of the measurements to your client. It provides a detailed look at total body fat percentage, BMI, BMR, and relative disease risk. It advises clients on how to improve or maintain their present health status.



The Body Fat % and BMI classifications shown on each scale is based on WHO recommendations/guidelines. The “Your Weight” pie chart shows how the weight is distributed between excess fat, healthy fat, fat free mass, and estimated body water. Relative Disease Risk shows the risk for heart disease, stroke, and diabetes based on the client’s body fat percentage and BMI. “My Health” also offers a healthy weight range and recommendations to achieve or maintain a healthy weight and body fat percentage.

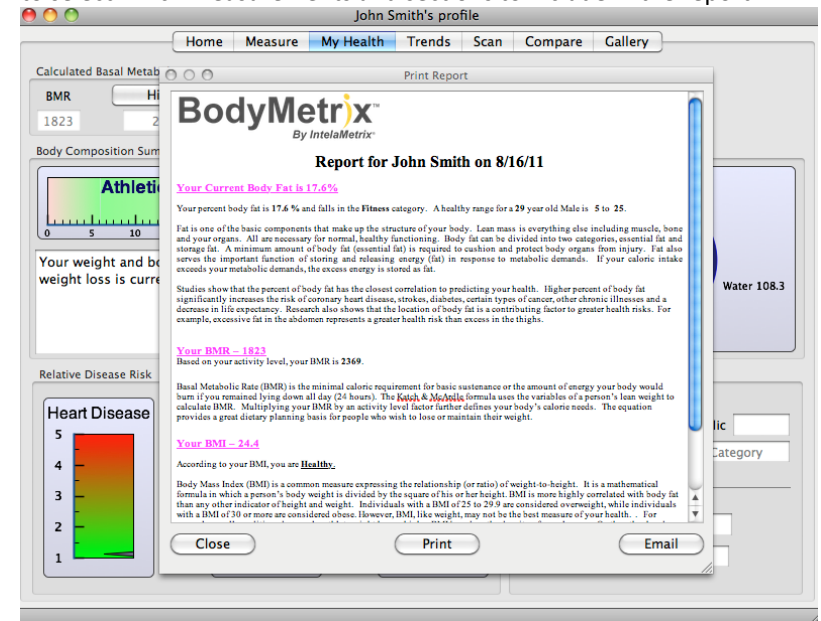
You can also input a client’s blood pressure and resting heart rate.

Generating Reports

A report for a client can be generated by clicking **Full Report** or **Summary Report**. The **Full Report** breaks down all the information in a detailed 3 page report. The **Summary Report** is a single page report that includes the results of the last measurement.

Both of these reports can be Saved to File, Printed, or Emailed directly to the client.

When printing the Full Report, you have a choice of options allowing you to select which measurements and sections to include in the report.

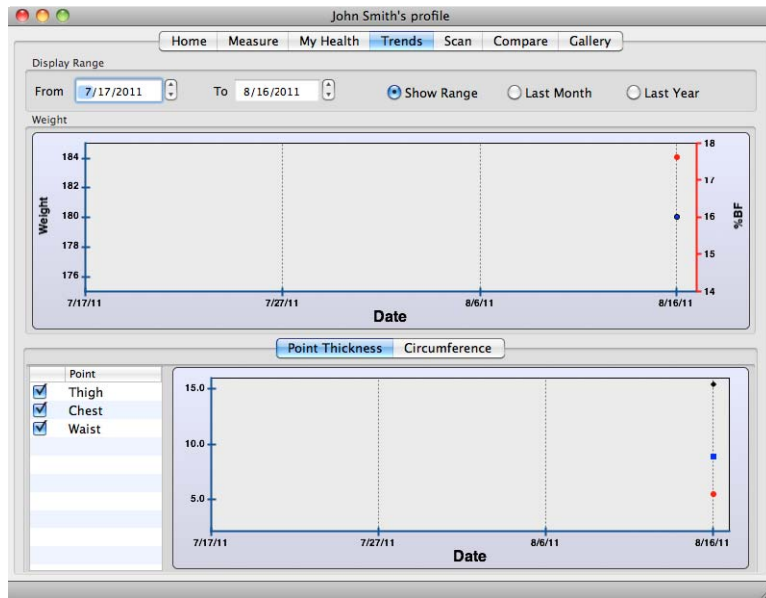


Trends and Reviewing Progress

The "Trends" screen allows the user to show the client the progress being made with a particular program. In "Trends" all the recorded data is portrayed on a line graph. You can chart the following data:

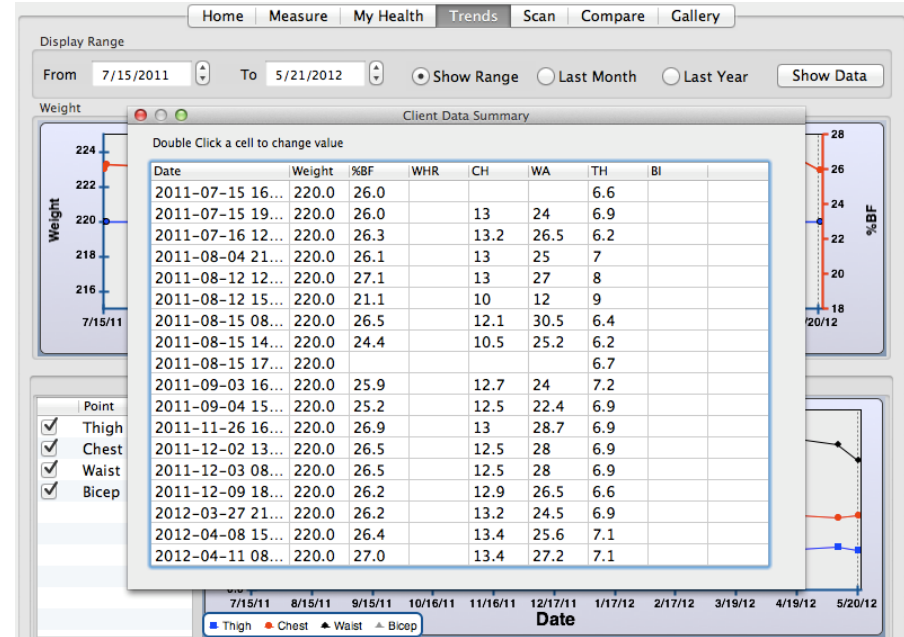
- Weight
- Body Fat %
- Point-Specific Fat Thickness
- Waist-to-Hip Ratio
- Point-Specific Circumference Measurements

To view the value of each data point simply place the mouse cursor over the data point and the value will appear. You have the ability of adjusting the date range of the data by adjusting the calendar to specific timeframe or selecting last month or last year.



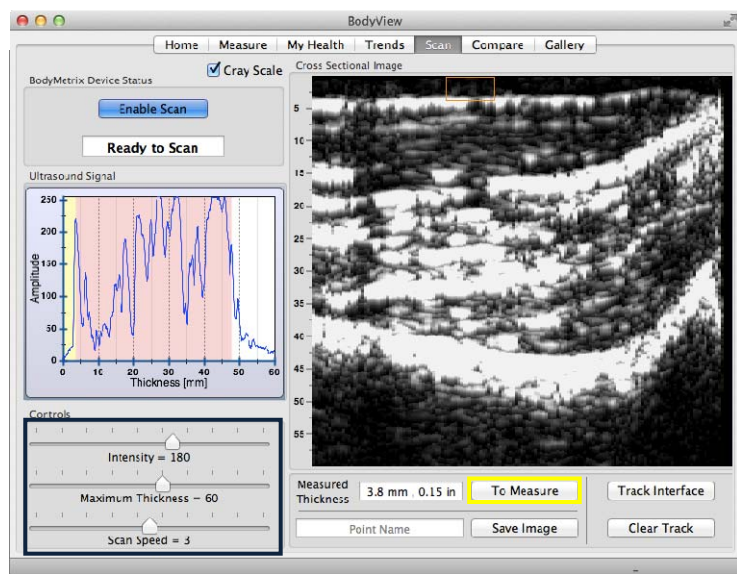
Editing Client Data

If you wish to change client's Thickness, Weight, and Body fat %, open the client's profile and go to the *Trends Tab* and click **Show Data**. This allows you to make changes to their profile as well as delete data.



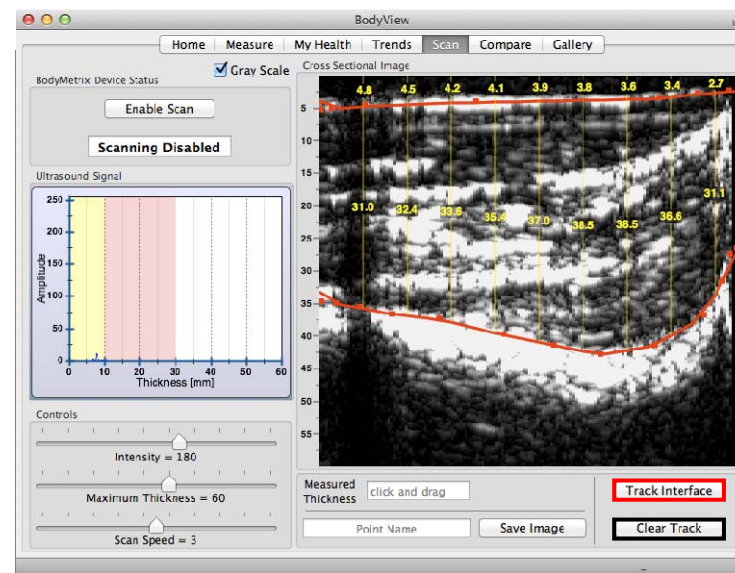
Body Scans

The BodyMetrix System can also be used to capture cross-sectional images of specific areas of interest. This feature can be used to accurately track fat loss and muscle gain. The scan page below shows a scan of a male bicep. The important controls (controls panel outlined in blue) on this page are the *Intensity* which controls how the signal is amplified, the higher the intensity the stronger the signal reflection and consequently the deeper you can image. The *Maximum Depth* control determines the maximum depth that will be imaged. The *Scan Speed* control adjusts how quickly the tissue cross-section image is updated left to right. For long tissue scans lower the scan speed. Ideally you want to fill the tissue cross-section screen with the full scan.



There are also a number of features that are designed to assist you in analyzing your scan. The *To Measure* feature transfers a measurement from the *Scan* tab directly to a point measurement on the *Measurement* tab. Please note, however, that this is only possible for points that are in the formula selected. This feature allows advanced users to verify fat/muscle interfaces directly. The image above shows a screen shot with the feature enabled. After drawing a rectangle to cover the fat layer, a **To Measure** (outlined in yellow in the image above) button appears that can be clicked to transfer measurement (in this case 3.8 mm) directly to the

point on the measure tab. The *Track Interface Feature* enables you to track the fat and muscle thickness that has been recorded in your scan. After collecting a cross sectional image you can click the **Track Interface** button (outlined in red in the image below) to start adding an interface line. Simply click on the feature that you would like to track and then, if necessary, continue to click along the feature to make sure it is going exactly as desired. When you are satisfied with the track simply click on **Stop Tracking** button (appears in place of the **Track Interface** button after it has been enabled). If you are not satisfied with the track you can click on **Clear Track** (outlined in black in the image below) button and remove the track. You can add a second track by repeating the process. Note that the displayed thickness will be the distance between the previous and new track. When you save the image the tracks and any drawn rectangle will be saved in the file. The screenshot below shows a bicep scan with the first track at the fat-muscle interface and the second track at the muscle-bone interface.



To perform a scan:

Step 1:

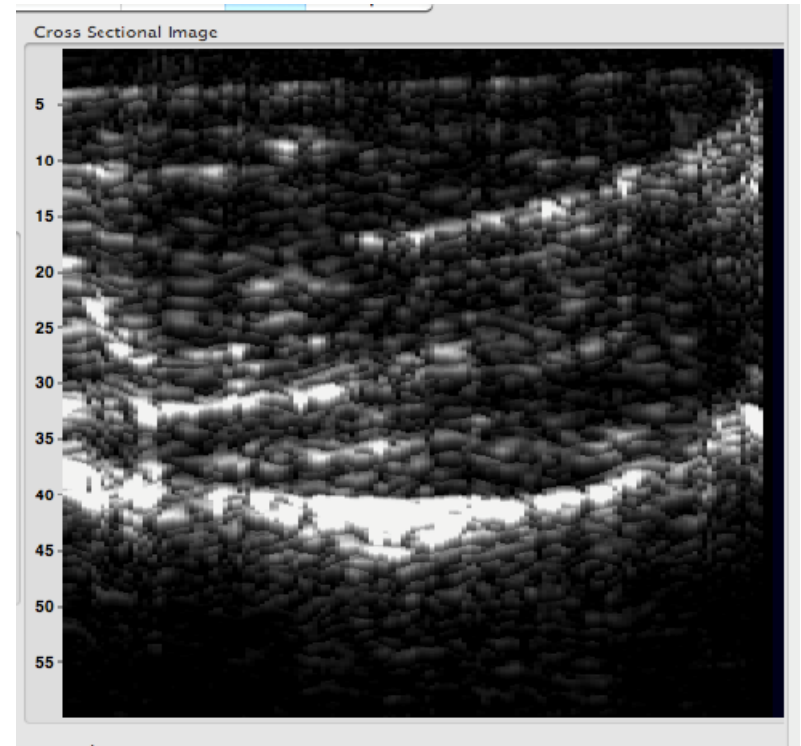
Click *Enable Scan*. Apply approximately a quarter size amount of gel to the BodyMetrix device (this is a larger amount than you would use for a single point measurement).

Step 2:

Place the device on the skin at the desired starting position and slide it along the skin to evenly spread the gel over the complete section that you want to scan. Now, slide the device back up to the starting point and repeat this back and forth motion if necessary to make sure you have a smooth and slippery track. Now, when back at the start position press the measurement button and slowly slide the device along the skin until you get to the end of the scan section. Ideally, how fast you slide the device and the scan speed are adjusted to allow the image to completely fill the scan panel.

Step 3:

When the scan is complete, a cross sectional image will be created that shows the tissue structure along the complete scan region. The screen below shows an example of a scan along a bicep taken from above the midpoint down to the inside of the elbow.



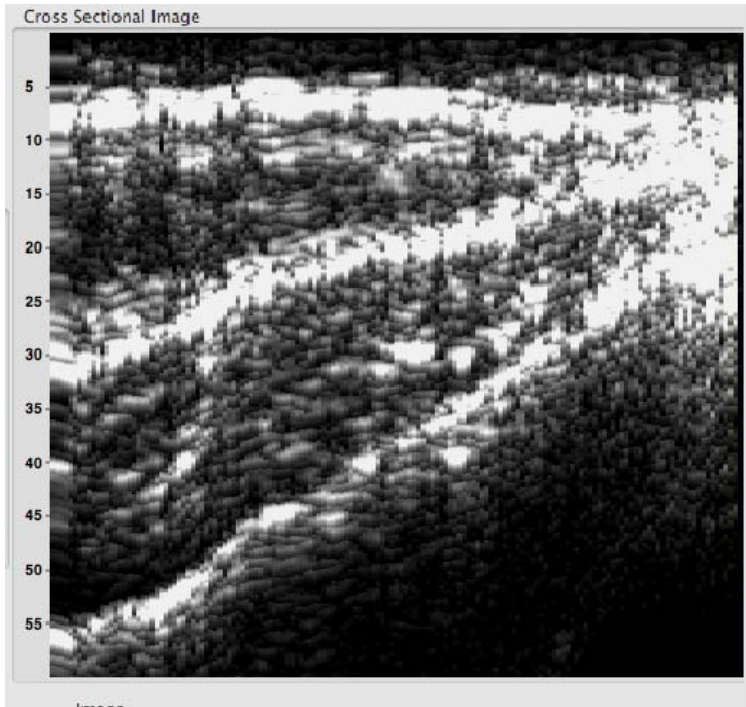
Interpreting Scans

It is necessary to know how to interpret a body scan to take full advantage of this feature. The image represents a cross-sectional view through the tissue along the scan area. Interfaces are found where the signal is strong. The white areas in these images indicate interfaces or boundary between tissue types.

In the image below a thigh was scanned from the midpoint to near the knee cap. The first bright band as indicated by the red arrow is the interface between the fat and muscle. The yellow arrow points to a bright band that is the interface between muscle and bone along the thigh. The muscle thickness is the distance between the fat-muscle interface and the bone as shown by the blue arrow. Since the scan ends near the knee, the total muscle thickness decreases as the device is moved closer to the knee cap.

Although, a good understanding of ultrasound and cross-sectional imaging is an asset, comparing scans is an easier process and can be used to

illustrate the benefits of diet and exercise programs.

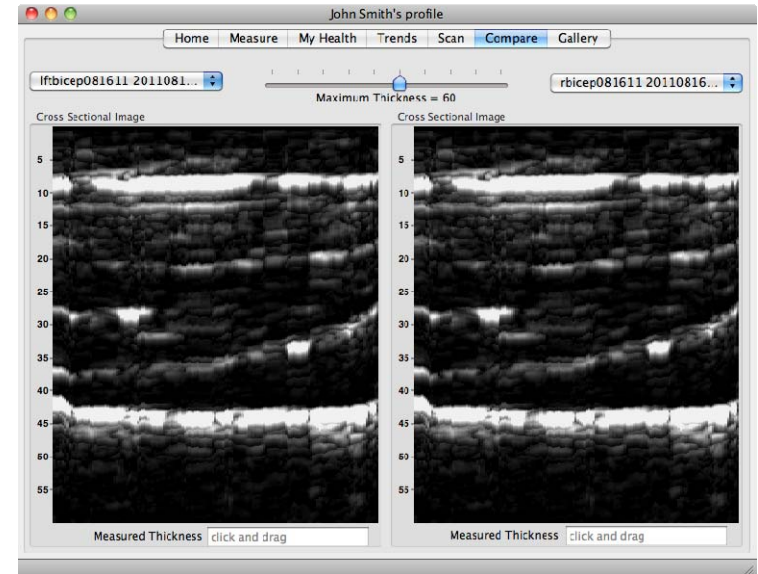


Comparing Scans

The **Compare** tab can be used to compare scans. Use the pop up menu to select the scan to display. The images are listed with the assigned name and the date and time recorded for example **lftbicep081611** was saved as “Left Bicep” on Aug, 16, 2011.

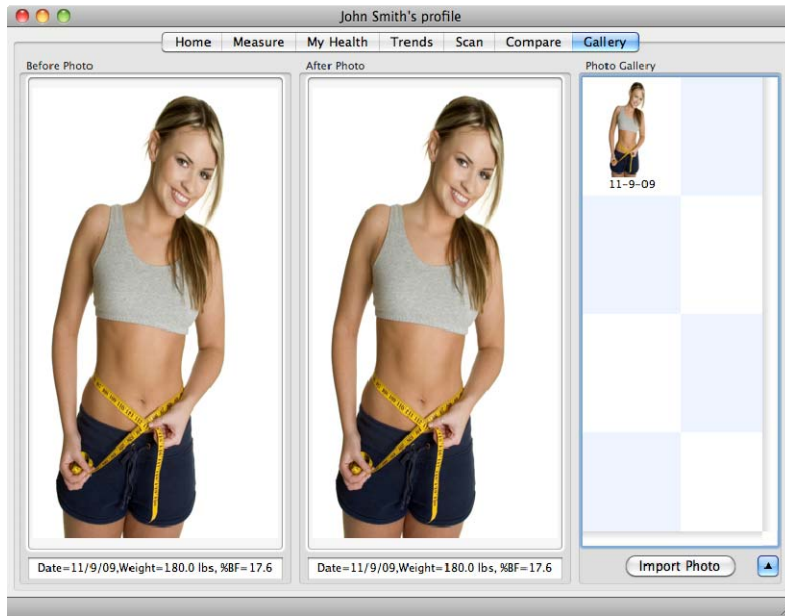
You can use the **Maximum Thickness** slider to zoom in on the skin surface.

To measure the thickness of a tissue layer, click on a start point and drag the mouse to an end point. The measured thickness will be displayed in the measurement panel directly below the scan.



Gallery

The "Gallery" allows the user to maintain a photo gallery of client images. Real before and after pictures can be imported from the hard drive or a digital camera. To import photos click **Import Photo**. Select the photo to import. An Import Wizard will open up; you can crop the photo using your mouse.



Measurement Site and Scan Point Guide

Male & Female

Bicep – The midpoint of the upper arm between shoulder and elbow. The arm should hang freely and relaxed on the side of the subject.

To Scan, place at midpoint, press and hold the device measurement button while slowly sliding vertically down 3-4 inches towards the elbow.



Scapula - Located just below the bottom tip of the shoulder blade.

To Scan, place on the bottom tip of the scapula. Press and hold the device measurement button while slowly sliding horizontally 3-4 inches to the right.



Axilla - Located the site below the armpit and level with the bottom of the sternum.

To Scan, place on the axilla. Press and holding the button while slowly sliding vertically 3-4 inches towards the hip.



Waist - Locate 1 inch to the side of the belly button.

To scan, place on the waist site. Press and hold the device measurement button while slowly sliding horizontally right 3-4 inches towards the hip.



Hip – Locate top of the hip bone and move 1-1.5 inches toward the belly button.

To scan, press and hold the device measurement button while slowly sliding horizontally to the right 3-4 inches.



Thigh – The midpoint on the front thigh between the knee and in line with the hip joint.

To scan, place on the midpoint, press and hold the device measurement button while slowly sliding vertically 3-4 inches towards the knee.



Tricep – The midpoint of the back, upper arm, between the shoulder and the elbow.

To scan, place on the midpoint, press and hold the device measurement button while slowly sliding vertically 3-4 inches down towards the elbow.



Lower Back - The site over the kidneys and 2 inches to the right of the spine.

To scan, place on site. Press and hold the device measurement button while slowly sliding horizontally to the right 3-4 inches towards the hip.

Calf – Inside midpoint on the back of the calf at the point of largest circumference.

To scan, place on the site. Press and hold the device measurement button while slowly sliding vertically 2-3 inches down towards the ankle.

Chest– Halfway between the shoulder and the nipple.

To scan, place on the axillary line. Press and hold the device measurement button while slowly sliding vertically 3-4 inches towards the nipple.



FAQ's

What if my device is damaged and/or the device or software is not working?

Please contact Intelamatrix Support at 925-606-7044 or support@intelamatrix.com.

Is the BodyMetrix System safe for children?

Yes, it is safe for use on children. However, it is intended to be used on children 6 years or older.

Is the BodyMetrix System safe for pregnant women, people with pacemakers, or other medical conditions?

Yes, it is safe to use on all healthy individuals.

Is there a significant difference in the numbers of site I use or formulas for calculating Body Fat Percentage?

Depending on body type there can be a few percent difference between formulas used to measure Body Fat Percentage. We recommend that you select one formula and use it regularly to accurately track changes.

How often should I do assessments and scans?

It depends on your program, but it generally takes a minimum of 4-6 weeks to see a change in body composition.

How much ultrasound gel should I use?

For Body Fat Percentage assessments, we suggest using a 1/4 inch (5 mm) diameter sized amount of gel. For scans we suggest using 2-3 times that amount to effectively coat the full scan area.

Will the measurements change depending on how much pressure I apply?

With normal, comfortable pressures there is little effect on the measured fat thickness. To study this effect, go to the scan and apply the BodyMetrix device to a point of interest and keep the button pressed while you change the applied pressure. You should see a very small shift in the fat-muscle border.

Why is the BodyView software indicating Poor Contact?

The most likely reason is that you didn't apply enough gel or the BodyMetrix was at an angle on the skin – not making full contact with the skin. Also, when sliding the device to average, it is important to maintain good contact with the skin. DO NOT be afraid to apply a little pressure.

Can I override fat thickness measurements?

Yes, you can. If the automatic fat thickness measured is clearly in error, you can override the automatic calculation by stopping the measurement and clicking on the appropriate peak on the Measurement data graph. Select the peak you believe is the correct fat-muscle border. A dialog box will appear asking you to confirm. This should rarely be necessary but in some cases, clients may have scar tissue within the fat layer that can hide the correct fat-muscle border.

How is Basal Metabolic Rate (BMR) calculated?

We use the Katch-McCradle formula to calculate BMR.

How do I backup my database?

If you perform regular backups of all your documents then the database should automatically be saved. However, if you want to directly back up the database you need to copy the folder **..Library\Application Support\Intelamatrix** .

Why does the waist measurement seem incorrect?

It is one of the few locations where there are two layers of fat. The first layer is the superficial fat and the second layer is the deep adipose fat. The two layers are separated by a border or interface called a fascia. Sometimes the software picks the fascia instead of the actual fat-muscle interface. The fascia is generally the first large peak in the measurement. This occurs rarely; please manually override by clicking on the second large peak on the graph. If you continue to have this problem, you may want to change the Athletic Type of the client to the next level. For example, change from Athletic to Non-Athletic.

Care and Maintenance

To insure the proper care and maintenance of your BodyMetrix System, always remember to do the following:

NEVER use the device if the device or cord is broken or damaged.

NEVER use the device if the device is wet.

NEVER use the device on an open sore or cut.

DO NOT use abrasive or harsh chemicals to clean the device.

DO NOT drop the device as it may cause damage to it.

DO NOT store the device near a heat source or subject it to high temperatures, humidity, or direct sunlight as in may cause damage.

ALWAYS use an antiseptic wipe or cloth with 70% isopropyl alcohol in between uses.

Failure to do so may result in void of warranty.

Symbols



Manufacturer



Warning

Contact Us:

If you have any problems with your BodyMetrix System, please contact Intelametrix Support:

**Intelametrix, Inc.
6246 Preston Ave.
Livermore, CA 94551 USA
+1 925-606-7044
support@intelametrix.com**

Limited 2 Year Warranty

The BodyMetrix Pro System and BodyMetrix BX2000 device is warranted to be free from defects in materials and workmanship for a period of 2 year from the date of original purchase under normal use. The warranty extends only to original retail purchaser.

If the product becomes defective during the warranty period, please contact Intelametrix, Inc. for repairs or replacement.

The warranty DOES NOT cover products damaged by the following:

Accident, misuse, abuse, or alteration.

Servicing by unauthorized persons.

Use of unauthorized accessories.

Any other condition beyond our control.

INTELAMETRIX®, INC. SHALL NOT BE RESPONSIBLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGE RESULTING FROM THE USE OF THIS PRODUCT. ALL IMPLIED WARRANTIES INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF FITNESS AND MERCHANTABILITY ARE LIMITED IN DURATION TO 2 YEAR FROM ORIGINAL PURCHASE.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty last, so the above limitations may not apply to you.

Notes

For questions please call:

+1 925.606.7044

Or email:

support@intelamatrix.com



BodyMetrix



IntelaMetrix



IntelaMetrix



IntelaMetrix[®]
IntelaMetrix[®], Inc.

6246 Preston Ave.

Livermore, CA 94551 USA

www.intelamatrix.com

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