

Manufacturer's Declaration of Conformity

This product has been manufactured in accordance with the harmonized European standards, following the provisions of the below stated directives:

CE 2460

93/42/EEC as amended by 2007/47/EC
Medical Device Directive

Please see separate document showing on sticker of device for above CE marking.

Authorized EU Representative:



Wellkang Ltd
Suite B, 29 Harley Street
LONDON, W1G 9QR, U.K.

Manufactured by:



Charder Electronic Co., Ltd.
No.103, Guozhong Rd., Dali Dist.,
Taichung City, 412 Taiwan (R.O.C.)

FDA no.: D051883

charder[®]



MS 5460
Medical Scale
USER MANUAL

IN-00018 [REV002] 09/2018

Please keep the instruction manual at hand all the time for future reference.

indication

- Incorrect position or other external objects within weighing area
- The weighing-scale is not put in a solid & firm ground area, such as carpet floor or lawn.

3. Connection failure for data transmission to PC or printer

- Wrong connection wires or faulty wires for transmission between the digital indicator & load cells.
- Wrong indicator models
- Wrong internal wiring or wire broken

In case of the following defective mode occurs, it is suggested to contact your nearest Authorized Dealer for further technician service & repair:

1. POWER switch-on failure :

- Push-button faulty
- Short circuit wires - Wire broken
- Safety fuse burnt out
- Wire connection problem
- Main power adaptor faulty – Parts Replacement

2. LCD display faulty

- Possible hardware defects include: Uneven brightness in the LCD display screen & texts color blurred, smeared rainbow screen, incorrect decimal display
- LCD PIN broken or short circuit
- PCB cooper foil broken & loosed welding
- Unable to save or read data – IC or transistor faulty, internal parts broken.
- LCD showing “ERRL” after switch on - Load cell damaged
- Overload may cause the weigh to malfunction.
- Software system crash
- Resonator faulty
- Load cells with faulty grinding standard.
- Key buttons failure - Front key panel damaged or disconnected

3. Buzzer malfunction

- Wrong welding of PVC wire
- Key buttons & control panel damaged or disconnected.

PREFACE

Thank you for choosing CHARDER MEDICAL product. All features of this product were designed to state of the art and are optimized for simple and straightforward use. If you have any query or experience any problem not addressed in the operating instructions, please contact your CHARDER MEDICAL service partner, or visit us on the Internet at www.chardermedical.com

INTENDED USE

This scale is used to determine weight of patients who is supported by professional personnel in rooms intended for carrying out medical care. The scale is intended to diagnose, prevent and monitor diseases.

The weighing value can be read off after a stable weighing value has been obtained.

Before any use, the scale must be checked for correct condition by the authorized person.

SAFETY INSTRUCTION



Before putting the device into use, please read with care the information given in the Operating Instructions. They contain important instructions for installation, proper use and maintenance of the device.

The manufacturer shall not be liable for damages arising out of failure to heed the following instructions:

- These batteries should be kept away from small children. If swallowed, promptly seek medical assistance.
- Expected Service Life: 5 years
- When using electrical components under increased safety requirements, always comply with the appropriate regulations.
- Improper installation will render the warranty null and void.
- Ensure the voltage marked on the power supply unit matches your main power supply.
- This device is designed for use indoors.
- Observe the permissible ambient temperatures for use
- Ensure that the patient does not lean against the device risk of falling
- The device meets the requirements for electromagnetic compatibility. Do not exceed the maximum values specified in the applicable standards.

If you have any question, contact your local CHARDER MEDICAL service partner.

Below symbols are used in this manual for user's attention to prevent misunderstanding to the product, potential damages to the product, and potential dangers could happen to users by misusing the products.

Note!

Definition: Pointing out possible problems to the user, or contents that may confuse users and need to be clarified.

Caution!

Definition: Advice for the user to prevent damage to the product.

Warning!

Definition: Warnings for the user to prevent personal injury.

Without following these instructions may result in physical injury, damage to the product or damage to the environment!

- ◆ Please be noted that the footrest pedal is not designed for standing on as it is only used for placing the feet on when weighing. Unsafe acts may cause incidents.



- ◆ Please be aware of the leveling before weighing.
The air bubble of the water balance should be in the middle of leveling.



CLEANING

- ◆ We would recommend using alcohol based wipes or similar when cleaning the scales.
- ◆ Please do not use large amounts of water when cleaning the scales as this will cause damage to the scales electronics, you should also refrain from using corrosive liquids or high pressure washers.
- ◆ Always disconnect the scales from the mains power supply before cleaning.

TROUBLESHOOTING

Troubleshooting for defective modes:

Original purchaser can enjoy the benefits under the effective Warranty against functional defects in material and workmanship subject to the terms and conditions listed in the yearly Warranty Program & Return Policy.

Our warranty service program includes the following:

1. Technician repair service under warranty or at a service maintenance charge depending on the workmanship for the defective functionality or cause of damage covered by the warranty.
2. Parts replacement from the manufacturing factory under the warranty or at a certain cost for the replaced parts plus the workmanship charge if not covered under the warranty.

Before you contact our Authorized Dealer in your country for technician repair service, please read through the following section carefully:

Self-checking Tips:

Some functional defects can be identified and maintained by users as listed below:

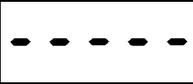
1. Power-on failure

- Check if the main power adaptor has not plugged onto the scale properly
- Check if the battery power is running low - Replace with new batteries

2. Indicator showing “0000” ZERO SPAN out of range

- Incorrect weighing result - Avoid damages by external environment force such as free-drop to the ground, collision by external objects, etc.
- Proper re-calibration procedure required to correct the setting of weighing accuracy.
- Interference due to RF disturbance, ground vibration...etc.
- Unstable platform feet adjustments according to bubble level

ERROR MESSAGE

<p>Low Battery</p> <p>1. Check battery voltage (>6.4V) and if needed replace new battery for operation.</p> <p>2. If the problem still persists inspect soldering of controller PCB or replace the controller PCB.</p>	
<p>Overload</p> <p>This indicates that the scale's load sensor(s) have been overloaded. Reduce the loading and retry.</p>	
<p>Counting Error</p> <p>1. The signal from the load cells is too high or too low. Please remove any weight from the scale and try to power on again. If the scale continues to show the error message, it indicates a fault with the electronics or wiring.</p>	
<p>High/Low Zero Count</p> <p>1. The scale is above its zero range. Please remove any weight from the scale and power on again. If the scale continues to show the error message, it indicates a fault with the electronics.</p> <p>2. The scale is below its zero range. Check there is nothing jammed underneath the scale and power on again. If the scale continues to show the error message, it indicates a fault with the electronics.</p>	 
<p>AD Error</p> <p>This indicates there is a fault with the scale's software and is normally caused by a fault with the PC board. Contact your local service representative.</p>	
<p>Negative weighing</p> <p>When weight below -2kg, the display will shows "-----".</p> <p>Press ZERO to return to the normal mode.</p>	

MAINTENANCE

- The scale does not require any routine maintenance. However, we recommend checking the scale's accuracy at regular intervals. The regularity of these checks is dependent on the level of use and the state of the scale. If any inaccuracies occur, please contact your local dealer or CHARDER MEDICAL service partner.

WARRANTY-LIABILITY

- If a fault or defect is present on receipt of the unit which is within CHARDER MEDICAL's scope of responsibility, CHARDER shall have the right to either repair the fault or supply a replacement unit. Replaced parts shall be the property of CHARDER. Should the fault repairs or replacement delivery not be successful, the statutory provisions shall be valid. The period of warranty shall be two years, beginning on the date of purchase. Please retain your receipt as proof of purchase. Should your scale require servicing, please contact your dealer or CHARDER MEDICAL Customer Service.
- No responsibility shall be accepted for damage caused through any of the following reasons: Unsuitable or improper storage or use, incorrect installation or commissioning by the owner or third parties, natural wear, changes or modifications, incorrect or negligent handling, overuse, chemical, electrochemical or electrical interference or humidity, unless this is attributable to negligence on the part of CHARDER MEDICAL.
- If operating, climatic or any other influences lead to a major change in conditions or material quality, the treaty for perfect unit functioning shall be rendered null and void. If CHARDER provides an individual warranty, this means that the unit supplied will be free of faults for the length of the warranty period.

DISPOSING OF THE SCALE

- This product is not to be treated as regular household waste, but should be handed into an electrical/electronic equipment recycling centre. You can obtain further details from your local council, your municipal waste disposal company or the firm which you purchased the products.

SPECIFICATION

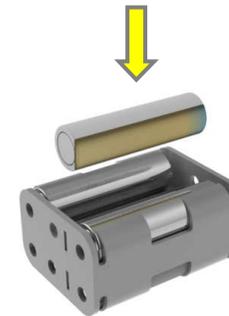
Model	MS5460
Capacity	250kg/550lb
Division	0.1kg/0.2lb
Accuracy	± 200g
Unit	kg / lb
LCD Display	1.4 inch LCD screen with 5 digits
Dimension	Overall: 987(H) x1020(D) x 590(W) mm Seat height: 535 mm Seat width: 460 mm Seat back height: 440 mm Armrest height: 719 mm
Key Functions	UNIT ,  SEND, ON/OFF/ZERO , HOLD/BMI , TARE/BSA
Operating Temp. and Humidity	5°C - 35°C 15% - 85% RH
Power Supply	AA Battery x 6 12V AC Adaptor

INSTRUCTION FOR REPLACING BATTERIES

1. Removing the battery cover.
2. Take out the battery housing.



3. Replacing new batteries.
4. Batteries are well installed.



5. Installing the battery housing.
6. Reinstalling the battery cover.



INSTRUCTION FOR CHARGING AND USB CONNECTING

If **.Lo** prompt displays on the LCD, please charge the scale with the MS5460 exclusive adaptor or replace the batteries. Locate adaptor plug-in at the left side of indicator.

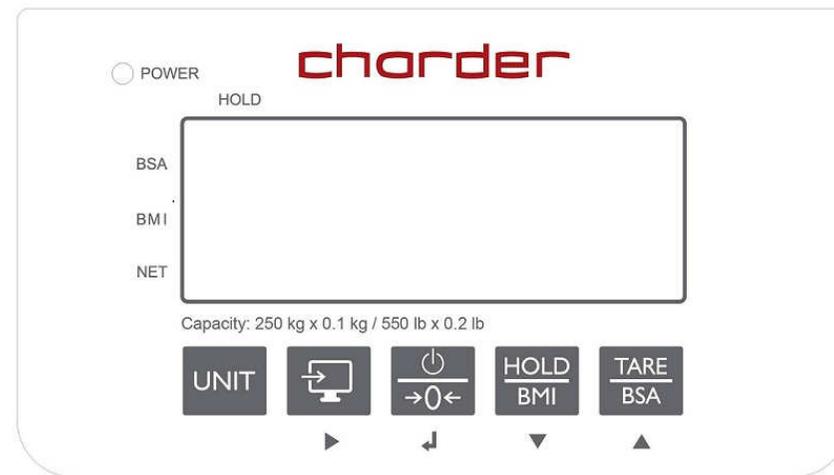
USB socket above USB symbol, and you can connect USB cable to transfer data.



CAUTION:

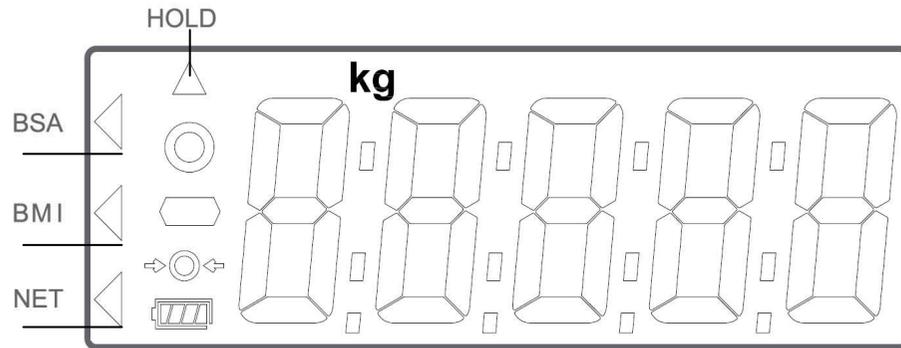
Always connect the AC adaptor with the indicator before connecting to the mains power supply. Please disconnect the adaptor from main power supply before taking out the AC adaptor pin from indicator.

PANEL



Operation keys	Functions
UNIT 	Change unit key. Press to switch measuring unit from kg and lb
SEND 	Send data key. Press to send measuring data to PC
ON/OFF/ZERO 	Switch on and off. Press button to turn it on. To turn it off, press and hold the button for 1 second Press once to set the scale to zero when scale is on
HOLD/BMI 	Enable HOLD and BMI function Press once to enable weight lock function Press button and hold 3 secs to enable BMI mode
TARE/BSA 	Press once to enable TARE function When BMI is activated. Press TARE/BSA button to display BSA[body surface area]

LCD DISPLAY SYMBOLS



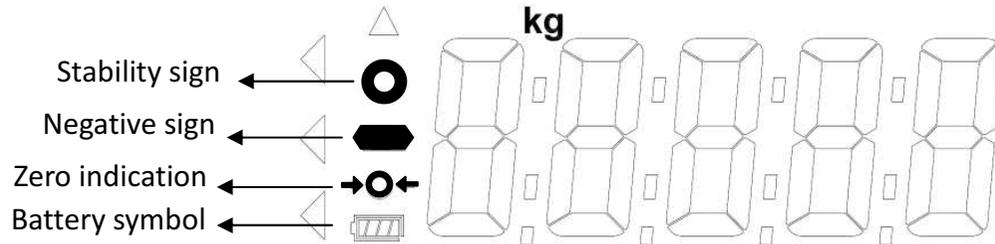
BSA : Body surface area is activated

BMI : Body Mass Index is activated

NET : Net weight appears after press tare button

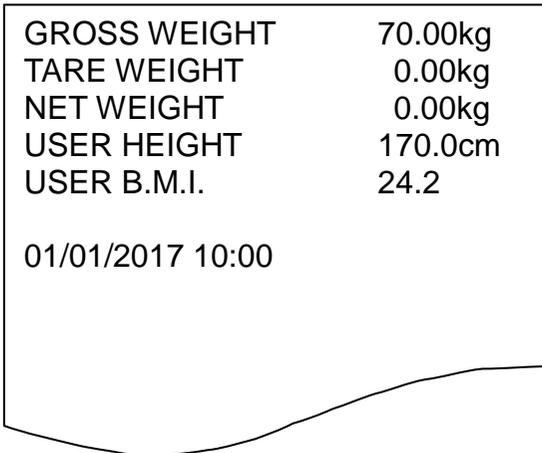
HOLD : Weight lock function is activated

SYMBOLS INFORMATION



Symbol	Information	Remark
	Stability sign	Mark appears when weight is stable
	Negative sign	When weight value is negative
	Zero indication	When scale is set to zero
	Battery symbol	Indicate 5 level of battery power.

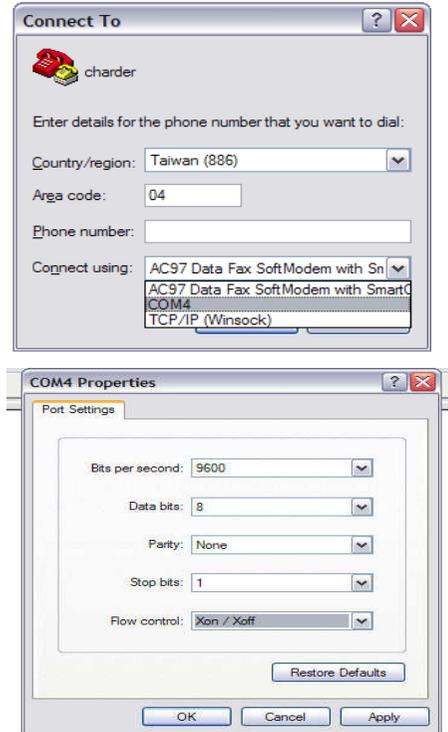
- Printout Data Through USB cable connector
Click OK button to complete the setting. The PC will retrieve the weighing & BMI data from the CHARDER scale and display on the HyperTerminal program similar to the layout below.
While the Hyper Terminal program is running, type "P" KEY on the PC keyboard to transmit a print command to printout from the thermal printer on the CHARDER scale for hard copy of weighing data & BMI. Or, press the [PRINT] button on the display panel of CHARDER scales, the printout presented below is the standard format print layout as well as shown on the HyperTerminal computer screen.



7. Port Settings for Printout

Set up as below:

- ◆ Baud rate: 9600 bps
- ◆ Parity check: None
- ◆ Data length: 8 bits
- ◆ Stop bit: 1 bit
- ◆ Handshake: RTS/CTS
- ◆ Data code: ASCII



USB Driver Install

The scale confirms to the USB PL2303

Make sure the computer software has a USB scale interface.

PL2303 driver download:

<http://www.prolific.com.tw/US/ShowProduct.aspx?pcid=41&showlevel=0017-0037-0041>

OPERATION

1 Switching on/off

Switching on

Press  to switch the scale on

The device shows a start-up screen with the full segmental LCD display, software version and then 0.0 kg

Switching off

Press  and hold for 3 seconds to switch scale off

Zero the scale

Press  while scale is on to zeroing the scale

2 Straight weighing

1. Place weighing object/person on the scale
2. Wait until the stability sign appears
3. Read the weighing result

3 Weighing with hold

This device is provided with the integrated hold function (determination of average value). It enables people to be weighed accurately although they are not still on the scale plate. Once the HOLD key is pressed, the weight reading will remain on the display after the item has been removed from the scale so the reading can easily be read.

Note

- Determination of average value is not possible when a person moves too much.
- HOLD function won't work if the weight is under 2 kg.

1. Switch on the scale. The diagnostic self-checks is performed. The scale is ready for weighing when the „0.0 kg” displays on the screen.
2. Place object/person on the scale.
3. Press  key. When the triangle is flashing on the display, the scale records the fluctuating weight values and then calculates average weight and displays the result on the screen.
4. Remove object/person from the scale. The weight reading will remain on the display.

5. Press  key again to return the scale to the normal weighing mode.
6. HOLD function can be activated before or after place the weight on the SCALE.

4 Weighing with tare

Tare function allows the user to deduct the excess weight of a single tare object value (additional loads or clothes) from the display reading, thus calculate the actual net weight of the object/ person.

4.1.1 Taring

Place tare object (additional loads or clothes) on scale and press  to tare the weight of object.

- ◆ The zero display and the symbol NET appear.
- ◆ The tare weight remains stored until it is cleared.

4.1.2 Clear the tare

Press  to clear tare weight

- ◆ The symbol NET disappear
- ◆ The gross weight appears in the display.

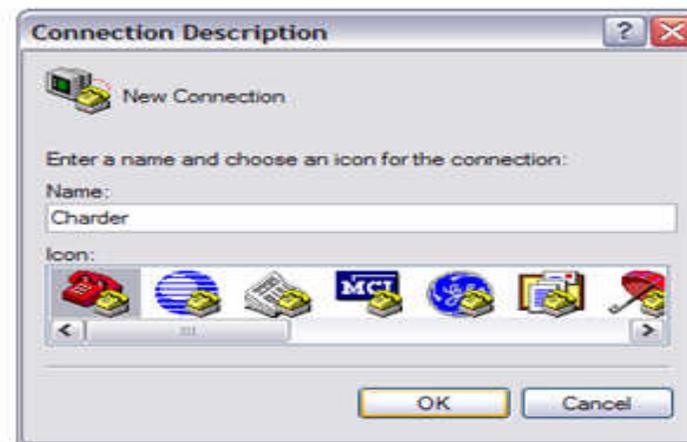
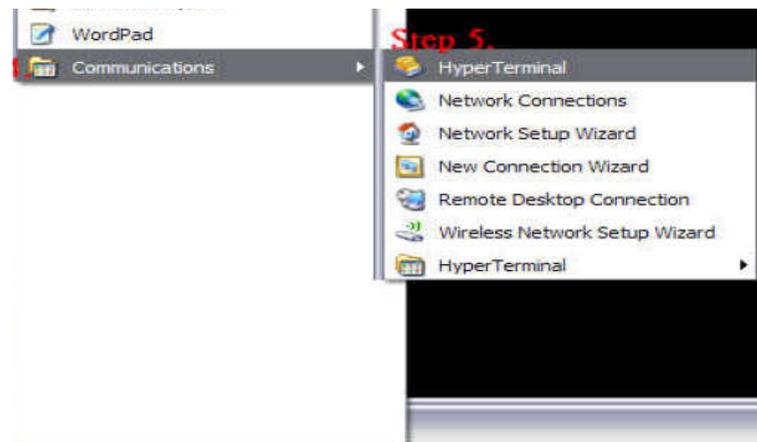
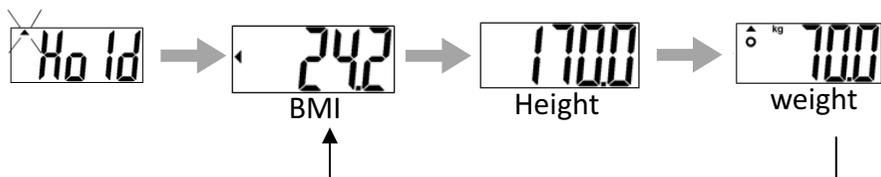
5 Weighing with BMI

For BMI calculation, height is needed, therefore it is recommended to measure the height of subject before starting weighing procedure.

1. Switch on the scale.
2. Place object/person on the scale.
3. Press  key and hold for 3 seconds. First, display will show "HOLD" and lock weight then display show "height value".



4. Adjust height value by using  (↓) and  (↑) keys.
5. Switch between digits by using  (→) key.
6. Press  to confirm height value.
7. Display will show "HOLD" and lock weight to calculate BMI.



5. New Connection Description
Name the connection and click OK Button

6. Select COM Port on User PC
Click Connect to select COM port on the computer. Then click OK.

PRINT FUNCTION AND DATA TRANSMISSION

The Weighing, BMI and Height results can be kept in the PC for records by using the USB interface cable, which is connected to the USB plug at the back terminal.

After completing BMI and BSA process, simply press  key to transfer the results to the PC.

HOW TO SET UP USB CONNECTIONS ON THE PC

1. Make sure the PC hardware device has USB port version 2.0 or above compatibility. Users may need to consult with local computer accessories dealers to select the proper USB cable length that is most suitable to work environment for best performance, then connect the cable first between the PC and CHARDER Scale model.
2. Run HyperTerminal program under Windows OS computer and input printer port parameter settings, please refer to the next Section in <Step 7> on how to setup HyperTerminal program in user's computer for printer port parameters.
3. Once the HyperTerminal setting is ready, make sure the USB cable is connected properly between the user PC's USB port and the CHARDER Scale Model again. Press  button on the Scale Display Panel for transferring the weight & BMI data to the PC.

Hyper Terminal setting in PC for printout

Hyper Terminal is a freeware on PC Windows XP SP3 or lower to setup the PC printer com-port with USB cable connector transmission.

For use on Windows Vista or higher please download hyper terminal software program from Charder website:

<http://www.chardermedical.com/download/dlist-4.htm>

4. Start Hyper Terminal

After taking the weight and BMI, run Hyper Terminal program from the PC's Windows OS with the following steps:

Step.1- Click on Start Button.

Step.2- Go to All Programs.

Step.3- Select Accessories.

Step.4- Find Communications.

Step.5- In Communications section click on HyperTerminal.

Body Mass Index Categories

Classification of weight for adults over 18 years on the basis of Body Mass Index according to WHO, 2000 EK IV and WHO 2004 (WHO - World Health Organization).

Category	BMI (kg/m ²)	Risk of diseases accompanying overweight
Underweight	< 18.5	low
Normal weight	18.5 – 24.9	average
Overweight	≥ 25.0	
Preobesity	25.0 – 29.9	slightly increased
I degree of obesity	30.0 – 34.9	increased
II degree of obesity	35.0 – 39.9	high
III degree of obesity	≥ 40	very high

6 Weighing with BSA

- Values for Body Surface Area (BSA) is the measured or calculated surface area of a human body. For many clinical purposes, BSA is a better indicator of metabolic mass than body weight because it is less affected by abnormal adipose mass. BSA is commonly used in medicine, particularly to calculate doses of chemotherapeutic agents and index cardiac output.

Average BSA for children of various ages, for men, and for women, are taken to be:

Age	BSA
Neonate (newborn)	0.25 m ²
Child of 2 years	0.5 m ²
9 years	1.07 m ²
10 years	1.14 m ²
12-13 years	1.33 m ²
Women	1.6 m ²
Men	1.9 m ²

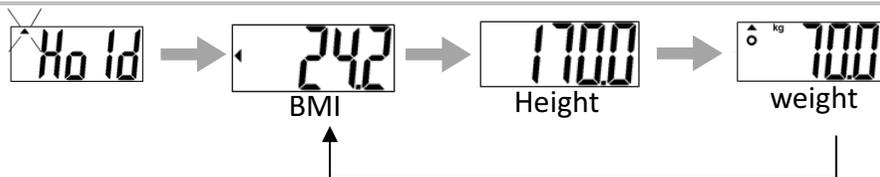
There was an average BSA of 1.73 m² for 3,000 cancer patients from 1990 to 1998 in a European Organization for Research and Treatment of Cancer (EORTC) database.

During 2005, there was an average BSA of 1.79 m² for 3,613 adult cancer patients in the UK. Among them, the average BSA for men was 1.91 m² and for women was 1.71 m².

However, there is some evidence that BSA values are less accurate at extremes of height and weight, where Body Mass Index may be a better estimate.

6.1.1 Enable BSA in BMI mode

1. Starting with BMI process
2. When BMI, weight and height is playing rotationally.



3. Press **TARE BSA** to play BSA value.



4. Press **TARE BSA** to return to the BMI mode.

5. Press **HOLD BMI** to return to the normal mode.

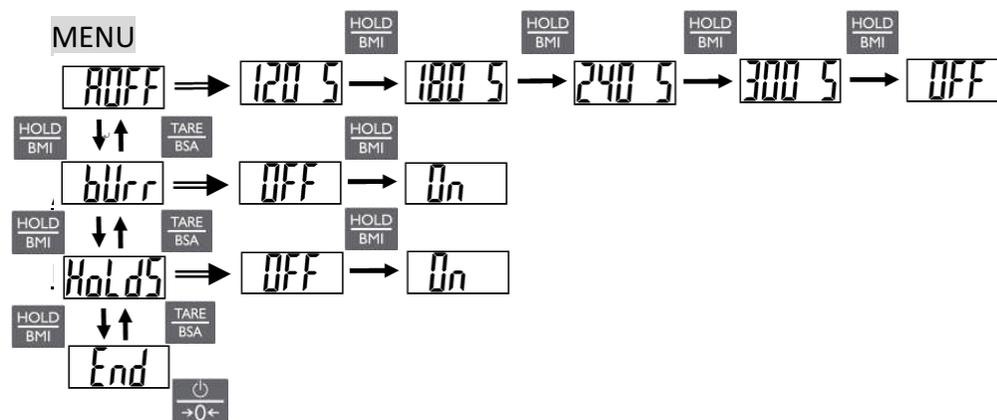
SETTING

1. Switch on the scale.
2. Press **TARE BSA** key and hold for 6 seconds to enable setting mode.
3. LCD shows "SETUP" first and then "A.OFF" appears.

HOLD BMI ↓ Switch between modes and menu

TARE BSA ↑ Reverse switch between modes and menu

→0← → Confirm setting.



A.OFF Set auto-off timer between 120/180/240/300/off

bUrr Set buzzer on and off

HoLds Set HOLD function release after unload weight ON and OFF.

Note

Confirm **End** in the menu to save all settings.