

P2709 Interviewer Measurements

PROTOCOL FOR TAKING HEIGHT MEASUREMENT

A. THE EQUIPMENT

You are provided with a portable stadiometer. It is a collapsible device with a sliding head plate, a base plate and three connecting rods marked with a measuring scale.

Please take great care of this equipment. It is delicate and expensive. Particular care needs to be paid when assembling and dismantling the stadiometer and when carrying repacking it in the box provided.

- Do not bend the head or base plate
- Do not bend the rods
- Do not drop it and be careful not to knock the corners of the rods or base plate pin
- Assemble and dismantle the stadiometer slowly and carefully

The stadiometer will be sent to you in a special cardboard box. Always store the stadiometer in the box when it is not in use and always pack the stadiometer carefully in the box whenever you are sending it on by courier. Inside the box with the stadiometer is a special bag that you should use for carrying the stadiometer around when you are out on assignment.

If you have any problems with your stadiometer, report these to Brentwood immediately. Do not attempt measurements with a stadiometer that is broken or damaged.

The rods

There are three rods marked with a measuring scale divided into centimetres and then further subdivided into millimetres. (If you are not familiar with the metric system note that there are ten millimetres in a centimetre and that one hundred centimetres make a metre). The rods are made of aluminium and you must avoid putting any kind of pressure on them which could cause them to bend. Be very careful not to damage the corners of the rods as this will prevent them from fitting together properly and will lead to a loss of accuracy in the measurements.

The base plate

Be careful not to damage the corners of the base plate as this could lead to a loss of accuracy in the measurements.

Protruding from the base plate (see diagram overleaf) is a pin onto which you attach the rods in order to assemble the stadiometer. Damage to the corners of this pin may mean that the rods do not stand at the correct angle to the base plate when the stadiometer is assembled and the measurements could be affected.

The head plate

There are two parts to the head plate; the blade and the cuff. The blade is the part that rests on the respondent's head while the measurement is taken and the cuff is the part of the head plate that slips over the measurement rods and slides up and down the rods. The whole unit is made of plastic and will snap if subjected to excessive pressure. Grasp the head plate by the cuff whenever you are moving the headplate up or down the rods, this will prevent any unnecessary pressure being applied to the blade which may cause it to break.

Assembling the stadiometer

You will receive your stadiometer with the three rods banded together and the head plate attached to the pin so that the blade lies flat on the base plate. Do not remove the head plate from this pin.

Note that the pin on the base plate and the rods are numbered to guide you through the stages of assembly. (There is also a number engraved onto the side of the rods, this is the serial number of the stadiometer). The stages are as follows:

1. Lie the base plate flat on the floor area where you are to conduct the measurements.
2. Take the rod marked number 2. Making sure the yellow measuring scale is on the right hand side of the rod as look at the stadiometer face on, place rod 2 onto the base plate pin. It should fit snugly without you having to use force.
3. Take the rod marked number 3. Again make sure that the yellow measuring scale connects with the scale on rod 2 and that the numbers run on from one another. (If they do not check that you have the correct rod). Put this rod onto rod number 2 in the same way you put rod 2 onto the base plate pin.
4. Take the remaining rod and put it onto rod 3.

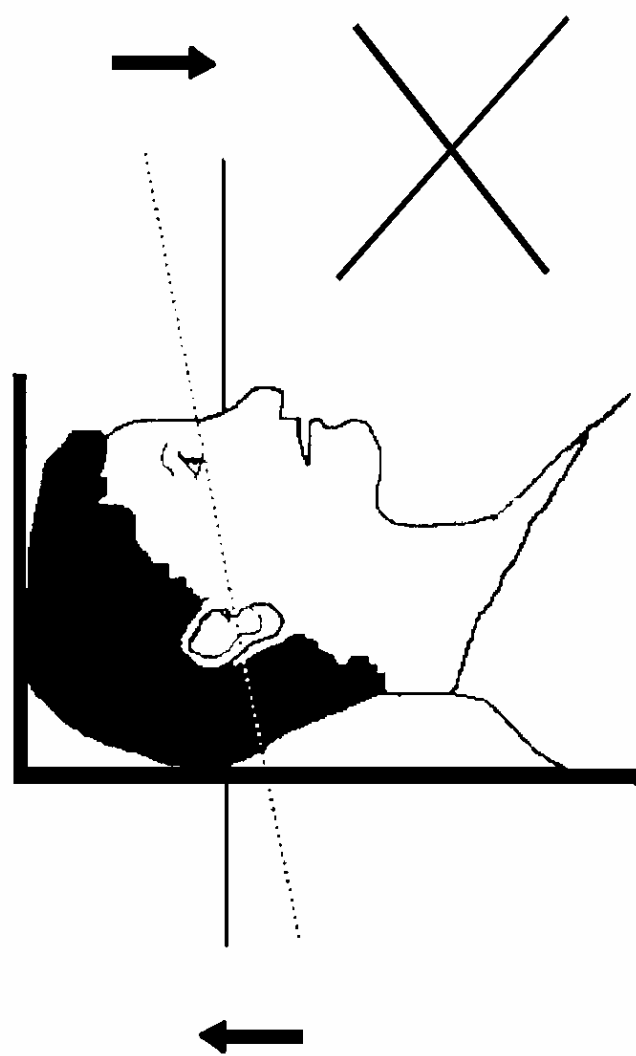
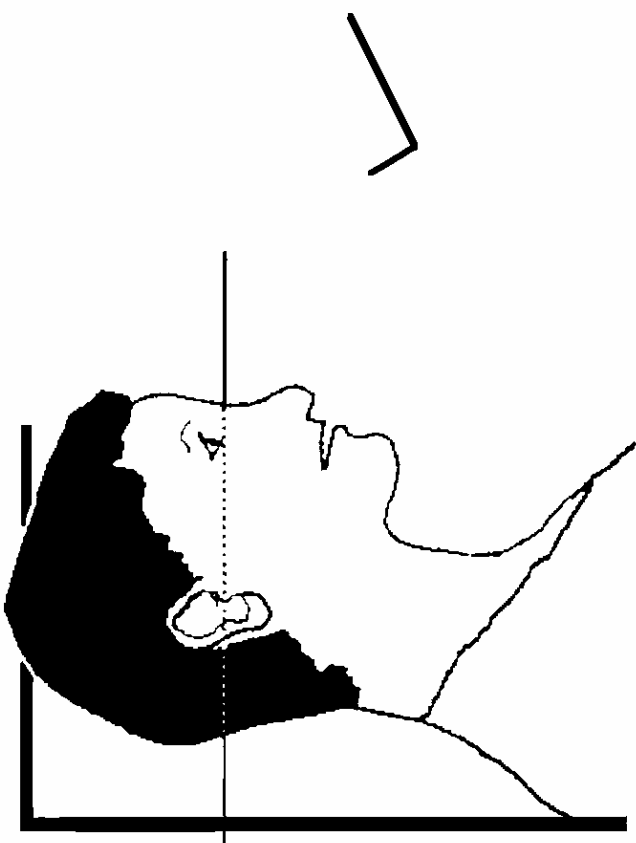
Dismantling the stadiometer

Follow these rules:-

1. Before you begin to dismantle the stadiometer you must remember to lower the head plate to its lowest position, so that the blade is lying flat against the base plate
2. Remove one rod at a time

B. THE PROTOCOL – RESPONDENTS AGED 16+

1. Ask the respondent to remove their shoes in order to obtain a measurement that is as accurate as possible.
2. Assemble the stadiometer and raise the headplate to allow sufficient room for the respondent to stand underneath it. Double check that you have assembled the stadiometer correctly.
3. The respondent should stand with their feet flat on the centre of the base plate, feet together and heels against the rod. The respondent's back should be as straight as possible, preferably against the rod but NOT leaning on it. They should have their arms hanging loosely by their sides. They should be facing forwards.
4. Move the respondent's head so that the Frankfort Plane is in a horizontal position (i.e. parallel to the floor). The Frankfort Plane is an imaginary line passing through the external ear canal and across the top of the lower bone of the eye socket, immediately under the eye (see diagram). This position is important if an accurate reading is to be obtained. An additional check is to ensure that the measuring arm rests on the crown of the head, i.e. the top back half. To make sure that the Frankfort Plane is horizontal, you can use the Frankfort Plane Card to line up the bottom of the eye socket with the flap of skin on the ear. The Frankfort Plane is horizontal when the card is parallel to the stadiometer arm.
5. Instruct the respondent to keep their eyes focused on a point straight ahead and to breathe in deeply. It can be difficult to determine whether the stadiometer headplate is resting on the respondent's head. If so, ask the respondent to tell you when s/he feels it touching their head by raising a hand.



6. Ask the respondent to step forwards. If the measurement has been done correctly the respondent will be able to step off the stadiometer without ducking their head. Make sure that the head plate does not move when the respondent does this.
7. Look at the bottom edge of the head plate cuff. There is a green arrowhead pointing to the measuring scale. Take the reading from this point and record the respondent's height in centimetres and millimetres, that is in the form 123.4, at the question *Height*. You may at this time record the respondent's height onto their Measurement Record Card and at the question *MbookHt* you will be asked to check that you have done so. At that point the computer will display the recorded height in both centimetres and in feet and inches. At *RelHite* you will be asked to code whether the measurement you obtained was reliable or unreliable.
8. Height must be recorded in centimetres and millimetres, e.g. 176.5 cms. If a measurement falls between two **millimetres**, it should be recorded to the **nearest even millimetre**. E.g., if respondent's height is between 176.4 and 176.5 cms, you should round it down to 176.4. Likewise, if a respondent's height is between 176.5 and 176.6 cms, you should round it up to 176.6 cms.
9. Push the head plate high enough to avoid any member of the household hitting their head against it when getting ready to be measured.

C. THE PROTOCOL – RESPONDENTS AGED 2-15

The protocol for measuring children differs slightly to that for adults. You must get the co-operation and verbal consent of the child's parent(s) or legal guardian. You will need their assistance in order to carry out the protocol, and children are much more likely to be co-operative themselves if another adult member is involved in the measurement. If possible measure children last so that they can see what is going on before they are measured themselves.

Children's bodies are much more elastic than those of adults. Unlike adults they will need your help in order to stretch to their fullest height. This is done by stretching them. This is essential in order to get an accurate measurement. It causes no pain and simply helps support the child while they stretch to their tallest height.

It is important that you practice these measurement techniques on any young children among your family or friends. The more practice you get before going into the field the better your technique will be.

1. In addition to removing their shoes, children should remove their socks as well. This is not because the socks affect the measurement. It is so that you can make sure that children don't lift their heels off of the base plate. (See 3 below).
2. Assemble the stadiometer and raise the head plate to allow sufficient room for the child to stand underneath it.
3. The child should stand with their feet flat on the centre of the base plate, feet together and heels against the rod. The child's back should be as straight as possible, preferably against the rod, and their arms hanging loosely by their sides. They should be facing forwards.
4. Place the measuring arm just above the child's head.
5. Move the child's head so that the Frankfort Plane is in a horizontal position (see diagram). This position is as important when measuring children as it is when measuring adults if the

measurements are to be accurate. To make sure that the Frankfort Plane is horizontal, you can use the Frankfort Plane Card to line up the bottom of the eye socket with the flap of skin on the ear. The Frankfort Plane is horizontal when the card is parallel to the stadiometer arm.

6. Explain to the child and their parent(s) or guardian that you need to support the head when taking the measurement, in order to obtain the child's full height. You must obtain verbal consent from both the child and their parent(s) or guardian before doing this.
7. Once you have obtained verbal consent, cup the child's head in your hands, placing the heels of your palms either side of the chin, with your thumbs just in front of the ears, and your fingers going round towards the back of the neck. (See diagram).
8. Firmly but gently, apply upward pressure lifting the child's head upwards towards the stadiometer headplate and thus stretching the child to their maximum height. Avoid jerky movements, perform the procedure smoothly and take care not to tilt the head at an angle: you must keep it in the Frankfort plane. Explain what you are doing and tell the child that you want them to stand up straight and tall but not to move their head or stand on their tip-toes.
9. Ask the Catering Unit member who is helping you to lower the headplate down gently onto the child's head. Make sure that the plate touches the skull and that it is not pressing down too hard.
10. Still holding the child's head, relieve traction and allow the child to stand relaxed. If the measurement has been done properly the child should be able to step off the stadiometer without ducking their head. Make sure that the child does not knock the head plate as they step off.
11. Read the height value in metric units to the nearest millimetre and enter the reading into the computer at the question "Height." At the question "MbookHt" you will be asked to check that you have entered the child's height onto their Measurement Record Card. At that point the computer will display the recorded height in both centimetres and in feet and inches.

D. HEIGHT REFUSED, NOT ATTEMPTED OR ATTEMPTED BUT NOT OBTAINED

At *RespHts* you are asked to code whether the measurement was taken, refused, attempted but not obtained or not attempted. If for any reason you cannot get a height measurement, enter the appropriate code at this question and you will automatically be routed to the relevant follow up questions (*ResNHt* and *NoHtBC* which will allow you to say why no measurement was obtained).

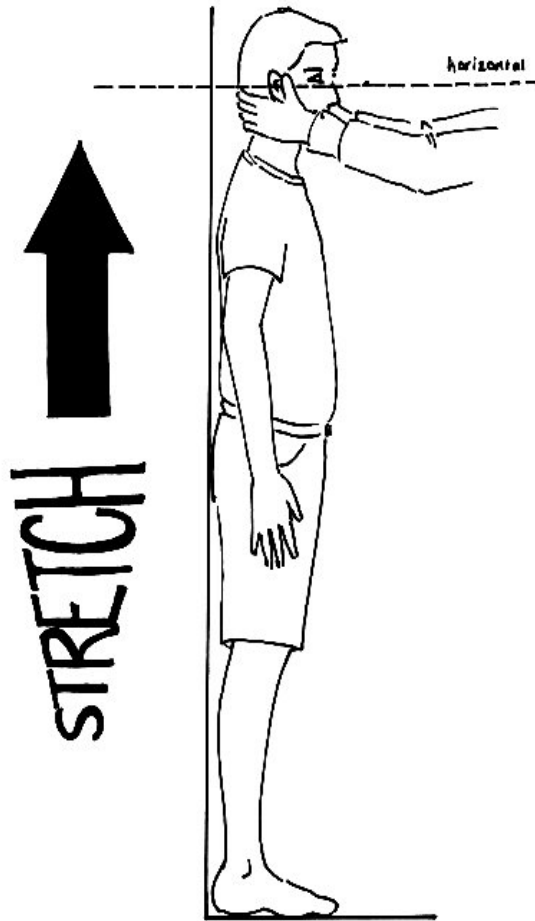
E. ADDITIONAL POINTS - ALL RESPONDENTS

1. If the respondent cannot stand upright with their back against the stadiometer and their heels against the rod (eg those with protruding bottoms) then give priority to standing upright.
2. If the respondent has a hair style which stands well above the top of their head, (or is wearing a turban), bring the headplate down until it touches the hair/turban. If the respondent is wearing a turban, or other religious headwear, explain to them what you want to do first and be guided by the respondent. Never touch religious headwear without obtaining consent from the respondent first. With some hairstyles you can compress the hair to touch the head. If you cannot lower the headplate to touch the head, and think that this will lead to an unreliable measure, record this at question *RelHite*. If it is a hairstyle that can be altered, eg a bun, if possible ask the respondent to change/undo it.
3. If the respondent is tall, it can be difficult to line up the Frankfort Plane in the way described. When you think that the plane is horizontal, take one step back to check from a short distance that this is the case.

PLEASE NOTE: as with HSE, the child head stretch in NDNS is different to that used on Child of the New Century. Please use the HSE stretch when measuring children for NDNS interviews.

MEASUREMENT RECORD CARD

When you have taken the respondent's height and weight, offer the respondent a record of his/her measurements. Make out a Measurement Record Card and give it to the respondent. There is room on the Measurement Record Card to write height and weight in both metric and imperial units if the respondent wants both. The computer does the conversion for you. The computer will also calculate the BMI, which you can write on the measurement record card. Please remember to hand over the BMI leaflet as well.



PROTOCOL FOR TAKING WEIGHT MEASUREMENTS

A. THE EQUIPMENT

There are several different types of scales used on this survey. They differ in the type of power supply they use, where the weight is displayed and the way the scales are turned on. Before starting any interviewing check which scales you have been given and that you know how they operate. The most common types are:

Soehnle Scales

- These scales display the weight in a window on the scales.
- The Soehnle scales are turned on by pressing the top of the scale (eg with your foot). There is no switch to turn the scales off, they turn off automatically.
- The scales take 1 x 9v rectangular MN1604 6LR61 batteries.

Seca 850

- These scales display the weight in a window on the scales.
- The Seca 850 is switched on by pressing the top of the scales (e.g. with your foot). There is no switch to turn the scales off, they turn off automatically.
- The scales take 4 x 1.5v AA batteries/1 x 9v rectangular MN1604 6LR61.

Seca 870

- These scales display the weight in a window on the scales.
- The Seca 870 is switched on by briefly covering the solar cell (for no more than one second). The solar cell is on the right hand side of the weight display panel. **NB** You may experience difficulties switching the scales on if there is insufficient light for the solar cell. Make sure that the room is well lit.
- The scales have an fixed battery which cannot be removed.

Tanita THD-305

- These scales display the weight in a window on the scales.
- The Tanita is switched on by pressing the button on the bottom right hand corner of the scales. The scales will automatically switch off after a few seconds.
- The scales take 4 x 1.5v AA batteries.

**When you are storing the scales or sending them through the post please make sure you remove the battery to stop the scales turning themselves on.
(This does not apply to the Seca 870 scales)**

Batteries (Soehnle, Seca 850 and Tanita)

It should not be necessary to have to replace the batteries, but always ensure that you have some spare batteries with you in case this happens. If you need to change the battery, please buy one and claim for it. The batteries used are commonly available.

The battery compartment is on the bottom of the scales. When you receive your scales you will need to reconnect the battery. Before going out to work, reconnect the battery and check that the scales work. If they do not, check that the battery is connected properly and try new batteries. If they do still not work, report the fault to your Area Manager/Health Manager or directly to John Lightfoot at Brentwood.

The reading is only in metric units, but as for height, the computer provides a conversion. If the respondent would like to know their weight in stones and pounds you will be able to tell them when the computer has done the calculation. You also have a conversion chart on the back of the coding booklet.

WARNING

The scales have an inbuilt memory which stores the weight for 10 minutes. If during this time you weigh another object that differs in weight by less than 500 grams (about 1lb), the stored weight will be displayed and not the weight that is being measured. This means that if you weigh someone else during this time, you could be given the wrong reading for the second person.

So if you get an identical reading for a second person, make sure that the memory has been cleared. Clear the memory from the last reading by weighing an object that is more than 500 grams lighter (ie a pile of books, your briefcase or even the stadiometer). You will then get the correct weight when you weigh the second respondent.

You will only need to clear the memory in this way if:

- a) You have to have a second or subsequent attempt at measuring the same person
- b) Two respondents appear to be of a very similar weight
- c) Your reading for a respondent in a Catering Unit is identical to the reading for another respondent in the Catering Unit whom you have just weighed.

If you have any problems with your scales, report these to Brentwood immediately. Do not attempt measurements with scales that are broken or damaged.

B. THE PROTOCOL

1. Turn the display on by using the appropriate method for the scales. The readout should display 888.8 (1888 for the Seca 870) momentarily. If this is not displayed check the batteries, if this is not the cause you will need to report the problem to the *National Centre* at Brentwood. While the scales read 888.8 do not attempt to weigh anyone.
2. Ask the respondent to remove shoes, heavy outer garments such as jackets and cardigans, heavy jewellery, loose change and keys.
3. If necessary, turn the scales on again. Wait for a display of 0.0 before the respondent stands on the scales.
4. Ask the respondent to stand with their feet together in the centre and their heels against the back edge of the scales. Arms should be hanging loosely at their sides and head facing forward. Ensure that they keep looking ahead - it may be tempting

for the respondent to look down at their weight reading. Ask them not to do this and assure them that you will tell them their weight afterwards if they want to know.

The posture of the respondent is important. If they stand to one side, look down, or do not otherwise have their weight evenly spread, it can affect the reading.

5. The scales will take a short while to stabilise and will read 'C' until they have done so. (The Seca 870 displays alternate flashing lines in the display window. With the Tanita scales the weight will flash on and off when stabilised). If the respondent moves excessively while the scales are stabilising you may get a false reading. If you think this is the case reweigh, but first ensure that you have erased the memory.
6. The scales have been calibrated in kilograms and 100 gram units (0.1 kg). Record the reading into the computer at the question *Weight* before the respondent steps off the scales. At question *MBookWt* you will be asked to check that you have entered the respondent's weight onto their Measurement Record Card. At that point the computer will display the measured weight in both kilos and in stones and pounds.

WARNING

The maximum weight registering accurately on the scales is 130kg (20½ stone). (The Seca 870 can weigh up to a maximum of 150kg or 23 ½ stone). If you think the respondent exceeds this limit code them as "Weight not attempted" at *RespWts*. The computer will display a question asking them for an estimate. Do not attempt to weigh them.

Additional Points

Pregnant women should not have their weight measured since they are *not* eligible for interview. For women respondents aged 16-49, the computer displays a question asking them whether they are pregnant and then enforces the appropriate routing. If you have a respondent aged under 16 who is obviously pregnant, code as "Weight not attempted" at *RespWts* and "Other - specify" at *NoWtBC*.

Weighing Children

You must get the co-operation of an adult Catering Unit member. This will help the child to relax and children, especially small children are much more likely to be co-operative themselves if an adult known to them is involved in the procedure.

Children wearing nappies should be wearing a dry disposable. If the nappy is wet, please ask the parent to change it for a dry one and explain that the wetness of the nappy will affect the weight measurement.

In most cases it will be possible to measure children's weight following the protocol set out for adults. However, if accurate readings are to be obtained, it is very important that respondents stand still. Ask the child to stand perfectly still - "Be a statue." For very young children who are unable to stand unaided or small children who find this difficult you will need to alter the protocol and first weigh an adult then weigh that adult holding the child as follows:-

- a) Code as "Weight obtained (child held by adult)" at *RespWts*
- b) Weigh the adult as normal following the protocol as set out above. Enter this weight into the computer at *WtAd1*.

- c) Weigh the adult and child together and enter this into the computer at *WtChA1*.

The computer will then calculate the weight of the child and you will be asked to check that you have recorded the weight onto the child's Measurement Record Card at *MBookWt*. Again the computer will give the weight in both kilos and in stones and pounds.

Weight refused, not attempted or attempted but not obtained

At *RespWts* you are asked to code whether the measurement was taken, refused, attempted but not obtained or not attempted. If for any reason you cannot get a weight measurement, enter the appropriate code at this question and you will automatically be routed to the relevant follow up questions (*ResNWt* and *NoWtBC*) which will allow you to say why no measurement was obtained.

MEASUREMENT RECORD CARD

When you have taken the respondent's height and weight, offer the respondent a record of his/her measurements. Make out a Measurement Record Card and give it to the respondent. There is room on the Measurement Record Card to write height and weight in both metric and imperial units if the respondent wants both. The computer does the conversion for you. There is space to write in the respondent's Body Mass Index as well (which the computer will calculate for you). Remember to give respondents the BMI leaflet if you give them their BMI.