

# Standard Operating Procedures: Adult Anthropometry

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# Acknowledgements

The Life Study Standard Operating Procedures (SOPs) for Adult Anthropometry were written by Dr Jane Williams and Professor Jonathan Wells, Childhood Nutrition Research Centre, UCL Institute of Child Health, and Dr Suzanne Walton, Life Course Epidemiology and Biostatistics, UCL Institute of Child Health.

The Life Study Scientific Steering Committee is responsible for approving the final edited content of this document. They and the editors thank Professor Wells and Dr Williams for giving generously of their time and expertise in assisting with the development of the Life Study SOPs for Adult Anthropometry which are based on the "Childhood Nutrition Research Centre, Standard Operating Procedure for adult / child anthropometry, March 2013", developed over many years, by staff working in the Centre.

The Life Study SOPs for Adult Anthropometry do not constitute guidelines, rather they reflect intended practice in the Life Study Centres. For anthropometry guidelines, please contact Professor Jonathan Wells: jonathan.wells@ucl.ac.uk

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# 1 Background

Initial discussions regarding adult anthropometry measurements took place in 2012, in the Life Study Scientific Protocol Development Group and Scientific Working Groups. Consideration was given to potential research questions that could be answered by Life Study, and also the anthropometry measurements included in other cohort studies.

The Life Study Scientific Steering Committee was responsible for overall decision making and for approval of the final Life Study scientific protocol. This included making decisions as to which assessments, measurements and observations were included for participants attending the Life Study Centres.

The Life Study Standard Operating Procedures (SOPs) for Adult Anthropometry are based on the "Childhood Nutrition Research Centre, Standard Operating Procedure for adult / child anthropometry, March 2013." The Life Study team was in addition given access to anthropometry SOPs from the Millennium Cohort Study, the Avon Longitudinal Study of Parents and Children, Children of the Children of the 90's Study, and from NatCen Social Research.

Work to develop the Life Study SOPs commenced in 2013, prior to the initial Life Study pilot for the pregnancy component. NatCen Social Research conducted this pilot and their staff were involved in the initial development of the SOPs.

Members of the Life Study team based at UCL Institute of Child Health gave feedback on draft documents, sourced equipment, tested data capture mechanisms and liaised with external suppliers regarding the specification and development of data capture systems.

Staff in the first Life Study Centre based in the Barking Havering and Redbridge University Hospitals NHS Trust, gave feedback on their experiences in conducting these measurements with participants. This feedback was incorporated in subsequent versions of the SOPs.

The SOPs presented in this document are those which were in use when funding for Life Study was withdrawn in October 2015.



# 2 Summary of measurements

	Pregnancy visit	6 month visit	12 month visit
Mother	Sitting height Height Weight Bioelectrical Impedance Analysis Triceps and subscapular skinfolds		Weight Bioelectrical Impedance Analysis Waist circumference Subscapular skinfolds
Partner	Height Weight Bioelectrical Impedance Analysis Waist circumference Triceps and subscapular skinfolds		

# 3 Sitting Height

## 3.1 Introduction

Sitting height may also be measured, as well as standing height, to get an idea of body proportions, i.e. the length of the legs relative to the body trunk. Although both trunk and leg length reflect conditions in childhood as well as genetic factors, the length of the leg is thought to be a better indication of early life conditions (nutrition) affecting growth.

# 3.2 Inclusion criteria

Mothers - pregnancy visit

## 3.3 Exclusion Criteria

Those who are physically unable to sit up straight.



# 3.4 Equipment

- Seca 264 or 274 Wireless Stadiometer (Seca 264 is wall mounted, Seca 274 is free standing)<sup>1</sup>
- Stool / bench (with flat surface)<sup>2</sup>
- Metal retractable measuring tape
- Office DEPOT adjustable footrest (or similar)
- Antibacterial surface wipes





#### 3.5 Procedure

- If using the Seca 274, position the back of the stadiometer against a wall (so that it is not tipped backwards with the participant leaning against it). Position the stool / bench over the foot plate of the stadiometer (so that the participant can sit against the backplate of the stadiometer).
- 2 For this measurement the distance between the height of the top of the bench and the top of the foot plate needs to be known. This needs to be measured accurately and recorded in the Anthropometry Survey so that it can be subtracted from the

<sup>&</sup>lt;sup>1</sup> Image taken from: <a href="http://www.seca.com">http://www.seca.com</a></a>
<sup>2</sup> Image taken from: <a href="http://www.ikea.com">http://www.ikea.com</a>



height obtained. Pull the bench out slightly from the back of the stadiometer, place the end of the metal retractable measuring tape on the upper surface of the foot plate. Extend the tape to the level of the top of the bench (i.e. the level at which the participant will sit) and record this to the nearest 0.1 cm. (This may be easier for two people to do). This only needs to be measured at the start of each day or if any changes are made e.g. to level the stadiometer. After measuring, reposition the bench so that it is just touching the back of the stadiometer (the bench should not be putting any pressure against the back of the stadiometer).

- 3 Ask the participant to remove outdoor clothing, and any hair ornaments (e.g. large hair grips; head bangs, pony tail holders etc.) that will interfere with the measurement. Do not ask participants to remove headscarves, turbans or hairstyles that are worn for religious or cultural reasons.
- 4 Press the start key of the head slide, "----" appears on the display.
- 5 Keep the brake button pressed and move the head slide until a length value appears in the display window.
- 6 Hold down the brake button and push the head slide up far enough so that the participant can get under it comfortably.
- Ask the participant to sit on the stool / bench under the head slide, sitting as straight as possible with their feet together. Their back, shoulders and head, should be against the backboard of the stadiometer. Ideally their feet should be supported with their thighs horizontal (this is easier to asses if you stand back to look at their positioning from a distance). If the participant's feet do not reach the floor, use the adjustable footrest to provide support to the feet so that the thighs are horizontal. (N.B. the footrest has three height positions and instructions for moving between the positions are on the front of the footrest.)

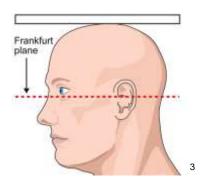




Picture showing desired posture of particiant

- 8 Hold down the brake button and push the head slide down until it is just above the participant's head.
- 9 Position the participant's head in the horizontal Frankfurt plane.
- 10 The Frankfurt Plane is an imaginary line passing through the upper margin of the external ear canal and across the top of the lower bone of the eye socket, immediately under the eye. This position is important if an accurate reading is to be obtained. An additional check is to ensure that the head slide rests on the crown of the head, i.e. the top back half.





- 11 Once the Frankfurt plane position is achieved, instruct the subject to keep their eyes focused on a point straight ahead, and without moving their head position, to breathe in and then out. Keep the brake button pressed and correct the position of the head slide bringing it gently down onto the participant's head (as they breathe out) compressing the hair. If the participant is wearing a turban, headscarf or has a hairstyle that makes the measurement difficult, you will have to do what seems appropriate, but if possible try to bring the head slide onto the participant's head. (In the Anthropometry Survey you will be asked to record if there were any difficulties in taking the measurement).
- 12 You may activate the hold function so that the measured value continues to be displayed after the measurement is complete. This allows you to move the head slide before noting down the value. Briefly press the arrow key (hold/zero), after you have positioned the head slide. The message "HOLD" is displayed. The head slide can now be moved without the measured value displayed changing. To disable the hold function briefly press the arrow key (hold/zero) again. The "HOLD" message is no longer displayed.
- 13 Read off the height measurement on the head slide display (measurements are displayed / recorded to the nearest 0.1 cm) and record this in the Anthropometry Survey.
- 14 Ask the participant to stand up and then sit down again.
- 15 Repeat the measurement and record the second value in the Administrative Survey.
- 16 If the two readings differ by more than 0.4 cm, you need to take a third reading. If you are unsure if the difference between the two measurements is greater than 0.4

<sup>&</sup>lt;sup>3</sup> Image taken from: <a href="https://images.google.com/">https://images.google.com/</a>



- cm, the Anthropometry Survey will automatically calculate the difference and prompt you to take a third measurement if necessary.
- 17 Record in the Anthropometry Survey the difference between the height of the stool surface and the top of the footplate.
- 18 When finished, wipe the head plate with an antibacterial surface wipes and allow drying for 30 seconds.

## 3.6 Feedback

No feedback will be given.



# 4 Height

#### 4.1 Introduction

The height measurement is a measure of anthropometry, which provides information on the size and proportions of the human body. When taken in conjunction with other anthropometric measures it is an indicator of, and can predict the nutritional status, performance, health and survival of a population and can thus be used to determine public health policies. Moreover, height is often used as an indicator of people's quality of life. This is based on evidence that final height is a combination of genetic and environmental factors, where a taller population is indicative of a better quality of life due to access to health services and nutrition.

## 4.2 Inclusion criteria

- Mothers pregnancy visit
- Partners partner's visit

#### 4.3 Exclusion Criteria

All those who are physically unable to stand up straight.

# 4.4 Equipment

- Seca 264 or 274 Wireless Stadiometer (Seca 264 is wall mounted, Seca 274 is free standing)<sup>4</sup>
- Antibacterial surface wipes
- Step Stool



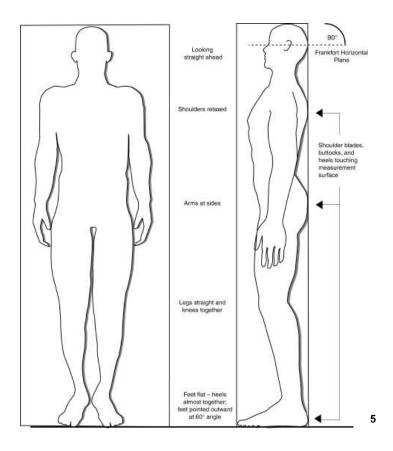
<sup>&</sup>lt;sup>4</sup> Image taken from: <a href="http://www.seca.com">http://www.seca.com</a>



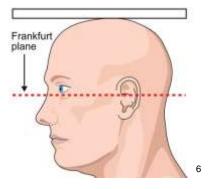
#### 4.5 Procedure

- 1 Ask the participant to remove outdoor clothing, shoes and any hair ornaments (e.g. large hair grips; head bands, pony tail holders etc) that will interfere with the measurement. Do not ask participants to remove headscarves, turbans or hairstyles that are worn for religious or cultural reasons.
- 2 Use the spirit level to check the scales are level. If not, adjust the feet so that it is level.
- 3 Press the start key of the head slide, "----" appears on the display.
- 4 Keep the brake button pressed and move the head slide until a length value appears in the display window.
- 5 Hold down the brake button and push the head slide up far enough so that the participant can get under it comfortably.
- Ask the participant to step under the head slide, standing as straight as possible with their feet together flat on the centre of the base plate, and heels against the heel stop. They should stand so that their weight is evenly distributed through both legs. Their back, shoulders, head, buttocks and calves should be positioned against the backboard of the stadiometer. (If it is not possible to have all the back, buttocks and calves in contact with the backboard make sure the participant is standing with an upright spine. Likewise, some may not be able to stand with their heels touching the heel stop. If so, make sure they are standing as straight as is realistically possible).
- 7 Hold down the brake button and push the head slide down until it is just above the participant's head.
- 8 Position the participant's head in the horizontal Frankfurt plane. (Shorter members of staff may need to use the step stool to stand on, so that they are in an appropriate position to be able to do this and read the height measurements taken.)





9 The Frankfurt Plane is an imaginary line passing through the upper margin of the external ear canal and across the top of the lower bone of the eye socket, immediately under the eye. This position is important if an accurate reading is to be obtained. An additional check is to ensure that the head slide rests on the crown of the head, i.e. the top back half.

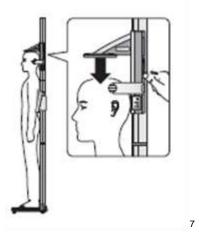


<sup>&</sup>lt;sup>5</sup> Image taken from: <a href="https://images.google.com/">https://images.google.com/</a>

<sup>&</sup>lt;sup>6</sup> Image taken from: <a href="https://images.google.com/">https://images.google.com/</a>



19 Once the Frankfurt plane position is achieved, instruct the subject to keep their eyes focused on a point straight ahead, and without moving their head position, to breathe in and then out. Keep the brake button pressed and correct the position of the head slide bringing it gently down onto the participant's head (as they breathe out) compressing the hair. If the participant is wearing a turban, headscarf or has a hairstyle that makes the measurement difficult, you will have to do what seems appropriate, but if possible try to bring the head slide onto the participant's head. (In the Anthropometry Survey you will be asked to record if there were any difficulties in taking the measurement).



- 10 You may activate the hold function so that the measured value continues to be displayed after the measurement is complete. This allows you to move the head slide before noting down the value. Briefly press the arrow key (hold/zero), after you have positioned the head slide. The message "HOLD" is displayed. The head slide can now be moved without the measured value displayed changing. To disable the hold function briefly press the arrow key (hold/zero) again. The "HOLD" message is no longer displayed.
- 11 Read off the height measurement on the head slide display (measurements are displayed / recorded to the nearest 0.1 cm) and record this in the Anthropometry Survey.

<sup>&</sup>lt;sup>7</sup> Image taken from Seca 274 manual



- 12 Turn on the Seca mBCA machine before you take a second height reading (as you will need to transmit the second measured height to that machine).
- 13 Repeat the measurement and record the second height value in the Anthropometry Survey. Then press "send and print" to send the second height reading to the Seca mBCA machine.
- 14 If the two height measurements differ by more than 0.4 cm, then a third reading needs to be taken. If you are unsure if the difference between the two measurements is greater than 0.4 cm, the Anthropometry Survey will automatically calculate the difference and prompt you to take a third measurement if necessary.
- 15 If a third reading is required take this, and then press "send and print", to send the third height reading to the Seca mBCA machine.
- 16 When finished, wipe the head plate with an antibacterial surface wipe and allow drying for 30 seconds.

# 4.6 Self-report of height (if measurement not possible)

- 1 If you are unable to measure a participant's height, ask them if they know how tall they are: "How tall are you without shoes?"
- 2 Record their self-reported height in the Anthropometry Survey.
- 3 If they tell you their height in feet and inches, use the table below (4.8 Height conversion chart imperial to metric) to convert this to a height in metres (and make a note of this, so that you can enter this into the Seca mBCA machine manually).

#### 4.7 Feedback

Participants will be given a feedback sheet which includes their height measurement.



# $4.8 \quad \text{Height conversion chart-imperial to metric} \\$

Imperial	Metric (m)	Imperial	Metric (m)
4 ft 6 in	1.372	5 ft 9 in	1.753
4 ft 6 ½ in	1.384	5 ft 9 ½ in	1.765
4 ft 7 in	1.397	5 ft 10 in	1.778
4 ft 7 ½ in	1.410	5 ft 10 ½ in	1.791
4 ft 8 in	1.422	5 ft 11 in	1.803
4 ft 8 ½ in	1.435	5 ft 11 ½ in	1.816
4 ft 9 in	1.448	6 ft 0 in	1.829
4 ft 9 ½ in	1.461	6 ft ½ in	1.842
4 ft 10 in	1.473	6 ft 1 in	1.854
4 ft 10 ½ in	1.486	6 ft 1 ½ in	1.867
4 ft 11 in	1.499	6 ft 2 in	1.880
4 ft 11 ½ in	1.511	6 ft 2 ½ in	1.892
5 ft 0 in	1.524	6 ft 3 in	1.905
5 ft ½ in	1.537	6 ft 3 ½ in	1.918
5 ft 1 in	1.549	6 ft 4 in	1.930
5 ft 1 ½ in	1.562	6 ft 4 ½ in	1.943
5 ft 2 in	1.575	6 ft 5 in	1.956
5 ft 2 ½ in	1.588	6 ft 5 ½ in	1.969
5 ft 3 in	1.600	6 ft 6 in	1.981
5 ft 3 ½ in	1.613	6 ft 6 ½ in	1.994
5 ft 4 in	1.626	6 ft 7 in	2.007
5 ft 4 ½ in	1.638	6 ft 7 ½ in	2.019
5 ft 5 in	1.651	6 ft 8 in	2.032
5 ft 5 ½ in	1.664	6 ft 8 ½ in	2.045
5 ft 6 in	1.676	6 ft 9 in	2.057
5 ft 6 ½ in	1.689	6 ft 9 ½ in	2.070
5 ft 7 in	1.702	6 ft 10 in	2.083
5 ft 7 ½ in	1.715	6 ft 10 ½ in	2.096
5 ft 8 in	1.727	6 ft 11 in	2.108
5 ft 8 ½ in	1.740	6 ft 11 ½ in	2.121
		7 ft 0 in	2.134



# 5 Weight and Bioelectrical Impedance Analysis

#### 5.1 Introduction

The weight measurement is an indicator of and can predict the nutritional status and health of a population. When used in conjunction with the height measurement it can be used to derive the Body Mass Index, a statistical measure used to determine if an individual's weight falls within a healthy range.

A person's body fat percentage is the total weight of the person's fat divided by the person's weight. Some regard the body fat percentage as a better measure of an individual's fitness level. Body fat is predicted by sending a weak electrical current around the body from one foot to the other.

#### 5.2 Inclusion criteria

- Mothers pregnancy visit
- Partners partner's visit
- Mothers 12 month visit

#### 5.3 Exclusion Criteria

- Those who are unable to stand
- Those fitted with electronic implants (such as a cardiac pace-maker or an internal defibrillator)
- Those who have an active prosthesis (e.g. electronically controlled prosthetic hand)
- Those connected to any portable electronic medical devices (such as ECG)

N.B. Anyone wearing thick tights who is unwilling to remove them for the measurement will not be able to have their bioelectrical impedance (BIA) measured.



# 5.4 Equipment

- SECA mBCA 515 scales. The scales measure up to 300kg (41 stone 4 pounds)8
- Antibacterial surface wipes



# 5.5 Preparing the participant

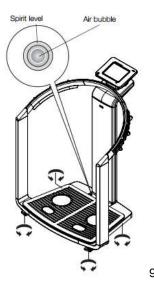
- 1 Explain to the participant that the electric current that is passed through the body during the measurement is very low and does not present any health risk. However, in isolated cases, very sensitive persons may feel a slight tingling sensation.
- 2 Ask the respondent to remove any heavy garments (e.g. jumpers) or items they may have in their pockets (e.g. keys, coins) and any mobile phones as these can affect the machine.
- 3 Ideally the respondent should not have done any vigorous exercise or consumed excessive food or drink prior to measurement. If they have, note this in the Anthropometry Survey.
- 4 Ask the participant to remove shoes, socks, or tights so that they have bare feet. (Thin tights may be okay left on.)
- 5 Ensure that the participant's hands are relatively clean.

<sup>8</sup> Image taken from: http://www.seca.com



## 5.6 Set up Procedures

At the start of each day or if the equipment is moved, make sure that the machine is level. The machine should be on firm even ground and only the foot screws should be in contact with the ground. The air bubble in the spirit level must be located in the centre of the circle. If not, adjust the foot screws to achieve this.



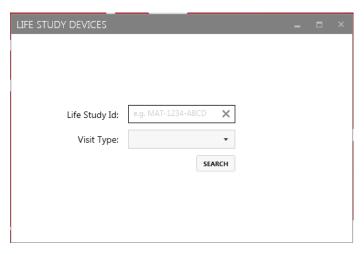
- 2 During the measurement process, ensure that the device is only touched by the participant who is currently being measured.
- 3 Ensure the device has nothing placed on it.
- 4 Switch on the scales using the ON/OFF button situated just below the touchscreen display: Give the ON/OFF button a brief press. The LED of the button briefly turns white. The internal PC of the device boots up. This takes several seconds. The weighing function is available if the LED of the button turns white continuously and the weight/height tab is shown in the display.
- Make sure that the PC in the room is switched on and the Desktop Device Application is running. To do this click on the shortcut as shown below.

<sup>&</sup>lt;sup>9</sup> Image taken from the manual for the SECA mBCA 515 scales

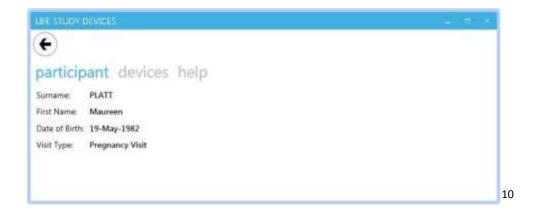




6 Enter the participant's ID and select the visit type using the dropdown box, then press "search".



7 The participant's details (name, date of birth, gender, and visit type) should appear on the screen. Check this is the correct participant. If not, use the arrow in the top left corner to take you back to the participant identification screen to re-enter the correct participant ID.

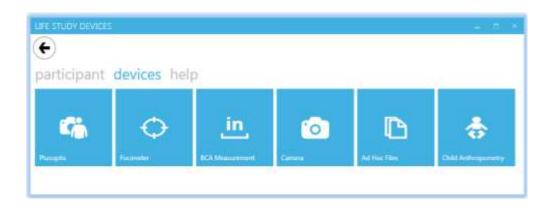


8 Select "devices" which appears above the participant details.

<sup>&</sup>lt;sup>10</sup> Note – all names and dates of birth relate to fictitious participants



9 Select "BCA measurement".



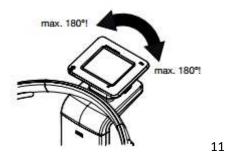
10 A configuration file will then appear on the screen, specific to the current participant and will interact with the Seca software.





# 5.7 Assign Participant Information on the Seca mBCA machine

1 Swivel the touch screen toward you (note it turns 180° either way from the starting position) so you are able to easily view the display.



2 Select the "patient" tab.



- 3 Press on the touch screen over the ID field and manually enter the relevant participant's ID. Then press enter.
- 4 Then press "search" at the bottom of the screen.
- 5 Enter your 5 digit Seca PIN Number and press enter.

<sup>&</sup>lt;sup>11</sup> Image taken from the manual for the SECA mBCA 515 scales

<sup>&</sup>lt;sup>12</sup> Image taken from the manual for the SECA mBCA 515 scales



- The participant's details should appear. Check these are correct. (Everyone will be shown as having a Caucasian ethnicity if participants question this, tell them we will take into account their true ethnicity when further analysis is done). If correct, press "confirm" and then press "continue".
- 7 (If the wrong participant details appear select "cancel" and re-enter the correct participant ID).
- 8 Press the "weight/height" tab on the right of the screen.

## 5.8 Determine the participant's height

- Follow the protocol for taking the participant's height using the Seca Wireless Stadiometer. Ensure you have wirelessly transmitted the participant's height reading to the BIA by pressing the 'send / print' button on the Seca Wireless Stadiometer.
- 2 If a participant's height cannot be measured, then enter their self-reported height.
- If for any reason the height was not transmitted electronically, enter the participant's height reading manually. If their height was measured twice, enter the second reading but if a third measurement was required, enter the third reading.
- To manually enter a height: ensure the weight/height tab is active. Press the Height field and the number keypad appears. Enter the participant's height in meters e.g. 1.800m. Note that the stadiometer measures in cm, so you will need to convert this to meters.

# 5.9 Determine the participant's weight

- Ask the participant to stand on the Seca mBCA, ensuring their weight is evenly distributed on both feet and the participant is looking straight ahead.
- 2 Check that the weight/height tab is still active.
- 3 The weight display will flash. The hold value is determined automatically.
- 4 Wait until the weight display and the hold value no longer flashes.



# 5.10 Measure the participant's bioelectric impedance

- 1 Activate the BIA tab. The bioelectric impedance analysis is available when the message "Self-test running" is no longer displayed.
- The module selection dialog window appears. Check the modules: Fluid, Function/Rehabilitation, Development/Growth and Raw Data for Impedance should be selected. Energy and Health Risk are not required and should not be selected.
- 3 Press the continue button. Make an entry stating whether the patient belongs to a group of people for whom a BIA measurement may not be performed. If you have not already done so in the Anthropometry Survey, go through this list with the participant and also check that there are no other exclusion criteria (as outlined on page 13). If you enter "Yes" the measurement is not performed. The weight/height tab is active again. If you enter "no" the procedure starts. A dialog window for positioning the participant appears.
- 4 Make sure that the patient is standing on the scale correctly:

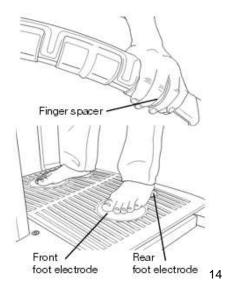
Test point	Characteristics	
Hands	<ul> <li>Hands must be clean</li> <li>Same pair of hand electrodes on left and right</li> <li>Select the pair of hand electrodes such that arms are stretched out but not strained</li> <li>Finger spacers of the hand electrodes between the middle finger and ring finger on both sides</li> </ul>	
Feet	Stand on device with bare feet Feet must be clean Heels on the rear foot electrodes Balls of feet on the front foot electrodes	
Position	Upright position  Knee slightly bent  Do not move during the measurement	

13

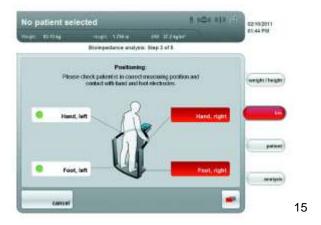
<sup>&</sup>lt;sup>13</sup> Image taken from the manual for the SECA mBCA 515 scales



5 Make sure that the participant is in correct contact with the hand and foot electrodes.



6 If the participant is not in correct contact with an electrode pair, the corresponding electrode indicator on the touchscreen display is red. If the participant is in correct contact with an electrode pair, the corresponding electrode indicator on the touchscreen display is green.



<sup>&</sup>lt;sup>14</sup> Image taken from the manual for the SECA mBCA 515 scales

<sup>&</sup>lt;sup>15</sup> Image taken from the manual for the SECA mBCA 515 scales



- 7 The hand electrode selection influences the measurement result. Note the pair of hand electrodes selected by the patient (top, middle or bottom) in Anthropometry Survey. (This means you can ensure that the participant can use the same pair of hand electrodes for future measurements.)
- 8 As soon as all electrode indicators on the touchscreen display are green, a countdown to the start of the measurement appears. The measurement starts automatically. The participant needs to stand still whilst the measurement is taken.
- 9 The remaining time of the measurement is displayed.



- 10 As soon as the measurement ends, the message "End of measurement appears".
- 11 (If the message "Electrode detection could not be performed successfully" appears this is likely to be because the participant's skin is too dry or too callous. If this message appears do not proceed.)
- 12 Press the "continue" button. If all data are available, the analysis tab is active.

<sup>&</sup>lt;sup>16</sup> Image taken from the manual for the SECA mBCA 515 scales



## 5.11 Save the data

- Once the analysis is complete, press "save". This will transmit and save the data to the Desktop Device Coordinator on the PC.
- 2 Go back to the Desktop Device Coordinator and wait for a total of 4 configuration files to appear and then press "submit".
- 3 When you are asked to confirm if you wish to stop collecting files and submit them, select "yes".



- 4 You should then get a screen to say "All files submitted successfully". Click "ok".
- 5 Press the arrow in the top left corner to exit that participant's session, then close the Desktop Device Coordinator.
- 6 Go back to the Seca mBCA machine and press "log out".



# 5.12 Cleaning and switching off

1 Use the antibacterial surface wipes to disinfect the electrode surfaces (for hands and feet) after every measurement.

#### DO NOT USE ANTIBACTERIAL WIPES ON THE TOUCH SCREEN DISPLAY.

- 2 To put the machine into standby, give the ON/OFF button a brief press. The LED of the button turns green. The touchscreen display goes out.
- 3 To switch the device off, give the ON/OFF button a long press. The LED of the button goes out. The device is switched off.
- 4 NB. When switching on from standby, the weight/height tab is active immediately. When switching on a device that is switched off, the internal PC boots up again. This takes several seconds.

#### Please note

The device automatically switches to standby if there are no entries on the device for 5 minutes. This has the following effects:

- Measured results and settings that have not been saved are lost.
- The user currently logged in is automatically logged out.
- The LED of the ON/OFF button turns green.
- The touchscreen display goes out.

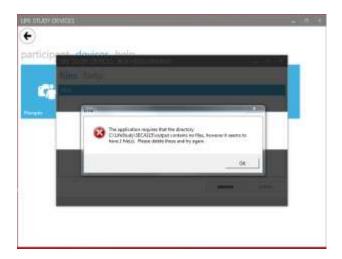
#### 5.13 Feedback

No feedback will be given.



# 5.14 Trouble Shooting – error message instead of configuration file

If a configuration file is created for a participant on the Desktop Device Coordinator and then for some reason, the BIA measurements are not completed, when you next log in and try to take that measurement from the same participant, you may get an error message as below, instead of a configuration file (see section 5.6):



- 1 On the PC go to the Windows Explorer icon to access files.
- 2 Under Computer select "System C".
- 3 Select "LifeStudy" folder.
- 4 Select "Seca115" folder.
- 5 Select "output" folder.
- Then delete the files that are there. (The only circumstance when this may not be appropriate is if the network goes down and the participant's data is not saved. In this circumstance it may be possible to save the data from these files. Ask for some IT support to do this).



# 5.15 Trouble Shooting – "Unable to establish connection"

If you get "Unable to establish connection" when the participant's details are transferred from the PC and you enter your PIN number to search for the participants details:

- 1 Go to the Patient tab on the main screen.
- 2 Press the button with the red icon at the bottom right.
- 3 A number of new buttons appear, press "Settings".
- 4 Choose "Admin" from the settings.
- 5 Enter the admin password ("00000" five zeros) and press <Enter>.
- 6 Now you are logged in as an administrator and you can see the administrator settings.
- 7 There is a drop-down on the top-right which by default should say "Region" and have a little triangle next to it.
- 8 Press the drop-down and choose "Ethernet Network".
- 9 Under the heading "DHCP (obtain IP, DNS and gateway automatically)", there are two buttons, one "On" and one "Off". Press the "On" button.
- 10 Press the "Apply" button to apply the new settings.
- 11 Once settings applied, press "Next"/"Exit" as necessary to go out of Admin settings.
- 12 Go back to the main protocol and try again.



# 6 Weight

#### 6.1 Introduction

The weight measurement is an indicator of and can predict the nutritional status and health of a population. When used in conjunction with the height measurement it can be used to derive the Body Mass Index, a statistical measure used to determine if an individual's weight falls within a healthy range.

#### 6.2 Inclusion Criteria

Most adults will have their weight measured at the same time as their bioelectrical impedance analysis (BIA). There are some adults, for example those with a pacemaker, who cannot have their BIA assessed and will not have their weight assessed as part of that process.

Therefore, for those who are excluded from the BIA assessment, take two measurements of weight using this protocol.

#### 6.3 Exclusion Criteria

Those who are physically unable to stand.

# 6.4 Equipment

- Seca 862 scales with Seca 862 power adaptor OR Seca 899 scales with Seca 899 power adaptor
- Antibacterial surface wipes

N.B. The scales weight up to 200kg (31½ stone).





# 6.5 Aligning and calibrating the scales

To initially align the scale (or if there are concerns it is not aligned properly), place it on a level surface:

- 1 Undo the locknuts using the four foot screws.
- 2 Align the scale by undoing the foot screws. The air bubble in the spirit level must be right in the centre of the circle.
- 3 Then re-tighten the locknuts.
- 4 Ensure that only the feet of the scale are in contact with the floor. The scale may not be in contact at any other point.

(See diagram in instruction manual for further information)

The scales have been calibrated by the manufacturer and should be serviced and recalibrated according to the manufacturer's instructions.

<sup>&</sup>lt;sup>17</sup> Image taken from: <a href="http://www.seca.com">http://www.seca.com</a>



#### 6.6 Procedure

- 1 Check that scales are on a level floor, away from any objects. Do not use on carpeted surfaces. Ensure that the mains power supply is turned on.
- 2 Ask the respondent to remove shoes, heavy outer garments such as jackets and cardigans, heavy jewellery, and to empty their pockets of all items.
- 3 Stand in front of the scales and holding the hand-held unit, switch the scales on by pressing the start button. SECA, 88.88.8, and 00.0 appear consecutively in the display. When the scale shows zero it is ready to use. Do not weigh anyone at this point.
- When the display reads 0.00 ask the respondent to stand on the scales with their feet together in the centre of the scales. The subject must keep still, head facing forwards and their arms should be hanging loosely with their hands at their sides. Having the subject stand in this position means that the most accurate weight measurement can be obtained.
- 5 Read the result off the digital display. If the respondent moves excessively while the scales are stabilising you may get a false reading. If you think this is the case reweigh the subject.
- 6 Record the measurement (to the nearest 0.01kg, i.e. exactly as shown on the display) in the Anthropometry Survey.
- 7 Repeat the measurement and also record this in the Anthropometry Survey.
- 8 If the respondent's weight exceeds 200kg, "STOP" appears in the display.
- 9 Switch off the scales by pressing the start key again.

#### 6.7 Feedback

Participants will be given a feedback sheet which includes their weight measurement.



# 7 Waist circumference

#### 7.1 Introduction

There has been increasing interest in the distribution of body fat as an important indicator of increased risk of cardiovascular disease. The waist circumference is a measure of the distribution of body fat (both subcutaneous and intra-abdominal). Analyses suggest that waist circumference is a predictor of health risk like the body mass index (weight relative to height).

#### 7.2 Inclusion criteria

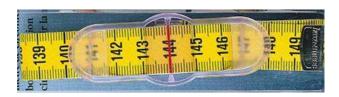
- Partners Partner's visit
- Mothers 12 month visit

#### 7.3 Exclusion Criteria

- Those who are physically unable to stand
- Those who have had abdominal surgery such as a colostomy or ileostomy where it would either be difficult to take a measurement or where a measurement obtained would be altered in some way.

# 7.4 Equipment

- Easy Check tapes<sup>18</sup>
- Antibacterial surface wipes



<sup>&</sup>lt;sup>18</sup> Image taken from: <a href="http://hoechstmass.com">http://hoechstmass.com</a>



## 7.5 Preparing the participant

Measurement of circumferences should not be over clothing unless it is very light and close fitting such as a swimming costume or bodysuit.

Explain to the respondent the importance of this measurement and that clothing can substantially affect the reading.

If possible the respondent needs to remove:

- All outer layers of clothing, such as jackets, heavy or baggy jumpers, cardigans and waistcoats
- Shoes with heels
- Tight garments intended to alter the shape of the body, such as corsets, lycra body suits and support tights/underwear
- Belts

Other garments can be undone or lifted up/down so that the waist can be seen and measured.

Explain to the respondent that the waist measurements are taken at different points to where the respondent might think their waist is. Therefore measurements may differ to those taken for clothing purposes.

Some participants may be wearing religious or other symbols which they cannot remove and which may affect the measurement. Do not embarrass or offend the respondent by asking them to remove such items. Make a note if the measurement is likely to be affected by this.

#### 7.6 Procedure

- 1 Explain to the participant what you are going to do.
- 2 The participant should stand straight with their abdomen relaxed, breathing normally, and arms hanging at their sides with their feet together.



- Pass the tape around the participant's waist. It may be easier to place the looped tape on the ground and ask the participant to step into it and you lift it up, rather than trying to pass the tape around them.
- 4 Stand to the side of the participant. Ask the participant to identify their umbilicus/belly button/navel. Ask the participant if you can touch them and then using your index and middle finger locate the position two finger widths above the level of the umbilicus. This is the level at which you should measure the waist circumference.



At the level identified, make sure that the tape is horizontal. (Occasionally, you may need two people to make sure the waist tape is horizontal. This is the case e.g. for especially large people, or where the area round the spine is slightly curved, so that the measurer cannot see the tape sufficiently on the far side of the body.)







- Once the tape is in position, stay to the side of the participant, then depending on your height and the height of the participant, you may find it easier to kneel to take the measurement.
- Ask the respondent to breathe out normally and to look straight ahead. This is to prevent the respondent from contracting their muscles or holding their breath. At the end of normal expiration (breath out), measure and record the waist circumference at this point with the tape horizontal and in contact with the skin (flat and not twisted) without compressing the waist.



- 8 The measurement is recorded to the nearest 0.1 cm. If the result falls between two millimetres, record to the nearest whole millimetre.
- 9 Record the measurement in the Anthropometry Survey.



- 10 Repeat the procedure to obtain a second waist circumference measurement and record this in the Anthropometry Survey.
- 11 Wipe the tape with the antibacterial surface wipes after use.

# 7.7 Feedback

Participants will be given a feedback sheet which includes their waist circumference measurement.



## 8 Skinfold thickness measurements

#### 8.1 Introduction

Around half the fat in the body is located directly beneath the skin (subcutaneous fat), and its thickness provides some indication of total body fat.

#### 8.2 Inclusion criteria

- Mother's pregnancy visit both triceps and subscapular skinfolds
- Partner's visit both triceps and subscapular skinfolds
- Mother's 12 month visit subscapular skinfolds only

#### 8.3 Exclusion Criteria

Do not measure skinfolds over skin which is broken, swollen, inflamed / infected or sore / sensitive – if appropriate measure on the other side of the body, otherwise exclude that site altogether.

### 8.4 Equipment

- Seca 212 measuring tape (Mid-Upper Arm Circumference measuring tape) or other appropriate measuring tape (e.g. tape for measuring waist circumference)
- The Holtain Tanner / Whitehouse Skinfold Caliper
- White Eyeliner pencil
- Antibacterial surface wipes (to clean the calipers)
- Non-alcohol wipe (to remove the eyeliner marks from the skin)

# 8.5 Calibrating the equipment

Always check the dial of the calipers start at zero and adjust if necessary.



#### 8.6 General Procedure

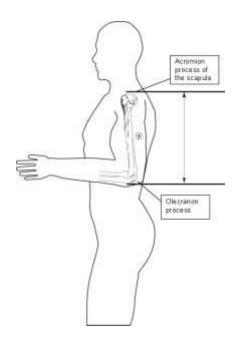
- You need to be able to see and access the participant's left arm and left shoulder blade ask them if they would be willing to remove clothing / take out their arm out from a sleeve / pull clothing up, so that you can take these measurements. (For the subscapular skinfolds, some women may need to move the back of their bra down a little; others may need to take their arm out of the shoulder strap.)
- 2 Use a white eyeliner pencil to mark the points to measure.
- Once the site has been located and marked, the thumb and forefinger of the left hand are used to elevate a fold of skin and subcutaneous fat about 1cm away from the measurement point. If necessary the skin can be lifted using both hands and then held by the left hand whilst measuring with the right.
- The thumb and finger must be far enough away from the point of measurement so that the fingers are not compressing the point of measurement and the skinfold is pulled away from the underlying muscles in order to form a fold with almost parallel skin surfaces. It may not be possible to achieve parallel sides when the skinfold is large. Care must be taken to only grasp skin and subcutaneous fat. The right hand is used to open the calipers and place them over the skinfold perpendicular (at right angles) to the long axis (length) of the fold, approximately half way between the top of the fold and the body surface.
- A reading is taken once the dial first slows to almost a stop. This should be around 3 seconds but never more than 4 seconds because if the calipers are left in position too long, particularly in obese subjects, they will start to compress the skinfold and give an inaccurate measurement.
- 6 Once a reading is taken release the calipers FIRST before releasing the fold held by the left hand.
- When taking a reading the operator's head should be positioned so as to avoid errors due to parallax. (This means that the operators head should be in a direct line with the dial on the caliper so that they can clearly see the exact position of the needle on the dial, to avoid inaccurate readings).
- 8 A measurement is recorded to the nearest 0.2 mm.
- 9 The measurement is repeated so that three values are obtained.

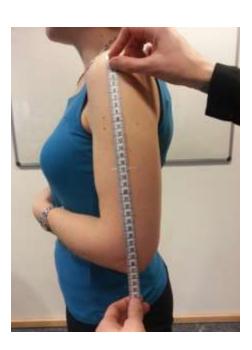


- 10 Record the measurements in the Anthropometry Survey.
- 11 Offer a non-alcohol wipe to the respondent to wipe off marks.
- 12 Wipe the calipers with an antibacterial surface wipe after use.

### 8.7 Procedure for Triceps Skinfold thickness (Left Arm)

- 1 The participant should be standing with the arm to be measured held across their body and at right angles.
- 2 Using the white eyeliner pencil mark the depression at the end of the acromion process (the tip of the shoulder).
- Find the olecranon process of the participant (the tip of the elbow) and mark this with the eyeliner pencil.
- 4 Measure the distance between the two points marked (the tip of the shoulder and the point of elbow).
- Divide this measurement in half and mark the point halfway between these anatomical landmarks (the level of the mid-upper arm) using the white eyeliner pencil.







- 6 The participant now stands straight with their arm straight and held loosely at the side
- 7 Make a mark at the back of the arm at the same level i.e. the mid-upper arm, then draw a horizontal line perpendicular (at right angles) to that line and directly over the humerus / upper arm bone.



The skinfold measurement is taken by gently pinching the skin and fat tissue immediately above this site and pulling it away from the underlying muscle.





9 The caliper is then placed at the exact level on the mid-upper arm plane.



10 The measurement is then repeated so that three values are obtained.

## 8.8 Procedure for Subscapular Skinfold thickness (Left Arm)

- 1 Subject stands straight with arms held loosely at the side.
- Find the angle / point where the upright edge of the shoulder blade meets the lower edge of the shoulder blade. If this is difficult to locate then gently take the left forearm and place behind the back, mark the point and then release the arm.





3 The fold is inclined at a downward angle of approximately 45° relative to the spine, and in the natural cleavage line of the skin, as shown in the figure.



4 The caliper is placed approximately 1 cm from the fingers of the left hand, perpendicular (at right angles) to the long axis of the skinfold.



The measurement is then repeated so that three values are obtained.

NB. Some people have skin on their back which is tightly tethered to the underlying tissues. If this is the case then the subscapular skinfold cannot be measured.

#### 8.9 Feedback

No feedback will be given.



# **Appendix 1 Participant feedback form: Mother Pregnancy visit**

Your pregnancy visit feedback		
Name:	Participant ID:	
Date of visit:		

Today you gave consent to take part in Life Study and for us to contact you again.

Thank you for taking part.

As part of Life Study, today you may have also:

- answered some questions about your health, pregnancy, lifestyle and diet, education and work, support from family and friends, and your neighbourhood
- had some measurements taken, including height, weight, body composition, and skinfold thickness
- had an eye test
- given small amounts of blood and urine.

Here are your results for some of the measurements we took today:

Measurement	Result
Height (metres)	
Weight (kg)	

Weight gain in pregnancy varies a great deal from woman to woman. How much weight you gain depends on your weight before you were pregnant. Because of this, we cannot comment on your current weight. If you are worried about your weight, we suggest you talk to your midwife or GP, or you can look at the NHS Website.



Partner feedback

# **Appendix 2 Participant feedback form: Partner visit**

- artifor roodbaok	
Name:	Participant ID:
Date of visit:	

Today you gave consent to take part in Life Study and for us to contact you again.

Thank you for taking part.

As part of Life Study, today you may have also:

- answered some questions about your health, lifestyle and diet, education and work, your partner's pregnancy, support from family and friends, and your neighbourhood
- had some measurements taken, including height, weight, body composition, waist circumference and skinfold thickness
- had an eye test
- given a small amount of blood, urine and saliva.

Here are your results for some of the measurements we took today:

Measurement	Result
Height (metres)	
Weight (kg)	
Waist size / circumference (cm)	
Body Mass Index or BMI	
(weight divided by height squared)	



For most men and women who are not pregnant, the following guidelines\* are applicable:

		Men	Women
Waist size /	ldeal	Less than 94	Less than 80
circumference (cm)	Higher risk of health problems	94 to 102	80 to 88
	Even higher risk of health problems	More than 102	More than 88
BMI**	Underweight	Less than 18.5	Less than 18.5
	Ideal	18.5 to 24.9	18.5 to 24.9
	Overweight	25.0 to 29.9	25.0 to 29.9
	Obese	30.0 to 39.9	30.0 to 39.9
	Very obese	More than 40	More than 40

<sup>\*</sup> These guidelines are provided by the NHS, for more information visit: http://www.nhs.uk/livewell/Pages/Livewellhub.aspx

If you are worried about your weight or BMI, we suggest you talk to your GP or you can look at the NHS Website.

<sup>\*\*</sup> Because muscle weighs more than fat, people with large amounts of muscle may be considered obese when actually they are a healthy weight.



# Appendix 3 Participant feedback form: Mother 12 month visit

# Mother feedback at the 12 month visit

Name:	Participant ID:
Date of visit:	

Thank you for taking part in Life Study.

As part of Life Study, today you may have:

- answered some questions about your baby's health, your health, work, lifestyle, neighbourhood and childcare arrangements
- had some measurements taken, including height, weight, body composition, waist circumference, and skinfold thickness
- . given a small amount of blood and urine

Here are your results for some of the measurements we took today:

Measurement	Result
Height (metres)	
Weight (kg)	
Waist size / circumference (cm)	
Body Mass Index or BMI (weight divided by height squared)	



For most women who are not pregnant, the following guidelines\* are applicable:

Waist size /	Ideal	Less than 80
circumference (cm)	Higher risk of health problems	80 to 88
	Even higher risk of health problems	More than 88
BMI**	Underweight	Less than 18.5
	Ideal	18.5 to 24.9
	Overweight	25.0 to 29.9
	Obese	30.0 to 39.9
	Very obese	More than 40

<sup>\*</sup> These guideline are provided by the NHS, for more information visit: http://www.nhs.uk/livewell/Pages/Livewellhub.aspx

If you are worried about your weight or BMI, we suggest you talk to your GP or you can look at the NHS Website.

<sup>\*\*</sup> Because muscle weighs more than fat, people with large amounts of muscle may have a high BMI and be considered obese, when actually they are a healthy weight.



# **Appendix 4 Anthropometry Survey: Mother Pregnancy visit**

Variable	Question	Responses	Universe
ConsAA	CHECK CONSENT FORM HAS BEEN SIGNED.	Choice: single  1 Yes 2 No	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks and 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
SiHgtInt	I would like to measure your sitting height  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE	Choice: single  1 Participant agreed to sitting height measurement 2 Participant refused sitting height measurement	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks
SiHgtWyN	PARTICIPANT Why don't you want to have your sitting height measured? ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SiHgtInt = 2) // Refused sitting height
HghtInt	I would like to measure your height.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to height measurement 2 Participant refused height measurement	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And ((HghtInt = 2) // refused height @ sweep 1 Or (HghtSucc = 2))) // unable to measure height @ sweep 1



Variable	Question	Responses	Universe
HghtWyNo	Why don't you want to have your height measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 2)) // Refused height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 2)) // Refused height measurement
BIAInt	I would like to measure your body composition. That means the proportion of your body that is made up of things like bone, fat and muscle.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT  IF PARTICIPANT ASKS: BODY COMPOSITION IS PREDICTED BY SENDING A WEAK ELECTRICAL CURRENT AROUND THE BODY FROM ONE FOOT TO THE OTHER.  IF THE PARTICIPANT IS WEARING THICK TIGHTS, ASK IF THEY WOULD BE WILLING TO REMOVE THEM. IF THEY DO NOT WANT TO REMOVE THEM, CODE 2 - REFUSAL.	Choice: single  1 Participant agreed to BIA measurement 2 Participant refused BIA measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks



Variable	Question	Responses	Universe
BIAWyNo	Why don't you want to have your BIA measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 2)) // Refused BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 2)) // Refused BIA measurement
BIAExcl	CHECK WHETHER THE PARTICIPANT FULFILS ANY OF THE FOLLOWING EXCLUSION CRITERIA FOR THE BIA MEASUREMENT. IF THEY DO YOU WILL NOT BE ABLE TO MEASURE THEIR BIA.  PARTICIPANT IS UNABLE TO STAND PARTICIPANT HAS ELECTRONIC IMPLANTS (SUCH AS A CARDIAC PACE-MAKER OR AN INTERNAL DEFIBRILLATOR) PARTICIPANT HAS AN ACTIVE PROSTHESIS (E.G. ELECTRONICALLY CONTROLLED PROSTHETIC HAND) PARTICIPANT IS CONNECTED TO ANY PORTABLE ELECTRONIC MEDICAL DEVICES (SUCH AS ECG)	Choice: single  1 Participant does fulfil at least one of the exclusion criteria 2 Participant does not fulfil any exclusion criteria	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1)) // Agreed to BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1)) // Agreed to BIA measurement
BIAExEx	Can I check, have you done any of the following in the last couple of hours?	Choice: multiple  1 Vigorous exercise 2 Consumed excessive food or drink 3 Neither of the above	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria



Variable	Question	Responses	Universe
			Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
WghtInt	I would like to measure your weight.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT  Why don't you want to have your weight measured?	Choice: single  1 Participant agreed to weight measurement 2 Participant refused weight measurement  Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((BIAInt = 2) // Refused BIA measurement or (BIAExcl = 1))) // Exclusion criteria for BIA protocol  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((BIAInt = 2) // Refused BIA measurement or (BIAExcl = 1))) // Exclusion criteria for BIA protocol If ((RespType = 1) // Mother And (ModeType = 1) // CAPI
	ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER		And (Sweep = 1 or 3) // 28 weeks and 12 months And (WghtInt = 2)) // refused weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WghtInt = 2)) // refused weight measurement
SknFdInt	I would like to carry out a couple of skinfold measurements to assess how much fat you have under your skin. You may not realise that much of our body fat is located just under the skin.  One of these measures will be taken on the back of your arm and the other will	Choice: single  1 Participant agreed to both skinfold measurements 2 Participant agreed to triceps only 3 Participant agreed to subscapular only	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks  OR ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks



Variable	Question	Responses	Universe
	be on your back just below the shoulder blade.  Are you happy for me to take these measurements?  EXPLAIN THE MEASUREMENTS TO THE	4 Participant refused both skinfold measurements	
SknFdSWN	PARTICIPANT.  Can I just ask, why don't you want to have the skinfold measured on your back?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 2)) // Participant agreed to triceps skinfold only  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 2)) // Participant refused subscapular skinfold
SknFdTWN	Can I just ask, why don't you want to have the skinfold measured on your arm?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 3) // Participant agreed to subscapular only
SknFdWN	Can I just ask, why don't you want to have your skinfolds measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 4) // Participant refused both skinfold measurements
SiHgta		Number: 1, 5, 30220	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SiHgtInt = 1) // Agrees to sitting height



Variable	Question	Responses	Universe
	MEASURE SITTING HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1 CM.		
	IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		
SiHgtb	MEASURE SITTING HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1 CM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM	Number: 1, 5, 30220	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SiHgtInt = 1) // Agrees to sitting height
SiHgtc	/ ISSUE RELATED TO THE PARTICIPANT  MEASURE SITTING HEIGHT AND RECORD	Number: 1, 5, 30220	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks
	IN CENTIMETRES TO THE NEAREST 0.1 CM.  IF MEASUREMENT IS NOT OBTAINED:		And (((SiHgta = -3 or -4) or (SiHgtb = -3 or -4)) // unable to get two readings Or ((SiHgta > 30)// Valid measurement on the first reading



Variable	Question	Responses	Universe
	CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		And (SiHgtb > 30)// Valid measurement on the second reading And (?))) // Discrepancy between the two readings greater than 0.4 // Abs(SiHgta – SiHgtb) > 0.4
SiHgtd	ENTER HEIGHT FROM THE TOP OF THE FOOT PLATE TO THE TOP OF THE STOOL. ENTER VALUE IN CENTIMETRES, TO NEAREST 0.1 CM.	Number: 1, 5, 10220	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SiHgtInt = 1) // Agrees to sitting height
SiHgtPrb	RECORD WHETHER THERE WERE ANY FACTORS WHICH MAY HAVE AFFECTED THE ACCURACY OF THE SITTING HEIGHT MEASUREMENT.	Choice: multiple  1 Hairstyle 2 Turban or headscarf 3 Posture - back not straight 4 Posture - legs not in correct position 5 Other 6 None of these	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SiHgtInt = 1) // Agrees to sitting height
Hghta	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA  CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement



Variable	Question	Responses	Universe
	CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		
Hghtb	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  REMEMBER TO SEND THE SECOND HEIGHT READING TO THE BIA, PRESS 'PRINT'.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
Hghtc	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  REMEMBER TO SEND THE THIRD HEIGHT READING TO THE BIA, PRESS 'PRINT'.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (((Hghta = -3 or -4) or (Hghtb = -3 or -4)) // unable to get two readings OR ((Hghta > 30) // valid measurements on first reading And (Hghtb > 30) // valid measurements on second reading And (?)))) // Discrepancy between the two readings greater than 0.4 // Abs(Hghta - Hghtb) > 0.4



Variable	Question	Responses	Universe
	CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (((Hghta = -3 or -4) or (Hghtb = -3 or -4)) // unable to get two readings OR ((Hghta > 30) // valid measurements on first reading And (Hghtb > 30) // valid measurements on second reading And (?)))) // Discrepancy between the two readings greater than 0.4 // Abs(Hghta - Hghtb) > 0.4
HghtSucc	RECORD WHETHER YOU MANAGED TO OBTAIN A HEIGHT MEASUREMENT.	Choice: single  1 Yes 2 No	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
HghtProb	RECORD WHETHER THERE WERE ANY FACTORS WHICH MAY HAVE AFFECTED THE ACCURACY OF THE HEIGHT MEASUREMENT	Choice: multiple  1 Hairstyle 2 Turban or Headscarf 3 Posture - back not straight 4 Posture - legs not straight 5 Unable to stand still 6 Other 7 None of these	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSucc = 1)) // Obtained height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtSucc = 1)) // Obtained height measurement
HghtSelf	As we have not been able to measure your height, can you tell me how tall you are without shoes?	Choice: single  1 Metres and Centimetres	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks



Variable	Question	Responses	Universe
	RECORD WHETHER ANSWER TO BE GIVEN IN METRES OR FEET AND INCHES.	2 Feet and Inches	And ((HghtSucc = 2) // Not able to obtain height measurement Or (HghtInt = 2)) // Refused height measurement
HghtSeM	ENTER SELF-REPORTED HEIGHT IN METRES. (ENTER CENTIMETRES AT NEXT QUESTION)	Number: 0, 1, 12	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSelf = 1) // Answers in metres and centimetres
HghtSeC	ENTER ADDITIONAL CENTIMETRES.	Number: 0, 2, 099	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSelf = 1) // Answers in metres and centimetres
HghtSeF	ENTER SELF-REPORTED HEIGHT IN FEET. (ENTER INCHES AT NEXT QUESTION)	Number: 0, 1, 38	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSelf = 2) // Answers in feet and inches
HghtSeI	ENTER ADDITIONAL INCHES (TO NEAREST .5 INCH).	Number: 1, 4, 011.5	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSelf = 2) // Answers in feet and inches
HghtComm	IF THERE IS ANYTHING YOU WISH TO RECORD IN RELATION TO HEIGHT, ^[ SITTING HEIGHT, OR SELF REPORTED HEIGHT], PLEASE DO SO HERE.	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
BIAHght	MEASURE THE PARTICIPANT'S BIA	Number: 3, 5, 13	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement



Variable	Question	Responses	Universe
	RECORD IN METRES THE HEIGHT THAT WAS USED (MEASURED HEIGHT OR A SELF REPORTED HEIGHT) WHEN YOU OBTAINED A BIA MEASUREMENT e.g. 1.890m  (IF YOU WERE NOT SUCCESSFUL IN MEASURING THE BIA, STILL RECORD THE HEIGHT THAT YOU WOULD HAVE USED)		And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2) // No exclusion criteria And (HghtSucc = 1)) // Height measurement obtained
BIAWght	ENTER WEIGHT MEASURED BY BIA MACHINE. RECORD MEASUREMENT TO THE NEAREST 0.01KG. e.g. 83.55Kg  CODE IF UNABLE TO GET WEIGHT FROM BIA MACHINE	Number: 2, 6, 10300	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIAElecU	RECORD WHICH ELECTRODES THE PARTICIPANT HELD ONTO WHILE THE BIA MEASUREMENT WAS TAKEN.	Choice: single  1 Top (closest to central screen) 2 Middle 3 Bottom (furthest away from screen)	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIADone		Choice: single  1 Yes, measurement was taken	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months



Variable	Question	Responses	Universe
	RECORD WHETHER YOU WERE ABLE TO SUCCESSFULLY TAKE A BIA MEASUREMENT.	2 Yes, but problem 3 No, measurement was not taken	And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIAWhyNT	GIVE REASON(S) FOR PROBLEM WITH BIA MEASUREMENT OR NOT OBTAINING A BIA MEASUREMENT.	Choice: multiple  1 Technical problems with machinery 2 Problem / issue related to respondent 3 Other	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIADone = 2 or 3)) // Problem or did not take BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIADone = 2 or 3)) // Problem or did not take BIA measurement
BIAComm	IF THERE IS ANYTHING YOU WISH TO RECORD IN RELATION TO THE BIA MEASUREMENTS, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1)) // agreed to BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1)) // agreed to BIA measurement
WghtIntB	I would like to measure your weight.  Are you happy for me to take this measurement?	Choice: single  1 Participant agreed to weight measurement 2 Participant refused weight measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And (BIAWght = -5)) // unable to get weight from BIA machine  Or ((RespType = 2) // Partner



Variable	Question	Responses	Universe
	EXPLAIN THE MEASUREMENT TO THE PARTICIPANT		And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAWght = -5)) // unable to get weight from BIA machine
Wghta	MEASURE WEIGHT AND RECORD IN KILOGRAMS. RECORD MEASUREMENT TO THE NEAREST 0.01KG.  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 2, 6, 10200	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
Wghtb	MEASURE WEIGHT AND RECORD IN KILOGRAMS. RECORD MEASUREMENT TO THE NEAREST 0.01KG.  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 2, 6, 10200	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
WghtComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months



Variable	Question	Responses	Universe
	WEIGHT RESULTS, PLEASE GIVE DETAILS HERE.  IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO WEIGHT, PLEASE DO SO HERE.		And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
SkNFdTa	MEASURE PARTICIPANT'S TRICEPS SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 2) // Agreed to triceps skinfold measure
SkNFdTb	MEASURE PARTICIPANT'S TRICEPS SKINFOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT	Number: 1, 4, 146	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 2) // Agreed to triceps skinfold measure



Variable	Question	Responses	Universe
	CODE IF THERE WAS ANOTHER PROBLEM		
SkNFdTc	/ ISSUE RELATED TO THE PARTICIPANT  MEASURE PARTICIPANT'S TRICEPS  SKINFOLD AND RECORD IN MILLIMETRES.	Number: 1, 4, 146	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 2) // Agreed to triceps skinfold
	RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM		measure
SknFdSa	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknFdSb		Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks



Variable	Question	Responses	Universe
	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknFdSc	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE SKINFOLD MEASUREMENTS, PLEASE GIVE DETAILS HERE.	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1, 2 or 3)) // Agreed to skinfold measurement



Variable	Question	Responses	Universe
	IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO SKINFOLDS, PLEASE DO SO HERE.		Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measurement
AdAnStaf	RECORD THE ID NUMBER OF THE STAFF WHO TOOK THE ADULT ANTHROPOMETRY MEASUREMENTS	Number: 0, 4, 10005000	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
AdAnRoom	ENTER THE ROOM NUMBER IN WHICH THE ADULT ANTHROPOMETRY WAS CARRIED OUT	Number: 0, 2, 199	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks



# **Appendix 5 Anthropometry Survey: Partner Visit**

Variable	Question	Responses	Universe
ConsAA	CHECK CONSENT FORM HAS BEEN SIGNED.	Choice: single  1 Yes 2 No	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks and 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
HghtInt	I would like to measure your height.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to height measurement 2 Participant refused height measurement	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And ((HghtInt = 2) // refused height @ sweep 1 Or (HghtSucc = 2))) // unable to measure height @ sweep 1
HghtWyNo	Why don't you want to have your height measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 2)) // Refused height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 2)) // Refused height measurement
BIAInt	I would like to measure your body composition. That means the proportion of your body that is made up of things like bone, fat and muscle.	Choice: single  1 Participant agreed to BIA measurement 2 Participant refused BIA measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
	Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT  IF PARTICIPANT ASKS: BODY COMPOSITION IS PREDICTED BY SENDING A WEAK ELECTRICAL CURRENT AROUND THE BODY FROM ONE FOOT TO THE OTHER.  IF THE PARTICIPANT IS WEARING THICK TIGHTS, ASK IF THEY WOULD BE WILLING TO REMOVE THEM. IF THEY DO NOT WANT TO REMOVE THEM, CODE 2 - REFUSAL.		And (Sweep = 1)) // 28 weeks
BIAWyNo	Why don't you want to have your BIA measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 2)) // Refused BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 2)) // Refused BIA measurement
BIAExcl	CHECK WHETHER THE PARTICIPANT FULFILS ANY OF THE FOLLOWING EXCLUSION CRITERIA FOR THE BIA	Choice: single  1 Participant does fulfil at least one of the exclusion criteria 2 Participant does not fulfil any exclusion criteria	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1)) // Agreed to BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
	MEASUREMENT. IF THEY DO YOU WILL NOT BE ABLE TO MEASURE THEIR BIA.  PARTICIPANT IS UNABLE TO STAND PARTICIPANT HAS ELECTRONIC IMPLANTS (SUCH AS A CARDIAC PACE-MAKER OR AN INTERNAL DEFIBRILLATOR) PARTICIPANT HAS AN ACTIVE PROSTHESIS (E.G. ELECTRONICALLY CONTROLLED PROSTHETIC HAND) PARTICIPANT IS CONNECTED TO ANY PORTABLE ELECTRONIC MEDICAL DEVICES (SUCH AS ECG)		And (Sweep = 1) // 28 weeks And (BIAInt = 1)) // Agreed to BIA measurement
BIAExEx	Can I check, have you done any of the following in the last couple of hours?	Choice: multiple  1 Vigorous exercise 2 Consumed excessive food or drink 3 Neither of the above	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
WghtInt	I would like to measure your weight.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to weight measurement 2 Participant refused weight measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((BIAInt = 2) // Refused BIA measurement or (BIAExcl = 1))) // Exclusion criteria for BIA protocol  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
			And (Sweep = 1) // 28 weeks And ((BIAInt = 2) // Refused BIA measurement or (BIAExcl = 1))) // Exclusion criteria for BIA protocol
WghtWyNo	Why don't you want to have your weight measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And (WghtInt = 2)) // refused weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WghtInt = 2)) // refused weight measurement
WCirInt	I would like to measure your waist circumference.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to waist measurement 2 Participant refused waist measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3)) // 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
WCirWyNo	Why don't you want to have your waist circumference measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER. FOR EXAMPLE, PEOPLE WHO HAVE HAD ABDOMINAL SURGERY MAY NOT WISH TO GIVE A REASON	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 2)) // Refused waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 2)) // Refused waist circumference
SknFdInt	I would like to carry out a couple of skinfold measurements to assess how much fat you have under your skin. You	Choice: single  1 Participant agreed to both skinfold measurements 2 Participant agreed to triceps only	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks  OR ((RespType = 2) // Partner



Variable	Question	Res	sponses	Universe
	may not realise that much of our body fat is located just under the skin.  One of these measures will be taken on the back of your arm and the other will be on your back just below the shoulder blade.  Are you happy for me to take these measurements?  EXPLAIN THE MEASUREMENTS TO THE PARTICIPANT.	3 4	Participant agreed to subscapular only Participant refused both skinfold measurements  en: 150	And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
SknFdSWN	Can I just ask, why don't you want to have the skinfold measured on your back?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Оре	en: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 2)) // Participant agreed to triceps skinfold only  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 2)) // Participant refused subscapular skinfold
SknFdTWN	Can I just ask, why don't you want to have the skinfold measured on your arm?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Оре	en: 150	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 3) // Participant agreed to subscapular only
SknFdWN	Can I just ask, why don't you want to have your skinfolds measured?	Оре	en: 150	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks



Variable	Question	Responses	Universe
	ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER		And (SknFdInt = 4) // Participant refused both skinfold measurements
Hghta	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
Hghtb	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  REMEMBER TO SEND THE SECOND HEIGHT READING TO THE BIA, PRESS 'PRINT'.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement



Variable	Question	Responses	Universe
Hghtc	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  REMEMBER TO SEND THE THIRD HEIGHT READING TO THE BIA, PRESS 'PRINT'.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (((Hghta = -3 or -4) or (Hghtb = -3 or -4)) // unable to get two readings OR ((Hghta > 30) // valid measurements on first reading And (Hghtb > 30) // valid measurements on second reading And (?)))) // Discrepancy between the two readings greater than 0.4 // Abs(Hghta - Hghtb) > 0.4  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (((Hghta = -3 or -4) or (Hghtb = -3 or -4)) // unable to get two readings OR ((Hghta > 30) // valid measurements on first reading And (Hghtb > 30) // valid measurements on second reading And (?)))) // Discrepancy between the two readings greater than 0.4 // Abs(Hghta - Hghtb) > 0.4
HghtSucc	RECORD WHETHER YOU MANAGED TO OBTAIN A HEIGHT MEASUREMENT.	Choice: single  1 Yes 2 No	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement



Variable	Question	Responses	Universe
HghtProb		Choice: multiple	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI
	RECORD WHETHER THERE WERE ANY FACTORS WHICH MAY HAVE AFFECTED THE ACCURACY OF THE HEIGHT MEASUREMENT	<ul> <li>1 Hairstyle</li> <li>2 Turban or Headscarf</li> <li>3 Posture – back not straight</li> <li>4 Posture – legs not straight</li> <li>5 Unable to stand still</li> <li>6 Other</li> <li>7 None of these</li> </ul>	And (Sweep = 1) // 28 weeks And (HghtSucc = 1)) // Obtained height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtSucc = 1)) // Obtained height measurement
HghtSelf	As we have not been able to measure your height, can you tell me how tall you are without shoes?  RECORD WHETHER ANSWER TO BE GIVEN IN METRES OR FEET AND INCHES.	Choice: single  1 Metres and Centimetres 2 Feet and Inches	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((HghtSucc = 2) // Not able to obtain height measurement Or (HghtInt = 2)) // Refused height measurement
HghtSeM	ENTER SELF-REPORTED HEIGHT IN METRES. (ENTER CENTIMETRES AT NEXT QUESTION)	Number: 0, 1, 12	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSelf = 1) // Answers in metres and centimetres
HghtSeC	ENTER ADDITIONAL CENTIMETRES.	Number: 0, 2, 099	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSelf = 1) // Answers in metres and centimetres
HghtSeF	ENTER SELF-REPORTED HEIGHT IN FEET. (ENTER INCHES AT NEXT QUESTION)	Number: 0, 1, 38	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSelf = 2) // Answers in feet and inches
HghtSel		Number: 1, 4, 011.5	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
	ENTER ADDITIONAL INCHES (TO NEAREST .5 INCH).		And (Sweep = 1) // 28 weeks And (HghtSelf = 2) // Answers in feet and inches
HghtComm	IF THERE IS ANYTHING YOU WISH TO RECORD IN RELATION TO HEIGHT, ^[ SITTING HEIGHT, OR SELF REPORTED HEIGHT], PLEASE DO SO HERE.	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
BIAHght	MEASURE THE PARTICIPANT'S BIA  RECORD IN METRES THE HEIGHT THAT WAS USED (MEASURED HEIGHT OR A SELF REPORTED HEIGHT) WHEN YOU OBTAINED A BIA MEASUREMENT e.g. 1.890m  (IF YOU WERE NOT SUCCESSFUL IN MEASURING THE BIA, STILL RECORD THE HEIGHT THAT YOU WOULD HAVE USED)	Number: 3, 5, 13	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2) // No exclusion criteria And (HghtSucc = 1)) // Height measurement obtained
BIAWght	ENTER WEIGHT MEASURED BY BIA MACHINE. RECORD MEASUREMENT TO THE NEAREST 0.01KG. e.g. 83.55Kg  CODE IF UNABLE TO GET WEIGHT FROM BIA MACHINE	Number: 2, 6, 10300	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement



Variable	Question	Responses	Universe
			And (BIAExcl = 2)) // No exclusion criteria
BIAElecU	RECORD WHICH ELECTRODES THE PARTICIPANT HELD ONTO WHILE THE BIA MEASUREMENT WAS TAKEN.	Choice: single  1  Top (closest to central screen) 2  Middle 3  Bottom (furthest away from screen)	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIADone	RECORD WHETHER YOU WERE ABLE TO SUCCESSFULLY TAKE A BIA MEASUREMENT.	Choice: single  1 Yes, measurement was taken 2 Yes, but problem 3 No, measurement was not taken	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIAWhyNT	GIVE REASON(S) FOR PROBLEM WITH BIA MEASUREMENT OR NOT OBTAINING A BIA MEASUREMENT.	Choice: multiple  1 Technical problems with machinery 2 Problem / issue related to respondent 3 Other	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIADone = 2 or 3)) // Problem or did not take BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIADone = 2 or 3)) // Problem or did not take BIA measurement
BIAComm		Open: 150	If ((RespType = 1) // Mother



Variable	Question	Responses	Universe
	IF THERE IS ANYTHING YOU WISH TO RECORD IN RELATION TO THE BIA MEASUREMENTS, PLEASE DO SO HERE.		And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1)) // agreed to BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1)) // agreed to BIA measurement
WghtIntB	I would like to measure your weight.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to weight measurement 2 Participant refused weight measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And (BIAWght = -5)) // unable to get weight from BIA machine  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAWght = -5)) // unable to get weight from BIA machine
Wghta	MEASURE WEIGHT AND RECORD IN KILOGRAMS. RECORD MEASUREMENT TO THE NEAREST 0.01KG.  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 2, 6, 10200	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
Wghtb		Number: 2, 6, 10200	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months



Variable	Question	Responses	Universe
	MEASURE WEIGHT AND RECORD IN KILOGRAMS. RECORD MEASUREMENT TO THE NEAREST 0.01KG.  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
WghtComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE WEIGHT RESULTS, PLEASE GIVE DETAILS HERE.  IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO WEIGHT, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
WCira	MEASURE PARTICIPANT'S WAIST AND RECORD IN CENTIMETRES TO THE NEAREST 0.1 CM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT	Number: 1, 5, 1150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 1)) // agreed to waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 1)) // agreed to waist circumference



Variable	Question	Responses	Universe
	CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		
WCirb	MEASURE PARTICIPANT'S WAIST AND RECORD IN CENTIMETRES TO THE NEAREST 0.1 CM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 5, 1150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 1)) // agreed to waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 1)) // agreed to waist circumference
WCirComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE WAIST CIRCUMFERENCE RESULTS, PLEASE GIVE DETAILS HERE.  IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO WAIST CIRCUMFERENCE, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 1)) // Agreed to waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 1)) // Agreed to waist circumference
SkNFdTa	MEASURE PARTICIPANT'S TRICEPS SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM. IF MEASUREMENT IS NOT OBTAINED:	Number: 1, 4, 146	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 2) // Agreed to triceps skinfold measure



Variable	Question	Responses	Universe
	CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		
SkNFdTb	MEASURE PARTICIPANT'S TRICEPS SKINFOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 2) // Agreed to triceps skinfold measure
SkNFdTc	MEASURE PARTICIPANT'S TRICEPS SKINFOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If (RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 2) // Agreed to triceps skinfold measure



Variable	Question	Responses	Universe
SknFdSa	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknFdSb	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknFdSc	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks



Variable	Question	Responses	Universe
	MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE SKINFOLD MEASUREMENTS, PLEASE GIVE DETAILS HERE.  IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO SKINFOLDS, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1, 2 or 3)) // Agreed to skinfold measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measurement
AdAnStaf	RECORD THE ID NUMBER OF THE STAFF WHO TOOK THE ADULT ANTHROPOMETRY MEASUREMENTS	Number: 0, 4, 10005000	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
AdAnRoom	ENTER THE ROOM NUMBER IN WHICH THE ADULT ANTHROPOMETRY WAS CARRIED OUT	Number: 0, 2, 199	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
			And (Sweep = 1)) // 28 weeks



## **Appendix 6 Anthropometry Survey: Mother 12 month visit**

Variable	Question	Responses	Universe
ConsAA	CHECK CONSENT FORM HAS BEEN SIGNED.	Choice: single  1 Yes 2 No	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks and 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
HghtInt	I would like to measure your height.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to height measurement 2 Participant refused height measurement	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And ((HghtInt = 2) // refused height @ sweep 1 Or (HghtSucc = 2))) // unable to measure height @ sweep 1
HghtWyNo	Why don't you want to have your height measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 2)) // Refused height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 2)) // Refused height measurement
BIAInt	I would like to measure your body composition. That means the proportion of your body that is made up of things like bone, fat and muscle.	Choice: single  1 Participant agreed to BIA measurement 2 Participant refused BIA measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner



Variable	Question	Responses	Universe
	Are you happy for me to take this measurement?		And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
	EXPLAIN THE MEASUREMENT TO THE PARTICIPANT		
	IF PARTICIPANT ASKS: BODY COMPOSITION IS PREDICTED BY SENDING A WEAK ELECTRICAL CURRENT AROUND THE BODY FROM ONE FOOT TO THE OTHER.		
	IF THE PARTICIPANT IS WEARING THICK TIGHTS, ASK IF THEY WOULD BE WILLING TO REMOVE THEM. IF THEY DO NOT WANT TO REMOVE THEM, CODE 2 - REFUSAL.		
BIAWyNo	Why don't you want to have your BIA measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 2)) // Refused BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 2)) // Refused BIA measurement
BIAExcl	CHECK WHETHER THE PARTICIPANT FULFILS ANY OF THE FOLLOWING EXCLUSION CRITERIA FOR THE BIA	Choice: single  1 Participant does fulfil at least one of the exclusion criteria 2 Participant does not fulfil any exclusion criteria	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1)) // Agreed to BIA measurement  Or ((RespType = 2) // Partner



Variable	Question	Responses	Universe
	MEASUREMENT. IF THEY DO YOU WILL NOT BE ABLE TO MEASURE THEIR BIA.  PARTICIPANT IS UNABLE TO STAND PARTICIPANT HAS ELECTRONIC IMPLANTS (SUCH AS A CARDIAC PACE-MAKER OR AN INTERNAL DEFIBRILLATOR) PARTICIPANT HAS AN ACTIVE PROSTHESIS (E.G. ELECTRONICALLY CONTROLLED PROSTHETIC HAND) PARTICIPANT IS CONNECTED TO ANY PORTABLE ELECTRONIC MEDICAL DEVICES (SUCH AS ECG)	Choice: multiple	And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1)) // Agreed to BIA measurement  If ((RespType = 1) // Mother
BIAExEx	Can I check, have you done any of the following in the last couple of hours?	1 Vigorous exercise 2 Consumed excessive food or drink 3 Neither of the above	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
WghtInt	I would like to measure your weight.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to weight measurement 2 Participant refused weight measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((BIAInt = 2) // Refused BIA measurement or (BIAExcl = 1))) // Exclusion criteria for BIA protocol  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
WghtWyNo	Why don't you want to have your weight measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	And (Sweep = 1) // 28 weeks And ((BIAInt = 2) // Refused BIA measurement or (BIAExcl = 1))) // Exclusion criteria for BIA protocol If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And (WghtInt = 2)) // refused weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI
			And (Sweep = 1) // 28 weeks And (WghtInt = 2)) // refused weight measurement
WCirInt	I would like to measure your waist circumference.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to waist measurement 2 Participant refused waist measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3)) // 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
WCirWyNo	Why don't you want to have your waist circumference measured?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER. FOR EXAMPLE, PEOPLE WHO HAVE HAD ABDOMINAL SURGERY MAY NOT WISH TO GIVE A REASON	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 2)) // Refused waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 2)) // Refused waist circumference
SknFdInb	I would like to carry out a skinfold measurement to assess how much fat you have under your skin. You may not	Choice: single  1 Participant agreed to skinfold measurements 2 Participant refused skinfold measurements	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months



Variable	Question	Responses	Universe
	realise that much of our body fat is located just under the skin.  The measure will be taken on your back just below the shoulder blade.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT.		
SknFdSWN	Can I just ask, why don't you want to have the skinfold measured on your back?  ENQUIRE SENSITIVELY BUT DO NOT PUSH FOR AN ANSWER	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 2)) // Participant agreed to triceps skinfold only  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 2)) // Participant refused subscapular skinfold
Hghta	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement



Variable	Question	Responses	Universe
	CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		
Hghtb	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  REMEMBER TO SEND THE SECOND HEIGHT READING TO THE BIA, PRESS 'PRINT'.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
Hghtc	MEASURE HEIGHT AND RECORD IN CENTIMETRES TO THE NEAREST 0.1CM.  REMEMBER TO SEND THE THIRD HEIGHT READING TO THE BIA, PRESS 'PRINT'.  IF MEASUREMENT IS NOT OBTAINED:  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA	Number: 1, 5, 30220	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (((Hghta = -3 or -4) or (Hghtb = -3 or -4)) // unable to get two readings OR ((Hghta > 30) // valid measurements on first reading And (Hghtb > 30) // valid measurements on second reading And (?)))) // Discrepancy between the two readings greater than 0.4 // Abs(Hghta - Hghtb) > 0.4



Variable	Question	Responses	Universe
	CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (((Hghta = -3 or -4) or (Hghtb = -3 or -4)) // unable to get two readings OR ((Hghta > 30) // valid measurements on first reading And (Hghtb > 30) // valid measurements on second reading And (?)))) // Discrepancy between the two readings greater than 0.4 // Abs(Hghta - Hghtb) > 0.4
HghtSucc	RECORD WHETHER YOU MANAGED TO OBTAIN A HEIGHT MEASUREMENT.	Choice: single  1 Yes 2 No	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtInt = 1)) // Agreed to height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
HghtProb	RECORD WHETHER THERE WERE ANY FACTORS WHICH MAY HAVE AFFECTED THE ACCURACY OF THE HEIGHT MEASUREMENT	Choice: multiple  1 Hairstyle 2 Turban or Headscarf 3 Posture – back not straight 4 Posture – legs not straight 5 Unable to stand still 6 Other 7 None of these	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (HghtSucc = 1)) // Obtained height measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtSucc = 1)) // Obtained height measurement
HghtComm		Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks



Variable	Question	Responses	Universe
	IF THERE IS ANYTHING YOU WISH TO RECORD IN RELATION TO HEIGHT, ^[ SITTING HEIGHT, OR SELF REPORTED HEIGHT], PLEASE DO SO HERE.		Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (HghtInt = 1)) // Agreed to height measurement
HghtPreg	THE PARTICIPANT'S HEIGHT AT THE PREGNANCY VISIT WAS ^[X.XXX m] MANUALLY ENTER THIS HEIGHT WHEN/IF YOU MEASURE THEIR BIA	Control:	If (RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2) // No exclusion criteria And (HghtSucc <> 1) // Height measurement not obtained
BIAHght	MEASURE THE PARTICIPANT'S BIA  RECORD IN METRES THE HEIGHT THAT WAS USED (MEASURED HEIGHT OR A SELF REPORTED HEIGHT) WHEN YOU OBTAINED A BIA MEASUREMENT e.g. 1.890m  (IF YOU WERE NOT SUCCESSFUL IN MEASURING THE BIA, STILL RECORD THE HEIGHT THAT YOU WOULD HAVE USED)	Number: 3, 5, 13	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2) // No exclusion criteria And (HghtSucc = 1)) // Height measurement obtained
BIAWght	ENTER WEIGHT MEASURED BY BIA MACHINE. RECORD MEASUREMENT TO THE NEAREST 0.01KG. e.g. 83.55Kg  CODE IF UNABLE TO GET WEIGHT FROM BIA MACHINE	Number: 2, 6, 10300	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
			And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIAElecU	RECORD WHICH ELECTRODES THE PARTICIPANT HELD ONTO WHILE THE BIA MEASUREMENT WAS TAKEN.	Choice: single  1	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIADone	RECORD WHETHER YOU WERE ABLE TO SUCCESSFULLY TAKE A BIA MEASUREMENT.	Choice: single  1 Yes, measurement was taken 2 Yes, but problem 3 No, measurement was not taken	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1) // Agreed to BIA measurement And (BIAExcl = 2)) // No exclusion criteria
BIAWhyNT	GIVE REASON(S) FOR PROBLEM WITH BIA MEASUREMENT OR NOT OBTAINING A BIA MEASUREMENT.	Choice: multiple  1 Technical problems with machinery 2 Problem / issue related to respondent 3 Other	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIADone = 2 or 3)) // Problem or did not take BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks



Variable	Question	Responses	Universe
			And (BIADone = 2 or 3)) // Problem or did not take BIA measurement
BIAComm	IF THERE IS ANYTHING YOU WISH TO RECORD IN RELATION TO THE BIA MEASUREMENTS, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And (BIAInt = 1)) // agreed to BIA measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAInt = 1)) // agreed to BIA measurement
WghtIntB	I would like to measure your weight.  Are you happy for me to take this measurement?  EXPLAIN THE MEASUREMENT TO THE PARTICIPANT	Choice: single  1 Participant agreed to weight measurement 2 Participant refused weight measurement	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And (BIAWght = -5)) // unable to get weight from BIA machine  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (BIAWght = -5)) // unable to get weight from BIA machine
Wghta	MEASURE WEIGHT AND RECORD IN KILOGRAMS. RECORD MEASUREMENT TO THE NEAREST 0.01KG.  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 2, 6, 10200	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement



Variable	Question	Responses	Universe
Wghtb	MEASURE WEIGHT AND RECORD IN KILOGRAMS. RECORD MEASUREMENT TO THE NEAREST 0.01KG.  CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 2, 6, 10200	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks and 12 months And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
WghtComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE WEIGHT RESULTS, PLEASE GIVE DETAILS HERE.  IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO WEIGHT, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3) // 28 weeks or 12 months And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And ((WghtInt = 1) or (WghtIntB = 1))) // Agreed weight measurement
WCira	MEASURE PARTICIPANT'S WAIST AND RECORD IN CENTIMETRES TO THE NEAREST 0.1 CM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA	Number: 1, 5, 1150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 1)) // agreed to waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 1)) // agreed to waist circumference



Variable	Question	Responses	Universe
	CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		
WCirb	MEASURE PARTICIPANT'S WAIST AND RECORD IN CENTIMETRES TO THE NEAREST 0.1 CM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 5, 1150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 1)) // agreed to waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 1)) // agreed to waist circumference
WCirComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE WAIST CIRCUMFERENCE RESULTS, PLEASE GIVE DETAILS HERE.  IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO WAIST CIRCUMFERENCE, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (WCirInt = 1)) // Agreed to waist circumference  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (WCirInt = 1)) // Agreed to waist circumference
SknFdSa	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure



Variable	Question	Responses	Universe
	MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknFdSb	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED: CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measure
SknFdSc	MEASURE PARTICIPANT'S SUBSCAPULAR SKIN-FOLD AND RECORD IN MILLIMETRES. RECORD TO NEAREST 0.2MM.  IF MEASUREMENT IS NOT OBTAINED:	Number: 1, 4, 146	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1 or 3)) // Agreed to subscapular skinfold measure  OR ((RespType = 1) // Mother And (ModeType = 1) // CAPI



Variable	Question	Responses	Universe
	CODE IF RESPONDENT MET THE EXCLUSION CRITERIA CODE IF TECHNICAL PROBLEMS WITH THE EQUIPMENT CODE IF THERE WAS ANOTHER PROBLEM / ISSUE RELATED TO THE PARTICIPANT		And (Sweep = 3) // 12 months  And (SknFdInb = 1)) // Agreed to skinfold measure
SknComm	IF THERE WAS ANYTHING THAT MAY HAVE AFFECTED THE ACCURACY OF THE SKINFOLD MEASUREMENTS, PLEASE GIVE DETAILS HERE.  IF THERE IS ANYTHING ELSE YOU WISH TO RECORD IN RELATION TO SKINFOLDS, PLEASE DO SO HERE.	Open: 150	If ((RespType = 1 or 2) // Mother or Partner And (ModeType = 1) // CAPI And (Sweep = 1) // 28 weeks And (SknFdInt = 1, 2 or 3)) // Agreed to skinfold measurement  Or ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 3) // 12 months And (SknFdInb = 1)) // Agreed to skinfold measurement
AdAnStaf	RECORD THE ID NUMBER OF THE STAFF WHO TOOK THE ADULT ANTHROPOMETRY MEASUREMENTS	Number: 0, 4, 10005000	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks
AdAnRoom	ENTER THE ROOM NUMBER IN WHICH THE ADULT ANTHROPOMETRY WAS CARRIED OUT	Number: 0, 2, 199	If ((RespType = 1) // Mother And (ModeType = 1) // CAPI And (Sweep = 1 or 3)) // 28 weeks or 12 months  Or ((RespType = 2) // Partner And (ModeType = 1) // CAPI And (Sweep = 1)) // 28 weeks