

## How to take body measurements

### Height

1. Ask the person to remove their shoes.
2. Explain the process to the person.
  - It is important to acknowledge a person's culture and ask them if it is okay that you touch them. This is especially important for Māori and Pacific People when needing to touch their head.
  - An important consideration for non-Māori, as well, is an explanation of the procedure prior to commencement.
3. Ensure they have removed hats or other headgear, and have let down high ponytails or buns.
4. Ask the person to stand straight with their back to the stadiometer, facing forward. Feet must be together and the knees straight. Ask person to put their heels against the wall. Check they are not slumping or standing on their toes and that their head is level.
  - **Tip:** Ask them to look at a poster on the wall or anything else that is at the correct eye level in front of them.
5. Gently lower the upper measuring scale until it rests flat on the person's head.
  - Firmly grasp the scale and ask the person to duck and step forward away from the stadiometer
6. Record height in cm
  - NB when working out height squared (for BMI) it needs to be in meters.

### Weight

*Measure weight and calculate BMI at least once a year, but ideally routinely*

1. Request the person to remove shoes and any heavy clothing e.g. coat, belts with buckles
2. Ask them to place keys, wallets, coins, and other heavy items
3. Tare (zero) electronic scales
4. Ask the person to stand on the scales in bare feet (or stocking feet if NOT on bio impedance scales), hands at their sides.
5. Record weight in kg.

### Waist Circumference

Measure yearly if stable, 3-monthly if not

1. Remove excess outer clothing, down to one layer. The person does not need to remove their shirt.
2. Ask the person to stand with feet 20cm apart. The most accurate point of measurement for waist circumference is the midpoint between the last rib and the iliac crest (top of the hip bone). It may be difficult to palpate these bony landmarks therefore use your discretion with your measurement. You

may also ask the person to run their hand down their side to where the bottom of the ribs are – and measure horizontally around here – it is almost always over the liver which markedly increases in size when full of fat. Ensure you make a note to remind yourself of reference marks for subsequent measurements and ask the person to remember them, also.

- a. When a person has an overhanging belly waist circumference should be measured around the belly not under it (but hip measurement should be under the belly).
3. Stand to side of the person and ask them to place a finger on the end of the tape whilst they turn around.
4. Catch the tape and slot it into the tape measure, and pull the tape snug - until it naturally stops. The tape should be snugged firm but not so tight that the person's skin is wrinkled.
5. Make sure the measuring tape is at the same level (horizontal) all the way around the waist.
6. Ask the person to breath in and out (not deeply, but enough for him not to be holding their belly in) twice and measure at the end of a normal expiration.
7. Read the value and record.

### **Bioelectrical impedance scales**

Bio impedance scales calculate body composition parameters. The person should be weighed whilst well hydrated and at a similar time of day for consistency.

- *People with pacemakers or similar electronic equipment should not use the scales for bio impedance, as a small, unnoticeable current is passed into the body from the feet*
- *Pregnant women should not use bio impedance scales*

Changes in weight, fat mass, muscle mass, visceral fat and BMI if measured at each appointment will provide valuable information and enable accurate tracking of the person's progress. Some of the readings are less accurate and not useful to the person. The bone mass is not accurate, the metabolic age, ideal body weight and degree of obesity are not helpful to people as they may be nowhere near the 'ideal' according to the scales.

Measures that are useful to track include: **weight, fat mass and fat percentage (%), muscle mass, visceral fat** and body mass index (**BMI**) over the year. **NB** For some unknown reason (possibly due to fluid shifts during weight loss and exercise), %fat can increase for the first few weeks of *exercise* and 'weight loss'.

1. You will need to know/measure the persons height prior to stepping on the scales
2. Ask the person to stand with flat feet ensuring their thighs are not touching
  - a. Use the persons clothing or towel to stop skin touching.
3. Use the standard mode (as opposed to athlete mode which is for individuals who do 12-14+ hours of intensive aerobic exercise per week)

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8. Read the value and record.

## **Hip Circumference**

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1. Ask the person to stand with feet as close together as they can manage and balance (NB in those with big thighs this may not be very close – don't worry; stance often makes little difference)
2. Stand to the side of the person and press the end of the tape over the hip joint bone (greater trochanter).
3. Ask the person to hold the tape over this point and turn around whilst the clinician holds the extension casing of the tape.
4. Catch the tape in the extension casing slot, loosely, and whilst bobbing down at the person's side, look across to where the tape is at the greatest convexity of the buttock.
5. Adjust the whole tape to be horizontal at the same time as using the buttock convexity as the guide.
6. Snug the tape and take the reading and record result.