

Measuring Waist and Hip Circumference

Equipment To take waist and hip circumference measurements you will need a:

- constant tension tape (a stretch-resistant tape that provides a constant 100 g of tension through the use of a special indicator buckle; use of this type of tape reduces differences in tightness)
- pen
- chair or coat stand for participants to place their clothes.

Preparing the participant

This measurement should be taken without clothing, that is, directly over the skin. If this is not possible, the measurement may be taken over light clothing. It must not be taken over thick or bulky clothing. This type of clothing must be removed.

Waist circumference: How to take the measurement

This measurement should be taken:

- at the end of a normal expiration;
- with the arms relaxed at the sides;
- at the midpoint between the lower margin of the last palpable rib and the top of the iliac crest (hip bone).

Procedure

Follow the steps below to measure the waist circumference of a participant:

Step	Action
1	Standing to the side of the participant, locate the last palpable rib and the top of the hip bone. You may ask the participant to assist you in locating these points on their body.
2	Ask the participant to wrap the tension tape around themselves and then position the tape at the midpoint of the last palpable rib and the top of the hip bone, making sure to wrap the tape over the same spot on the opposite side. Note: Check that the tape is horizontal across the back and front of the participant and as parallel with the floor as possible.
3	Ask the participant to: <ul style="list-style-type: none">• stand with their feet together with weight evenly distributed across both feet;• hold the arms in a relaxed position at the sides;• breathe normally for a few breaths, then make a normal expiration. (The WHO STEPS protocol recommends advising the subject to relax and take a few deep, natural breaths before the actual

	measurement is made, to minimize the inward pull of the abdominal contents during the waist measurement)
4	Measure waist circumference and read the measurement at the level of the tape to the nearest 0.1 cm, making sure to keep the measuring tape snug but not tight enough to cause compression of the skin.
5	Record the measurement on the participant's Instrument.
6	Each measurement should be repeated twice; if the measurements are within 1 cm of one another, the average should be calculated. If the difference between the two measurements exceeds 1 cm, the two measurements should be repeated

Hip measurements are taken immediately after waist circumferences.

Hip circumference: How to take the measurement

This measurement should be taken:

- with the arms relaxed at the sides
- at the maximum circumference over the buttocks. (widest portion of the buttocks)

Procedure

Follow the steps below to take hip circumference measurements.

Step	Action
1	Stand to the side of the participant, and ask them to help wrap the tape around themselves.
2	Position the measuring tape around the maximum circumference of the buttocks.
3	Ask the participant to: <ul style="list-style-type: none"> • stand with their feet together with weight evenly distributed over both feet; • hold their arms relaxed at the sides.
4	Check that the tape position is horizontal all around the body and snug without constricting.
5	Measure hip circumference and read the measurement at the level of the tape to the nearest 0.1 cm.
6	Notieren Sie das Messergebnis auf dem Datenblatt des Teilnehmers.
7	Each measurement should be repeated twice; if the measurements are within 1 cm of one another, the average should be calculated. If the difference between the two measurements exceeds 1 cm, the two measurements should be repeated

Summary and conclusions

Waist circumference should be measured at the midpoint between the lower margin of the least palpable rib and the top of the iliac crest, using a stretch-resistant tape that provides a constant 100 g

tension. Hip circumference should be measured around the widest portion of the buttocks, with the tape parallel to the floor.

For both measurements, the subject should stand with feet close together, arms at the side and body weight evenly distributed, and should wear little clothing. The subject should be relaxed, and the measurements should be taken at the end of a normal expiration. Each measurement should be repeated twice; if the measurements are within 1 cm of one another, the average should be calculated. If the difference between the two measurements exceeds 1 cm, the two measurements should be repeated.

Waist measurement should be made after the subject has fasted overnight or is in a fasted state, to reduce the effect of the amount of water, food or gas in the gastrointestinal tract.

Sources:

Waist Circumference and Waist-Hip Ratio Report of a WHO Expert Consultation GENEVA, 8–11 DECEMBER 2008

WHO. WHO STEPwise approach to surveillance (STEPS). Geneva, World Health Organization (WHO), 2008. Part 3: Training and Practical Guides (3-3-11; 3-3-13)
<http://www.who.int/chp/steps/manual/en/index3.html> (accessed 23/11/2012)