
Adult hip circumference - measured

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Identifying and Definitional Attributes

Data Dictionary: NHDD
Knowledgebase ID: 000370 Version number: 1
Metadata type: DATA ELEMENT
Registration Authority: NHIMG Admin status: SUPERSEDED
Effective date: 01-JAN-03

Definition: A person's hip circumference measured at the level of maximum posterior extension of the buttocks.

Adult hip circumference: measured is a continuous variable measured to the nearest 0.1 cm.

In order to ensure consistency in measurement, the measurement protocol described under Data Collection Methods should be used.

Context: Public health and health care.

Its main use is to enable the calculation of Adult abdomen to hip ratio which requires the measurement of hip circumference and abdominal circumference.

Relational and Representational Attributes

Datatype: Numeric
Representational form: QUANTITATIVE VALUE
Representation layout: NNN.N
Minimum Size: 3
Maximum Size: 4

Guide For Use: If measured hip circumference is not able to be collected, code 999.9

Collection Methods: Measurement protocol:

The data collection form should allow for up to three measurements of hip circumference to be recorded in centimetres to 1 decimal place. The data collection form should also have the

capacity to record any reasons for the non-collection of hip circumference data.

The measurement of hip circumference requires a narrow (< 7 mm wide), flexible, inelastic tape measure. The kind of tape used should be described and reported. The graduations on the tape measure should be at 0.1 cm intervals and the tape should have the capacity to measure up to 200 cm. Measurement intervals and labels should be clearly readable under all conditions of use of the tape measure.

The subject should wear only non-restrictive briefs or underwear, a light smock over underwear or light clothing. Belts and heavy outer clothing should be removed. Hip measurement should be taken over one layer of light clothing only.

The subject stands erect with arms at the sides, feet together and the gluteal muscles relaxed. The measurer sits at the side of the subject so that the level of maximum posterior extension of the buttocks can be seen. An inelastic tape is placed around the buttocks in a horizontal plane. To ensure contiguity of the two parts of the tape from which the circumference is to be determined, the cross-handed technique of measurement, as described by Norton et al. (1996), should be used. Ideally an assistant will check the position of the tape on the opposite side of the subject's body. The tape is in contact with the skin but does not compress the soft tissues. Fatty aprons should be excluded from the hip circumference measurement.

The measurement is recorded to the nearest 0.1 cm. Take a repeat measurement and record it to the nearest 0.1 cm. If the two measurements disagree by more than 1 cm, then take a third measurement. All raw measurements should be recorded on the data collection form. If practical, it is preferable to enter the raw data into the data base as this enables intra- and, where relevant, inter-observer errors to be assessed. The subject's measured hip circumference is subsequently calculated as the mean of the two observations, or the mean of the two closest measurements if a third is taken, and recorded on the form. If only a mean value is entered into the database then the data collection forms should be retained.

It may be necessary to round the mean value to the nearest 0.1 cm. If so, rounding should be to the nearest even digit to reduce systematic over reporting. For example, a mean value of 102.25 cm would be rounded to 102.2 cm, while a mean value of 102.35 cm

would be rounded to 102.4 cm.

It is recommended that in population surveys, sociodemographic data including ethnicity should be collected, as well as other risk factors including physiological status (e.g. pregnancy), physical activity, smoking and alcohol consumption. Summary statistics may need to be adjusted for these variables.

Validation and quality control measures:

Steel tapes should be checked against a 1 metre engineer's rule every 12 months. If tapes other than steel are used they should be checked daily against a steel rule.

Within- and, if relevant, between-observer variability should be reported. They can be assessed by the same (within -) or different (between-) observers repeating the measurement, on the same subjects, under standard conditions after a short time interval. The standard deviation of replicate measurements (technical error of measurement (Pederson & Gore 1996)) between observers should not exceed 2% and be less than 1.5% within observers.

Extreme values at the lower and upper end of the distribution of measured hip circumference should be checked both during data collection and after data entry. Individuals should not be excluded on the basis of true biological difference.

Last digit preference, and preference or avoidance of certain values, should be analysed in the total sample and (if relevant) by observer, survey site and over time if the survey period is long.

Related metadata: has been superseded by Hip circumference - measured version 2

Administrative Attributes

Source Document: The measurement protocol described below is that recommended by the World Health Organization (WHO Expert Committee 1995).

Source Organisation: World Health Organization (see also Comments)

Comments: Submitting organisation: The Expert Working Group on Data Standards for Indicators of Body Fatness in Australian Adults through the National Centre for Monitoring Cardiovascular Disease, Australian Institute of Health and Welfare. Date of submission: October 1997.

