

**SAFER • HEALTHIER • PEOPLE™**



**Vital and Health Statistics**

Series 11, Number 252

October 2012

# Anthropometric Reference Data for Children and Adults: United States, 2007–2010



**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
Centers for Disease Control and Prevention  
National Center for Health Statistics

---

**Copyright information**

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

---

**Suggested citation**

Fryar CD, Gu Q, Ogden CL. Anthropometric reference data for children and adults: United States, 2007–2010. National Center for Health Statistics. *Vital Health Stat* 11(252). 2012.

---

**Library of Congress Cataloging-in-Publication Data**

Anthropometric reference data for children and adults : United States, 2007–2010.

p. ; cm.— (Vital and health statistics. Series 11, Data from the National Health Examination Survey, the National Health and Nutrition Examination Surveys, and the Hispanic Health and Nutrition Examination Survey ; no. 252) (HHS publication ; no. (PHS) 2012–1602)

"October 2012."

Includes bibliographical references and index.

ISBN 0–8406–0655–9 (alk. paper)

I. National Center for Health Statistics (U.S.) II. National Health Examination Survey (U.S.) III. National Health and Nutrition Examination Survey (U.S.) IV. Hispanic Health and Nutrition Examination Survey (U.S.) V. Series: Vital and health statistics. Series 11, Data from the national health survey ; no. 252. VI. Series: HHS publication ; no. (PHS) 2012–1602.

[DNLM: 1. Body Weights and Measures—statistics & numerical data—United States. 2. Anthropometry—methods—United States. 3. Nutrition Surveys—United States. W2 A N148vk no.252 2012]

614.5'939—dc23

2012034577

---

For sale by the U.S. Government Printing Office  
Superintendent of Documents  
Mail Stop: SSOP  
Washington, DC 20402-9328  
Printed on acid-free paper.

# Vital and Health Statistics

---

Series 11, Number 252

## Anthropometric Reference Data for Children and Adults: United States, 2007–2010

Data From the National Health  
and Nutrition Examination  
Survey

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Centers for Disease Control and Prevention  
National Center for Health Statistics

Hyattsville, Maryland  
October 2012  
DHHS Publication No. (PHS) 2013–1602

**National Center for Health Statistics**

Edward J. Sondik, Ph.D., *Director*

Jennifer H. Madans, Ph.D., *Associate Director for Science*

**Division of Health and Nutrition Examination Surveys**

Clifford L. Johnson, M.S.P.H., *Director*

# Contents

---

Abstract .....	1
Introduction .....	1
Methods .....	1
Sample Description .....	1
Anthropometry Measures .....	2
Statistical Analysis .....	2
Results .....	2
Discussion .....	2
References .....	3
Appendix .....	40

## Text Table

Detailed tables with anthropometric measurements or indices from the National Health and Nutrition Examination Survey, 2007–2010 .....	3
--	---

## Appendix Table

Historical summary of published anthropometry reference data .....	40
--	----

## Detailed Tables

1. Weight in kilograms for children and adolescents from birth through age 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 .....	5
2. Weight in pounds for children and adolescents from birth through age 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 .....	6
3. Weight in kilograms for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 .....	7
4. Weight in pounds for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 .....	8
5. Weight in kilograms for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 .....	9
6. Weight in pounds for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 .....	10
7. Height in centimeters for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 .....	11
8. Height in inches for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 .....	12
9. Height in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 .....	13
10. Height in inches for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 .....	14
11. Height in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 .....	15

12.	Height in inches for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	16
13.	Body mass index values for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	17
14.	Body mass index values for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	18
15.	Body mass index values for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	19
16.	Head circumference in centimeters for infants from birth through age 6 months and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	20
17.	Recumbent length in centimeters for children from birth through age 36 months and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	21
18.	Waist circumference in centimeters for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	22
19.	Waist circumference in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	23
20.	Waist circumference in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	24
21.	Midarm circumference in centimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	25
22.	Midarm circumference in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	26
23.	Midarm circumference in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	27
24.	Upper arm length in centimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	28
25.	Upper arm length in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	29
26.	Upper arm length in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	30
27.	Subscapular skinfold thickness in millimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	31
28.	Subscapular skinfold thickness in millimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	32
29.	Subscapular skinfold thickness in millimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	33
30.	Triceps skinfold thickness in millimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	34
31.	Triceps skinfold thickness in millimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	35
32.	Triceps skinfold thickness in millimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	36
33.	Upper leg length in centimeters for children and adolescents aged 8–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010 . . . . .	37
34.	Upper leg length in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	38
35.	Upper leg length in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010 . . . . .	39

**Objective**

This report presents national anthropometric reference data for all ages of the U.S. population in 2007–2010, adding to results published previously from the years 1960–2006.

**Methods**

Data are from the National Health and Nutrition Examination Survey (NHANES), a complex, stratified, and multistage probability sample of the civilian noninstitutionalized U.S. population. Anthropometry measurements were obtained from 20,015 survey participants. The anthropometric measures included weight, height, recumbent length, circumferences, limb lengths, and skinfold thickness measurements.

**Results**

The tables in this report include weighted population means, standard errors of the means, and selected percentiles of body measurement values. Because measurements varied by sex and age (as well as race and ethnicity in adults), results are reported by these subgroups.

**Conclusions**

These latest NHANES data add to the knowledge about trends in child growth and development and trends in the distribution of body measurements, such as weight and height, in the U.S. population.

**Keywords:** anthropometry • body measures • nutrition surveys • National Health and Nutrition Examination Survey

# Anthropometric Reference Data for Children and Adults: United States, 2007–2010

by Cheryl D. Fryar, M.S.P.H.; Qiuping Gu, M.D.; and Cynthia L. Ogden, Ph.D., Division of Health and Nutrition Examination Surveys

## Introduction

The field of anthropometry encompasses a variety of human body measurements, such as weight, height, and size, including skinfold thicknesses, circumferences, lengths, and breadths. Anthropometry is a key component of nutritional status assessment in children and adults (1). Anthropometric data for children reflect general health status, dietary adequacy, and growth and development over time. In adults, body measurement data are used to evaluate health and dietary status, disease risk, and body composition changes that occur over the adult lifespan. This report provides anthropometric reference data from the years 2007–2010 for U.S. children and adults of all ages.

## Methods

National Health and Nutrition Examination Surveys (NHANES) are conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics. NHANES data are the primary source of body measurement information for the U.S. population. Household interviews and health examinations are used to collect NHANES data. Health examinations are conducted in mobile examination centers. The examination centers are staffed by full-time personnel, including health technicians who obtain body measurements from survey participants.

Surveys were conducted on a periodic basis from 1960 to 1994. NHANES became a continuous survey

in 1999. Each of the continuous NHANES annual samples is nationally representative. For reasons that include disclosure and data reliability, public-use data files are released in 2-year cycles. A combined 4-year dataset based on 2007–2008 and 2009–2010 data was used for this report to improve the stability and reliability of the statistical estimates (2–5).

## Sample Description

NHANES is a complex, multistage probability sample of the civilian noninstitutionalized U.S. population. The NHANES 2007–2010 sample included participants of all ages. Those aged 60 and over, all Hispanic persons, black persons, and those with low income were oversampled to improve the precision of the statistical estimates for these groups (2). The oversampling of all Hispanic persons is new to the 2007–2010 data collection methodology. In addition to allowing estimates for the total Hispanic group, sampling fractions were set so that the sample size for Mexican-American participants would not be very different from previous years and would be sufficient to produce reliable estimates for this group (3). The analytic sample for this report was based on the 2007–2010 examined sample of 20,015 persons. Pregnant females were excluded from the tabulations of weight, body mass index (BMI), circumference measurements, and skinfold thickness data.

The age and race/ethnicity categories used for adults aged 20 and over were based on the survey sample domains that were recommended in the

NHANES Analytic Guidelines (2). Age was categorized into three groups: 20–39, 40–59, and 60 and over. Race/ethnicity was reported for non-Hispanic white persons, non-Hispanic black persons, all Hispanic persons, and Mexican-American persons. Age groups for participants who were under age 20 are by single years, except for infants under age 1 year, which are by month.

## Anthropometry Measures

Although portions of the health examination component have varied during the survey's history, much of the anthropometry component methodology has remained consistent over time. The NHANES Anthropometry Procedures Manual describes the protocol, equipment, quality control, and measurement procedures in detail (6).

Weight was measured to the nearest 0.1 kilogram. Stature, length, and circumference measurements were made to the nearest 0.1 centimeter. Skinfold thickness measures were made to the nearest 0.1 millimeter. Weight was measured using a digital floor scale, and an infantometer was used to measure recumbent length on infants and young children. Standing height was measured with a wall-mounted stadiometer. BMI was calculated as weight in kilograms, divided by height in meters squared ( $\text{kg}/\text{m}^2$ ). Head circumference measurements were made using a plastic head circumference measurement tape. Upper arm length was measured with a tape measure from the posterior border of the acromion process to the tip of the olecranon process; during the measurement, the upper arm length midpoint was marked. The midarm circumference was measured with a tape measure. Triceps and subscapular skinfolds were measured with a skinfold caliper. Waist circumference was measured with a tape measure at the uppermost lateral border of the hip crest (ilium). Weight, recumbent length, and standing height values were recorded automatically. The other body measurement data were recorded using computer-assisted data entry, and all

results were based on a single body measurement examination.

In addition to the measurements above, upper leg length measurements were taken on participants aged 8 and over. This measurement was taken on seated participants; the distance from the inguinal crease to the distal end of the femur was measured.

## Statistical Analysis

Population means, standard errors of the means, and percentiles were weighted using NHANES 4-year calculated examination sample weights ( $\text{MEC4YR}=1/2*\text{wtmec2yr}$ ) to produce national estimates. The NHANES examination sample weights incorporate the differential probabilities of selection and include adjustments for oversampling of selected populations, noncoverage, and nonresponse. Standard errors were estimated using SUDAAN by Taylor series linearization because of the complex sample design (7).

The reliability of the estimates produced for this report was evaluated. Estimates based on less than 12 degrees of freedom or with a relative standard error (RSE) greater than 30% were considered statistically unreliable (2). RSE is defined as the ratio of the standard error of the estimate, divided by the estimate, multiplied by 100. No estimates in this report had RSEs greater than 30%. In [Tables 1–35](#), estimates based on less than 12 degrees of freedom are identified with an asterisk (\*). Estimates with standard errors that were not able to be calculated using SUDAAN because of small cell sizes were omitted from the tables and are identified with a dagger (†).

## Results

A list of detailed tables based on the anthropometric measurements and indices in the survey is found in the [Table](#) on the following page. [Tables 1–35](#) contain the results from each measurement or index. Results are reported by sex and age group, and the

results for adults aged 20 and over are also presented by racial and ethnic group. Results from previous surveys for most measurements have been reported for the National Health Examination Survey and NHANES conducted from 1960–2006 (8–20). A historical summary of published body measurement reference data is available in the [Appendix](#) of this report.

## Discussion

This report provides the most recent anthropometric reference data for U.S. children and adults. NHANES anthropometric data have been used by researchers and policy makers for a variety of research and policy applications. The national overweight and obesity trends among children (21) were instrumental in developing the Let's Move Campaign, a comprehensive initiative launched by the First Lady of the United States, “dedicated to solving the problem of obesity within a generation” (22). The increasing midarm circumferences found in children and adults have been used to formulate guidelines for health practitioners regarding the selection of blood pressure cuff sizes for blood pressure measurement (23). The Consumer Product Safety Commission used NHANES anthropometric data to examine whether changes in physical dimensions of U.S. children have any practical significance for the evaluation of the hazard and design of safe products for children (24). The Federal Aviation Administration used NHANES body measurement data in the determination of average passenger weights in its Advisory Circular on Aircraft Weight and Balance Control (25). Similarly, the U.S. Coast Guard looked at NHANES body weight data when considering passenger weight and vessel stability requirements (26). NHANES will continue to collect anthropometric data and provide vital information to support national health programs and policy efforts.



**Table. Detailed tables with anthropometric measurements or indices from the National Health and Nutrition Examination Survey, 2007–2010**

Table number	Measurement (unit of measurement)	Age group and sex
1 . . . . .	Weight (kilograms)	Birth–19 years
2 . . . . .	Weight (pounds)	Birth–19 years
3 . . . . .	Weight (kilograms)	Females 20 years and over
4 . . . . .	Weight (pounds)	Females 20 years and over
5 . . . . .	Weight (kilograms)	Males 20 years and over
6 . . . . .	Weight (pounds)	Males 20 years and over
7 . . . . .	Standing height (centimeters)	Persons 2–19 years
8 . . . . .	Standing height (inches)	Persons 2–19 years
9 . . . . .	Standing height (centimeters)	Females 20 years and over
10 . . . . .	Standing height (inches)	Females 20 years and over
11 . . . . .	Standing height (centimeters)	Males 20 years and over
12 . . . . .	Standing height (inches)	Males 20 years and over
13 . . . . .	Body mass index (BMI value)	Persons 2–19 years
14 . . . . .	Body mass index (BMI value)	Females 20 years and over
15 . . . . .	Body mass index (BMI value)	Males 20 years and over
16 . . . . .	Head circumference (centimeters)	Birth through 6 months
17 . . . . .	Recumbent length (centimeters)	Birth through 36 months
18 . . . . .	Waist circumference (centimeters)	Persons 2–19 years
19 . . . . .	Waist circumference (centimeters)	Females 20 years and over
20 . . . . .	Waist circumference (centimeters)	Males 20 years and over
21 . . . . .	Midarm circumference (centimeters)	Persons 2 months–19 years
22 . . . . .	Midarm circumference (centimeters)	Females 20 years and over
23 . . . . .	Midarm circumference (centimeters)	Males 20 years and over
24 . . . . .	Upper arm length (centimeters)	Persons 2 months–19 years
25 . . . . .	Upper arm length (centimeters)	Females 20 years and over
26 . . . . .	Upper arm length (centimeters)	Males 20 years and over
27 . . . . .	Subscapular skinfold (millimeters)	Persons 2 months–19 years
28 . . . . .	Subscapular skinfold (millimeters)	Females 20 years and over
29 . . . . .	Subscapular skinfold (millimeters)	Males 20 years and over
30 . . . . .	Triceps skinfold (millimeters)	Persons 2 months–19 years
31 . . . . .	Triceps skinfold (millimeters)	Females 20 years and over
32 . . . . .	Triceps skinfold (millimeters)	Males 20 years and over
33 . . . . .	Upper leg length (centimeters)	Persons 8–19 years
34 . . . . .	Upper leg length (centimeters)	Females 20 years and over
35 . . . . .	Upper leg length (centimeters)	Males 20 years and over

## References

1. Simko MD, Cowell C, Gilbride JA. Nutrition Assessment: A Comprehensive Guide for Planning Intervention. 2nd ed. Gaithersburg, MD: Aspen Publishers. 1995.
2. Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey: Analytic guidelines. Hyattsville, MD: National Center for Health Statistics. 2006. Available from: [http://www.cdc.gov/nchs/nhanes/nhanes2003-2004/analytical\\_guidelines.htm](http://www.cdc.gov/nchs/nhanes/nhanes2003-2004/analytical_guidelines.htm).
3. Centers for Disease Control and Prevention. Analytic note regarding 2007–2010 survey design changes and combining data across other survey cycles. Hyattsville, MD: National Center for Health Statistics. Available from: [http://www.cdc.gov/nchs/data/nhanes/analyticnote\\_2007-2010.pdf](http://www.cdc.gov/nchs/data/nhanes/analyticnote_2007-2010.pdf).
4. National Center for Health Statistics. National Health and Nutrition Examination Survey, 2007–2008 data documentation, codebook, and frequencies. 2009. Available from: [http://www.cdc.gov/nchs/nhanes/nhanes2007-2008/BMX\\_E.htm](http://www.cdc.gov/nchs/nhanes/nhanes2007-2008/BMX_E.htm).
5. National Center for Health Statistics. National Health and Nutrition Examination Survey: NHANES 2009–2010 examination files. 2011. Available from: [http://www.cdc.gov/nchs/nhanes/nhanes2009-2010/exam09\\_10.htm](http://www.cdc.gov/nchs/nhanes/nhanes2009-2010/exam09_10.htm).
6. Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey (NHANES) anthropometry procedures manual. 2009. Available from: [http://www.cdc.gov/nchs/data/nhanes/nhanes\\_09\\_10/BodyMeasures\\_09.pdf](http://www.cdc.gov/nchs/data/nhanes/nhanes_09_10/BodyMeasures_09.pdf).
7. Wolter KM. Introduction to Variance Estimation. New York, NY: Springer-Verlag. 1990.
8. Stoudt HW, Damon A, McFarland R, Roberts J. Skinfolts, body girths, biacromial diameter, and selected anthropometric indices of adults: United States, 1960–1962. National Center for Health Statistics. Vital Health Stat 11(35). 1970. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_035acc.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_035acc.pdf).
9. Stoudt HW, Damon A, McFarland R, Roberts J. Weight, height, and selected body dimensions of adults: United States, 1960–1962. National Center for Health Statistics. Vital Health Stat 11(8). 1965. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_008.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_008.pdf).
10. Roberts J. Weight by height and age of adults: United States, 1960–1962. National Center for Health Statistics. Vital Health Stat 11(14). 1966. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_014acc.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_014acc.pdf).
11. Malina RM, Hamill PVV, Johnston FE, Lemeshow S. Selected body measurements of children 6–11 years: United States. National Center for Health Statistics. Vital Health Stat 11(123). 1973. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_123acc.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_123acc.pdf).
12. Hamill PV, Johnston FE, Lemeshow S. Height and weight of youths 12–17 years: United States. National Center for Health Statistics. Vital Health Stat 11(124). 1973. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_124.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_124.pdf).
13. Abraham S, Johnson CL, Najjar MF. Weight and height of adults 18–74 years of age: United States, 1971–74. National Center for Health Statistics. Vital Health Stat 11(211). 1979. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_211.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_211.pdf).
14. Johnson CL, Fulwood R, Abraham S, Bryner JD. Basic data on anthropometric measurements and angular measurements of the hip and knee joints for selected age groups 1–74 years of age: United States, 1971–1975. National Center for Health Statistics. Vital Health Stat 11(219). 1981. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_219.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_219.pdf).
15. Najjar MF, Rowland M. Anthropometric reference data and prevalence of overweight: United States, 1976–80. National Center for Health Statistics. Vital Health Stat 11(238). 1987. Available from:

- [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_238.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_238.pdf).
16. Najjar MF, Kuczmarski RJ. Anthropometric data and prevalence of overweight for Hispanics: 1982–84. National Center for Health Statistics. Vital Health Stat 11(239). 1989. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_239.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_239.pdf).
  17. McDowell MA, Fryar CD, Ogden CL. Anthropometric reference data for children and adults: United States, 1988–1994. National Center for Health Statistics. Vital Health Stat 11(249). 2009. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_249.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_249.pdf).
  18. Ogden CL, Fryar CD, Carroll MD, Flegal KM. Mean body weight, height, and body mass index, United States 1960–2002. Advance data from vital and health statistics; no 347. Hyattsville, MD: National Center for Health Statistics. 2004. Available from: <http://www.cdc.gov/nchs/data/ad/ad347.pdf>.
  19. McDowell MA, Fryar CD, Hirsch R, Ogden CL. Anthropometric reference data for children and adults: U.S. population, 1999–2002. Advance data from vital and health statistics; no 361. Hyattsville, MD: National Center for Health Statistics. 2005. Available from: <http://www.cdc.gov/nchs/data/ad/ad361.pdf>.
  20. McDowell MA, Fryar CD, Ogden CL, Flegal KM. Anthropometric reference data for children and adults: United States, 2003–2006. National health statistics reports; no 10. Hyattsville, MD: National Center for Health Statistics. 2008. Available from: <http://www.cdc.gov/nchs/data/nhsr/nhsr010.pdf>.
  21. Ogden CL, Carroll MD, Curtin LR, Lamb MM, Flegal KM. Prevalence of high body mass index in US children and adolescents, 2007–2008. JAMA 303(3):242–9. 2010.
  22. Executive Office of the President. White House Task Force on Childhood Obesity: Report to the President. Solving the problem of childhood obesity. 2010. Available from: <http://www.letsmove.gov/white-house-task-force-childhood-obesity-report-president>.
  23. Ostchega Y, Dillon C, Carroll M, Prineas RJ, McDowell M. US demographic trends in mid-arm circumference and recommended blood pressure cuffs: 1988–2002. J Hum Hypertens 19(11):885–91. 2005.
  24. Consumer Product Safety Commission. Human factors staff recommendation for anthropometry. 1998. Available from: <http://www.cpsc.gov/library/foia/foia98/os/antrpmttr.pdf>.
  25. U.S. Department of Transportation. Advisory circular: Aircraft weight and balance control. Federal Aviation Administration. 2004.
  26. Department of Homeland Security. Passenger weight and vessel stability requirements: Final rule. Fed Regist 75(239):78069. 2010.

**Table 1. Weight in kilograms for children and adolescents from birth through age 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Kilograms								
Birth to 2 months . . . . .	82	5.2	0.09	3.5	3.8	4.0	4.5	5.4	5.8	6.0	6.1	6.3
3–5 months . . . . .	111	7.1	0.11	5.6	5.8	6.0	6.2	7.0	7.5	8.1	8.4	8.6
6–8 months . . . . .	103	8.7	0.13	7.2	7.5	7.7	8.1	8.7	9.2	9.5	10.0	10.6
9–11 months . . . . .	108	9.6	0.15	†	8.1	8.2	8.7	9.3	10.5	11.1	11.2	11.7
1 year . . . . .	318	11.3	0.09	8.9	9.4	9.7	10.2	11.4	12.2	12.8	13.0	13.8
2 years . . . . .	325	14.0	0.14	11.3	11.8	12.2	12.6	13.9	15.0	15.7	16.4	17.3
3 years . . . . .	203	16.2	0.21	13.1	13.6	14.0	14.7	15.9	17.2	17.8	18.3	20.2
4 years . . . . .	244	18.5	0.22	14.9	15.2	15.6	16.2	17.7	19.5	21.5	23.0	25.5
5 years . . . . .	205	21.2	0.32	16.3	17.1	17.8	18.9	20.2	22.1	24.4	27.1	31.0
6 years . . . . .	193	24.3	0.47	16.8	18.1	19.1	20.3	23.1	25.6	29.1	35.0	36.5
7 years . . . . .	216	26.7	0.43	19.7	20.3	21.1	22.2	24.9	29.6	33.5	34.8	39.5
8 years . . . . .	211	31.3	0.70	21.6	22.7	23.8	25.8	29.8	35.3	39.4	42.1	46.5
9 years . . . . .	191	36.6	1.17	22.8	24.6	26.6	28.3	33.0	42.8	49.2	52.6	†
10 years . . . . .	197	40.0	0.93	25.8	28.6	30.2	32.1	38.0	46.1	52.2	54.0	59.7
11 years . . . . .	211	46.6	1.13	31.5	33.7	34.5	35.9	42.4	54.4	60.8	66.8	73.5
12 years . . . . .	159	51.5	1.27	31.3	34.5	36.6	39.9	49.2	60.7	68.0	69.7	75.1
13 years . . . . .	146	59.2	1.45	38.0	42.7	44.6	48.5	56.6	63.6	71.4	81.0	95.8
14 years . . . . .	177	63.9	1.92	40.2	42.3	47.0	52.2	60.4	71.2	81.2	88.9	†
15 years . . . . .	160	70.1	1.95	48.4	50.6	53.9	56.2	66.0	76.4	86.9	94.2	115.3
16 years . . . . .	175	75.1	1.52	52.0	56.2	57.7	62.3	70.7	84.4	92.9	99.8	108.9
17 years . . . . .	188	77.4	2.41	52.3	58.1	60.9	64.4	71.0	85.4	95.3	104.8	128.5
18 years . . . . .	142	81.3	2.00	56.7	60.1	61.9	66.5	78.3	90.3	95.8	106.1	†
19 years . . . . .	179	79.5	1.39	57.6	62.3	63.6	66.9	76.6	85.6	95.8	98.8	119.1
Female												
Birth to 2 months . . . . .	82	5.0	0.11	3.0	3.6	4.2	4.5	5.1	5.4	5.6	5.8	6.0
3–5 months . . . . .	104	6.7	0.07	5.2	5.4	5.7	6.1	6.8	7.2	7.4	7.7	7.9
6–8 months . . . . .	103	8.1	0.07	6.7	7.0	7.2	7.4	8.0	8.7	8.9	9.3	9.6
9–11 months . . . . .	119	9.0	0.12	7.3	7.6	7.8	8.4	8.9	9.7	10.0	10.2	10.7
1 year . . . . .	297	10.9	0.10	8.7	8.9	9.2	9.7	10.7	11.7	12.2	12.7	13.1
2 years . . . . .	282	13.4	0.15	10.9	11.2	11.7	12.1	13.2	14.4	14.9	15.6	16.5
3 years . . . . .	191	15.7	0.24	12.3	12.8	13.1	13.8	15.4	16.9	18.1	18.9	19.7
4 years . . . . .	200	17.7	0.21	14.2	14.9	15.1	15.8	17.1	18.9	20.4	22.0	23.1
5 years . . . . .	177	21.1	0.54	15.9	16.6	17.4	18.1	19.7	22.4	24.2	26.4	†
6 years . . . . .	177	23.6	0.47	18.3	18.7	19.2	20.4	22.5	25.2	27.6	30.3	33.5
7 years . . . . .	207	26.8	0.53	19.4	20.6	21.0	22.1	25.2	28.9	32.8	35.4	39.6
8 years . . . . .	203	31.9	1.01	21.8	23.1	23.7	25.0	29.2	37.8	42.4	43.6	48.0
9 years . . . . .	205	35.5	0.98	23.3	26.1	26.5	28.0	31.9	40.1	46.1	49.3	55.7
10 years . . . . .	183	41.1	0.74	27.3	29.1	30.1	33.6	39.0	45.3	52.3	55.0	61.3
11 years . . . . .	219	47.5	1.28	30.0	31.5	33.0	36.1	43.3	56.5	63.0	66.8	79.6
12 years . . . . .	166	52.3	1.26	30.6	34.8	38.0	43.1	51.4	60.3	65.7	72.1	75.7
13 years . . . . .	140	56.8	1.41	38.8	41.4	44.6	46.1	52.3	64.8	72.4	75.7	83.2
14 years . . . . .	168	61.6	1.13	42.7	44.8	47.7	51.1	59.0	67.1	73.5	76.4	†
15 years . . . . .	137	63.3	1.32	44.2	46.5	48.2	54.5	59.5	70.6	77.1	85.8	92.3
16 years . . . . .	156	62.4	1.11	45.5	48.4	50.0	51.3	58.7	69.5	77.9	84.8	92.0
17 years . . . . .	143	63.7	1.56	45.4	47.9	49.1	51.8	60.8	68.4	80.0	83.8	92.0
18 years . . . . .	137	65.4	1.67	46.6	50.6	51.8	53.5	58.6	69.5	80.4	85.8	105.0
19 years . . . . .	118	68.0	2.00	44.4	47.1	51.0	55.1	62.8	76.8	88.2	94.9	106.7

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 2. Weight in pounds for children and adolescents from birth through age 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Pounds								
Birth to 2 months . . . . .	82	11.5	0.20	7.7	8.3	8.9	10.0	11.9	12.8	13.2	13.5	13.9
3–5 months . . . . .	111	15.6	0.24	12.4	12.8	13.1	13.8	15.5	16.6	17.8	18.5	18.9
6–8 months . . . . .	103	19.2	0.28	15.9	16.5	17.0	17.8	19.2	20.3	20.9	22.0	23.3
9–11 months . . . . .	108	21.2	0.33	†	17.8	18.1	19.2	20.6	23.2	24.5	24.8	25.7
1 year . . . . .	318	25.0	0.20	19.6	20.8	21.3	22.6	25.0	27.0	28.2	28.6	30.5
2 years . . . . .	325	31.0	0.32	24.8	26.0	26.9	27.8	30.6	33.1	34.7	36.2	38.2
3 years . . . . .	203	35.8	0.45	28.9	30.1	30.9	32.5	35.0	37.9	39.3	40.3	44.6
4 years . . . . .	244	40.7	0.48	32.8	33.6	34.3	35.7	39.1	42.9	47.4	50.7	56.3
5 years . . . . .	205	46.7	0.70	35.9	37.7	39.2	41.6	44.6	48.8	53.8	59.7	68.4
6 years . . . . .	193	53.5	1.03	37.0	39.9	42.0	44.8	50.9	56.5	64.0	77.1	80.5
7 years . . . . .	216	58.9	0.95	43.5	44.7	46.6	48.9	54.9	65.2	73.8	76.7	87.2
8 years . . . . .	211	69.1	1.55	47.7	50.0	52.4	57.0	65.7	77.8	86.9	92.8	102.5
9 years . . . . .	191	80.7	2.58	50.2	54.2	58.7	62.3	72.8	94.3	108.4	116.0	†
10 years . . . . .	197	88.3	2.06	56.8	63.1	66.5	70.7	83.8	101.6	115.2	119.1	131.7
11 years . . . . .	211	102.8	2.50	69.5	74.3	76.1	79.1	93.4	119.9	134.0	147.2	161.9
12 years . . . . .	159	113.5	2.79	69.0	76.0	80.7	88.1	108.4	133.9	150.0	153.7	165.5
13 years . . . . .	146	130.5	3.20	83.7	94.2	98.2	106.9	124.8	140.3	157.3	178.6	211.1
14 years . . . . .	177	140.9	4.24	88.7	93.3	103.6	115.1	133.1	156.9	178.9	196.1	†
15 years . . . . .	160	154.5	4.31	106.8	111.5	118.7	124.0	145.5	168.4	191.6	207.7	254.2
16 years . . . . .	175	165.7	3.36	114.7	123.8	127.2	137.4	156.0	186.0	204.8	219.9	240.1
17 years . . . . .	188	170.7	5.30	115.4	128.0	134.2	142.0	156.6	188.3	210.1	231.2	283.2
18 years . . . . .	142	179.3	4.41	125.0	132.6	136.4	146.6	172.7	199.1	211.2	233.9	†
19 years . . . . .	179	175.3	3.07	127.0	137.4	140.3	147.6	168.9	188.6	211.1	217.9	262.5
Female												
Birth to 2 months . . . . .	82	11.0	0.25	6.5	8.0	9.3	9.9	11.3	11.9	12.4	12.9	13.2
3–5 months . . . . .	104	14.8	0.15	11.4	12.0	12.5	13.4	14.9	15.8	16.3	17.0	17.4
6–8 months . . . . .	103	17.9	0.16	14.7	15.4	15.8	16.4	17.6	19.2	19.7	20.5	21.1
9–11 months . . . . .	119	19.9	0.26	16.0	16.7	17.1	18.4	19.7	21.4	22.1	22.4	23.6
1 year . . . . .	297	24.1	0.22	19.2	19.7	20.2	21.5	23.7	25.9	26.9	28.1	28.9
2 years . . . . .	282	29.5	0.32	24.0	24.7	25.8	26.6	29.0	31.8	32.9	34.4	36.3
3 years . . . . .	191	34.5	0.52	27.2	28.1	28.8	30.4	34.0	37.2	39.9	41.7	43.4
4 years . . . . .	200	39.1	0.47	31.3	32.8	33.3	34.7	37.7	41.6	45.0	48.6	50.9
5 years . . . . .	177	46.6	1.20	35.1	36.6	38.4	40.0	43.5	49.4	53.2	58.2	†
6 years . . . . .	177	51.9	1.03	40.4	41.3	42.4	45.0	49.6	55.6	60.9	66.7	73.9
7 years . . . . .	207	59.1	1.17	42.7	45.3	46.4	48.8	55.6	63.7	72.2	78.0	87.3
8 years . . . . .	203	70.3	2.23	48.0	51.0	52.3	55.1	64.4	83.4	93.5	96.1	105.7
9 years . . . . .	205	78.2	2.17	51.3	57.6	58.3	61.8	70.4	88.3	101.6	108.8	122.7
10 years . . . . .	183	90.7	1.64	60.2	64.1	66.4	74.0	86.1	99.8	115.2	121.3	135.2
11 years . . . . .	219	104.8	2.82	66.2	69.4	72.8	79.5	95.6	124.5	138.9	147.2	175.5
12 years . . . . .	166	115.2	2.77	67.4	76.6	83.7	95.0	113.3	132.9	144.9	159.0	166.8
13 years . . . . .	140	125.3	3.10	85.5	91.2	98.3	101.6	115.3	142.9	159.7	166.8	183.4
14 years . . . . .	168	135.8	2.50	94.0	98.8	105.2	112.7	130.1	148.0	162.1	168.5	†
15 years . . . . .	137	139.6	2.92	97.5	102.6	106.2	120.2	131.1	155.7	170.0	189.1	203.4
16 years . . . . .	156	137.6	2.44	100.4	106.8	110.3	113.2	129.4	153.2	171.7	187.0	202.8
17 years . . . . .	143	140.4	3.44	100.2	105.7	108.2	114.1	134.0	150.7	176.5	184.8	202.8
18 years . . . . .	137	144.2	3.68	102.8	111.6	114.3	117.9	129.1	153.1	177.2	189.1	231.6
19 years . . . . .	118	150.0	4.41	98.0	103.8	112.4	121.4	138.4	169.4	194.5	209.3	235.2

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 3. Weight in kilograms for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Kilograms</b>								
20 years and over . . . . .	5,844	75.4	0.35	50.2	53.6	56.6	61.1	71.3	85.5	95.4	102.2	113.8
20–29 years . . . . .	906	73.4	1.13	48.6	52.1	53.8	57.3	67.7	82.2	94.8	103.1	120.0
30–39 years . . . . .	982	76.7	0.94	50.9	53.9	57.4	62.2	72.5	88.1	97.6	102.2	115.2
40–49 years . . . . .	1,056	76.2	0.74	50.8	54.8	57.4	61.2	71.8	85.7	96.2	103.7	114.9
50–59 years . . . . .	873	77.1	0.83	51.1	55.9	58.4	62.8	73.2	87.9	96.8	104.4	115.8
60–69 years . . . . .	951	77.4	0.65	52.8	57.2	60.0	63.7	75.2	87.3	95.7	102.7	109.5
70–79 years . . . . .	679	74.8	0.69	49.9	53.5	57.0	62.1	72.3	84.9	91.5	99.1	109.2
80 years and over . . . . .	397	64.9	0.73	45.4	49.8	51.8	55.8	63.5	71.9	78.4	82.9	87.4
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,730	75.0	0.51	50.6	53.8	56.7	61.2	71.0	85.0	95.0	101.5	112.0
20–39 years . . . . .	792	74.7	1.16	50.1	53.4	55.8	59.9	69.9	84.6	96.3	102.2	116.8
40–59 years . . . . .	861	76.1	0.66	50.9	55.0	57.5	61.8	71.9	86.1	96.2	103.0	115.5
60 years and over . . . . .	1,077	73.9	0.44	50.4	53.5	57.1	61.3	71.4	84.1	91.7	98.5	106.8
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,128	85.2	0.78	53.9	58.7	61.9	68.5	80.5	97.7	107.7	115.7	130.5
20–39 years . . . . .	372	84.4	1.16	51.6	57.0	60.9	65.8	79.9	98.3	109.7	117.4	133.6
40–59 years . . . . .	383	88.3	1.22	56.9	60.7	65.4	71.0	83.2	100.5	110.4	116.7	131.7
60 years and over . . . . .	373	80.7	1.04	52.8	57.1	61.2	67.6	77.7	90.9	100.3	106.1	114.8
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,708	72.9	0.46	49.7	53.1	56.0	60.5	70.2	82.3	89.9	95.6	103.5
20–39 years . . . . .	619	72.3	0.60	48.8	52.1	54.1	58.8	68.7	83.3	91.1	96.5	105.1
40–59 years . . . . .	579	74.6	0.83	52.0	57.0	59.4	63.9	72.1	82.7	89.5	95.3	103.7
60 years and over . . . . .	510	70.7	0.47	48.0	51.8	55.6	60.5	69.4	79.1	85.5	90.2	96.9
<b>Mexican American</b>												
20 years and over . . . . .	1,032	73.2	0.40	50.3	53.6	56.5	61.0	70.8	83.0	90.0	94.3	104.0
20–39 years . . . . .	386	72.7	0.66	50.1	52.8	55.0	59.9	69.0	84.0	91.6	96.6	105.9
40–59 years . . . . .	347	75.2	0.97	53.3	57.7	60.5	64.8	73.4	83.0	89.4	93.4	102.5
60 years and over . . . . .	299	70.6	0.56	47.1	51.5	55.5	60.4	69.5	79.3	85.1	89.5	94.1

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 4. Weight in pounds for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Pounds</b>								
20 years and over . . . . .	5,844	166.2	0.78	110.7	118.2	124.8	134.6	157.2	188.6	210.3	225.3	250.9
20–29 years . . . . .	906	161.9	2.49	107.2	114.8	118.5	126.3	149.4	181.2	208.9	227.3	264.5
30–39 years . . . . .	982	169.1	2.07	112.2	118.8	126.5	137.2	159.8	194.2	215.1	225.4	253.9
40–49 years . . . . .	1,056	168.0	1.64	111.9	120.8	126.5	134.9	158.4	189.0	212.0	228.7	253.2
50–59 years . . . . .	873	170.0	1.82	112.7	123.3	128.8	138.5	161.4	193.8	213.3	230.2	255.3
60–69 years . . . . .	951	170.5	1.44	116.5	126.1	132.2	140.4	165.7	192.5	211.0	226.3	241.4
70–79 years . . . . .	679	164.9	1.52	109.9	118.0	125.7	136.9	159.4	187.1	201.7	218.4	240.6
80 years and over . . . . .	397	143.1	1.60	100.2	109.8	114.1	123.1	140.0	158.5	172.9	182.7	192.6
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,730	165.4	1.13	111.6	118.6	125.0	134.9	156.6	187.4	209.3	223.7	246.8
20–39 years . . . . .	792	164.7	2.55	110.4	117.7	123.0	132.0	154.0	186.6	212.3	225.4	257.5
40–59 years . . . . .	861	167.7	1.45	112.3	121.3	126.7	136.2	158.5	189.7	212.2	227.0	254.6
60 years and over . . . . .	1,077	163.0	0.97	111.1	117.9	125.9	135.2	157.5	185.5	202.2	217.1	235.4
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,128	187.9	1.72	118.9	129.5	136.5	151.0	177.5	215.5	237.4	255.1	287.8
20–39 years . . . . .	372	186.2	2.57	113.8	125.6	134.4	145.1	176.2	216.6	241.8	258.9	294.5
40–59 years . . . . .	383	194.7	2.68	125.4	133.9	144.2	156.4	183.4	221.5	243.5	257.3	290.3
60 years and over . . . . .	373	177.8	2.30	116.4	125.9	135.0	149.1	171.4	200.3	221.0	233.9	253.0
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,708	160.6	1.02	109.7	117.0	123.6	133.4	154.7	181.5	198.3	210.7	228.1
20–39 years . . . . .	619	159.4	1.31	107.6	114.8	119.2	129.6	151.4	183.6	200.8	212.8	231.6
40–59 years . . . . .	579	164.5	1.84	114.6	125.6	131.0	140.9	158.9	182.3	197.4	210.1	228.6
60 years and over . . . . .	510	155.8	1.05	105.8	114.2	122.5	133.5	153.0	174.3	188.4	198.8	213.6
<b>Mexican American</b>												
20 years and over . . . . .	1,032	161.5	0.89	110.9	118.1	124.6	134.5	156.0	182.9	198.5	208.0	229.3
20–39 years . . . . .	386	160.3	1.46	110.4	116.4	121.3	132.1	152.1	185.3	202.0	213.0	233.5
40–59 years . . . . .	347	165.8	2.13	117.5	127.1	133.4	142.8	161.8	182.9	197.0	206.0	226.0
60 years and over . . . . .	299	155.5	1.23	103.8	113.6	122.4	133.3	153.2	174.8	187.6	197.4	207.5

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 5. Weight in kilograms for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Kilograms</b>								
20 years and over . . . . .	5,651	88.7	0.45	61.5	66.5	69.7	75.0	86.1	98.9	107.2	114.4	124.1
20–29 years . . . . .	894	83.4	0.85	58.4	62.6	65.3	69.5	80.1	93.7	101.6	109.0	116.8
30–39 years . . . . .	948	90.5	0.75	63.3	67.8	70.8	75.4	86.7	101.1	110.1	117.8	128.0
40–49 years . . . . .	933	91.0	0.96	64.4	69.5	73.5	78.5	87.9	100.6	108.6	116.2	126.3
50–59 years . . . . .	934	91.3	1.10	63.8	69.0	72.9	78.2	88.6	102.9	109.8	117.6	126.6
60–69 years . . . . .	933	90.5	0.76	61.7	67.9	70.9	76.4	88.5	101.2	108.3	115.1	127.4
70–79 years . . . . .	649	86.5	0.88	62.6	66.8	70.4	75.1	84.7	95.1	102.9	109.4	117.9
80 years and over . . . . .	360	79.3	0.81	57.6	61.5	64.1	69.0	77.9	88.2	94.3	97.3	104.5
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,738	90.4	0.42	63.7	68.9	72.2	77.3	88.0	100.6	108.7	115.6	124.1
20–39 years . . . . .	796	88.3	0.77	61.5	65.9	69.4	73.8	85.3	98.5	107.9	113.5	122.7
40–59 years . . . . .	832	92.9	0.71	66.4	72.1	75.0	80.4	90.0	103.1	111.9	117.7	128.7
60 years and over . . . . .	1,110	89.0	0.55	63.5	69.0	72.2	76.6	87.0	98.5	105.6	112.6	121.0
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,094	90.4	0.74	60.9	65.1	67.9	74.0	86.8	101.8	111.4	120.1	132.5
20–39 years . . . . .	356	89.9	1.43	61.3	64.2	66.6	72.1	85.6	101.4	111.7	120.0	134.3
40–59 years . . . . .	372	92.1	1.26	60.5	66.2	71.2	76.9	89.1	103.3	113.3	120.8	132.4
60 years and over . . . . .	366	87.8	1.15	58.0	63.8	67.1	72.0	85.3	98.0	106.5	116.4	128.8
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,541	84.4	0.88	60.4	65.0	67.3	71.4	81.6	93.2	100.2	107.3	121.0
20–39 years . . . . .	573	84.0	1.21	58.6	63.7	66.3	70.3	79.9	92.8	100.4	109.4	123.2
40–59 years . . . . .	577	85.9	0.80	64.2	68.2	70.3	74.9	83.6	94.2	101.3	105.4	117.0
60 years and over . . . . .	391	82.0	1.13	58.6	63.0	66.5	70.2	80.4	90.9	96.6	101.5	109.4
<b>Mexican American</b>												
20 years and over . . . . .	991	84.1	1.04	60.4	65.0	67.3	71.3	81.4	92.8	99.2	106.9	121.4
20–39 years . . . . .	386	84.0	1.48	59.4	63.5	66.2	70.3	80.1	92.9	100.1	109.5	125.3
40–59 years . . . . .	371	85.0	0.90	64.0	68.0	70.1	73.9	82.9	93.7	99.7	104.0	115.8
60 years and over . . . . .	234	81.9	1.44	59.3	63.0	67.1	70.6	80.4	90.4	94.8	97.6	109.1

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 6. Weight in pounds for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Pounds</b>								
20 years and over . . . . .	5,651	195.5	0.99	135.5	146.6	153.7	165.2	189.8	218.0	236.4	252.2	273.6
20–29 years . . . . .	894	183.9	1.87	128.7	137.9	143.9	153.2	176.5	206.6	224.0	240.4	257.5
30–39 years . . . . .	948	199.5	1.66	139.6	149.4	156.0	166.2	191.1	222.9	242.7	259.7	282.2
40–49 years . . . . .	933	200.6	2.12	142.1	153.2	162.0	173.1	193.7	221.9	239.4	256.1	278.5
50–59 years . . . . .	934	201.3	2.43	140.6	152.2	160.8	172.3	195.4	226.9	242.1	259.3	279.0
60–69 years . . . . .	933	199.4	1.67	135.9	149.8	156.2	168.5	195.1	223.0	238.7	253.8	280.8
70–79 years . . . . .	649	190.6	1.95	138.1	147.2	155.1	165.5	186.8	209.8	227.0	241.1	259.9
80 years and over . . . . .	360	174.9	1.79	127.1	135.5	141.3	152.2	171.8	194.4	207.9	214.5	230.3
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,738	199.2	0.92	140.4	151.8	159.1	170.3	194.0	221.7	239.6	254.9	273.6
20–39 years . . . . .	796	194.7	1.71	135.7	145.3	153.0	162.8	188.1	217.2	238.0	250.3	270.6
40–59 years . . . . .	832	204.9	1.56	146.3	159.0	165.4	177.3	198.5	227.4	246.7	259.5	283.7
60 years and over . . . . .	1,110	196.3	1.21	140.1	152.0	159.1	168.8	191.8	217.1	232.7	248.1	266.7
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,094	199.4	1.63	134.3	143.5	149.7	163.1	191.3	224.5	245.7	264.7	292.0
20–39 years . . . . .	356	198.1	3.14	135.2	141.6	146.8	158.9	188.7	223.5	246.3	264.5	296.1
40–59 years . . . . .	372	203.1	2.77	133.4	146.0	156.9	169.5	196.4	227.7	249.8	266.3	291.9
60 years and over . . . . .	366	193.6	2.54	127.8	140.8	147.8	158.7	188.0	216.0	234.7	256.5	283.9
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,541	186.1	1.95	133.2	143.4	148.5	157.5	180.0	205.4	221.0	236.4	266.7
20–39 years . . . . .	573	185.1	2.66	129.2	140.4	146.1	154.9	176.1	204.6	221.4	241.2	271.7
40–59 years . . . . .	577	189.4	1.77	141.6	150.3	155.0	165.2	184.2	207.7	223.3	232.4	258.0
60 years and over . . . . .	391	180.8	2.50	129.1	138.8	146.5	154.7	177.1	200.5	212.9	223.7	241.2
<b>Mexican American</b>												
20 years and over . . . . .	991	185.4	2.30	133.2	143.3	148.4	157.1	179.6	204.6	218.8	235.6	267.6
20–39 years . . . . .	386	185.2	3.27	130.9	140.0	146.0	155.0	176.6	204.8	220.6	241.4	276.2
40–59 years . . . . .	371	187.4	1.98	141.1	150.0	154.6	163.0	182.8	206.6	219.8	229.3	255.3
60 years and over . . . . .	234	180.6	3.17	130.7	138.9	148.0	155.8	177.2	199.3	208.9	215.2	240.6

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.



**Table 7. Height in centimeters for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
2 years	285	91.8	0.38	84.1	85.5	87.0	88.6	92.0	94.9	96.4	97.6	99.5
3 years	202	98.9	0.36	91.1	93.5	94.6	95.9	98.8	101.5	103.9	104.8	105.8
4 years	244	106.2	0.43	97.8	100.1	101.2	103.1	106.0	108.7	111.1	112.8	114.9
5 years	205	113.7	0.55	104.2	106.7	107.2	109.4	113.1	116.9	119.5	121.7	†
6 years	193	119.3	0.45	108.6	112.0	112.7	115.4	119.5	123.3	124.8	126.1	128.2
7 years	215	125.4	0.43	117.1	118.2	118.7	120.3	124.8	128.9	131.9	133.7	136.5
8 years	210	131.6	0.66	122.0	123.4	125.3	128.0	131.4	135.4	137.4	138.8	†
9 years	190	137.9	0.88	123.4	127.6	130.2	132.3	136.7	143.2	145.3	146.5	151.2
10 years	197	142.3	0.64	131.7	133.4	135.3	137.5	142.5	147.0	148.5	149.9	152.8
11 years	211	149.9	0.62	138.8	140.3	142.1	145.0	149.3	154.1	157.1	160.2	163.1
12 years	159	154.6	0.61	143.1	144.4	146.0	149.0	153.4	160.6	163.3	165.8	168.2
13 years	146	163.7	0.68	147.7	151.4	155.2	157.3	164.5	168.9	172.1	174.9	†
14 years	177	168.5	0.94	154.9	157.7	160.1	162.5	169.5	174.3	176.2	177.6	†
15 years	160	173.8	0.88	160.3	164.0	166.9	170.0	173.7	178.2	181.5	183.4	187.8
16 years	175	175.1	0.50	163.3	166.2	168.1	171.0	175.4	178.5	182.1	183.3	186.3
17 years	188	175.9	0.69	162.6	165.4	167.5	172.1	176.1	180.3	183.2	185.4	†
18 years	142	176.4	0.54	164.0	168.8	169.7	172.2	176.8	180.0	183.0	184.4	185.7
19 years	179	177.8	0.81	164.7	168.5	170.1	173.4	178.2	181.9	184.9	187.3	†
Female												
2 years	257	90.4	0.41	84.7	85.5	86.1	87.4	90.0	92.7	95.2	96.1	97.6
3 years	189	98.7	0.39	90.9	92.5	93.6	95.1	99.0	101.7	103.3	104.9	106.9
4 years	200	105.0	0.46	98.0	99.6	100.7	102.0	104.7	107.5	110.0	111.6	112.6
5 years	177	112.6	0.45	104.0	105.6	107.4	109.4	112.0	115.8	117.5	120.3	122.1
6 years	177	119.2	0.52	111.0	112.8	113.5	115.0	118.8	123.1	124.9	126.5	128.9
7 years	207	124.6	0.53	113.5	116.5	118.6	121.1	125.1	128.5	130.4	131.7	134.2
8 years	203	131.3	0.84	121.2	122.5	124.9	126.5	130.7	135.1	137.4	139.7	†
9 years	205	137.0	0.47	127.6	129.2	130.2	132.3	136.7	140.8	143.0	144.9	148.3
10 years	183	144.5	0.52	133.9	134.6	136.8	138.7	144.5	149.8	151.8	153.3	155.4
11 years	219	150.4	0.54	137.5	140.0	141.0	145.9	150.7	155.9	157.8	159.2	161.6
12 years	166	156.1	0.64	142.9	145.0	149.4	151.3	156.7	161.7	163.1	164.6	166.3
13 years	140	160.0	0.55	151.0	152.4	154.1	155.5	159.5	163.5	166.3	169.2	170.4
14 years	168	161.6	0.76	†	152.8	153.7	156.4	161.9	166.5	168.6	169.9	174.7
15 years	137	162.9	0.78	150.9	154.4	155.8	158.8	161.7	167.0	168.9	170.3	176.2
16 years	156	162.2	0.64	151.9	154.1	155.7	157.3	161.4	166.8	169.5	170.5	171.6
17 years	143	163.1	0.62	150.0	152.4	154.6	157.4	164.0	168.5	171.4	172.6	174.7
18 years	137	163.1	0.59	153.8	154.8	157.1	159.2	163.0	167.1	169.6	171.2	173.0
19 years	118	163.3	0.72	153.8	156.1	157.9	159.4	163.1	165.8	167.7	168.9	172.9

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 8. Height in inches for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Inches								
2 years	285	36.2	0.15	33.1	33.7	34.2	34.9	36.2	37.4	37.9	38.4	39.2
3 years	202	38.9	0.14	35.9	36.8	37.2	37.8	38.9	40.0	40.9	41.2	41.7
4 years	244	41.8	0.17	38.5	39.4	39.8	40.6	41.7	42.8	43.8	44.4	45.2
5 years	205	44.8	0.22	41.0	42.0	42.2	43.1	44.5	46.0	47.0	47.9	†
6 years	193	47.0	0.18	42.7	44.1	44.4	45.4	47.0	48.5	49.1	49.7	50.5
7 years	215	49.4	0.17	46.1	46.5	46.7	47.4	49.1	50.8	51.9	52.6	53.8
8 years	210	51.8	0.26	48.0	48.6	49.3	50.4	51.7	53.3	54.1	54.6	†
9 years	190	54.3	0.35	48.6	50.2	51.3	52.1	53.8	56.4	57.2	57.7	59.5
10 years	197	56.0	0.25	51.8	52.5	53.3	54.1	56.1	57.9	58.5	59.0	60.2
11 years	211	59.0	0.24	54.7	55.2	56.0	57.1	58.8	60.6	61.8	63.1	64.2
12 years	159	60.9	0.24	56.3	56.9	57.5	58.6	60.4	63.2	64.3	65.3	66.2
13 years	146	64.5	0.27	58.1	59.6	61.1	61.9	64.8	66.5	67.8	68.8	†
14 years	177	66.3	0.37	61.0	62.1	63.0	64.0	66.7	68.6	69.4	69.9	†
15 years	160	68.4	0.35	63.1	64.6	65.7	66.9	68.4	70.1	71.5	72.2	73.9
16 years	175	68.9	0.20	64.3	65.4	66.2	67.3	69.1	70.3	71.7	72.2	73.4
17 years	188	69.3	0.27	64.0	65.1	65.9	67.8	69.3	71.0	72.1	73.0	†
18 years	142	69.4	0.21	64.6	66.5	66.8	67.8	69.6	70.9	72.0	72.6	73.1
19 years	179	70.0	0.32	64.8	66.3	67.0	68.2	70.2	71.6	72.8	73.7	†
Female												
2 years	257	35.6	0.16	33.4	33.6	33.9	34.4	35.4	36.5	37.5	37.8	38.4
3 years	189	38.9	0.15	35.8	36.4	36.9	37.4	39.0	40.0	40.7	41.3	42.1
4 years	200	41.4	0.18	38.6	39.2	39.6	40.1	41.2	42.3	43.3	43.9	44.3
5 years	177	44.3	0.18	41.0	41.6	42.3	43.1	44.1	45.6	46.3	47.4	48.1
6 years	177	46.9	0.20	43.7	44.4	44.7	45.3	46.8	48.5	49.2	49.8	50.7
7 years	207	49.1	0.21	44.7	45.9	46.7	47.7	49.3	50.6	51.3	51.9	52.8
8 years	203	51.7	0.33	47.7	48.2	49.2	49.8	51.5	53.2	54.1	55.0	†
9 years	205	54.0	0.18	50.2	50.9	51.3	52.1	53.8	55.4	56.3	57.1	58.4
10 years	183	56.9	0.21	52.7	53.0	53.8	54.6	56.9	59.0	59.8	60.4	61.2
11 years	219	59.2	0.21	54.1	55.1	55.5	57.4	59.3	61.4	62.1	62.7	63.6
12 years	166	61.5	0.25	56.3	57.1	58.8	59.6	61.7	63.6	64.2	64.8	65.5
13 years	140	63.0	0.22	59.5	60.0	60.7	61.2	62.8	64.4	65.5	66.6	67.1
14 years	168	63.6	0.30	59.0	60.1	60.5	61.6	63.7	65.5	66.4	66.9	68.8
15 years	137	64.1	0.31	59.4	60.8	61.3	62.5	63.6	65.8	66.5	67.1	69.4
16 years	156	63.8	0.25	59.8	60.7	61.3	61.9	63.5	65.7	66.7	67.1	67.5
17 years	143	64.2	0.25	†	60.0	60.9	62.0	64.6	66.4	67.5	67.9	68.8
18 years	137	64.2	0.23	60.6	60.9	61.9	62.7	64.2	65.8	66.8	67.4	68.1
19 years	118	64.3	0.28	60.6	61.5	62.2	62.7	64.2	65.3	66.0	66.5	68.1

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 9. Height in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
All racial and ethnic groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,971	162.1	0.14	150.7	153.1	154.7	157.3	162.1	166.8	169.2	170.9	173.7
20–29 years . . . . .	980	163.1	0.24	152.0	153.9	155.7	158.1	162.9	167.6	170.2	171.8	175.1
30–39 years . . . . .	1,029	163.4	0.29	151.4	154.6	156.1	158.6	163.4	167.9	170.4	172.4	174.9
40–49 years . . . . .	1,060	163.1	0.22	152.0	154.4	156.1	158.6	162.7	167.5	170.0	171.7	174.5
50–59 years . . . . .	873	162.2	0.30	151.3	153.5	154.9	157.4	162.6	166.7	169.1	170.2	172.6
60–69 years . . . . .	952	161.6	0.26	150.5	152.9	154.8	157.5	162.0	165.8	168.2	169.6	171.7
70–79 years . . . . .	679	159.1	0.32	148.2	150.6	151.9	154.2	159.4	163.3	166.1	167.9	169.8
80 years and over . . . . .	398	155.9	0.36	144.6	147.0	149.3	151.9	156.1	159.8	162.1	163.3	166.3
Non-Hispanic white												
20 years and over . . . . .	2,764	163.1	0.15	152.1	154.4	156.3	158.7	163.0	167.5	169.7	171.6	174.5
20–39 years . . . . .	824	164.9	0.25	153.9	156.6	158.1	160.6	164.8	168.9	171.7	173.7	176.5
40–59 years . . . . .	861	163.8	0.27	153.6	155.6	157.2	159.6	163.7	168.0	170.0	171.7	174.5
60 years and over . . . . .	1,079	160.3	0.22	149.2	151.8	153.4	156.1	160.3	164.5	167.1	168.6	170.7
Non-Hispanic black												
20 years and over . . . . .	1,154	163.0	0.25	152.2	154.6	156.0	158.3	162.8	167.7	169.8	171.4	173.6
20–39 years . . . . .	397	163.7	0.32	153.1	155.4	156.9	159.0	163.5	168.1	170.5	171.8	173.8
40–59 years . . . . .	384	163.5	0.38	152.8	155.1	156.5	158.7	163.0	168.2	170.1	171.8	173.1
60 years and over . . . . .	373	160.6	0.28	149.7	152.1	153.5	156.1	160.6	164.9	167.0	168.5	171.2
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,763	157.1	0.19	146.3	148.8	150.1	152.6	156.9	161.5	163.9	165.6	168.3
20–39 years . . . . .	673	158.2	0.23	147.7	149.7	151.5	153.8	157.9	162.2	165.0	166.6	169.5
40–59 years . . . . .	580	157.1	0.33	146.8	148.8	150.7	152.8	156.7	161.6	163.6	164.8	167.2
60 years and over . . . . .	510	153.7	0.31	143.9	146.0	147.5	149.4	153.3	157.7	159.8	161.6	164.5
Mexican American												
20 years and over . . . . .	1,074	156.6	0.17	145.3	148.4	149.8	152.2	156.4	160.9	163.1	164.8	167.7
20–39 years . . . . .	427	157.5	0.27	145.9	149.5	151.2	153.3	157.5	161.4	163.9	165.4	168.4
40–59 years . . . . .	348	156.6	0.41	145.9	148.6	149.9	152.1	156.0	161.0	163.1	164.6	166.9
60 years and over . . . . .	299	153.3	0.40	143.8	145.8	147.0	149.3	153.2	157.0	159.8	161.4	163.6

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 10. Height in inches for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				Inches								
20 years and over . . . . .	5,971	63.8	0.05	59.3	60.3	60.9	61.9	63.8	65.7	66.6	67.3	68.4
20–29 years . . . . .	980	64.2	0.09	59.9	60.6	61.3	62.2	64.1	66.0	67.0	67.6	68.9
30–39 years . . . . .	1,029	64.3	0.11	59.6	60.9	61.5	62.5	64.3	66.1	67.1	67.9	68.9
40–49 years . . . . .	1,060	64.2	0.09	59.8	60.8	61.4	62.4	64.0	66.0	66.9	67.6	68.7
50–59 years . . . . .	873	63.9	0.12	59.6	60.4	61.0	62.0	64.0	65.6	66.6	67.0	67.9
60–69 years . . . . .	952	63.6	0.10	59.3	60.2	61.0	62.0	63.8	65.3	66.2	66.8	67.6
70–79 years . . . . .	679	62.6	0.13	58.4	59.3	59.8	60.7	62.8	64.3	65.4	66.1	66.9
80 years and over . . . . .	398	61.4	0.14	56.9	57.9	58.8	59.8	61.5	62.9	63.8	64.3	65.5
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,764	64.2	0.06	59.9	60.8	61.5	62.5	64.2	66.0	66.8	67.5	68.7
20–39 years . . . . .	824	64.9	0.10	60.6	61.7	62.2	63.2	64.9	66.5	67.6	68.4	69.5
40–59 years . . . . .	861	64.5	0.11	60.5	61.2	61.9	62.8	64.4	66.1	66.9	67.6	68.7
60 years and over . . . . .	1,079	63.1	0.09	58.7	59.8	60.4	61.5	63.1	64.8	65.8	66.4	67.2
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,154	64.2	0.10	59.9	60.9	61.4	62.3	64.1	66.0	66.8	67.5	68.3
20–39 years . . . . .	397	64.4	0.13	60.3	61.2	61.8	62.6	64.4	66.2	67.1	67.6	68.4
40–59 years . . . . .	384	64.4	0.15	60.2	61.1	61.6	62.5	64.2	66.2	67.0	67.6	68.1
60 years and over . . . . .	373	63.2	0.11	58.9	59.9	60.4	61.4	63.2	64.9	65.8	66.3	67.4
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,763	61.9	0.07	57.6	58.6	59.1	60.1	61.8	63.6	64.5	65.2	66.3
20–39 years . . . . .	673	62.3	0.09	58.1	58.9	59.6	60.5	62.2	63.9	64.9	65.6	66.7
40–59 years . . . . .	580	61.9	0.13	57.8	58.6	59.3	60.1	61.7	63.6	64.4	64.9	65.8
60 years and over . . . . .	510	60.5	0.12	56.6	57.5	58.1	58.8	60.4	62.1	62.9	63.6	64.8
<b>Mexican American</b>												
20 years and over . . . . .	1,074	61.7	0.07	57.2	58.4	59.0	59.9	61.6	63.4	64.2	64.9	66.0
20–39 years . . . . .	427	62.0	0.10	57.4	58.9	59.5	60.3	62.0	63.6	64.5	65.1	66.3
40–59 years . . . . .	348	61.7	0.16	57.5	58.5	59.0	59.9	61.4	63.4	64.2	64.8	65.7
60 years and over . . . . .	299	60.4	0.16	56.6	57.4	57.9	58.8	60.3	61.8	62.9	63.5	64.4

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 11. Height in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,647	175.9	0.20	163.2	166.0	168.0	170.9	176.1	180.9	183.6	185.4	188.2
20–29 years . . . . .	895	176.3	0.33	163.6	166.4	168.8	171.2	176.3	181.7	184.3	185.8	188.3
30–39 years . . . . .	948	176.4	0.36	163.6	166.1	168.3	171.5	176.5	181.8	184.4	186.3	188.5
40–49 years . . . . .	934	176.8	0.42	164.9	167.7	169.1	171.8	176.8	181.6	184.4	186.7	188.9
50–59 years . . . . .	938	176.6	0.32	163.9	167.1	168.5	172.0	176.9	181.1	183.6	185.0	189.0
60–69 years . . . . .	932	174.9	0.25	162.2	164.6	166.9	169.9	175.3	179.7	182.6	184.5	187.0
70–79 years . . . . .	646	173.2	0.34	161.7	164.0	165.7	168.5	173.1	177.7	180.2	182.6	184.7
80 years and over . . . . .	354	170.7	0.39	158.7	161.9	163.5	166.0	170.9	175.7	177.6	178.9	181.6
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,738	177.4	0.19	165.9	168.6	170.3	172.7	177.3	182.0	184.5	186.3	188.8
20–39 years . . . . .	797	178.4	0.35	168.0	170.0	171.5	173.3	178.2	183.0	185.3	187.0	189.0
40–59 years . . . . .	836	178.3	0.28	167.7	170.2	171.7	173.9	178.3	182.2	184.8	186.8	189.5
60 years and over . . . . .	1,105	174.6	0.22	163.1	165.0	166.8	169.8	175.0	179.2	182.0	183.9	186.4
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,091	176.4	0.25	165.4	167.5	169.0	171.8	176.3	180.8	183.4	185.5	188.0
20–39 years . . . . .	356	176.9	0.39	166.4	168.2	170.1	172.4	176.4	181.4	183.8	186.1	187.9
40–59 years . . . . .	373	176.7	0.53	165.0	168.0	169.1	171.9	176.8	181.3	183.7	185.8	188.7
60 years and over . . . . .	362	174.4	0.42	163.1	164.9	166.8	169.5	175.1	178.5	181.6	183.2	185.8
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,541	170.4	0.34	159.0	161.4	162.8	165.3	170.1	175.1	178.1	180.0	183.9
20–39 years . . . . .	573	171.1	0.48	159.0	161.7	163.5	165.6	170.9	176.3	179.2	181.9	185.0
40–59 years . . . . .	577	170.3	0.36	160.0	161.7	162.8	165.5	170.3	174.7	177.2	179.0	181.5
60 years and over . . . . .	391	167.3	0.45	156.8	159.5	160.6	163.0	167.6	171.2	173.5	174.7	177.8
<b>Mexican American</b>												
20 years and over . . . . .	990	169.8	0.39	158.8	160.8	162.4	165.0	169.3	174.0	177.4	179.8	183.3
20–39 years . . . . .	386	170.5	0.61	158.7	160.8	162.5	165.2	170.0	175.4	178.6	181.7	184.9
40–59 years . . . . .	371	169.5	0.35	159.7	161.2	162.8	165.3	168.9	173.3	176.2	177.8	180.8
60 years and over . . . . .	233	167.2	0.54	157.2	158.9	160.5	163.0	167.4	170.6	173.1	174.0	177.3

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 12. Height in inches for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				Inches								
20 years and over . . . . .	5,647	69.3	0.08	64.3	65.4	66.2	67.3	69.3	71.2	72.3	73.0	74.1
20–29 years . . . . .	895	69.4	0.13	64.4	65.5	66.5	67.4	69.4	71.5	72.6	73.1	74.1
30–39 years . . . . .	948	69.5	0.14	64.4	65.4	66.3	67.5	69.5	71.6	72.6	73.3	74.2
40–49 years . . . . .	934	69.6	0.17	64.9	66.0	66.6	67.6	69.6	71.5	72.6	73.5	74.4
50–59 years . . . . .	938	69.5	0.13	64.5	65.8	66.3	67.7	69.7	71.3	72.3	72.8	74.4
60–69 years . . . . .	932	68.8	0.10	63.9	64.8	65.7	66.9	69.0	70.7	71.9	72.6	73.6
70–79 years . . . . .	646	68.2	0.13	63.6	64.6	65.2	66.3	68.2	70.0	70.9	71.9	72.7
80 years and over . . . . .	354	67.2	0.15	62.5	63.7	64.4	65.3	67.3	69.2	69.9	70.4	71.5
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,738	69.8	0.07	65.3	66.4	67.1	68.0	69.8	71.6	72.6	73.3	74.3
20–39 years . . . . .	797	70.2	0.14	66.2	66.9	67.5	68.2	70.2	72.1	73.0	73.6	74.4
40–59 years . . . . .	836	70.2	0.11	66.0	67.0	67.6	68.5	70.2	71.8	72.7	73.6	74.6
60 years and over . . . . .	1,105	68.7	0.09	64.2	64.9	65.7	66.9	68.9	70.6	71.6	72.4	73.4
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,091	69.5	0.10	65.1	65.9	66.5	67.6	69.4	71.2	72.2	73.0	74.0
20–39 years . . . . .	356	69.7	0.15	65.5	66.2	66.9	67.9	69.4	71.4	72.3	73.3	74.0
40–59 years . . . . .	373	69.6	0.21	65.0	66.1	66.6	67.7	69.6	71.4	72.3	73.2	74.3
60 years and over . . . . .	362	68.6	0.17	64.2	64.9	65.7	66.7	68.9	70.3	71.5	72.1	73.1
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,541	67.1	0.13	62.6	63.5	64.1	65.1	67.0	68.9	70.1	70.9	72.4
20–39 years . . . . .	573	67.4	0.19	62.6	63.6	64.4	65.2	67.3	69.4	70.6	71.6	72.8
40–59 years . . . . .	577	67.1	0.14	63.0	63.7	64.1	65.1	67.0	68.8	69.8	70.5	71.5
60 years and over . . . . .	391	65.9	0.18	61.7	62.8	63.2	64.2	66.0	67.4	68.3	68.8	70.0
<b>Mexican American</b>												
20 years and over . . . . .	990	66.9	0.15	62.5	63.3	63.9	65.0	66.7	68.5	69.8	70.8	72.2
20–39 years . . . . .	386	67.1	0.24	62.5	63.3	64.0	65.0	66.9	69.1	70.3	71.5	72.8
40–59 years . . . . .	371	66.7	0.14	62.9	63.5	64.1	65.1	66.5	68.2	69.4	70.0	71.2
60 years and over . . . . .	233	65.8	0.21	61.9	62.6	63.2	64.2	65.9	67.2	68.2	68.5	69.8

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 13. Body mass index values for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>Male</b>				<b>Body mass indices</b>								
2 years	285	16.7	0.13	14.7	15.1	15.4	15.8	16.6	17.3	18.1	18.3	18.9
3 years	202	16.5	0.16	14.4	14.7	15.1	15.4	16.2	17.4	17.8	18.3	19.1
4 years	244	16.3	0.10	14.0	14.3	14.7	15.1	16.0	17.0	17.8	18.3	19.9
5 years	205	16.3	0.15	13.9	14.1	14.4	15.0	15.7	16.8	18.0	18.5	21.0
6 years	193	16.9	0.26	13.8	14.1	14.5	14.8	16.1	17.1	19.8	21.8	23.7
7 years	215	16.9	0.21	13.6	14.1	14.4	14.9	15.8	18.1	20.1	21.0	22.8
8 years	210	17.9	0.27	14.1	14.5	14.9	15.6	16.7	19.4	21.8	22.9	24.4
9 years	190	18.9	0.38	14.1	14.8	15.1	16.0	17.3	21.3	23.6	25.1	27.5
10 years	197	19.6	0.35	14.5	15.0	15.5	16.4	18.4	22.2	24.3	25.1	27.1
11 years	211	20.5	0.36	15.4	16.0	16.4	17.0	19.1	23.1	25.4	26.4	28.7
12 years	159	21.3	0.44	14.6	15.6	16.2	17.5	19.9	24.2	27.0	28.4	30.1
13 years	146	21.9	0.47	16.3	17.1	17.6	18.4	20.4	24.8	26.5	29.5	33.7
14 years	177	22.4	0.59	16.4	16.8	17.5	18.3	21.0	24.3	27.6	30.0	34.1
15 years	160	23.1	0.55	16.8	18.2	18.6	19.3	21.5	25.7	27.6	30.4	33.8
16 years	175	24.4	0.46	18.0	18.6	19.5	20.7	22.7	26.9	30.4	31.5	34.4
17 years	188	24.9	0.70	17.8	19.0	19.4	20.6	23.3	27.5	30.3	33.2	38.6
18 years	142	26.1	0.58	18.8	19.4	20.9	22.1	25.1	29.0	30.7	32.6	36.0
19 years	179	25.2	0.46	19.0	20.3	20.6	21.3	24.0	26.7	28.8	31.2	38.8
<b>Female</b>												
2 years	254	16.5	0.13	14.7	15.1	15.2	15.5	16.4	17.4	18.0	18.4	18.8
3 years	189	16.0	0.15	13.9	14.3	14.5	15.0	15.8	16.8	17.7	18.0	19.0
4 years	200	16.0	0.11	13.6	14.3	14.5	14.8	15.7	16.6	17.8	18.2	19.1
5 years	177	16.5	0.29	13.2	14.2	14.5	15.1	15.8	17.0	18.0	19.8	†
6 years	177	16.5	0.25	13.8	14.1	14.3	15.0	15.8	17.3	18.5	19.5	†
7 years	207	17.1	0.25	13.7	14.3	14.5	14.8	15.9	18.3	20.3	21.6	23.8
8 years	203	18.3	0.38	13.8	14.3	14.7	15.1	17.1	20.5	22.7	23.6	25.4
9 years	205	18.7	0.43	14.0	14.7	14.8	15.4	17.3	20.5	23.1	25.3	26.3
10 years	183	19.5	0.28	14.1	15.3	15.7	16.3	18.9	21.4	23.3	24.5	27.4
11 years	219	20.7	0.48	14.6	15.5	15.9	16.8	19.0	23.6	26.5	29.4	31.3
12 years	166	21.3	0.49	†	16.2	16.5	17.9	20.6	23.6	26.6	28.1	30.3
13 years	140	22.1	0.51	15.8	16.3	17.1	18.4	20.9	25.1	27.8	29.5	32.4
14 years	168	23.5	0.39	17.3	17.8	18.8	20.0	22.4	25.4	27.6	28.5	36.1
15 years	137	23.9	0.45	17.9	18.5	19.3	19.9	22.1	26.4	30.6	31.4	34.7
16 years	156	23.7	0.39	†	18.6	18.9	20.2	22.1	25.8	30.0	32.0	34.9
17 years	143	23.9	0.56	17.7	18.6	19.4	20.2	22.5	26.1	27.4	31.7	36.9
18 years	137	24.6	0.61	18.4	19.2	19.4	19.9	21.8	26.9	31.8	33.3	37.7
19 years	118	25.5	0.71	16.5	17.9	19.4	21.1	24.0	29.8	32.1	34.0	37.9

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.NOTES: Pregnant females were excluded. Body mass index (BMI) is calculated as follows: BMI = weight(kilograms) / height(meters<sup>2</sup>).

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 14. Body mass index values for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Body mass indices</b>								
20 years and over . . . . .	5,841	28.7	0.12	19.5	20.7	21.7	23.3	27.3	32.5	36.1	38.2	42.0
20–29 years . . . . .	906	27.5	0.42	18.8	19.9	20.6	21.7	25.3	31.5	36.0	38.0	43.9
30–39 years . . . . .	982	28.7	0.33	19.4	20.6	21.6	23.4	27.2	32.8	36.0	38.1	41.6
40–49 years . . . . .	1,056	28.6	0.28	19.3	20.6	21.7	23.3	27.3	32.4	36.2	38.1	43.0
50–59 years . . . . .	873	29.3	0.27	19.7	21.3	22.1	24.0	28.3	33.5	36.4	39.3	41.8
60–69 years . . . . .	950	29.6	0.25	20.7	21.6	23.0	24.8	28.8	33.5	36.6	38.5	41.1
70–79 years . . . . .	677	29.5	0.26	20.1	21.6	22.7	24.7	28.6	33.4	36.3	38.7	42.1
80 years and over . . . . .	397	26.7	0.26	19.3	20.7	22.0	23.1	26.3	29.7	31.6	32.5	35.2
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,730	28.2	0.20	19.4	20.5	21.4	23.0	26.9	32.0	35.7	37.7	41.5
20–39 years . . . . .	792	27.5	0.41	19.0	19.9	20.7	22.1	25.6	31.3	35.4	37.5	42.8
40–59 years . . . . .	861	28.3	0.24	19.4	20.5	21.6	23.2	26.9	32.4	35.8	38.0	41.5
60 years and over . . . . .	1,077	28.7	0.20	20.1	21.4	22.5	24.0	27.8	32.2	35.5	37.6	40.7
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,126	32.0	0.31	20.5	22.1	24.0	25.9	30.8	36.5	40.2	42.8	47.2
20–39 years . . . . .	372	31.4	0.46	19.8	21.6	22.8	25.0	30.3	35.9	40.0	42.1	47.5
40–59 years . . . . .	383	33.1	0.49	21.2	23.0	24.5	26.7	31.2	37.7	41.3	44.8	48.0
60 years and over . . . . .	371	31.1	0.33	20.8	22.9	24.5	26.6	30.3	34.8	38.0	40.0	44.2
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,707	29.5	0.19	20.8	21.9	22.9	24.9	28.5	33.0	36.0	38.0	40.9
20–39 years . . . . .	619	28.8	0.23	20.3	21.3	22.1	23.6	26.9	32.7	36.1	38.2	40.9
40–59 years . . . . .	579	30.2	0.34	21.3	23.0	24.2	26.2	29.6	33.2	35.9	37.8	40.7
60 years and over . . . . .	509	29.9	0.17	21.1	22.8	23.9	25.7	29.4	33.2	36.0	37.7	41.1
<b>Mexican American</b>												
20 years and over . . . . .	1,031	29.8	0.17	21.1	22.2	23.3	25.2	29.1	33.6	36.1	38.1	40.9
20–39 years . . . . .	386	29.2	0.29	20.9	21.8	22.3	24.0	27.6	33.5	36.5	38.3	40.9
40–59 years . . . . .	347	30.6	0.37	21.6	23.5	25.0	26.7	30.1	33.8	35.9	36.7	40.8
60 years and over . . . . .	298	30.0	0.21	21.1	23.0	24.1	26.1	29.6	33.1	36.0	37.4	41.7

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.NOTES: Pregnant females were excluded. Body mass index (BMI) is calculated as follows: BMI = weight(kilograms) / height(meters<sup>2</sup>).

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.



**Table 15. Body mass index values for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Body mass indices</b>								
20 years and over . . . . .	5,635	28.6	0.13	20.7	22.2	23.2	24.7	27.8	31.5	33.9	35.8	39.2
20–29 years . . . . .	894	26.8	0.24	19.4	20.7	21.4	22.9	25.6	29.9	32.3	33.8	36.5
30–39 years . . . . .	948	29.0	0.22	21.0	22.4	23.3	24.9	28.1	32.0	34.1	36.2	40.5
40–49 years . . . . .	933	29.0	0.29	21.2	22.9	24.0	25.4	28.2	31.7	34.4	36.1	39.6
50–59 years . . . . .	934	29.2	0.31	21.5	22.9	23.9	25.5	28.2	32.0	34.5	37.1	39.9
60–69 years . . . . .	930	29.5	0.25	21.3	22.7	23.8	25.3	28.8	32.5	34.7	37.0	40.0
70–79 years . . . . .	643	28.8	0.26	21.4	22.9	23.8	25.6	28.3	31.3	33.5	35.4	37.8
80 years and over . . . . .	353	27.2	0.22	20.7	21.8	22.8	24.4	27.0	29.6	31.3	32.7	34.5
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,728	28.7	0.15	20.8	22.4	23.3	24.8	27.9	31.5	33.9	35.8	39.1
20–39 years . . . . .	796	27.7	0.25	20.1	21.1	22.3	23.6	26.8	30.9	33.1	34.2	38.2
40–59 years . . . . .	832	29.2	0.22	21.3	23.1	24.1	25.5	28.3	31.8	34.5	36.8	39.7
60 years and over . . . . .	1,100	29.2	0.18	21.4	23.2	24.2	25.5	28.6	31.9	34.0	35.9	38.8
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,090	29.0	0.23	19.7	21.4	22.4	23.7	28.0	32.7	35.5	38.1	41.9
20–39 years . . . . .	356	28.7	0.39	19.6	21.1	21.8	23.1	27.3	32.6	35.8	38.1	42.7
40–59 years . . . . .	372	29.4	0.38	19.7	22.1	22.9	24.8	28.3	33.1	35.8	38.4	41.1
60 years and over . . . . .	362	28.8	0.32	19.8	21.6	22.6	24.1	28.2	31.6	34.3	36.9	40.8
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,540	28.9	0.25	21.3	23.0	23.9	25.5	28.1	31.6	33.8	35.6	39.0
20–39 years . . . . .	573	28.5	0.33	20.9	21.9	23.2	24.8	27.5	31.1	33.0	35.5	40.6
40–59 years . . . . .	577	29.5	0.24	23.1	24.2	25.2	26.5	28.8	32.1	34.4	35.7	37.7
60 years and over . . . . .	390	29.2	0.32	22.0	23.2	24.3	25.9	28.3	31.9	34.1	35.6	38.5
<b>Mexican American</b>												
20 years and over . . . . .	990	29.0	0.30	21.4	23.2	24.0	25.7	28.1	31.6	33.7	35.6	39.5
20–39 years . . . . .	386	28.8	0.42	20.9	22.2	23.5	25.1	27.8	31.4	33.0	35.3	41.1
40–59 years . . . . .	371	29.5	0.28	23.1	24.3	25.3	26.4	28.7	32.0	34.3	35.8	37.8
60 years and over . . . . .	233	29.2	0.44	22.1	23.2	24.2	25.9	28.3	31.8	33.9	35.3	39.0

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.NOTE: Body mass index (BMI) is calculated as follows: BMI = weight(kilograms) / height(meters<sup>2</sup>).

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 16. Head circumference in centimeters for infants from birth through age 6 months and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male												
Centimeters												
Birth to 2 months . . . . .	82	38.9	0.23	35.5	36.3	37.0	37.6	39.3	39.8	40.2	40.6	41.3
3–5 months . . . . .	111	42.4	0.15	39.8	40.1	40.5	41.7	42.4	43.3	43.8	44.1	†
6 months . . . . .	38	*44.1	0.34	†	*42.3	*42.9	*43.2	*44.4	*45	*45.4	*45.7	*45.9
Female												
Birth to 2 months . . . . .	82	38.3	0.24	34.5	36.3	36.5	37.4	38.6	39.4	40.0	40.3	40.9
3–5 months . . . . .	104	41.6	0.12	39.3	39.7	40.0	40.5	41.8	42.6	42.9	43.3	43.5
6 months . . . . .	36	*43.6	0.29	†	*41.7	*41.9	*42.2	*43.5	*44.6	*45.4	*45.5	†

† Standard error not calculated by SUDAAN.

\* Estimate does not meet standards of reliability or precision based on less than 12 degrees of freedom.

<sup>1</sup>Refers to age at time of examination.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 17. Recumbent length in centimeters for children from birth through age 36 months and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
Birth to 2 months . . . . .	82	56.8	0.36	50.7	51.4	53.1	54.8	57.5	58.7	59.1	60.3	61.0
3–5 months . . . . .	110	63.7	0.35	59.0	59.6	61.1	61.5	63.4	65.8	67.3	68.1	†
6–8 months . . . . .	103	69.0	0.41	64.7	66.1	66.6	67.4	69.2	70.3	71.8	72.6	73.3
9–11 months . . . . .	108	73.8	0.32	69.7	70.4	70.8	71.8	73.2	75.7	76.8	77.9	78.3
1 year . . . . .	316	81.1	0.37	73.7	74.8	75.8	77.9	81.0	84.3	85.3	86.8	89.4
2 years . . . . .	313	92.1	0.36	84.4	85.7	86.8	88.8	92.4	95.0	96.7	98.0	100.0
3 years . . . . .	197	99.9	0.37	92.0	94.8	95.4	97.0	99.8	102.0	104.8	106.7	107.1
Female												
Birth to 2 months . . . . .	81	56.0	0.55	47.7	51.5	52.6	54.7	56.5	58.1	58.6	58.8	†
3–5 months . . . . .	104	62.5	0.26	57.3	59.1	59.8	60.9	62.4	64.7	65.4	66.0	66.4
6–8 months . . . . .	103	67.5	0.29	63.2	64.3	64.8	65.6	67.5	69.0	70.2	70.4	71.5
9–11 months . . . . .	119	71.5	0.29	†	67.5	68.4	69.7	71.3	73.1	74.8	75.1	75.7
1 year . . . . .	296	80.1	0.36	72.3	73.6	74.9	77.0	80.2	83.2	84.6	85.9	88.2
2 years . . . . .	261	90.6	0.36	84.5	85.3	86.5	87.3	90.1	93.8	95.2	96.2	97.8
3 years . . . . .	183	99.9	0.39	92.8	93.7	94.4	96.5	100.0	102.8	104.5	105.7	108.1

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 18. Waist circumference in centimeters for children and adolescents aged 2–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
2 years	270	48.5	0.29	43.4	44.8	45.6	46.5	48.2	50.3	51.2	52.0	53.4
3 years	182	50.5	0.35	44.5	46.0	46.9	47.9	50.1	52.3	53.3	54.6	56.9
4 years	231	52.7	0.31	46.8	47.9	48.9	50.1	51.5	54.2	56.7	57.5	62.7
5 years	194	54.8	0.42	47.7	49.0	50.2	51.3	53.6	56.0	58.3	60.8	66.0
6 years	188	57.4	0.74	48.4	49.5	50.6	52.1	54.6	59.1	65.3	69.6	78.7
7 years	208	59.0	0.56	50.4	50.9	51.9	53.4	56.7	62.8	68.1	71.3	74.6
8 years	205	62.7	0.79	51.2	53.3	54.1	56.3	59.5	66.7	73.0	78.1	81.0
9 years	183	66.0	1.13	53.4	54.6	55.8	57.2	61.0	72.9	79.5	85.0	91.2
10 years	194	69.2	1.09	55.4	57.1	57.9	59.8	66.5	76.5	81.1	85.6	89.9
11 years	205	71.9	0.98	57.4	58.9	60.3	62.4	67.2	78.6	87.2	90.4	97.0
12 years	156	74.6	0.98	56.7	59.9	61.3	64.0	71.5	83.1	91.6	93.7	98.5
13 years	141	76.8	1.34	62.4	64.6	65.5	68.2	72.7	81.2	90.8	96.7	104.7
14 years	173	78.8	1.48	61.7	64.4	65.8	68.1	74.2	84.5	93.9	101.3	107.4
15 years	157	80.9	1.41	65.9	67.1	67.6	71.1	76.3	87.6	94.8	99.9	113.1
16 years	170	83.9	1.21	67.8	68.3	70.4	73.4	80.0	92.3	99.3	106.1	110.5
17 years	184	85.6	1.82	68.5	70.0	73.0	74.8	79.5	92.2	101.6	108.0	118.6
18 years	137	88.1	1.62	70.6	72.2	73.7	77.5	85.3	95.5	101.6	105.9	†
19 years	176	85.9	1.17	71.7	73.1	74.1	76.8	82.8	91.1	93.9	101.3	†
Female												
2 years	235	48.2	0.36	43.4	43.9	44.5	45.4	47.5	50.3	51.6	52.9	54.7
3 years	179	50.2	0.36	43.1	45.4	46.4	47.4	49.9	52.3	54.3	55.0	57.3
4 years	191	52.1	0.27	46.2	46.9	47.7	48.9	51.1	54.2	56.2	58.3	60.2
5 years	168	55.6	0.84	47.9	49.2	50.4	51.3	54.0	57.4	60.4	63.3	†
6 years	173	56.5	0.60	48.5	49.8	50.8	52.3	56.0	58.8	63.5	64.3	67.9
7 years	202	59.4	0.67	49.1	51.0	51.4	53.7	57.0	61.9	67.3	72.9	78.1
8 years	199	63.8	1.08	49.7	52.3	53.2	55.2	61.8	71.3	75.2	78.7	82.7
9 years	198	66.6	1.08	53.1	54.5	56.0	57.6	63.3	72.3	79.6	83.0	88.1
10 years	174	69.8	0.97	57.1	58.3	59.1	61.2	68.6	75.1	82.0	84.1	88.8
11 years	212	73.2	1.27	56.2	58.9	60.8	62.7	69.2	81.5	87.2	93.6	103.0
12 years	162	74.7	1.22	†	60.6	63.6	65.7	73.9	82.0	87.3	95.1	98.8
13 years	130	77.6	1.40	63.3	64.8	65.7	68.4	73.7	85.6	92.1	96.8	100.6
14 years	164	80.4	0.95	65.5	67.5	68.3	71.2	77.3	85.5	91.2	94.4	108.0
15 years	134	81.7	1.20	64.7	68.5	70.6	72.6	78.4	87.0	95.3	101.4	106.0
16 years	152	81.0	1.03	66.9	67.9	69.7	71.6	78.2	85.4	92.2	102.2	106.6
17 years	141	82.2	1.50	66.6	67.1	69.0	72.0	79.6	86.9	95.5	99.5	114.1
18 years	131	83.1	1.35	67.9	70.0	70.8	72.3	77.2	90.1	99.6	107.1	112.6
19 years	115	85.4	1.72	65.2	68.4	70.5	72.8	80.8	93.4	103.2	109.6	118.4

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 19. Waist circumference in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,552	95.2	0.34	72.0	75.5	78.3	83.2	93.1	105.4	112.6	117.6	124.9
20–29 years . . . . .	870	90.2	1.04	69.2	72.1	74.3	77.0	85.6	99.3	107.9	115.2	125.2
30–39 years . . . . .	939	93.8	0.75	71.3	74.2	77.6	82.0	90.9	103.7	111.5	116.7	123.3
40–49 years . . . . .	1,024	94.6	0.62	71.8	75.5	78.3	82.9	91.8	104.0	111.8	117.0	124.2
50–59 years . . . . .	839	97.5	0.55	73.4	77.4	81.4	85.8	95.5	107.4	114.0	119.6	126.4
60–69 years . . . . .	903	99.9	0.57	77.7	82.2	84.8	88.3	99.2	109.1	115.2	119.8	127.1
70–79 years . . . . .	632	99.8	0.62	77.0	81.4	85.4	89.5	98.5	108.9	115.9	119.7	125.9
80 years and over . . . . .	345	93.5	0.59	74.8	77.9	80.8	84.7	92.6	101.4	107.1	110.6	114.1
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,602	94.9	0.49	71.9	75.0	77.9	82.9	92.5	104.9	112.4	117.4	124.4
20–39 years . . . . .	762	91.1	1.00	70.3	72.8	74.7	78.3	87.2	100.3	108.3	115.2	123.1
40–59 years . . . . .	829	95.2	0.58	72.1	75.6	78.6	83.1	92.5	105.3	113.0	118.2	124.9
60 years and over . . . . .	1,011	98.4	0.48	75.7	80.7	83.4	87.6	97.4	107.2	114.0	118.7	125.0
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,046	100.7	0.70	73.6	79.5	82.3	87.7	99.2	111.5	119.5	124.1	129.9
20–39 years . . . . .	349	97.6	1.17	70.1	75.0	78.9	83.3	94.6	109.3	117.1	124.7	129.5
40–59 years . . . . .	365	103.1	0.81	76.9	81.5	84.0	90.6	101.0	114.6	121.8	125.8	132.0
60 years and over . . . . .	332	102.2	0.72	79.5	85.0	87.9	93.0	100.6	110.0	116.6	119.6	127.5
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,642	95.8	0.46	74.6	77.6	80.8	85.3	94.4	105.0	110.0	115.0	121.6
20–39 years . . . . .	598	93.5	0.60	73.1	75.6	78.1	81.8	91.1	103.4	109.6	114.8	121.3
40–59 years . . . . .	567	97.4	0.80	76.4	81.3	83.5	88.6	96.3	104.7	109.7	114.7	121.3
60 years and over . . . . .	477	99.4	0.40	77.8	84.1	86.4	91.0	99.0	107.5	111.9	115.8	122.0
<b>Mexican American</b>												
20 years and over . . . . .	998	96.9	0.47	75.4	78.7	81.6	86.4	95.7	106.2	111.4	115.6	122.7
20–39 years . . . . .	372	94.9	0.74	74.2	76.5	78.9	82.9	92.0	105.6	111.5	115.9	123.1
40–59 years . . . . .	342	98.5	0.89	77.5	82.1	84.6	90.0	97.5	106.3	110.0	115.3	120.6
60 years and over . . . . .	284	100.2	0.50	79.8	84.9	87.4	91.7	99.8	107.6	112.0	115.4	122.7

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 20. Waist circumference in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,410	100.9	0.41	77.9	81.8	85.4	90.5	99.4	109.5	116.1	120.8	128.1
20–29 years . . . . .	862	92.5	0.64	73.3	75.9	78.1	81.2	90.2	101.1	107.7	112.1	118.4
30–39 years . . . . .	900	99.4	0.52	79.1	82.2	85.2	88.9	97.4	106.9	113.4	119.7	127.2
40–49 years . . . . .	907	101.9	0.68	80.6	85.5	88.5	92.8	99.6	109.5	116.2	120.6	127.0
50–59 years . . . . .	906	104.1	0.81	81.7	87.5	90.6	93.8	102.8	111.8	118.2	123.1	130.0
60–69 years . . . . .	899	106.2	0.64	83.2	88.8	91.9	96.0	105.3	115.0	121.3	125.7	130.2
70–79 years . . . . .	609	106.8	0.64	86.2	91.2	94.2	98.5	106.2	114.7	120.4	125.1	129.5
80 years and over . . . . .	327	103.5	0.69	84.0	87.8	90.7	96.0	103.4	111.1	115.1	118.8	123.7
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,624	102.2	0.43	79.2	83.3	86.9	91.9	101.1	111.0	117.8	122.1	128.6
20–39 years . . . . .	762	96.5	0.65	76.0	79.0	81.0	85.2	94.8	104.7	111.9	116.0	124.1
40–59 years . . . . .	812	104.1	0.60	81.8	87.7	90.6	93.6	102.6	111.8	119.0	123.0	129.9
60 years and over . . . . .	1,050	106.9	0.41	87.1	91.0	93.8	97.6	106.1	115.0	120.5	125.1	129.5
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,033	98.0	0.62	73.0	76.5	79.0	84.7	96.3	108.4	115.7	120.3	131.8
20–39 years . . . . .	335	93.6	0.86	71.5	73.8	75.8	79.3	90.6	104.2	112.7	118.5	129.0
40–59 years . . . . .	351	100.5	0.91	75.9	80.2	83.4	89.4	98.6	109.9	116.1	120.3	133.2
60 years and over . . . . .	347	103.4	0.90	78.2	83.3	86.0	92.6	102.2	112.3	119.7	124.4	133.9
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,490	99.6	0.68	79.5	83.0	86.2	90.5	98.0	106.7	112.5	116.9	125.3
20–39 years . . . . .	555	96.9	0.84	75.8	80.8	82.7	87.2	94.9	104.1	108.6	113.5	125.6
40–59 years . . . . .	567	102.4	0.66	85.3	89.3	91.9	94.8	100.4	108.8	114.7	118.1	123.5
60 years and over . . . . .	368	104.8	0.57	87.2	90.0	92.4	95.7	104.1	111.8	116.0	120.3	127.9
<b>Mexican American</b>												
20 years and over . . . . .	957	99.9	0.80	80.1	84.0	87.4	91.4	98.5	106.7	112.2	116.3	125.4
20–39 years . . . . .	371	97.6	1.01	76.8	81.4	83.8	88.5	95.5	104.9	109.0	113.0	126.1
40–59 years . . . . .	367	102.3	0.82	85.9	90.1	92.4	94.6	100.2	108.6	114.8	117.3	123.1
60 years and over . . . . .	219	104.6	0.75	87.1	90.3	93.2	95.6	104.0	111.5	115.6	118.6	127.3

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 21. Midarm circumference in centimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>Male</b>				<b>Centimeters</b>								
2–5 months	122	13.8	0.11	12.0	12.7	12.9	13.2	13.6	14.4	14.7	14.9	15.3
6–8 months	100	14.7	0.16	12.8	13.3	13.4	13.7	14.5	15.7	16.0	16.4	16.7
9–11 months	107	15.2	0.18	13.4	13.7	13.9	14.3	14.9	15.9	16.7	17.4	†
1 year	308	15.4	0.08	13.4	13.8	14.0	14.5	15.2	16.1	16.5	16.8	17.2
2 years	304	16.1	0.10	14.2	14.5	14.9	15.2	16.0	16.7	17.2	17.7	18.4
3 years	185	16.8	0.14	14.8	15.1	15.4	15.6	16.5	17.4	17.9	18.4	19.8
4 years	232	17.3	0.16	14.9	15.2	15.5	15.9	17.0	18.0	19.0	19.7	21.2
5 years	195	18.0	0.16	15.5	15.8	16.0	16.7	17.7	18.6	19.3	20.0	22.8
6 years	189	19.0	0.25	15.5	16.2	16.6	17.0	18.2	19.8	22.0	23.6	25.5
7 years	209	19.6	0.24	16.0	16.6	17.1	17.4	18.8	21.3	23.0	23.8	25.4
8 years	205	20.8	0.29	16.5	17.2	17.8	18.2	19.9	22.6	24.4	25.1	26.8
9 years	183	22.1	0.43	17.0	17.5	18.1	19.0	20.7	25.0	27.1	28.3	29.8
10 years	194	23.3	0.36	18.3	19.1	19.5	19.9	22.5	25.7	27.9	28.7	29.7
11 years	206	24.9	0.30	19.3	20.0	20.5	21.4	23.5	27.5	29.6	30.6	32.9
12 years	156	25.7	0.40	19.3	19.7	20.2	21.6	25.2	28.9	30.4	31.5	33.1
13 years	142	27.0	0.42	21.3	22.1	22.7	23.8	25.9	28.7	31.3	33.1	37.7
14 years	174	27.8	0.52	20.8	21.8	22.9	24.1	26.9	30.2	33.0	35.4	37.3
15 years	157	29.2	0.50	22.9	23.6	24.5	25.6	28.2	31.7	33.6	35.7	39.0
16 years	170	30.6	0.41	23.9	25.4	26.1	27.1	29.9	33.5	35.5	36.8	38.3
17 years	183	31.5	0.62	24.8	25.9	26.7	27.8	29.9	34.2	36.7	38.4	42.7
18 years	137	32.6	0.44	25.9	27.4	27.9	29.2	31.8	34.8	37.4	38.6	40.1
19 years	176	31.9	0.32	25.7	27.1	27.8	28.9	31.1	34.3	35.7	36.5	39.5
<b>Female</b>												
2–5 months	112	13.6	0.13	11.5	12.0	12.4	12.9	13.5	13.9	14.3	14.7	15.9
6–8 months	103	14.4	0.13	12.4	12.9	13.0	13.5	14.5	15.1	15.4	15.6	16.1
9–11 months	118	14.8	0.13	12.9	13.2	13.4	13.9	14.7	15.5	15.9	16.2	16.7
1 year	284	15.3	0.08	13.4	13.8	13.9	14.2	15.1	16.1	16.6	16.9	17.4
2 years	260	16.0	0.11	14.0	14.4	14.7	15.1	15.8	16.8	17.4	17.7	18.2
3 years	183	16.5	0.13	14.2	14.6	15.0	15.5	16.4	17.4	17.8	18.3	19.0
4 years	190	17.3	0.15	14.9	15.5	15.9	16.3	17.0	18.0	18.7	19.2	19.9
5 years	171	18.4	0.23	15.9	16.1	16.3	16.8	17.7	19.0	20.0	21.7	23.0
6 years	174	18.8	0.21	16.1	16.3	16.7	17.0	18.3	20.1	20.7	21.7	23.0
7 years	202	19.9	0.23	16.4	16.9	17.2	17.7	19.0	21.6	22.9	23.5	25.3
8 years	200	21.4	0.39	17.1	17.7	18.0	18.6	20.5	23.7	25.7	26.0	28.2
9 years	200	22.2	0.40	17.6	18.0	18.4	19.1	21.7	24.3	26.5	27.6	29.1
10 years	177	23.4	0.26	18.7	19.0	19.9	20.9	23.0	25.4	27.0	28.1	29.6
11 years	211	24.6	0.45	18.9	19.8	20.3	20.9	23.4	27.1	29.9	31.5	33.6
12 years	163	25.4	0.43	19.5	20.4	21.0	22.0	25.0	27.9	30.2	31.6	33.3
13 years	131	26.5	0.50	20.6	21.2	21.8	23.3	25.6	28.2	31.9	33.2	35.3
14 years	164	27.9	0.31	21.9	22.9	23.6	25.1	27.9	30.1	32.0	32.7	35.9
15 years	135	28.0	0.39	†	23.7	24.0	25.0	27.1	30.3	33.6	34.5	35.3
16 years	154	28.0	0.31	22.9	23.4	23.9	24.9	26.5	30.7	32.7	34.1	35.5
17 years	142	28.3	0.49	22.9	23.6	24.0	25.0	27.5	29.9	32.1	35.4	38.4
18 years	132	28.7	0.45	23.3	24.2	24.6	25.0	27.1	30.3	33.4	35.2	38.0
19 years	116	29.3	0.67	21.6	23.0	23.8	25.5	27.9	32.8	34.6	36.0	†

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 22. Midarm circumference in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
All racial and ethnic groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,632	31.9	0.11	24.4	25.6	26.5	28.1	31.1	34.9	37.5	39.2	42.0
20–29 years . . . . .	878	31.1	0.32	23.9	24.7	25.5	26.8	29.8	33.9	36.7	39.2	42.6
30–39 years . . . . .	952	32.2	0.27	24.6	25.7	26.9	28.3	31.4	35.4	38.0	39.5	42.4
40–49 years . . . . .	1,036	32.1	0.23	24.8	25.9	26.7	28.3	31.4	35.1	37.5	39.2	42.0
50–59 years . . . . .	846	32.5	0.23	25.3	26.4	27.2	28.7	31.8	35.5	38.0	39.6	42.6
60–69 years . . . . .	914	32.6	0.21	25.4	26.8	27.7	28.9	31.9	35.4	38.0	39.5	41.5
70–79 years . . . . .	646	32.1	0.22	24.4	25.7	26.9	28.4	31.3	35.5	37.5	38.8	41.2
80 years and over . . . . .	360	29.0	0.24	22.1	23.9	24.7	25.9	28.9	31.3	33.0	34.5	36.1
Non-Hispanic white												
20 years and over . . . . .	2,634	31.7	0.16	24.4	25.5	26.5	28.0	30.8	34.6	37.1	38.7	41.5
20–39 years . . . . .	770	31.4	0.32	24.2	25.1	25.9	27.4	30.3	34.3	37.1	39.1	42.4
40–59 years . . . . .	838	32.0	0.22	24.9	26.0	26.8	28.3	31.2	34.9	37.3	38.6	41.7
60 years and over . . . . .	1,026	31.6	0.16	24.1	25.5	26.6	28.0	30.8	34.5	36.8	38.4	40.7
Non-Hispanic black												
20 years and over . . . . .	1,071	34.4	0.22	25.4	27.1	28.3	30.3	33.7	38.2	40.9	42.4	45.7
20–39 years . . . . .	357	34.1	0.39	24.5	26.1	27.7	29.7	33.3	38.3	40.8	42.4	45.7
40–59 years . . . . .	370	35.1	0.28	25.8	27.8	29.3	30.9	34.2	38.7	41.3	42.9	45.8
60 years and over . . . . .	344	33.8	0.34	25.2	27.2	28.5	29.9	33.5	36.6	40.0	41.6	43.7
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,660	32.1	0.18	25.3	26.4	27.2	28.6	31.5	34.9	36.6	38.1	40.6
20–39 years . . . . .	602	31.4	0.21	24.7	25.9	26.5	27.8	30.5	34.4	36.4	37.9	40.4
40–59 years . . . . .	571	32.9	0.29	26.2	27.6	28.5	29.7	32.3	35.3	36.9	38.3	41.0
60 years and over . . . . .	487	32.1	0.16	25.1	26.2	27.4	29.0	31.6	34.7	36.7	38.6	40.8
Mexican American												
20 years and over . . . . .	1,011	32.2	0.15	25.5	26.5	27.5	28.9	31.8	35.0	36.6	37.9	40.3
20–39 years . . . . .	377	31.6	0.20	25.1	26.2	26.7	28.1	30.8	34.7	36.4	37.9	39.9
40–59 years . . . . .	344	33.1	0.29	26.8	28.2	28.9	30.0	32.8	35.4	36.8	38.0	40.6
60 years and over . . . . .	290	32.1	0.21	25.2	26.1	27.2	29.2	31.8	34.6	36.3	37.6	40.5

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.



**Table 23. Midarm circumference in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,456	34.2	0.10	27.5	28.9	29.9	31.2	33.8	36.8	38.5	39.6	41.7
20–29 years . . . . .	866	33.4	0.20	26.6	27.9	28.8	30.1	33.0	36.3	38.2	39.0	41.3
30–39 years . . . . .	908	34.9	0.17	28.4	29.7	30.4	31.7	34.4	37.5	39.3	40.4	43.1
40–49 years . . . . .	912	34.9	0.21	28.9	30.4	30.9	32.2	34.5	37.2	39.0	40.0	41.9
50–59 years . . . . .	910	34.7	0.25	28.5	29.5	30.7	32.0	34.2	36.9	38.6	39.9	42.2
60–69 years . . . . .	906	34.1	0.17	27.2	28.8	29.6	31.3	34.0	36.7	38.1	39.2	41.2
70–79 years . . . . .	618	32.9	0.23	27.0	28.1	29.0	30.4	32.7	35.3	36.6	37.6	39.9
80 years and over . . . . .	336	30.6	0.20	24.3	26.2	27.0	28.4	30.4	32.8	34.1	35.3	36.5
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,649	34.3	0.13	27.7	29.0	30.0	31.5	34.0	36.8	38.5	39.6	41.6
20–39 years . . . . .	767	34.2	0.22	27.3	28.5	29.5	31.1	33.8	37.0	38.7	39.6	41.7
40–59 years . . . . .	816	34.9	0.18	28.6	30.2	31.0	32.3	34.5	37.1	38.9	39.9	42.0
60 years and over . . . . .	1,066	33.4	0.16	26.8	28.3	29.3	30.6	33.3	36.0	37.5	38.5	40.3
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,039	35.2	0.14	27.5	28.9	29.9	31.4	34.9	38.4	40.2	42.0	44.0
20–39 years . . . . .	336	35.4	0.24	27.6	29.1	30.0	31.1	35.0	38.6	41.0	42.5	44.9
40–59 years . . . . .	354	35.5	0.31	27.6	29.1	30.4	32.0	35.5	38.6	40.3	41.8	44.0
60 years and over . . . . .	349	33.9	0.24	26.7	28.0	28.9	30.6	33.8	36.6	38.4	40.0	42.2
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,506	33.8	0.17	27.9	29.1	29.9	31.1	33.4	36.1	37.6	38.9	40.9
20–39 years . . . . .	561	33.8	0.23	27.8	28.9	29.8	30.7	33.3	36.0	37.7	39.2	41.3
40–59 years . . . . .	570	34.3	0.15	29.3	30.2	30.8	31.9	33.8	36.4	37.8	38.8	40.7
60 years and over . . . . .	375	32.4	0.29	26.5	27.6	28.3	29.5	32.3	34.8	36.3	37.5	39.4
<b>Mexican American</b>												
20 years and over . . . . .	967	33.7	0.19	28.0	29.2	30.0	31.1	33.3	36.0	37.3	38.5	40.8
20–39 years . . . . .	376	33.8	0.28	27.9	29.0	29.9	30.7	33.3	36.0	37.3	38.6	41.4
40–59 years . . . . .	368	34.1	0.19	28.9	30.2	30.7	31.6	33.5	36.3	37.6	38.5	39.6
60 years and over . . . . .	223	32.4	0.33	26.8	27.8	28.4	29.5	32.3	34.7	36.0	37.1	39.4

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 24. Upper arm length in centimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>Male</b>				<b>Centimeters</b>								
2–5 months	123	12.4	0.09	10.7	11.0	11.5	11.9	12.4	12.9	13.3	13.6	13.9
6–8 months	99	14.0	0.17	11.9	12.7	12.9	13.1	14.0	14.7	15.0	15.3	15.7
9–11 months	107	14.9	0.13	†	13.4	13.6	14.0	14.7	15.5	15.9	16.0	†
1 year	308	16.4	0.09	14.4	14.7	15.0	15.5	16.4	17.2	17.5	17.9	18.2
2 years	304	18.6	0.10	16.5	17.0	17.4	17.8	18.5	19.5	19.9	20.2	20.9
3 years	185	20.3	0.09	18.1	18.9	19.0	19.4	20.3	21.0	21.4	21.8	22.2
4 years	231	21.8	0.13	19.5	20.1	20.4	20.8	21.6	22.8	23.2	23.8	24.4
5 years	195	23.4	0.15	20.9	21.3	21.8	22.4	23.4	24.5	24.9	25.4	25.9
6 years	189	24.9	0.15	21.5	22.4	22.9	23.7	25.0	25.9	26.7	26.9	27.9
7 years	209	26.1	0.13	23.5	24.0	24.3	25.0	26.0	27.2	27.6	28.2	28.6
8 years	205	27.6	0.20	24.6	25.3	25.6	26.3	27.4	28.7	29.4	29.9	30.7
9 years	183	29.2	0.27	24.9	25.8	26.5	27.6	29.1	30.7	31.8	32.2	33.0
10 years	194	30.4	0.18	27.0	27.5	28.1	29.0	30.4	31.7	32.0	32.5	33.6
11 years	205	32.1	0.16	28.9	29.5	29.9	30.6	31.9	33.5	34.0	34.9	35.7
12 years	156	33.3	0.17	29.5	30.2	30.8	31.6	33.4	34.5	35.4	35.8	37.0
13 years	142	35.5	0.24	31.8	32.5	33.4	33.9	35.4	36.9	37.8	38.3	39.5
14 years	174	36.3	0.25	32.2	33.2	33.4	34.7	36.1	38.0	39.0	39.5	40.0
15 years	157	37.7	0.28	33.7	34.7	35.0	35.9	37.7	39.3	39.9	40.9	42.1
16 years	170	38.2	0.17	34.5	35.3	35.7	36.8	38.2	39.5	40.5	41.0	41.5
17 years	184	38.3	0.18	34.6	35.9	36.4	37.0	38.1	39.5	40.4	41.2	41.8
18 years	136	38.9	0.25	34.9	35.8	36.6	37.4	38.7	40.3	41.3	42.0	42.4
19 years	175	38.6	0.22	34.6	35.6	36.6	37.0	38.7	40.0	40.9	41.3	42.4
<b>Female</b>												
2–5 months	112	12.1	0.14	10.2	10.9	11.0	11.4	11.9	12.7	13.1	13.4	13.9
6–8 months	103	13.6	0.11	11.5	12.1	12.3	12.8	13.8	14.3	14.5	14.7	14.9
9–11 months	118	14.4	0.13	12.8	13.0	13.3	13.7	14.3	14.9	15.3	15.5	15.9
1 year	285	16.1	0.10	13.9	14.4	14.9	15.1	16.0	16.9	17.5	17.9	18.0
2 years	261	18.3	0.11	16.5	16.9	17.0	17.4	18.3	19.0	19.4	19.7	20.6
3 years	183	20.1	0.11	17.9	18.2	18.5	19.0	20.0	20.9	21.4	21.6	22.0
4 years	191	21.4	0.12	18.9	19.5	19.8	20.4	21.2	22.4	23.0	23.2	23.8
5 years	171	23.1	0.17	20.9	21.2	21.5	22.0	22.9	23.9	24.4	25.0	†
6 years	173	24.5	0.16	21.9	22.4	22.9	23.4	24.4	25.5	26.2	26.4	26.8
7 years	202	25.9	0.14	†	23.7	24.1	24.8	25.6	27.0	27.7	28.0	28.6
8 years	200	27.7	0.27	24.3	25.0	25.6	26.0	27.4	29.1	29.9	30.3	†
9 years	200	29.0	0.15	26.0	26.8	27.3	27.7	28.7	30.0	30.7	31.5	32.2
10 years	177	30.7	0.16	27.4	27.9	28.4	29.0	30.6	32.1	32.7	33.3	34.2
11 years	211	32.3	0.16	28.6	29.1	30.0	30.5	32.0	33.8	34.5	35.1	36.0
12 years	163	33.5	0.17	29.2	30.3	31.2	32.2	33.7	34.9	35.5	35.8	37.0
13 years	132	34.6	0.21	30.9	32.0	32.6	32.9	34.5	36.0	37.4	37.7	38.4
14 years	164	35.1	0.18	32.2	32.6	32.9	33.4	34.9	36.5	37.1	37.5	37.9
15 years	135	35.2	0.25	31.9	32.4	32.8	33.6	35.1	36.5	37.4	38.0	38.9
16 years	154	35.3	0.23	32.0	32.8	33.3	33.8	35.4	36.7	37.4	37.8	38.6
17 years	142	35.3	0.21	31.5	32.2	32.9	33.7	35.2	36.6	37.2	37.5	38.3
18 years	132	35.6	0.24	32.4	32.8	33.2	34.4	35.6	36.7	37.4	38.2	39.1
19 years	115	35.8	0.26	32.8	33.2	33.7	34.4	35.7	37.1	37.9	38.0	†

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 25. Upper arm length in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,753	35.8	0.06	32.2	33.0	33.6	34.3	35.8	37.1	38.0	38.5	39.4
20–29 years . . . . .	947	35.6	0.08	32.0	32.7	33.3	34.0	35.5	37.0	37.9	38.3	39.1
30–39 years . . . . .	998	35.8	0.09	32.2	33.2	33.6	34.3	35.7	37.2	38.0	38.5	39.4
40–49 years . . . . .	1,041	35.8	0.10	32.4	33.1	33.7	34.4	35.6	37.0	38.0	38.7	39.5
50–59 years . . . . .	845	35.9	0.12	32.3	33.2	33.7	34.4	35.9	37.0	38.0	38.5	39.7
60–69 years . . . . .	915	36.1	0.10	32.6	33.5	33.9	34.7	36.0	37.4	38.1	39.0	39.5
70–79 years . . . . .	647	36.1	0.09	32.3	33.1	33.7	34.6	36.0	37.5	38.1	38.6	39.4
80 years and over . . . . .	360	35.2	0.13	31.9	32.6	33.0	33.9	35.2	36.5	37.2	37.8	38.5
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,668	36.0	0.08	32.7	33.4	33.9	34.5	35.9	37.2	38.0	38.5	39.4
20–39 years . . . . .	801	35.9	0.08	32.7	33.5	33.9	34.4	35.9	37.3	38.0	38.4	39.1
40–59 years . . . . .	839	36.0	0.11	32.9	33.5	33.9	34.5	35.9	37.1	38.0	38.6	39.5
60 years and over . . . . .	1,028	36.0	0.08	32.5	33.4	33.9	34.6	35.9	37.2	38.0	38.5	39.4
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,090	36.8	0.10	33.4	34.0	34.5	35.2	36.8	38.2	39.0	39.6	40.6
20–39 years . . . . .	378	36.6	0.13	33.4	33.9	34.3	35.0	36.5	38.0	38.9	39.4	40.5
40–59 years . . . . .	370	36.9	0.13	33.4	34.1	34.9	35.5	36.9	38.3	38.9	39.7	40.6
60 years and over . . . . .	342	37.0	0.14	33.7	34.0	34.7	35.3	37.0	38.3	39.2	39.9	40.7
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,716	34.7	0.07	31.6	32.0	32.5	33.3	34.7	36.0	36.8	37.3	38.0
20–39 years . . . . .	655	34.7	0.11	31.5	32.0	32.5	33.2	34.7	36.0	36.9	37.4	38.1
40–59 years . . . . .	572	34.9	0.09	31.8	32.3	32.8	33.5	34.8	36.0	36.8	37.2	38.0
60 years and over . . . . .	489	34.6	0.09	31.5	32.1	32.7	33.3	34.5	35.7	36.5	37.0	37.9
<b>Mexican American</b>												
20 years and over . . . . .	1,053	34.7	0.07	31.6	32.0	32.5	33.3	34.8	36.0	36.7	37.1	38.0
20–39 years . . . . .	417	34.6	0.11	31.5	31.9	32.4	33.1	34.8	36.0	36.6	37.2	38.0
40–59 years . . . . .	345	34.9	0.11	31.7	32.4	32.8	33.4	34.9	36.0	36.9	37.0	38.0
60 years and over . . . . .	291	34.6	0.11	31.6	32.3	32.7	33.3	34.7	35.6	36.4	36.8	37.5

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 26. Upper arm length in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,462	39.1	0.07	35.2	36.0	36.6	37.5	39.0	40.6	41.5	42.0	42.9
20–29 years . . . . .	869	38.6	0.12	34.9	35.6	36.0	36.9	38.5	40.4	41.1	41.6	42.2
30–39 years . . . . .	908	39.0	0.08	35.1	36.0	36.7	37.4	39.0	40.4	41.5	42.0	42.8
40–49 years . . . . .	912	39.2	0.10	35.2	36.2	36.9	37.6	39.0	40.7	41.5	42.0	42.9
50–59 years . . . . .	912	39.3	0.13	35.7	36.5	36.9	37.9	39.3	40.8	41.6	42.0	42.9
60–69 years . . . . .	906	39.3	0.10	35.2	36.1	36.9	37.8	39.2	41.0	41.9	42.4	43.4
70–79 years . . . . .	619	39.1	0.13	35.2	36.2	36.9	37.8	39.0	40.4	41.3	42.0	43.1
80 years and over . . . . .	336	38.7	0.12	34.9	35.9	36.4	37.1	38.6	40.1	41.0	41.3	41.9
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,648	39.4	0.07	35.8	36.6	37.2	37.9	39.4	40.9	41.7	42.1	42.9
20–39 years . . . . .	767	39.2	0.11	35.4	36.1	36.9	37.7	39.2	40.7	41.5	42.0	42.7
40–59 years . . . . .	817	39.6	0.08	36.3	36.9	37.4	38.0	39.6	40.9	41.7	42.1	42.9
60 years and over . . . . .	1,064	39.4	0.11	35.7	36.5	37.2	37.9	39.3	40.9	41.9	42.3	43.2
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,042	39.5	0.11	35.9	36.6	37.2	37.9	39.2	40.9	41.9	42.4	43.4
20–39 years . . . . .	337	39.3	0.16	35.9	36.5	37.0	37.9	39.2	40.5	41.4	42.0	42.8
40–59 years . . . . .	354	39.6	0.16	35.8	36.7	37.2	37.9	39.2	41.1	42.1	42.9	43.8
60 years and over . . . . .	351	39.7	0.19	36.1	37.1	37.6	38.3	39.4	41.0	41.9	42.6	43.4
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,508	37.9	0.08	34.4	35.1	35.6	36.3	37.7	39.2	40.0	40.6	41.5
20–39 years . . . . .	562	37.9	0.11	34.3	35.0	35.6	36.3	37.7	39.3	40.2	40.9	41.9
40–59 years . . . . .	570	37.9	0.08	34.5	35.2	35.7	36.5	37.9	39.2	39.9	40.4	41.0
60 years and over . . . . .	376	37.5	0.10	34.3	35.1	35.5	36.2	37.3	38.8	39.4	40.0	40.8
<b>Mexican American</b>												
20 years and over . . . . .	968	37.7	0.07	34.3	35.1	35.5	36.3	37.6	39.0	39.9	40.5	41.2
20–39 years . . . . .	377	37.8	0.12	34.0	35.0	35.6	36.2	37.6	39.1	40.0	40.7	41.5
40–59 years . . . . .	368	37.7	0.09	34.4	35.2	35.5	36.3	37.9	39.0	39.6	40.1	40.9
60 years and over . . . . .	223	37.5	0.13	34.2	35.2	35.5	36.2	37.3	38.7	39.1	39.8	41.0

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 27. Subscapular skinfold thickness in millimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Millimeters								
2–5 months	121	7.9	0.17	5.5	5.8	6.2	6.5	7.7	8.8	9.9	10.0	11.2
6–8 months	98	7.9	0.26	†	5.4	5.9	6.5	7.7	9.1	9.9	10.1	10.3
9–11 months	106	7.5	0.22	†	5.3	5.5	5.9	7.0	8.3	9.0	10.2	11.5
1 year	305	6.9	0.11	4.7	5.0	5.2	5.7	6.5	7.7	8.4	9.0	9.8
2 years	289	6.5	0.18	4.4	4.8	5.0	5.2	6.2	7.1	7.9	8.4	9.6
3 years	179	6.4	0.17	†	4.5	4.7	5.1	5.9	6.8	7.9	9.0	10.5
4 years	226	6.3	0.17	4.0	4.2	4.5	4.9	5.7	6.9	7.6	8.4	10.1
5 years	190	6.3	0.16	4.0	4.2	4.4	4.7	5.7	6.9	7.9	8.7	11.0
6 years	187	7.0	0.31	4.0	4.3	4.5	4.8	5.4	6.8	8.9	13.4	17.2
7 years	207	7.6	0.36	4.0	4.3	4.5	4.9	5.6	8.1	11.8	13.1	18.1
8 years	201	8.9	0.49	4.1	4.2	4.9	5.1	6.6	9.8	13.9	15.6	21.0
9 years	177	9.6	0.57	4.2	4.5	4.7	5.2	6.7	11.1	15.7	20.5	23.2
10 years	192	11.0	0.62	4.2	4.9	5.2	5.7	7.9	14.2	17.4	19.9	25.9
11 years	200	10.9	0.52	4.9	5.0	5.2	5.9	8.0	14.5	18.2	20.6	23.7
12 years	151	12.0	0.50	4.6	4.9	5.4	5.9	8.9	16.1	19.8	24.6	26.8
13 years	140	11.4	0.84	5.1	5.9	6.1	6.7	8.2	13.5	19.8	22.0	26.3
14 years	169	11.0	0.68	4.9	5.7	6.0	6.3	8.2	12.9	18.2	22.0	25.5
15 years	152	11.8	0.55	5.7	6.3	6.8	7.4	9.1	14.0	16.6	20.4	27.7
16 years	165	12.8	0.59	†	6.9	7.4	8.2	10.0	15.3	19.2	22.0	28.3
17 years	176	13.0	0.70	6.3	7.0	7.7	8.4	10.1	15.2	20.6	23.4	25.9
18 years	130	14.8	0.71	7.3	7.6	8.5	9.3	13.2	19.0	21.2	24.7	27.5
19 years	167	13.6	0.60	6.6	7.0	7.9	9.0	11.3	16.4	19.9	23.0	26.5
Female												
2–5 months	111	8.2	0.19	5.2	5.4	5.8	6.7	8.0	9.2	10.4	11.1	11.8
6–8 months	103	7.5	0.17	†	5.4	5.7	6.5	7.4	8.2	9.0	9.3	†
9–11 months	118	7.8	0.23	5.0	5.3	5.8	6.6	7.5	8.9	9.2	9.7	11.1
1 year	284	7.2	0.14	4.8	5.2	5.4	5.8	6.8	8.0	8.7	9.2	10.4
2 years	253	6.8	0.19	4.5	4.9	5.0	5.5	6.4	7.5	8.2	9.0	10.5
3 years	179	6.7	0.19	4.6	4.9	5.0	5.3	6.2	7.5	8.8	9.3	9.8
4 years	188	6.9	0.14	4.6	4.8	4.9	5.2	6.1	7.5	8.2	9.3	12.1
5 years	166	7.9	0.39	4.4	4.6	4.9	5.2	6.3	8.6	11.1	13.4	17.2
6 years	172	7.5	0.31	4.3	4.7	4.8	5.2	6.2	8.3	10.4	11.7	14.3
7 years	200	9.0	0.47	4.3	4.7	4.9	5.5	6.5	10.2	13.9	16.6	20.0
8 years	192	10.6	0.67	4.5	5.1	5.3	6.1	7.8	14.0	17.4	19.7	24.3
9 years	190	11.3	0.77	4.3	5.1	5.6	6.0	7.8	15.5	19.7	22.6	27.5
10 years	169	12.0	0.55	5.6	6.0	6.5	7.1	9.7	15.2	18.6	21.7	23.0
11 years	196	12.9	0.64	4.9	5.7	6.3	7.0	10.2	17.5	21.3	25.4	27.2
12 years	156	13.1	0.75	5.5	5.9	6.4	7.5	10.7	16.8	20.5	24.7	28.0
13 years	122	14.2	0.81	†	6.8	7.7	8.3	11.0	17.4	24.0	25.4	31.3
14 years	155	15.1	0.60	6.3	7.2	8.2	9.8	13.6	18.4	21.9	24.9	30.3
15 years	129	16.7	0.97	6.9	8.1	9.1	10.0	14.2	22.7	25.8	30.0	31.8
16 years	138	15.6	0.85	†	7.9	8.7	10.2	12.7	20.1	23.2	25.7	29.0
17 years	132	15.6	0.70	7.2	8.6	9.3	11.0	13.0	19.1	24.0	26.1	28.5
18 years	118	16.0	0.91	8.1	8.6	8.8	9.5	12.7	21.8	24.4	28.6	30.9
19 years	108	18.3	0.85	†	9.3	10.6	12.7	16.8	22.1	27.2	31.1	33.6

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 28. Subscapular skinfold thickness in millimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Millimeters</b>								
20 years and over . . . . .	4,723	21.7	0.17	8.6	10.3	11.9	14.5	21.2	28.1	31.6	33.9	36.0
20–29 years . . . . .	740	20.0	0.53	8.5	9.6	10.9	13.0	18.9	25.9	30.7	33.6	35.9
30–39 years . . . . .	762	22.2	0.46	8.9	10.4	11.9	15.3	22.2	29.1	32.0	33.9	36.6
40–49 years . . . . .	844	22.4	0.37	8.7	10.9	12.2	15.5	22.6	28.4	32.0	33.9	36.5
50–59 years . . . . .	676	22.9	0.38	9.2	11.0	12.9	16.4	22.8	29.6	32.9	35.0	36.8
60–69 years . . . . .	782	23.3	0.36	9.6	12.3	14.2	17.7	23.1	29.4	31.9	33.7	35.5
70–79 years . . . . .	586	21.5	0.36	8.8	10.1	11.8	14.7	21.1	27.9	30.9	32.8	35.1
80 years and over . . . . .	333	15.4	0.29	5.6	7.2	8.4	10.3	14.4	19.9	22.3	23.9	27.1
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,325	20.7	0.22	8.2	9.6	11.1	13.6	20.1	27.0	30.8	32.8	35.3
20–39 years . . . . .	659	19.8	0.52	8.1	9.3	10.5	12.6	18.4	26.1	30.6	32.7	35.4
40–59 years . . . . .	725	21.6	0.31	8.6	10.2	11.9	14.6	21.1	27.3	31.1	33.6	35.9
60 years and over . . . . .	941	20.5	0.24	7.5	9.3	11.1	13.9	20.0	26.8	30.1	31.8	34.6
<b>Non-Hispanic black</b>												
20 years and over . . . . .	773	26.1	0.39	10.3	13.2	16.4	19.9	27.1	32.9	35.3	36.7	38.0
20–39 years . . . . .	250	25.1	0.49	10.0	11.9	15.1	18.4	25.5	32.7	35.0	36.3	37.4
40–59 years . . . . .	256	27.3	0.48	11.1	14.9	17.7	21.2	28.6	34.3	36.2	37.2	38.6
60 years and over . . . . .	267	25.4	0.54	10.1	13.2	17.0	20.3	26.2	31.8	33.0	35.3	37.8
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,397	23.7	0.27	10.6	13.2	15.2	18.0	23.5	29.5	32.3	34.2	36.6
20–39 years . . . . .	501	23.0	0.39	10.5	12.3	14.0	17.3	22.7	28.9	31.8	34.4	36.7
40–59 years . . . . .	458	25.1	0.47	12.9	15.4	17.1	19.8	25.2	30.8	32.9	34.5	36.7
60 years and over . . . . .	438	22.4	0.40	8.9	11.5	13.8	16.8	22.3	27.9	31.0	32.9	35.9
<b>Mexican American</b>												
20 years and over . . . . .	841	23.9	0.34	10.7	13.7	15.5	18.3	23.8	29.8	32.4	34.1	36.6
20–39 years . . . . .	307	23.7	0.48	10.9	13.5	15.3	17.9	23.3	29.2	32.3	34.6	36.9
40–59 years . . . . .	276	25.2	0.60	12.7	15.3	16.8	20.1	25.3	30.9	32.8	33.6	36.2
60 years and over . . . . .	258	21.6	0.59	8.2	10.5	12.8	16.3	21.3	26.9	30.4	32.6	35.4

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 29. Subscapular skinfold thickness in millimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Millimeters</b>								
20 years and over . . . . .	4,645	20.2	0.21	8.9	10.3	11.5	14.2	19.6	25.2	28.6	30.5	33.3
20–29 years . . . . .	792	17.8	0.40	7.6	8.8	9.5	11.0	16.5	23.2	27.0	28.9	31.4
30–39 years . . . . .	758	20.5	0.42	8.9	10.6	11.4	14.7	20.0	25.8	29.0	31.1	33.8
40–49 years . . . . .	764	21.0	0.37	9.6	11.0	12.6	15.3	20.4	26.1	28.9	30.9	33.8
50–59 years . . . . .	755	21.2	0.32	10.2	11.9	13.4	15.5	20.5	26.1	29.0	31.2	34.0
60–69 years . . . . .	752	21.5	0.35	9.6	11.3	13.1	15.8	21.2	26.3	29.9	31.4	35.0
70–79 years . . . . .	522	20.6	0.33	9.8	11.8	13.0	15.0	20.1	25.4	27.8	29.9	33.8
80 years and over . . . . .	302	17.9	0.41	9.4	10.3	11.1	13.0	17.0	21.9	24.3	26.3	29.7
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,302	20.0	0.26	8.8	10.2	11.3	14.0	19.4	25.0	28.3	30.1	33.0
20–39 years . . . . .	695	18.6	0.46	7.8	9.0	9.8	11.8	17.9	24.3	27.9	29.0	32.4
40–59 years . . . . .	690	20.9	0.30	10.1	11.4	13.0	15.2	20.1	25.8	28.8	30.9	33.7
60 years and over . . . . .	917	20.6	0.26	9.5	11.0	12.4	14.9	20.1	25.3	28.5	30.3	33.8
<b>Non-Hispanic black</b>												
20 years and over . . . . .	832	20.2	0.38	7.9	9.6	10.6	13.1	19.1	26.4	29.6	31.7	35.8
20–39 years . . . . .	274	18.7	0.52	7.4	9.1	9.9	11.3	17.0	24.4	28.9	30.7	34.5
40–59 years . . . . .	282	21.2	0.55	7.9	9.7	11.3	14.3	20.9	27.0	30.6	32.6	36.3
60 years and over . . . . .	276	22.0	0.52	9.3	11.0	13.0	15.6	22.0	27.5	30.2	32.3	36.3
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,283	21.0	0.31	9.6	11.3	13.1	15.4	20.5	26.0	28.7	30.6	33.5
20–39 years . . . . .	481	20.1	0.39	8.9	10.5	11.8	14.2	19.7	25.1	28.0	29.7	33.2
40–59 years . . . . .	482	22.4	0.48	11.0	13.2	15.0	17.1	21.9	27.2	30.0	31.8	34.9
60 years and over . . . . .	320	20.8	0.35	11.0	12.8	14.1	15.4	20.1	25.6	27.2	29.4	32.1
<b>Mexican American</b>												
20 years and over . . . . .	825	21.0	0.37	9.8	11.5	13.1	15.6	20.5	25.9	28.6	30.6	33.5
20–39 years . . . . .	316	20.6	0.46	9.1	10.6	12.2	14.9	20.1	25.7	28.6	30.8	33.6
40–59 years . . . . .	316	21.7	0.50	10.6	12.7	14.5	16.5	21.6	26.0	28.8	30.7	33.7
60 years and over . . . . .	193	20.4	0.49	11.0	12.8	14.0	15.4	19.8	24.9	26.9	28.5	31.0

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 30. Triceps skinfold thickness in millimeters for children and adolescents aged 2 months to 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Millimeters								
2–5 months	122	10.4	0.27	6.8	7.7	8.0	8.9	10.1	11.9	13.3	13.7	14.6
6–8 months	97	10.1	0.24	6.3	7.7	8.2	8.8	9.7	11.1	11.7	12.4	13.2
9–11 months	106	9.6	0.37	6.4	6.9	7.4	7.8	8.9	10.8	11.4	12.4	14.1
1 year	304	9.4	0.16	6.2	6.9	7.1	7.8	8.9	10.4	11.8	12.8	13.4
2 years	295	9.3	0.18	6.2	6.8	7.1	7.8	9.0	10.6	11.3	12.0	13.1
3 years	182	9.5	0.25	6.1	6.8	7.2	7.8	8.9	10.3	11.2	13.1	14.9
4 years	228	9.2	0.24	5.6	6.2	6.6	7.2	8.4	10.4	12.0	12.7	14.6
5 years	194	9.3	0.23	5.5	6.2	6.7	7.3	8.5	10.4	11.8	12.6	15.3
6 years	189	9.9	0.41	5.7	5.9	6.2	6.9	8.2	11.4	14.6	17.0	21.1
7 years	209	10.3	0.39	5.6	5.9	6.1	6.9	8.6	12.1	16.3	17.1	19.1
8 years	205	11.9	0.43	5.6	6.0	6.7	7.6	10.1	15.1	18.2	19.6	22.3
9 years	182	12.9	0.57	5.6	6.3	6.8	7.7	10.3	17.0	20.6	23.0	25.8
10 years	194	14.7	0.63	6.6	7.3	7.7	8.8	12.9	20.0	22.6	24.3	27.1
11 years	205	14.8	0.45	6.3	7.1	7.5	9.1	12.9	20.6	23.2	25.5	28.1
12 years	154	15.7	0.76	6.4	7.0	7.4	8.8	14.0	21.1	24.1	27.5	29.7
13 years	142	13.7	0.80	5.6	6.4	7.1	8.1	11.1	17.8	21.8	25.2	29.2
14 years	173	12.9	0.83	5.3	5.9	6.2	7.2	9.9	15.7	20.5	25.5	29.0
15 years	155	12.6	0.69	4.9	5.9	6.5	7.3	10.2	16.9	20.1	22.9	27.3
16 years	168	12.7	0.60	5.9	6.6	6.9	7.8	10.5	14.8	18.3	21.7	29.8
17 years	180	13.2	0.91	4.8	5.8	6.3	7.6	9.9	16.0	22.9	25.3	31.8
18 years	135	14.0	0.71	6.3	6.9	7.4	8.3	12.4	17.9	20.4	22.9	28.4
19 years	174	12.6	0.70	5.2	6.1	6.5	7.4	10.5	14.1	21.6	23.0	27.0
Female												
2–5 months	111	10.2	0.16	7.3	7.5	7.9	8.5	9.9	11.6	12.1	12.8	13.6
6–8 months	103	10.3	0.22	6.7	7.5	8.1	8.6	10.1	11.8	12.8	13.6	†
9–11 months	118	10.2	0.31	6.8	7.7	8.1	8.5	10.0	11.6	11.9	12.6	†
1 year	284	9.6	0.19	6.1	6.9	7.4	8.0	9.2	10.8	11.9	12.9	13.8
2 years	254	10.0	0.26	6.5	7.0	7.4	8.3	9.6	11.1	11.9	12.6	15.0
3 years	182	9.9	0.24	6.2	6.8	7.2	8.0	9.6	11.3	12.1	13.0	13.6
4 years	190	10.5	0.18	6.2	7.8	8.1	8.7	10.0	11.8	13.0	13.8	15.0
5 years	169	11.1	0.32	7.0	7.5	7.9	8.6	10.2	12.4	14.3	15.8	18.2
6 years	173	10.9	0.40	6.3	6.9	7.3	8.0	10.0	12.2	13.8	15.5	18.0
7 years	201	12.2	0.42	6.1	6.9	7.6	8.5	10.7	13.9	16.9	19.5	23.7
8 years	199	14.3	0.58	7.1	7.8	8.5	9.5	13.1	18.5	20.5	23.2	23.9
9 years	200	15.0	0.73	6.9	7.7	8.9	9.8	13.6	17.9	23.2	25.3	28.7
10 years	175	15.4	0.49	7.2	7.9	9.0	10.1	14.9	19.4	22.6	24.0	26.2
11 years	210	15.9	0.71	8.3	9.0	9.2	10.3	13.6	20.5	24.8	26.4	29.1
12 years	162	16.2	0.62	7.6	8.9	9.2	10.6	15.0	20.2	23.3	24.9	27.6
13 years	130	17.8	0.71	8.2	9.5	9.8	11.5	16.8	21.5	25.9	29.0	30.4
14 years	163	19.3	0.58	9.2	11.0	11.7	14.1	18.2	23.9	27.1	28.2	30.7
15 years	132	19.1	0.78	8.9	10.8	11.7	13.2	17.0	24.2	27.5	29.9	31.8
16 years	150	19.4	0.53	10.4	11.7	12.9	14.6	18.2	23.0	26.0	26.9	33.0
17 years	137	19.7	0.87	10.1	11.5	12.6	14.4	18.3	23.0	27.2	29.3	33.2
18 years	124	18.4	0.71	10.1	11.1	11.9	13.6	16.6	22.5	26.6	28.0	28.7
19 years	113	20.6	0.90	9.1	10.5	11.5	14.3	20.7	24.2	30.5	31.7	33.4

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.



**Table 31. Triceps skinfold thickness in millimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Millimeters</b>								
20 years and over . . . . .	5,198	23.7	0.17	11.9	14.0	15.8	18.0	23.5	29.0	31.9	33.7	35.9
20–29 years . . . . .	815	22.2	0.44	11.0	13.2	14.0	16.5	21.3	27.7	31.1	32.6	35.1
30–39 years . . . . .	858	24.2	0.40	12.1	14.7	16.2	18.6	24.1	30.0	32.2	33.8	36.0
40–49 years . . . . .	943	24.2	0.26	11.5	14.1	15.9	18.7	24.7	29.5	32.1	33.9	35.8
50–59 years . . . . .	769	24.6	0.30	12.9	15.6	16.8	19.2	24.5	29.8	32.2	34.0	36.3
60–69 years . . . . .	845	24.7	0.34	13.0	15.8	17.2	20.2	24.9	29.4	31.9	33.8	35.9
70–79 years . . . . .	613	23.4	0.33	11.5	14.3	16.3	18.9	22.9	28.0	31.0	32.8	35.2
80 years and over . . . . .	355	19.4	0.34	9.4	11.2	12.4	14.7	19.0	23.2	25.9	27.8	31.7
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,470	23.4	0.24	11.7	13.9	15.6	17.9	23.0	28.7	31.3	33.0	35.4
20–39 years . . . . .	711	22.8	0.41	11.6	13.4	14.4	17.0	22.1	28.6	31.4	32.7	35.0
40–59 years . . . . .	780	24.0	0.30	12.0	14.2	16.2	18.5	24.3	29.2	31.8	33.8	35.8
60 years and over . . . . .	979	23.1	0.22	11.4	13.9	15.8	18.1	22.5	27.9	30.9	32.5	34.9
<b>Non-Hispanic black</b>												
20 years and over . . . . .	934	25.7	0.34	11.1	14.7	16.7	20.4	26.2	31.9	34.2	35.2	37.5
20–39 years . . . . .	307	25.6	0.50	11.0	13.8	15.7	20.0	25.9	32.0	34.2	35.2	37.2
40–59 years . . . . .	313	26.5	0.39	12.8	15.2	18.0	21.7	27.5	31.9	34.2	35.2	37.9
60 years and over . . . . .	314	24.6	0.70	10.9	14.7	16.1	19.7	24.9	30.0	33.1	35.0	37.1
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,546	24.4	0.22	13.4	15.7	16.9	19.2	24.3	29.1	31.9	33.8	35.8
20–39 years . . . . .	561	23.7	0.35	13.3	15.1	16.4	18.7	23.5	28.0	31.0	33.0	35.7
40–59 years . . . . .	526	25.8	0.36	15.0	17.0	18.3	21.0	25.7	30.8	33.1	34.4	36.1
60 years and over . . . . .	459	23.4	0.24	12.1	13.9	15.6	18.0	23.1	28.5	31.0	32.9	35.1
<b>Mexican American</b>												
20 years and over . . . . .	948	24.6	0.30	13.4	15.8	17.1	19.4	24.7	29.4	32.2	33.9	36.0
20–39 years . . . . .	353	24.1	0.43	13.5	15.5	16.6	19.0	24.0	28.5	31.8	33.4	36.0
40–59 years . . . . .	320	26.1	0.55	15.0	17.2	19.1	21.8	25.9	30.9	33.3	34.9	36.5
60 years and over . . . . .	275	23.0	0.26	11.3	13.1	15.3	17.9	23.0	28.1	30.7	31.9	34.2

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

NOTE: Pregnant females were excluded.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 32. Triceps skinfold thickness in millimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Millimeters</b>								
20 years and over . . . . .	5,307	14.9	0.17	6.2	7.5	8.4	9.9	13.4	18.6	22.0	24.3	27.8
20–29 years . . . . .	846	14.0	0.28	5.5	6.6	7.2	8.5	12.5	17.9	21.9	23.3	26.4
30–39 years . . . . .	875	15.1	0.26	5.9	7.7	8.5	9.9	13.9	18.8	22.2	24.8	28.3
40–49 years . . . . .	885	14.7	0.33	6.3	7.9	8.4	9.5	12.9	18.2	22.0	24.5	28.0
50–59 years . . . . .	880	15.1	0.37	7.0	8.2	9.0	10.5	13.3	18.8	21.8	24.2	28.4
60–69 years . . . . .	880	15.9	0.31	7.2	8.4	9.3	10.8	14.9	19.8	23.2	24.9	27.9
70–79 years . . . . .	606	15.7	0.41	7.6	8.6	9.4	10.9	14.6	19.2	22.1	24.9	27.7
80 years and over . . . . .	335	14.4	0.25	7.0	8.5	8.9	9.9	13.2	16.9	20.2	22.0	25.4
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,588	15.1	0.22	6.5	7.8	8.7	10.1	13.4	19.0	22.1	24.4	27.6
20–39 years . . . . .	747	14.5	0.28	5.7	7.0	7.6	9.3	13.1	18.6	21.9	23.8	26.5
40–59 years . . . . .	792	15.1	0.31	7.0	8.3	8.8	10.2	13.2	18.8	22.2	24.6	28.0
60 years and over . . . . .	1,049	15.8	0.28	7.4	8.7	9.5	11.0	14.8	19.5	22.6	24.8	27.4
<b>Non-Hispanic black</b>												
20 years and over . . . . .	984	14.5	0.26	4.9	6.0	7.0	8.4	12.6	18.8	23.1	25.4	30.1
20–39 years . . . . .	316	14.2	0.39	4.5	5.6	6.6	7.8	12.0	18.3	23.5	25.9	31.5
40–59 years . . . . .	335	14.5	0.46	4.6	6.3	7.1	9.0	12.6	18.9	22.7	24.7	29.7
60 years and over . . . . .	333	15.4	0.37	5.6	6.8	7.8	9.5	14.4	19.3	23.7	25.8	29.2
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,475	14.4	0.27	6.7	7.8	8.6	9.9	13.3	17.1	20.1	22.6	27.7
20–39 years . . . . .	547	14.5	0.32	6.1	7.5	8.5	9.9	13.6	17.1	20.3	22.9	28.1
40–59 years . . . . .	559	14.2	0.34	7.0	7.9	8.4	9.8	12.9	16.9	19.5	21.8	26.8
60 years and over . . . . .	369	14.6	0.33	7.0	8.3	9.1	10.0	13.1	17.5	20.8	22.8	27.9
<b>Mexican American</b>												
20 years and over . . . . .	949	14.4	0.30	6.8	7.9	8.7	10.0	13.3	17.0	20.0	21.9	27.0
20–39 years . . . . .	366	14.7	0.37	6.2	7.8	8.7	10.1	13.8	17.2	20.3	22.8	28.1
40–59 years . . . . .	364	13.8	0.36	6.9	7.8	8.4	9.6	12.4	16.4	19.3	21.2	25.0
60 years and over . . . . .	219	14.4	0.42	7.4	8.3	9.1	10.0	12.9	17.4	19.7	21.8	27.3

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 33. Upper leg length in centimeters for children and adolescents aged 8–19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2007–2010**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
8 years . . . . .	191	30.4	0.28	26.1	27.1	27.5	28.2	30.6	32.0	32.6	33.7	35.2
9 years . . . . .	182	32.1	0.37	27.0	28.2	29.0	30.2	31.9	33.8	35.1	35.9	36.9
10 years . . . . .	194	33.4	0.26	29.5	30.0	30.8	31.8	33.5	35.1	35.8	36.4	37.0
11 years . . . . .	205	35.5	0.16	31.8	32.2	32.6	33.4	35.3	37.0	38.3	39.0	39.6
12 years . . . . .	156	37.2	0.20	32.3	33.3	34.0	35.3	37.1	39.1	40.4	41.2	42.0
13 years . . . . .	142	39.8	0.27	35.0	35.9	36.5	38.1	39.5	41.5	42.5	43.0	43.6
14 years . . . . .	172	40.5	0.28	35.1	36.5	37.5	38.4	40.6	42.5	43.9	44.6	45.3
15 years . . . . .	155	42.0	0.29	37.0	38.2	38.9	40.1	41.9	43.6	44.9	45.7	47.1
16 years . . . . .	168	42.2	0.24	38.6	38.9	39.4	40.4	42.1	43.7	44.6	45.0	45.9
17 years . . . . .	184	42.4	0.31	38.1	38.9	39.4	40.2	41.9	44.4	45.5	46.1	47.1
18 years . . . . .	136	42.3	0.22	38.3	38.6	39.4	40.1	42.2	44.0	44.9	45.2	47.2
19 years . . . . .	176	42.5	0.25	38.5	39.5	40.0	40.8	42.4	44.0	44.9	45.4	46.4
Female												
8 years . . . . .	188	30.1	0.27	30.1	27.2	27.5	28.2	29.7	32.0	32.4	33.1	34.1
9 years . . . . .	199	31.8	0.18	31.8	29.0	29.5	30.0	31.5	33.0	34.3	34.9	35.8
10 years . . . . .	174	33.8	0.16	33.8	30.3	31.0	32.3	33.7	35.1	36.4	37.2	37.5
11 years . . . . .	210	35.6	0.20	35.6	32.1	32.9	33.7	35.8	37.6	38.2	38.7	39.8
12 years . . . . .	161	37.1	0.27	37.1	33.2	33.8	35.3	36.9	38.9	39.6	40.1	41.3
13 years . . . . .	132	38.0	0.23	38.0	35.0	35.3	36.3	37.9	39.7	40.4	41.4	42.5
14 years . . . . .	164	38.4	0.23	38.4	35.3	35.9	36.7	38.6	40.0	41.0	41.1	42.0
15 years . . . . .	135	38.7	0.25	38.7	35.8	36.3	37.2	38.3	40.2	41.4	42.1	42.9
16 years . . . . .	154	38.6	0.34	38.6	35.1	35.4	36.3	38.6	40.4	41.4	42.5	43.1
17 years . . . . .	140	38.6	0.24	38.6	34.5	35.9	37.1	38.7	40.4	40.7	41.4	43.0
18 years . . . . .	132	38.5	0.26	38.5	35.3	36.1	36.9	38.1	40.0	41.1	41.5	42.1
19 years . . . . .	115	38.6	0.43	38.6	34.7	35.4	36.4	38.1	40.1	41.5	42.6	†

† Standard error not calculated by SUDAAN.

<sup>1</sup>Refers to age at time of examination.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 34. Upper leg length in centimeters for females aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,676	36.7	0.10	31.2	32.5	33.4	34.7	36.9	38.9	40.0	40.7	41.8
20–29 years . . . . .	943	38.1	0.13	33.3	34.7	35.3	36.2	38.2	39.9	40.8	41.5	42.5
30–39 years . . . . .	986	37.6	0.13	32.6	33.9	34.7	35.6	37.5	39.5	40.8	41.6	42.5
40–49 years . . . . .	1,032	37.0	0.12	32.0	33.1	33.9	35.2	37.0	38.9	40.0	40.7	41.9
50–59 years . . . . .	834	36.2	0.17	30.1	32.0	32.8	34.2	36.5	38.4	39.5	40.1	41.0
60–69 years . . . . .	906	35.7	0.13	30.3	31.6	32.3	33.6	36.0	37.9	38.8	39.6	40.5
70–79 years . . . . .	627	35.0	0.20	29.1	30.9	31.7	32.9	35.0	37.3	38.3	39.0	39.9
80 years and over . . . . .	348	34.2	0.25	29.0	30.3	30.9	32.3	34.2	36.0	37.1	38.1	39.9
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,635	36.8	0.11	31.5	32.8	33.7	35.0	37.0	38.9	39.9	40.6	41.6
20–39 years . . . . .	796	38.1	0.12	33.9	35.0	35.4	36.3	38.1	39.9	40.8	41.5	42.2
40–59 years . . . . .	832	36.8	0.13	31.6	33.0	33.9	35.2	37.0	38.7	39.8	40.5	41.4
60 years and over . . . . .	1,007	35.4	0.16	30.1	31.4	32.2	33.4	35.3	37.4	38.4	39.1	40.2
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,075	38.4	0.21	32.4	33.8	34.9	36.3	38.5	40.6	41.9	42.5	43.4
20–39 years . . . . .	373	39.7	0.24	34.1	36.0	37.0	37.9	39.7	41.8	42.5	43.2	44.6
40–59 years . . . . .	364	38.0	0.23	32.4	33.7	34.8	36.0	38.2	40.1	41.1	41.9	42.8
60 years and over . . . . .	338	36.3	0.24	30.3	31.7	32.8	34.0	36.5	38.7	39.9	40.6	41.6
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,692	35.1	0.12	29.5	30.9	31.9	33.0	35.1	37.2	38.3	39.1	40.0
20–39 years . . . . .	650	36.0	0.18	30.9	32.3	33.0	34.0	36.0	38.1	39.1	39.7	40.7
40–59 years . . . . .	567	34.7	0.19	29.2	30.7	31.5	32.8	34.9	36.6	37.6	38.4	39.4
60 years and over . . . . .	475	32.8	0.26	27.3	28.7	29.4	30.6	33.0	35.0	36.1	36.9	37.7
<b>Mexican American</b>												
20 years and over . . . . .	1,037	34.8	0.12	29.1	30.6	31.5	32.8	34.9	36.9	38.1	38.8	39.7
20–39 years . . . . .	412	35.7	0.22	30.5	32.0	32.8	33.7	35.6	37.9	38.7	39.3	40.5
40–59 years . . . . .	343	34.4	0.21	28.7	30.6	31.4	32.5	34.4	36.3	37.3	38.1	39.5
60 years and over . . . . .	282	32.3	0.21	25.8	28.4	29.1	30.2	32.6	34.5	35.5	36.1	37.6

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Table 35. Upper leg length in centimeters for males aged 20 and over and number of examined persons, mean, standard error of the mean, and selected percentiles, by race and ethnicity and age: United States, 2007–2010**

Race and ethnicity and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>All racial and ethnic groups<sup>1</sup></b>				<b>Centimeters</b>								
20 years and over . . . . .	5,405	40.8	0.12	35.6	36.7	37.5	38.6	40.8	42.9	44.0	44.7	45.9
20–29 years . . . . .	861	41.9	0.16	37.4	38.3	38.9	39.9	41.7	43.7	44.6	45.3	46.5
30–39 years . . . . .	903	41.5	0.15	36.4	37.4	38.1	39.4	41.3	43.6	44.8	45.6	46.9
40–49 years . . . . .	903	41.0	0.19	36.1	37.2	38.0	39.0	41.0	42.9	44.0	44.5	45.6
50–59 years . . . . .	901	40.5	0.17	35.3	36.5	37.3	38.2	40.4	42.5	43.7	44.3	45.5
60–69 years . . . . .	892	39.6	0.19	34.0	35.5	36.2	37.4	39.7	41.8	42.9	43.7	44.6
70–79 years . . . . .	615	39.0	0.16	33.7	34.9	35.8	36.7	39.0	41.2	42.2	43.0	43.9
80 years and over . . . . .	330	38.5	0.24	33.3	34.2	35.3	36.3	38.2	40.5	41.8	42.6	43.9
<b>Non-Hispanic white</b>												
20 years and over . . . . .	2,619	41.0	0.12	36.0	37.0	37.9	39.0	41.0	43.0	44.0	44.7	45.9
20–39 years . . . . .	762	42.1	0.17	37.6	38.6	39.3	40.3	41.9	43.9	44.8	45.8	46.9
40–59 years . . . . .	806	41.1	0.16	36.5	37.5	38.1	39.1	41.1	42.9	44.0	44.4	45.5
60 years and over . . . . .	1,051	39.4	0.13	34.0	35.4	36.2	37.3	39.5	41.5	42.6	43.4	44.4
<b>Non-Hispanic black</b>												
20 years and over . . . . .	1,030	42.3	0.16	37.1	38.2	39.1	40.3	42.3	44.2	45.3	46.0	47.0
20–39 years . . . . .	335	43.0	0.11	38.4	39.4	40.2	41.2	42.9	44.6	45.8	46.3	47.7
40–59 years . . . . .	349	42.1	0.28	37.0	37.8	38.8	39.9	42.0	44.2	45.2	46.0	47.0
60 years and over . . . . .	346	40.9	0.25	35.5	36.4	37.5	38.8	41.0	42.8	44.1	45.0	46.1
<b>Hispanic<sup>2</sup></b>												
20 years and over . . . . .	1,490	39.2	0.16	34.2	35.4	36.2	37.2	39.1	41.0	42.3	43.3	44.7
20–39 years . . . . .	556	40.0	0.19	35.3	36.4	37.1	37.9	39.7	41.7	43.0	44.0	45.1
40–59 years . . . . .	566	38.7	0.20	33.9	35.1	35.8	36.8	38.6	40.3	41.5	42.1	43.9
60 years and over . . . . .	368	37.2	0.25	31.8	33.2	34.0	35.1	37.0	39.2	40.1	41.1	42.4
<b>Mexican American</b>												
20 years and over . . . . .	957	38.9	0.13	34.1	35.3	36.1	37.1	38.8	40.6	41.8	42.8	43.9
20–39 years . . . . .	372	39.7	0.19	35.1	36.5	37.1	37.8	39.4	41.4	42.6	43.5	44.6
40–59 years . . . . .	365	38.3	0.13	33.9	35.1	35.7	36.5	38.2	39.9	40.9	41.4	42.9
60 years and over . . . . .	220	36.9	0.21	31.4	33.0	33.9	34.7	36.8	38.9	39.9	40.7	41.6

<sup>1</sup>Persons of other races and ethnicities are included.<sup>2</sup>Mexican-American persons are included in the Hispanic group.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

# Appendix

**Appendix table. Historical summary of published anthropometry reference data**

Measurement	Survey years								
	1960–1962 <sup>1</sup>	1963–1965 <sup>2</sup>	1966–1970 <sup>3</sup>	1971–1974 <sup>4</sup>	1976–1980 <sup>5</sup>	1988–1994 <sup>6</sup>	1999–2002 <sup>7</sup>	2003–2006 <sup>8</sup>	2007–2010
<b>Weight, height, and length</b>									
Weight . . . . .	x	x	x	x	x	x	x	x	x
Standing height . . . . .	x	x	x	x	x	x	x	x	x
Recumbent length . . . . .					x	x	x	x	x
Sitting height . . . . .	x	x		x	x	x			
Knee height . . . . .	x	x				x			
Elbow rest height . . . . .	x								
Popliteal height . . . . .	x	x							
Thigh clearance height . . . . .	x	x							
Buttock-knee length . . . . .	x	x							
Buttock-popliteal length . . . . .	x	x							
Elbow-wrist length . . . . .		x							
Hand length . . . . .		x							
Upper arm length . . . . .		x				x	x	x	x
Upper leg length . . . . .						x	x	x	x
Foot length . . . . .		x							
Crown-rump length . . . . .					x				
<b>Indices</b>									
Body mass index <sup>9</sup> . . . . .					x	x	x	x	x
<b>Skinfolds</b>									
Subscapular skinfold . . . . .	x	x	x	x	x	x	x	x	x
Triceps skinfold . . . . .	x	x	x	x	x	x	x	x	x
Thigh skinfold . . . . .						x			
Suprailiac skinfold thickness . . . . .						x			
<b>Circumferences and breadths</b>									
Head circumference . . . . .					x	x	x	x	x
Chest circumference . . . . .	x	x		x	x				
Waist circumference . . . . .	x	x				x	x	x	x
Midarm circumference . . . . .	x	x	x	x	x	x	x	x	x
Mid-thigh circumference . . . . .						x	x	x	
Buttocks circumference . . . . .		x				x			
Maximal calf circumference . . . . .							x	x	
Chest breadth . . . . .		x							
Hand breadth . . . . .		x							
Wrist breadth . . . . .						x			
Biacromial breadth . . . . .	x					x			
Biiliac breadth . . . . .						x			
Bitrochanteric breadth . . . . .				x	x				
Elbow breadth . . . . .				x	x	x			
Elbow-elbow breadth . . . . .	x	x							
Seat breadth . . . . .	x	x							
Foot breadth . . . . .		x							

<sup>1</sup>See references 8, 9, and 10 in this report.

<sup>2</sup>See reference 11 in this report.

<sup>3</sup>See reference 12 in this report.

<sup>4</sup>See references 13 and 14 in this report.

<sup>5</sup>See reference 15 in this report.

<sup>6</sup>See reference 17 in this report.

<sup>7</sup>See reference 19 in this report.

<sup>8</sup>See reference 20 in this report.

<sup>9</sup>Body mass index (BMI) is calculated as follows: BMI = weight(kilograms) / height(meters<sup>2</sup>).

NOTE: Terminology for a particular measure may have changed across survey years.

# Vital and Health Statistics Series Descriptions

## ACTIVE SERIES

- Series 1. **Programs and Collection Procedures**—This type of report describes the data collection programs of the National Center for Health Statistics. Series 1 includes descriptions of the methods used to collect and process the data, definitions, and other material necessary for understanding the data.
- Series 2. **Data Evaluation and Methods Research**—This type of report concerns statistical methods and includes analytical techniques, objective evaluations of reliability of collected data, and contributions to statistical theory. Also included are experimental tests of new survey methods, comparisons of U.S. methodologies with those of other countries, and as of 2009, studies of cognition and survey measurement, and final reports of major committees concerning vital and health statistics measurement and methods.
- Series 3. **Analytical and Epidemiological Studies**—This type of report presents analytical or interpretive studies based on vital and health statistics. As of 2009, Series 3 also includes studies based on surveys that are not part of continuing data systems of the National Center for Health Statistics and international vital and health statistics reports.
- Series 10. **Data From the National Health Interview Survey**—This type of report contains statistics on illness; unintentional injuries; disability; use of hospital, medical, and other health services; and a wide range of special current health topics covering many aspects of health behaviors, health status, and health care utilization. Series 10 is based on data collected in this continuing national household interview survey.
- Series 11. **Data From the National Health Examination Survey, the National Health and Nutrition Examination Surveys, and the Hispanic Health and Nutrition Examination Survey**—In this type of report, data from direct examination, testing, and measurement on representative samples of the civilian noninstitutionalized population provide the basis for (1) medically defined total prevalence of specific diseases or conditions in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics, and (2) analyses of trends and relationships among various measurements and between survey periods.
- Series 13. **Data From the National Health Care Survey**—This type of report contains statistics on health resources and the public's use of health care resources including ambulatory, hospital, and long-term care services based on data collected directly from health care providers and provider records.
- Series 20. **Data on Mortality**—This type of report contains statistics on mortality that are not included in regular, annual, or monthly reports. Special analyses by cause of death, age, other demographic variables, and geographic and trend analyses are included.
- Series 21. **Data on Natality, Marriage, and Divorce**—This type of report contains statistics on natality, marriage, and divorce that are not included in regular, annual, or monthly reports. Special analyses by health and demographic variables and geographic and trend analyses are included.
- Series 23. **Data From the National Survey of Family Growth**—These reports contain statistics on factors that affect birth rates, including contraception and infertility; factors affecting the formation and dissolution of families, including cohabitation, marriage, divorce, and remarriage; and behavior related to the risk of HIV and other sexually transmitted diseases. These statistics are based on national surveys of women and men of childbearing age.

## DISCONTINUED SERIES

- Series 4. **Documents and Committee Reports**—These are final reports of major committees concerned with vital and health statistics and documents. The last Series 4 report was published in 2002. As of 2009, this type of report is included in Series 2 or another appropriate series, depending on the report topic.
- Series 5. **International Vital and Health Statistics Reports**—This type of report compares U.S. vital and health statistics with those of other countries or presents other international data of relevance to the health statistics system of the United States. The last Series 5 report was published in 2003. As of 2009, this type of report is included in Series 3 or another series, depending on the report topic.
- Series 6. **Cognition and Survey Measurement**—This type of report uses methods of cognitive science to design, evaluate, and test survey instruments. The last Series 6 report was published in 1999. As of 2009, this type of report is included in Series 2.
- Series 12. **Data From the Institutionalized Population Surveys**—The last Series 12 report was published in 1974. Reports from these surveys are included in Series 13.
- Series 14. **Data on Health Resources: Manpower and Facilities**—The last Series 14 report was published in 1989. Reports on health resources are included in Series 13.
- Series 15. **Data From Special Surveys**—This type of report contains statistics on health and health-related topics collected in special surveys that are not part of the continuing data systems of the National Center for Health Statistics. The last Series 15 report was published in 2002. As of 2009, reports based on these surveys are included in Series 3.
- Series 16. **Compilations of Advance Data From Vital and Health Statistics**—The last Series 16 report was published in 1996. All reports are available online, and so compilations of Advance Data reports are no longer needed.
- Series 22. **Data From the National Mortality and Natality Surveys**—The last Series 22 report was published in 1973. Reports from these sample surveys, based on vital records, are published in Series 20 or 21.
- Series 24. **Compilations of Data on Natality, Mortality, Marriage, and Divorce**—The last Series 24 report was published in 1996. All reports are available online, and so compilations of reports are no longer needed.

For answers to questions about this report or for a list of reports published in these series, contact:

Information Dissemination Staff  
National Center for Health Statistics  
Centers for Disease Control and Prevention  
3311 Toledo Road, Room 5412  
Hyattsville, MD 20782  
1-800-232-4636  
E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov)  
Internet: <http://www.cdc.gov/nchs>

**U.S. DEPARTMENT OF  
HEALTH & HUMAN SERVICES**

Centers for Disease Control and Prevention  
National Center for Health Statistics  
3311 Toledo Road  
Hyattsville, Maryland 20782

---

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

MEDIA MAIL  
POSTAGE & FEES PAID  
CDC/NCHS  
PERMIT NO. G-284