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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

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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
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Vital and Health Statistics

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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

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Abstract

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 (kg/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

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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 ¹	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.

¹Refers 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 ¹	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.

¹Refers 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
All racial and ethnic groups¹				Kilograms								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups ¹				Pounds								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic ²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				Kilograms								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups ¹				Pounds								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic ²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	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.

¹Refers 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 ¹	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.

¹Refers 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 ¹				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 ²												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Body mass indices								
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
Female												
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.

¹Refers to age at time of examination.NOTES: Pregnant females were excluded. Body mass index (BMI) is calculated as follows: BMI = weight(kilograms) / height(meters²).

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
All racial and ethnic groups¹				Body mass indices								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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(meters²).

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
All racial and ethnic groups¹				Body mass indices								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-American persons are included in the Hispanic group.NOTE: Body mass index (BMI) is calculated as follows: BMI = weight(kilograms) / height(meters²).

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 ¹	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.

¹Refers 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 ¹	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.

¹Refers 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 ¹	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.

¹Refers 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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
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
Female												
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.

¹Refers 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 ¹				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 ²												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
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
Female												
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.

¹Refers 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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	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.

¹Refers 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
All racial and ethnic groups¹				Millimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.

²Mexican-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
All racial and ethnic groups¹				Millimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	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.

¹Refers 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
All racial and ethnic groups¹				Millimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				Millimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	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.

¹Refers 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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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
All racial and ethnic groups¹				Centimeters								
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
Non-Hispanic white												
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
Non-Hispanic black												
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
Hispanic²												
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
Mexican American												
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

¹Persons of other races and ethnicities are included.²Mexican-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 ¹	1963–1965 ²	1966–1970 ³	1971–1974 ⁴	1976–1980 ⁵	1988–1994 ⁶	1999–2002 ⁷	2003–2006 ⁸	2007–2010
Weight, height, and length									
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				
Indices									
Body mass index ⁹					x	x	x	x	x
Skinfolds									
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			
Circumferences and breadths									
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							

¹See references 8, 9, and 10 in this report.

²See reference 11 in this report.

³See reference 12 in this report.

⁴See references 13 and 14 in this report.

⁵See reference 15 in this report.

⁶See reference 17 in this report.

⁷See reference 19 in this report.

⁸See reference 20 in this report.

⁹Body mass index (BMI) is calculated as follows: BMI = weight(kilograms) / height(meters²).

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.

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- 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.
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- 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:

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