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# Anthropometric Reference Data for Children and Adults: United States, 2011–2014



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



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# Vital and Health Statistics

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Examination Survey

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

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## Abstract

### Objective

This report presents anthropometric reference data for the U.S. population in 2011–2014.

### Methods

Body measurements were obtained from 19,151 participants in the 2011–2014 National Health and Nutrition Examination Survey (NHANES). Measurements included weight, height, recumbent length, circumferences, limb lengths, and sagittal abdominal diameter (SAD).

### Results

Weighted population means, standard errors of the means, and selected percentiles of body measurement values are reported. Body measurement results are shown by sex and age, as well as race and Hispanic origin in adults.

### Conclusions

These latest NHANES data show the distribution of weight, height, body mass index, circumferences, lengths, and SAD 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, 2011–2014

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

## Introduction

Anthropometry or human body measurements provide important indicators of nutritional status in children and adults (1). In children, measurements reflect general health status, dietary adequacy, and growth and development over time. In adults, body measurements are used to evaluate health and dietary status, disease risk, and body composition. This report presents anthropometric reference data for 2011–2014 for U.S. children and adults.

## Methods

National Health and Nutrition Examination Surveys (NHANES) are conducted by the 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 (MECs). The MECs are staffed by full-time personnel, including health technicians who perform body measurements on survey participants following a standard protocol.

Surveys were conducted on a periodic basis from 1960 through 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 data set based on 2011–2012 and 2013–2014 data was used for this report to improve the stability and reliability of the statistical estimates (2–5). During 2011–2014, the overall examination response rate was 69%.

## Sample Description

NHANES is a complex, multistage probability sample of the civilian noninstitutionalized U.S. population. The NHANES 2011–2014 sample included participants of all ages. Those aged 80 and over, Hispanic persons, non-Hispanic black persons, non-Hispanic Asian persons, and those with low income were oversampled to improve the precision of the statistical estimates for these groups (5). The oversampling of non-Hispanic Asian persons is new to the 2011–2014 data collection methodology. The analytic sample for this report was based on the 2011–2014 examined sample of 19,151 persons. Pregnant females were excluded from the tabulations of weight, body mass index (BMI), and circumference measurements.

The age and race and Hispanic-origin categories used for adults aged 20 and over were based on the survey sample domains (4). Age was categorized into three groups: 20–39, 40–59, and 60 and over. Race and Hispanic origin were reported for non-Hispanic white, non-Hispanic black, non-Hispanic Asian, all Hispanic, and Mexican-American persons. For participants under age 20, results are reported by single year of age, except for results for infants under age 1 year, which are reported by month of age.

## Body Measures

The NHANES Anthropometry Procedures Manual describes the protocol, equipment, quality control, and measurement procedures in detail (6).

Weight was measured on all participants to the nearest 0.1 kilogram using a digital floor scale. Head circumference was measured on infants from birth through 6 months of age to the nearest 0.1 centimeter (cm) using a plastic head circumference measurement tape. Recumbent length was measured from birth through 47 months of age to the nearest 0.1 cm using a digital infantometer. Upper arm length and arm circumference were measured on participants starting at 2 months of age. 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. Midarm circumference was measured with a tape measure at the marked point.

Standing height or stature and waist circumference were measured to the nearest 0.1 cm on participants starting at age 2 years. Standing height was measured with a digital stadiometer. Waist circumference was measured with a tape measure at the uppermost lateral border of the hip crest (iliac).

In addition to these measurements, upper leg length and sagittal abdominal diameter (SAD) measurements were taken on participants aged 8 and over. Pregnant females and persons over 600 pounds were excluded from SAD measurements. Upper leg measurements were taken on seated participants; the distance from the inguinal crease to the distal end of the femur was measured. SAD measurements were taken on participants in a supine position; the external distance between the front of the abdomen and the small of the back at the iliac level line was measured.

Weight, recumbent length, and standing height values were recorded automatically. Other body measurement data were recorded using computer-assisted data entry. All results, except SAD, were based on a single body measurement examination. SAD data are based on an average of up to four measurement readings, although most participants had only two readings.

One index is reported: BMI, which was calculated as weight in kilograms divided by height in meters squared ( $\text{kg}/\text{m}^2$ ).

## Statistical Analysis

Data were weighted using NHANES 4-year calculated examination sample weights 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 (4). 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 1–32](#), estimates based on less than 12 degrees of freedom are identified with an asterisk (\*). Estimates with standard errors that could not 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 body measurements and BMI is found in the text [Table](#). [Tables 1–32](#) contain the results from each measurement and BMI. Results are reported by sex and age group, and results for adults aged 20 and over are also presented by race and Hispanic origin. Results from previous surveys for most measurements have been reported for the National Health Examination Survey and NHANES conducted during 1960–2010 (8–21). A historical summary of published body measurement reference data is available in the [Appendix](#).

## Discussion

This report provides the most recent anthropometric reference data for U.S. children and adults. The SAD measurements provide the first national reference data across various demographic groups. NHANES anthropometric data have been used by researchers and policy makers for a variety of research and policy applications (22–29). NHANES will continue to collect anthropometric data and provide vital information to support national health programs and policy efforts.



**Table. Detailed tables with body measurements or indices from the National Health and Nutrition Examination Survey, 2011–2014**

Table number	Measurement/index (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	Persons 2–19 years
14 . . . . .	Body mass index	Females 20 years and over
15 . . . . .	Body mass index	Males 20 years and over
16 . . . . .	Head circumference (centimeters)	Birth through 6 months
17 . . . . .	Recumbent length (centimeters)	Birth through 47 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 . . . . .	Sagittal abdominal diameter (centimeters)	Persons 8–19 years
22 . . . . .	Sagittal abdominal diameter (centimeters)	Females 20 years and over
23 . . . . .	Sagittal abdominal diameter (centimeters)	Males 20 years and over
24 . . . . .	Midarm circumference (centimeters)	Persons 2 months–19 years
25 . . . . .	Midarm circumference (centimeters)	Females 20 years and over
26 . . . . .	Midarm circumference (centimeters)	Males 20 years and over
27 . . . . .	Upper arm length (centimeters)	Persons 2 months–19 years
28 . . . . .	Upper arm length (centimeters)	Females 20 years and over
29 . . . . .	Upper arm length (centimeters)	Males 20 years and over
30 . . . . .	Upper leg length (centimeters)	Persons 8–19 years
31 . . . . .	Upper leg length (centimeters)	Females 20 years and over
32 . . . . .	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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Kilograms								
Birth–2 months	75	5.4	0.10	4.0	4.3	4.4	4.7	5.3	5.9	6.3	6.5	6.7
3–5 months	90	7.3	0.12	5.8	6.0	6.2	6.5	7.2	8.0	8.2	8.7	8.9
6–8 months	103	8.5	0.12	6.9	7.2	7.4	7.7	8.4	9.2	9.6	9.7	10.1
9–11 months	97	9.7	0.16	7.6	8.0	8.3	8.7	9.5	10.6	11.2	11.4	11.8
1 year	240	11.4	0.10	9.3	9.7	10.1	10.4	11.3	12.0	13.0	13.2	13.9
2 years	258	14.2	0.14	11.5	11.9	12.4	13.0	14.0	15.0	16.0	16.6	17.5
3 years	234	16.0	0.16	13.3	13.8	14.2	14.7	15.7	16.9	18.1	18.3	19.1
4 years	230	18.5	0.18	14.6	15.3	15.6	16.4	18.1	19.9	20.7	21.6	23.9
5 years	195	21.2	0.39	16.9	17.5	18.2	18.8	20.1	23.1	24.3	25.4	29.1
6 years	247	23.9	0.39	18.3	19.1	20.1	21.0	23.1	25.8	27.4	28.8	32.5
7 years	231	28.1	0.52	20.4	21.7	21.9	23.3	26.0	30.1	33.7	38.9	42.5
8 years	228	31.5	0.58	21.7	23.0	24.1	25.9	29.7	35.0	38.0	40.0	46.4
9 years	218	33.8	0.69	23.3	25.1	25.9	28.2	31.8	36.2	42.0	46.2	50.4
10 years	207	40.3	1.25	26.6	28.8	30.8	32.1	36.5	45.8	50.5	54.1	62.8
11 years	186	48.5	1.39	30.9	33.3	35.4	38.0	45.8	55.6	63.6	71.4	76.1
12 years	181	50.6	1.44	33.4	36.0	37.3	41.2	47.6	54.9	64.1	70.2	79.8
13 years	175	60.7	1.64	39.8	41.8	43.6	48.6	56.7	67.7	75.3	83.9	93.9
14 years	184	65.9	1.83	43.9	47.5	51.4	53.9	61.4	74.0	84.2	89.9	101.4
15 years	156	71.3	1.91	47.2	51.6	53.6	57.7	65.5	82.6	84.8	94.2	110.3
16 years	178	74.4	1.21	52.6	55.7	57.5	61.3	68.7	84.2	90.2	96.1	110.3
17 years	147	75.1	2.08	52.4	56.6	59.0	61.7	71.1	80.7	91.5	99.6	114.2
18 years	160	81.4	3.22	53.9	57.8	60.0	65.9	76.4	87.8	100.3	107.8	†
19 years	144	78.9	2.24	54.5	55.7	59.6	63.9	73.7	87.3	96.3	113.1	†
Female												
Birth–2 months	72	4.8	0.08	3.7	3.9	4.0	4.3	4.7	5.1	5.4	5.8	†
3–5 months	104	6.8	0.12	5.1	5.4	5.6	6.1	6.7	7.4	7.8	7.9	8.2
6–8 months	91	8.0	0.12	6.2	6.7	6.8	7.3	7.8	8.5	8.8	9.2	†
9–11 months	104	9.3	0.16	7.1	7.7	8.0	8.3	9.1	10.1	10.5	10.6	11.5
1 year	224	11.2	0.14	8.5	9.1	9.5	9.9	11.1	12.2	12.8	13.3	13.9
2 years	293	13.3	0.12	10.7	11.2	11.4	11.9	13.1	14.3	15.0	15.4	16.4
3 years	201	15.7	0.22	12.8	13.1	13.6	14.2	15.1	16.5	17.5	18.7	19.4
4 years	206	18.3	0.28	13.9	14.4	14.9	15.9	17.9	19.8	20.6	21.4	25.4
5 years	179	20.4	0.34	15.3	16.0	16.6	17.9	19.9	21.8	23.9	24.6	27.8
6 years	216	23.8	0.48	17.3	17.8	18.7	20.1	22.2	26.5	29.4	30.8	33.4
7 years	211	26.6	0.63	19.2	19.9	20.7	21.8	24.5	29.5	33.6	36.4	40.7
8 years	197	31.7	0.62	22.6	23.3	23.8	25.4	28.7	35.4	39.1	43.0	46.3
9 years	206	37.5	0.86	24.9	26.6	27.2	29.2	34.2	42.2	48.2	51.2	58.7
10 years	187	41.3	1.27	25.6	27.7	29.6	33.0	38.7	47.3	51.9	57.3	63.0
11 years	230	47.4	1.17	30.0	33.3	34.6	37.8	44.0	54.1	59.5	64.8	75.8
12 years	166	55.8	1.64	34.6	37.9	40.1	43.2	50.9	65.7	72.4	77.7	90.7
13 years	160	55.5	1.47	38.6	41.0	43.4	45.4	51.4	61.3	71.0	77.4	78.1
14 years	169	59.6	1.52	42.5	45.1	47.2	49.9	53.8	66.2	74.9	81.4	85.2
15 years	150	64.3	2.50	43.7	47.1	49.4	52.3	58.1	72.1	82.1	88.6	†
16 years	187	65.0	2.60	45.8	46.9	48.9	50.9	60.0	70.3	83.8	95.3	†
17 years	139	67.4	1.86	47.1	50.4	51.4	53.6	60.7	77.5	85.7	90.5	108.7
18 years	154	67.2	2.59	45.0	47.8	51.3	54.3	62.1	72.7	81.9	91.2	†
19 years	152	68.5	2.16	44.2	46.0	49.7	54.2	62.6	79.0	85.5	100.0	113.3

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

NOTE: Data exclude pregnant females.

SOURCE: 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Pounds								
Birth–2 months	75	11.8	0.22	8.7	9.5	9.7	10.3	11.7	12.9	14.0	14.4	14.8
3–5 months	90	16.1	0.27	12.8	13.2	13.7	14.3	16.0	17.7	18.1	19.1	19.5
6–8 months	103	18.7	0.27	15.2	15.8	16.3	16.9	18.5	20.2	21.1	21.4	22.2
9–11 months	97	21.5	0.36	16.9	17.7	18.3	19.2	21.0	23.3	24.8	25.2	26.0
1 year	240	25.2	0.22	20.4	21.3	22.3	23.0	24.9	26.5	28.7	29.2	30.7
2 years	258	31.3	0.30	25.3	26.2	27.3	28.6	30.8	33.0	35.2	36.6	38.7
3 years	234	35.3	0.34	29.4	30.3	31.2	32.4	34.6	37.3	39.9	40.3	42.2
4 years	230	40.8	0.39	32.1	33.8	34.4	36.1	39.8	43.9	45.6	47.6	52.8
5 years	195	46.6	0.87	37.2	38.6	40.1	41.5	44.4	50.9	53.6	56.0	64.2
6 years	247	52.8	0.85	40.3	42.1	44.3	46.3	50.8	56.8	60.5	63.4	71.7
7 years	231	61.9	1.15	45.0	47.9	48.3	51.3	57.4	66.4	74.4	85.8	93.6
8 years	228	69.4	1.27	47.8	50.7	53.2	57.2	65.5	77.2	83.7	88.3	102.3
9 years	218	74.4	1.52	51.4	55.3	57.1	62.1	70.2	79.9	92.6	101.9	111.1
10 years	207	88.7	2.76	58.6	63.4	67.9	70.8	80.5	100.9	111.4	119.3	138.5
11 years	186	107.0	3.07	68.2	73.4	78.0	83.8	100.9	122.7	140.1	157.4	167.8
12 years	181	111.6	3.17	73.6	79.3	82.2	90.9	105.0	121.1	141.3	154.7	175.9
13 years	175	133.9	3.61	87.8	92.1	96.1	107.1	125.1	149.2	166.0	184.9	207.0
14 years	184	145.2	4.03	96.7	104.7	113.3	118.9	135.4	163.1	185.5	198.1	223.6
15 years	156	157.3	4.20	104.0	113.7	118.1	127.3	144.5	182.1	186.9	207.7	243.2
16 years	178	164.1	2.67	116.0	122.7	126.7	135.1	151.4	185.7	198.9	211.8	243.2
17 years	147	165.5	4.58	115.5	124.9	130.0	136.1	156.8	177.8	201.7	219.6	251.7
18 years	160	179.4	7.09	118.9	127.4	132.3	145.3	168.5	193.6	221.1	237.6	†
19 years	144	174.0	4.95	120.2	122.8	131.3	140.8	162.5	192.5	212.3	249.3	†
Female												
Birth–2 months	72	10.6	0.18	8.2	8.6	8.9	9.5	10.4	11.2	11.9	12.7	†
3–5 months	104	14.9	0.26	11.3	11.9	12.3	13.4	14.7	16.4	17.2	17.4	18.1
6–8 months	91	17.7	0.26	13.6	14.7	14.9	16.1	17.2	18.8	19.5	20.3	†
9–11 months	104	20.4	0.36	15.6	17.0	17.5	18.4	20.1	22.3	23.1	23.3	25.3
1 year	224	24.6	0.30	18.7	20.0	20.9	21.7	24.4	26.9	28.3	29.3	30.6
2 years	293	29.3	0.26	23.6	24.7	25.0	26.3	28.8	31.5	33.1	34.0	36.0
3 years	201	34.5	0.49	28.1	28.8	29.9	31.3	33.4	36.3	38.6	41.2	42.8
4 years	206	40.3	0.62	30.7	31.7	32.8	35.0	39.5	43.6	45.3	47.2	56.0
5 years	179	45.0	0.74	33.7	35.2	36.6	39.5	43.8	48.0	52.6	54.3	61.3
6 years	216	52.4	1.05	38.2	39.2	41.1	44.4	49.0	58.4	64.8	67.8	73.7
7 years	211	58.7	1.38	42.4	43.8	45.6	48.0	53.9	64.9	74.1	80.2	89.7
8 years	197	69.9	1.37	49.7	51.4	52.5	56.0	63.3	78.1	86.1	94.8	102.0
9 years	206	82.7	1.90	54.9	58.6	59.9	64.4	75.5	93.0	106.2	112.9	129.4
10 years	187	90.9	2.80	56.5	61.1	65.3	72.8	85.3	104.2	114.4	126.3	139.0
11 years	230	104.5	2.58	66.2	73.4	76.4	83.4	97.0	119.2	131.1	142.8	167.0
12 years	166	122.9	3.61	76.3	83.6	88.5	95.2	112.2	144.8	159.5	171.3	199.9
13 years	160	122.4	3.25	85.1	90.3	95.7	100.1	113.2	135.2	156.6	170.7	172.3
14 years	169	131.4	3.35	93.7	99.5	104.1	109.9	118.5	145.9	165.1	179.4	187.7
15 years	150	141.7	5.50	96.3	103.8	108.8	115.2	128.1	158.9	181.0	195.4	†
16 years	187	143.3	5.73	100.9	103.5	107.8	112.1	132.3	155.0	184.6	210.1	†
17 years	139	148.5	4.11	103.8	111.2	113.2	118.1	133.8	170.9	189.0	199.6	239.7
18 years	154	148.2	5.72	99.1	105.3	113.1	119.6	137.0	160.2	180.5	201.0	†
19 years	152	150.9	4.77	97.5	101.4	109.6	119.6	137.9	174.1	188.5	220.5	249.9

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

NOTE: Data exclude pregnant females.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Kilograms								
20 years and over . . . . .	5,425	76.4	0.42	50.1	54.3	57.5	61.7	72.1	86.7	96.2	104.0	116.5
20–29 years . . . . .	853	73.4	0.85	48.6	51.7	54.3	58.4	67.9	83.7	96.5	103.7	115.8
30–39 years . . . . .	915	78.4	0.87	52.1	56.3	58.4	62.5	72.8	88.9	98.9	107.8	122.1
40–49 years . . . . .	979	78.5	1.00	52.5	56.6	59.3	63.0	74.4	89.3	98.8	107.6	118.5
50–59 years . . . . .	923	79.1	1.05	52.3	56.6	58.6	64.0	75.9	89.5	99.5	108.6	123.1
60–69 years . . . . .	889	76.6	0.90	49.0	55.6	58.8	63.7	74.6	86.7	93.8	102.0	111.4
70–79 years . . . . .	527	75.2	0.94	49.1	54.5	58.1	62.9	71.9	85.5	93.3	98.2	108.0
80 years and over . . . . .	339	64.4	0.74	44.0	47.1	50.2	55.2	64.0	72.8	78.2	81.8	86.5
Non-Hispanic white												
20 years and over . . . . .	2,157	76.4	0.54	50.9	55.4	57.9	62.3	72.0	86.3	94.9	102.7	116.2
20–39 years . . . . .	649	76.2	0.86	51.1	54.3	57.2	60.8	70.7	85.7	97.5	104.7	116.4
40–59 years . . . . .	686	78.7	0.96	53.5	57.6	59.6	63.9	75.4	88.6	98.8	107.7	120.2
60 years and over . . . . .	822	73.9	0.83	47.9	53.1	57.1	61.8	71.2	83.2	91.2	97.6	107.2
Non-Hispanic black												
20 years and over . . . . .	1,264	86.3	0.69	54.9	59.7	63.7	69.9	83.1	98.8	109.0	116.5	128.7
20–39 years . . . . .	380	86.2	1.25	52.3	58.8	62.1	68.5	83.1	99.3	110.4	119.4	129.2
40–59 years . . . . .	481	89.1	1.12	58.3	63.5	67.3	72.2	85.0	101.4	111.7	117.8	130.0
60 years and over . . . . .	403	81.6	1.08	50.3	57.2	61.1	66.8	79.2	94.7	102.8	106.6	118.3
Non-Hispanic Asian												
20 years and over . . . . .	691	59.6	0.58	45.3	47.4	48.9	51.3	57.6	65.1	71.0	74.5	80.8
20–39 years . . . . .	258	58.3	0.71	45.4	47.3	48.4	50.1	55.5	62.4	71.1	73.1	79.1
40–59 years . . . . .	267	61.8	0.91	46.1	48.9	50.0	52.6	59.1	68.4	73.8	77.6	84.6
60 years and over . . . . .	166	58.2	0.88	43.2	46.2	48.1	51.1	58.7	64.3	67.8	69.5	72.2
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,166	74.7	0.63	51.3	55.0	56.9	61.5	71.4	84.4	93.3	99.4	109.3
20–39 years . . . . .	408	74.2	1.21	50.9	54.8	56.7	61.1	69.4	82.8	93.7	100.1	111.4
40–59 years . . . . .	417	76.7	0.96	53.0	55.7	57.9	62.9	74.2	87.0	95.2	100.6	109.4
60 years and over . . . . .	341	71.8	0.80	48.3	51.9	55.5	60.1	69.9	81.6	88.5	92.9	99.7
Mexican American												
20 years and over . . . . .	611	76.0	0.84	51.9	55.6	58.0	62.4	72.5	85.9	94.6	100.7	111.2
20–39 years . . . . .	238	75.0	1.56	51.8	55.7	57.6	61.5	70.5	82.9	93.9	102.5	114.5
40–59 years . . . . .	220	78.5	1.13	54.5	56.7	59.9	64.3	76.7	89.1	96.7	101.6	110.2
60 years and over . . . . .	153	*73.4	1.10	*47.8	*51.2	*54.4	*62.6	*70.4	*85.4	*91.2	*94.9	*102.5

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

NOTE: Data exclude pregnant females.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Pounds								
20 years and over . . . . .	5,425	168.5	0.92	110.5	119.8	126.8	136.0	159.1	191.1	212.2	229.3	256.8
20–29 years . . . . .	853	161.8	1.88	107.2	113.9	119.7	128.8	149.8	184.6	212.8	228.7	255.2
30–39 years . . . . .	915	172.9	1.92	114.9	124.0	128.7	137.7	160.5	195.9	218.1	237.7	269.2
40–49 years . . . . .	979	173.1	2.21	115.6	124.8	130.7	138.8	164.0	196.8	217.7	237.2	261.3
50–59 years . . . . .	923	174.4	2.31	115.2	124.9	129.2	141.0	167.4	197.2	219.4	239.4	271.3
60–69 years . . . . .	889	168.8	1.98	107.9	122.5	129.6	140.3	164.4	191.2	206.8	224.8	245.6
70–79 years . . . . .	527	165.8	2.08	108.2	120.2	128.1	138.6	158.5	188.5	205.8	216.5	238.2
80 years and over . . . . .	339	141.9	1.64	96.9	103.8	110.7	121.7	141.0	160.6	172.4	180.4	190.6
Non-Hispanic white												
20 years and over . . . . .	2,157	168.4	1.19	112.2	122.2	127.7	137.4	158.7	190.3	209.1	226.5	256.1
20–39 years . . . . .	649	167.9	1.90	112.6	119.8	126.1	134.0	155.9	189.0	215.0	230.8	256.7
40–59 years . . . . .	686	173.4	2.12	118.0	127.0	131.3	140.9	166.1	195.4	217.8	237.5	265.0
60 years and over . . . . .	822	162.9	1.83	105.7	117.0	125.9	136.2	157.0	183.4	201.1	215.3	236.2
Non-Hispanic black												
20 years and over . . . . .	1,264	190.2	1.52	121.0	131.6	140.4	154.0	183.1	217.8	240.3	256.8	283.7
20–39 years . . . . .	380	190.0	2.76	115.2	129.6	137.0	151.0	183.1	219.0	243.4	263.3	284.8
40–59 years . . . . .	481	196.5	2.47	128.6	140.0	148.4	159.2	187.3	223.5	246.2	259.6	286.5
60 years and over . . . . .	403	179.9	2.39	111.0	126.0	134.8	147.2	174.7	208.9	226.6	235.1	260.7
Non-Hispanic Asian												
20 years and over . . . . .	691	131.4	1.28	99.8	104.6	107.8	113.0	127.0	143.6	156.5	164.2	178.2
20–39 years . . . . .	258	128.6	1.56	100.1	104.2	106.6	110.5	122.4	137.5	156.7	161.0	174.3
40–59 years . . . . .	267	136.3	2.01	101.6	107.8	110.2	115.9	130.4	150.8	162.7	171.2	186.5
60 years and over . . . . .	166	128.2	1.93	95.3	101.9	106.0	112.6	129.3	141.7	149.4	153.3	159.1
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,166	164.7	1.39	113.1	121.3	125.4	135.5	157.4	186.2	205.7	219.2	241.0
20–39 years . . . . .	408	163.5	2.66	112.3	120.7	125.0	134.8	152.9	182.5	206.6	220.7	245.5
40–59 years . . . . .	417	169.1	2.11	116.8	122.7	127.7	138.6	163.6	191.8	209.8	221.7	241.1
60 years and over . . . . .	341	158.3	1.76	106.4	114.4	122.5	132.5	154.0	179.9	195.0	204.8	219.7
Mexican American												
20 years and over . . . . .	611	167.6	1.86	114.4	122.6	127.8	137.5	159.8	189.4	208.6	222.0	245.1
20–39 years . . . . .	238	165.3	3.45	114.1	122.7	127.0	135.7	155.5	182.7	207.1	226.0	252.5
40–59 years . . . . .	220	173.0	2.49	120.2	124.9	132.2	141.8	169.0	196.5	213.1	223.9	243.0
60 years and over . . . . .	153	*161.9	2.42	*105.4	*113.0	*120.0	*138.0	*155.2	*188.3	*201.0	*209.3	*225.9

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

NOTE: Data exclude pregnant females.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Kilograms								
20 years and over . . . . .	5,236	88.8	0.43	62.0	66.3	69.9	74.9	85.9	99.2	107.4	113.3	124.9
20–29 years . . . . .	936	84.7	1.18	57.3	62.4	65.3	69.4	80.7	94.6	105.3	112.1	127.4
30–39 years . . . . .	914	90.2	0.78	63.6	68.1	71.7	76.2	86.6	100.3	110.2	117.7	127.9
40–49 years . . . . .	872	91.5	0.73	66.3	70.9	73.9	77.9	89.1	100.9	107.6	113.0	126.6
50–59 years . . . . .	854	90.5	0.92	63.5	69.0	72.6	77.2	88.8	100.8	107.4	113.6	126.7
60–69 years . . . . .	874	90.6	1.37	62.5	66.7	70.0	76.2	88.6	101.2	110.8	115.8	126.6
70–79 years . . . . .	486	85.8	0.92	61.9	66.3	69.2	75.6	83.3	96.1	103.0	107.2	114.1
80 years and over . . . . .	300	79.2	0.86	56.8	60.1	64.1	69.9	77.6	88.2	94.0	98.0	105.9
Non-Hispanic white												
20 years and over . . . . .	2,099	90.2	0.56	63.9	68.8	72.1	76.7	87.5	100.4	107.9	113.6	124.8
20–39 years . . . . .	715	87.9	1.24	62.0	65.7	68.8	73.3	83.2	99.1	107.8	115.7	128.0
40–59 years . . . . .	655	92.8	0.94	68.2	73.1	75.1	79.7	90.4	102.3	107.9	113.6	127.6
60 years and over . . . . .	729	89.2	0.96	62.7	67.6	71.3	76.6	86.3	99.5	108.0	113.0	120.1
Non-Hispanic black												
20 years and over . . . . .	1,222	90.4	0.73	59.0	64.1	67.8	73.2	86.9	103.1	112.0	119.9	133.9
20–39 years . . . . .	404	89.7	1.39	56.8	62.9	65.9	71.6	85.7	103.4	112.9	119.8	137.3
40–59 years . . . . .	396	92.9	1.20	59.4	66.7	70.2	77.0	89.2	105.0	114.2	122.6	135.8
60 years and over . . . . .	422	86.8	1.30	60.1	64.1	67.0	72.0	84.2	97.3	106.0	114.2	123.3
Non-Hispanic Asian												
20 years and over . . . . .	665	73.0	0.49	53.7	58.6	60.6	64.5	71.3	79.8	85.6	89.4	97.9
20–39 years . . . . .	260	74.9	0.98	53.1	58.8	60.6	63.9	72.4	82.4	89.7	95.9	100.8
40–59 years . . . . .	247	73.2	0.56	55.3	59.7	62.1	66.5	72.1	81.0	83.1	87.1	90.2
60 years and over . . . . .	158	68.5	0.86	48.5	56.5	58.1	61.5	68.1	74.0	77.7	80.1	†
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,089	86.1	0.90	60.9	64.9	68.3	73.3	83.8	94.9	103.1	108.9	120.2
20–39 years . . . . .	385	87.2	1.30	60.5	64.6	67.7	72.9	84.4	97.1	106.4	110.6	124.2
40–59 years . . . . .	381	86.2	1.11	62.2	66.8	70.6	75.3	84.7	94.0	100.5	105.3	116.4
60 years and over . . . . .	323	81.3	1.05	59.7	63.5	65.0	69.6	79.6	89.9	96.1	102.7	110.6
Mexican American												
20 years and over . . . . .	628	87.1	0.93	62.2	65.7	69.8	73.8	84.8	95.8	104.9	109.8	122.7
20–39 years . . . . .	233	88.2	1.54	62.3	65.2	69.4	73.5	86.6	98.2	107.6	111.5	129.0
40–59 years . . . . .	228	86.4	1.37	61.2	66.1	70.8	75.8	84.7	94.1	100.7	107.4	116.6
60 years and over . . . . .	167	84.0	1.31	59.8	65.0	67.4	72.8	81.0	92.7	99.2	106.1	111.5

† Estimate not shown because the standard error could not be calculated due to small sample size.

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Pounds								
20 years and over . . . . .	5,236	195.7	0.94	136.7	146.2	154.2	165.1	189.3	218.8	236.7	249.9	275.4
20–29 years . . . . .	936	186.8	2.60	126.2	137.6	143.9	152.9	177.8	208.5	232.1	247.2	280.8
30–39 years . . . . .	914	198.8	1.73	140.2	150.2	158.2	168.1	190.8	221.2	242.8	259.6	281.9
40–49 years . . . . .	872	201.7	1.60	146.2	156.3	162.9	171.7	196.4	222.5	237.2	249.0	279.2
50–59 years . . . . .	854	199.5	2.03	140.0	152.0	160.0	170.2	195.9	222.3	236.9	250.4	279.4
60–69 years . . . . .	874	199.7	3.02	137.9	147.0	154.3	168.0	195.3	223.1	244.2	255.3	279.2
70–79 years . . . . .	486	189.3	2.03	136.5	146.2	152.6	166.6	183.6	212.0	227.0	236.3	251.5
80 years and over . . . . .	300	174.6	1.90	125.2	132.6	141.4	154.2	171.1	194.5	207.1	216.1	233.5
Non-Hispanic white												
20 years and over . . . . .	2,099	198.8	1.23	140.9	151.6	158.9	169.1	192.9	221.4	237.9	250.5	275.2
20–39 years . . . . .	715	193.8	2.72	136.6	144.9	151.6	161.7	183.5	218.5	237.7	255.0	282.3
40–59 years . . . . .	655	204.6	2.07	150.4	161.2	165.5	175.7	199.3	225.5	237.8	250.4	281.3
60 years and over . . . . .	729	196.5	2.11	138.2	149.0	157.2	168.9	190.2	219.3	238.1	249.2	264.8
Non-Hispanic black												
20 years and over . . . . .	1,222	199.3	1.61	130.0	141.4	149.4	161.4	191.6	227.2	247.0	264.4	295.2
20–39 years . . . . .	404	197.7	3.07	125.2	138.6	145.4	157.9	189.0	228.0	248.9	264.2	302.6
40–59 years . . . . .	396	204.8	2.64	130.9	147.0	154.8	169.8	196.6	231.4	251.8	270.3	299.5
60 years and over . . . . .	422	191.4	2.86	132.6	141.2	147.8	158.8	185.5	214.4	233.7	251.9	271.8
Non-Hispanic Asian												
20 years and over . . . . .	665	161.0	1.09	118.5	129.1	133.6	142.1	157.2	175.9	188.8	197.0	215.8
20–39 years . . . . .	260	165.0	2.15	117.1	129.6	133.5	140.9	159.6	181.6	197.8	211.5	222.2
40–59 years . . . . .	247	161.3	1.23	122.0	131.7	137.0	146.6	158.9	178.6	183.2	192.0	198.8
60 years and over . . . . .	158	151.1	1.89	106.8	124.6	128.0	135.7	150.1	163.2	171.2	176.6	†
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,089	189.9	1.98	134.2	143.1	150.6	161.6	184.7	209.1	227.3	240.0	264.9
20–39 years . . . . .	385	192.2	2.87	133.4	142.3	149.2	160.7	186.0	214.1	234.6	243.9	273.7
40–59 years . . . . .	381	190.1	2.44	137.2	147.2	155.5	166.0	186.8	207.2	221.6	232.2	256.6
60 years and over . . . . .	323	179.3	2.32	131.6	140.1	143.3	153.3	175.4	198.3	211.8	226.5	243.9
Mexican American												
20 years and over . . . . .	628	192.1	2.06	137.1	144.9	153.8	162.7	186.9	211.1	231.2	242.1	270.6
20–39 years . . . . .	233	194.6	3.40	137.3	143.8	153.0	162.1	190.8	216.5	237.2	245.8	284.4
40–59 years . . . . .	228	190.5	3.01	134.8	145.8	156.1	167.1	186.8	207.5	222.0	236.8	257.1
60 years and over . . . . .	167	185.1	2.90	131.8	143.3	148.6	160.6	178.6	204.4	218.8	234.0	245.8

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
2 years	220	92.2	0.46	85.1	86.7	87.6	88.7	92.4	95.4	96.6	97.5	†
3 years	225	99.0	0.35	91.4	92.7	94.8	95.6	99.1	101.9	103.9	104.7	107.6
4 years	229	106.7	0.38	99.3	100.9	102.2	102.8	106.5	110.3	111.5	112.4	114.1
5 years	195	113.8	0.54	105.8	107.1	108.5	110.7	113.0	117.6	119.7	120.8	121.9
6 years	246	120.0	0.49	112.0	113.3	114.5	115.9	120.1	123.4	125.7	126.6	129.3
7 years	231	126.4	0.49	116.0	118.7	119.9	121.9	126.7	130.7	133.0	134.0	136.5
8 years	227	131.7	0.62	119.9	123.8	124.9	127.5	131.4	135.8	139.3	140.7	142.5
9 years	218	136.5	0.58	127.1	127.8	130.6	132.2	135.6	140.4	143.3	145.0	†
10 years	207	143.0	0.67	130.5	133.4	135.3	137.9	143.0	147.4	149.1	150.4	153.1
11 years	186	150.3	0.79	138.3	140.0	141.9	144.3	149.0	155.4	159.9	162.3	†
12 years	181	155.8	0.78	143.3	145.9	147.7	150.5	155.6	161.2	163.5	164.9	168.5
13 years	175	163.4	0.81	146.7	151.5	153.5	157.8	163.9	168.7	172.3	173.6	175.6
14 years	184	169.4	0.78	153.6	159.4	162.2	165.4	169.0	173.9	178.2	179.5	†
15 years	156	173.4	0.71	163.2	164.0	165.4	168.4	173.8	176.8	179.9	181.6	187.0
16 years	178	173.9	0.60	162.6	166.0	167.6	169.8	174.5	177.6	179.5	182.3	185.4
17 years	147	174.9	1.02	161.5	164.1	165.7	168.6	174.8	180.3	184.5	187.8	190.4
18 years	160	175.6	0.85	162.7	164.7	166.8	169.8	175.3	181.1	183.3	185.5	187.0
19 years	144	176.3	1.12	†	166.1	168.6	170.8	175.9	181.2	183.5	185.4	†
Female												
2 years	264	90.0	0.27	83.6	84.4	85.7	87.0	89.5	92.6	94.8	95.9	97.2
3 years	199	98.1	0.32	91.0	92.8	94.5	95.6	97.8	100.7	102.4	103.3	104.8
4 years	206	105.8	0.40	97.0	99.6	100.4	102.5	106.0	109.0	110.4	111.9	113.1
5 years	178	112.3	0.54	103.2	104.5	106.2	107.9	111.9	115.9	118.8	120.5	122.3
6 years	216	118.7	0.43	110.0	112.0	113.2	114.5	118.6	122.6	124.4	125.4	127.7
7 years	211	124.5	0.46	114.8	117.2	118.5	121.1	123.7	128.1	131.2	132.6	134.7
8 years	197	131.7	0.47	121.1	123.4	124.5	127.1	131.4	136.1	138.7	140.7	142.8
9 years	206	137.7	0.61	127.4	130.0	131.1	133.4	137.5	142.0	143.7	145.5	149.3
10 years	187	144.3	0.77	131.5	135.4	137.0	139.4	143.1	149.1	152.0	155.8	†
11 years	230	150.7	0.63	135.9	141.4	143.1	146.4	151.2	155.2	157.3	160.0	162.1
12 years	166	156.2	0.69	143.4	145.6	149.2	151.4	156.2	160.9	164.1	165.1	167.0
13 years	160	158.5	0.59	148.4	151.2	152.3	155.2	158.5	161.9	164.8	166.3	169.2
14 years	169	160.3	0.54	149.9	152.2	153.2	156.4	161.1	164.2	166.0	167.8	168.5
15 years	150	161.1	0.76	149.1	150.2	153.8	156.5	161.7	166.0	167.7	169.5	170.8
16 years	187	162.3	0.70	152.6	154.5	155.6	157.3	161.7	166.7	169.9	172.1	173.1
17 years	140	162.5	0.51	153.6	154.6	156.3	158.3	162.9	165.4	168.3	170.8	172.7
18 years	154	161.7	0.57	151.3	152.8	155.1	156.7	162.4	166.1	167.7	168.9	170.6
19 years	152	163.0	0.40	152.8	153.7	155.8	159.3	163.5	167.8	169.5	170.1	171.9

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

SOURCE: 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Inches								
2 years	220	36.3	0.18	33.5	34.1	34.5	34.9	36.4	37.6	38.0	38.4	†
3 years	225	39.0	0.14	36.0	36.5	37.3	37.6	39.0	40.1	40.9	41.2	42.4
4 years	229	42.0	0.15	39.1	39.7	40.3	40.5	41.9	43.4	43.9	44.2	44.9
5 years	195	44.8	0.21	41.6	42.2	42.7	43.6	44.5	46.3	47.1	47.6	48.0
6 years	246	47.2	0.19	44.1	44.6	45.1	45.6	47.3	48.6	49.5	49.8	50.9
7 years	231	49.8	0.19	45.7	46.7	47.2	48.0	49.9	51.5	52.4	52.7	53.8
8 years	227	51.9	0.24	47.2	48.7	49.2	50.2	51.7	53.4	54.8	55.4	56.1
9 years	218	53.7	0.23	50.0	50.3	51.4	52.1	53.4	55.3	56.4	57.1	†
10 years	207	56.3	0.26	51.4	52.5	53.3	54.3	56.3	58.0	58.7	59.2	60.3
11 years	186	59.2	0.31	54.5	55.1	55.9	56.8	58.7	61.2	63.0	63.9	†
12 years	181	61.4	0.31	56.4	57.4	58.1	59.3	61.2	63.5	64.4	64.9	66.3
13 years	175	64.3	0.32	57.8	59.7	60.4	62.1	64.5	66.4	67.8	68.3	69.1
14 years	184	66.7	0.31	60.5	62.7	63.8	65.1	66.5	68.5	70.2	70.7	†
15 years	156	68.3	0.28	64.2	64.6	65.1	66.3	68.4	69.6	70.8	71.5	73.6
16 years	178	68.5	0.24	64.0	65.4	66.0	66.9	68.7	69.9	70.7	71.8	73.0
17 years	147	68.9	0.40	63.6	64.6	65.3	66.4	68.8	71.0	72.6	73.9	75.0
18 years	160	69.1	0.33	64.1	64.8	65.7	66.9	69.0	71.3	72.2	73.0	73.6
19 years	144	69.4	0.44	64.0	65.4	66.4	67.2	69.3	71.3	72.2	73.0	†
Female												
2 years	264	35.4	0.11	32.9	33.2	33.8	34.3	35.2	36.5	37.3	37.7	38.2
3 years	199	38.6	0.13	35.8	36.5	37.2	37.6	38.5	39.6	40.3	40.7	41.3
4 years	206	41.7	0.16	38.2	39.2	39.5	40.4	41.7	42.9	43.5	44.1	44.5
5 years	178	44.2	0.21	40.6	41.1	41.8	42.5	44.0	45.6	46.8	47.4	48.2
6 years	216	46.7	0.17	43.3	44.1	44.6	45.1	46.7	48.3	49.0	49.4	50.3
7 years	211	49.0	0.18	45.2	46.1	46.7	47.7	48.7	50.4	51.6	52.2	53.0
8 years	197	51.8	0.18	47.7	48.6	49.0	50.0	51.7	53.6	54.6	55.4	56.2
9 years	206	54.2	0.24	50.2	51.2	51.6	52.5	54.1	55.9	56.6	57.3	58.8
10 years	187	56.8	0.30	51.8	53.3	54.0	54.9	56.3	58.7	59.8	61.3	†
11 years	230	59.3	0.25	53.5	55.7	56.3	57.6	59.5	61.1	61.9	63.0	63.8
12 years	166	61.5	0.27	56.5	57.3	58.7	59.6	61.5	63.4	64.6	65.0	65.8
13 years	160	62.4	0.23	58.4	59.5	60.0	61.1	62.4	63.7	64.9	65.5	66.6
14 years	169	63.1	0.21	59.0	59.9	60.3	61.6	63.4	64.6	65.3	66.1	66.3
15 years	150	63.4	0.30	58.7	59.1	60.6	61.6	63.6	65.4	66.0	66.8	67.2
16 years	187	63.9	0.28	60.1	60.8	61.3	61.9	63.7	65.6	66.9	67.7	68.1
17 years	140	64.0	0.20	60.5	60.9	61.5	62.3	64.1	65.1	66.2	67.3	68.0
18 years	154	63.6	0.22	59.6	60.1	61.0	61.7	63.9	65.4	66.0	66.5	67.2
19 years	152	64.2	0.16	60.1	60.5	61.4	62.7	64.4	66.1	66.7	67.0	67.7

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,547	161.8	0.21	149.8	152.7	154.3	156.8	161.9	166.4	169.0	170.7	173.5
20–29 years . . . . .	928	162.9	0.30	151.9	154.4	156.0	158.4	162.9	167.2	169.1	171.1	174.2
30–39 years . . . . .	957	163.4	0.30	151.2	153.8	155.6	158.3	163.6	168.6	170.9	172.5	175.3
40–49 years . . . . .	987	162.9	0.31	150.9	153.7	155.4	158.1	163.0	167.3	169.8	171.7	174.4
50–59 years . . . . .	924	161.9	0.37	150.9	152.9	154.7	156.9	162.2	165.9	168.5	170.5	173.2
60–69 years . . . . .	888	160.5	0.37	149.9	152.5	153.6	156.1	160.5	164.7	167.0	168.8	171.9
70–79 years . . . . .	527	159.3	0.35	147.5	150.3	152.0	154.5	160.0	163.8	166.0	167.9	170.3
80 years and over . . . . .	336	155.6	0.37	144.6	146.4	148.1	151.5	155.7	160.2	161.8	163.4	166.4
Non-Hispanic white												
20 years and over . . . . .	2,199	162.9	0.23	151.7	154.0	155.7	158.3	162.9	167.2	169.7	171.5	174.4
20–39 years . . . . .	689	165.0	0.20	154.2	156.6	158.1	160.6	164.8	169.1	171.4	173.3	176.5
40–59 years . . . . .	692	163.7	0.37	152.9	155.1	156.6	159.5	163.5	167.7	170.1	172.2	174.6
60 years and over . . . . .	818	159.9	0.31	148.8	151.6	153.2	155.3	160.1	164.2	166.7	168.3	170.6
Non-Hispanic black												
20 years and over . . . . .	1,302	163.0	0.27	151.4	154.1	155.7	158.8	163.1	167.3	169.6	171.1	173.5
20–39 years . . . . .	418	163.6	0.39	152.5	154.7	156.2	159.7	163.7	167.5	170.0	171.5	174.8
40–59 years . . . . .	482	163.8	0.36	152.8	155.2	157.2	159.7	164.0	167.8	170.4	171.9	174.0
60 years and over . . . . .	402	160.3	0.41	149.4	151.3	153.2	155.8	160.6	164.8	167.0	168.6	170.9
Non-Hispanic Asian												
20 years and over . . . . .	708	157.0	0.35	146.4	148.4	150.2	152.8	156.9	161.0	163.3	165.2	167.1
20–39 years . . . . .	272	158.4	0.45	148.2	150.8	152.3	154.4	158.1	162.2	164.1	166.0	167.9
40–59 years . . . . .	269	157.3	0.37	147.0	148.7	150.7	153.3	157.0	161.7	164.4	165.6	167.9
60 years and over . . . . .	167	153.6	0.48	145.0	145.8	147.5	149.4	153.6	157.4	158.8	160.1	161.8
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,186	157.5	0.24	146.7	149.0	150.5	153.1	157.3	161.9	164.5	165.8	168.5
20–39 years . . . . .	428	158.9	0.34	147.8	150.4	152.1	154.4	159.1	163.0	165.2	166.4	169.3
40–59 years . . . . .	417	157.3	0.28	147.0	149.1	150.5	152.6	156.6	161.4	164.7	166.2	168.3
60 years and over . . . . .	341	153.9	0.28	144.0	146.0	147.5	150.1	153.9	157.8	160.2	161.6	163.9
Mexican American												
20 years and over . . . . .	620	157.3	0.30	146.7	148.7	150.2	152.5	157.2	161.6	164.3	165.5	168.1
20–39 years . . . . .	247	158.4	0.40	147.5	150.0	151.7	153.6	158.7	162.7	164.9	165.9	169.1
40–59 years . . . . .	220	156.9	0.44	146.6	148.6	149.4	151.8	156.9	161.1	164.1	165.8	167.7
60 years and over . . . . .	153	*153.5	0.42	*143.3	*146.2	*147.6	*150.1	*153.5	*157.1	*159.9	*160.6	*163.8

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Inches								
20 years and over . . . . .	5,547	63.7	0.08	59.0	60.1	60.7	61.7	63.7	65.5	66.5	67.2	68.3
20–29 years . . . . .	928	64.1	0.12	59.8	60.8	61.4	62.3	64.1	65.8	66.6	67.4	68.6
30–39 years . . . . .	957	64.3	0.12	59.5	60.5	61.3	62.3	64.4	66.4	67.3	67.9	69.0
40–49 years . . . . .	987	64.1	0.12	59.4	60.5	61.2	62.2	64.2	65.9	66.8	67.6	68.7
50–59 years . . . . .	924	63.7	0.15	59.4	60.2	60.9	61.8	63.9	65.3	66.3	67.1	68.2
60–69 years . . . . .	888	63.2	0.15	59.0	60.1	60.5	61.5	63.2	64.9	65.8	66.5	67.7
70–79 years . . . . .	527	62.7	0.14	58.1	59.2	59.8	60.8	63.0	64.5	65.4	66.1	67.1
80 years and over . . . . .	336	61.3	0.15	56.9	57.7	58.3	59.6	61.3	63.1	63.7	64.3	65.5
Non-Hispanic white												
20 years and over . . . . .	2,199	64.1	0.09	59.7	60.6	61.3	62.3	64.1	65.8	66.8	67.5	68.6
20–39 years . . . . .	689	64.9	0.08	60.7	61.7	62.2	63.2	64.9	66.6	67.5	68.2	69.5
40–59 years . . . . .	692	64.4	0.15	60.2	61.1	61.6	62.8	64.4	66.0	67.0	67.8	68.8
60 years and over . . . . .	818	63.0	0.12	58.6	59.7	60.3	61.1	63.0	64.7	65.6	66.3	67.2
Non-Hispanic black												
20 years and over . . . . .	1,302	64.2	0.10	59.6	60.7	61.3	62.5	64.2	65.9	66.8	67.4	68.3
20–39 years . . . . .	418	64.4	0.15	60.1	60.9	61.5	62.9	64.4	66.0	66.9	67.5	68.8
40–59 years . . . . .	482	64.5	0.14	60.1	61.1	61.9	62.9	64.6	66.1	67.1	67.7	68.5
60 years and over . . . . .	402	63.1	0.16	58.8	59.6	60.3	61.4	63.2	64.9	65.8	66.4	67.3
Non-Hispanic Asian												
20 years and over . . . . .	708	61.8	0.14	57.7	58.4	59.1	60.2	61.8	63.4	64.3	65.0	65.8
20–39 years . . . . .	272	62.4	0.18	58.4	59.4	60.0	60.8	62.2	63.9	64.6	65.4	66.1
40–59 years . . . . .	269	61.9	0.15	57.9	58.6	59.3	60.4	61.8	63.7	64.7	65.2	66.1
60 years and over . . . . .	167	60.5	0.19	57.1	57.4	58.1	58.8	60.5	62.0	62.5	63.1	63.7
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,186	62.0	0.09	57.8	58.7	59.3	60.3	61.9	63.7	64.8	65.3	66.3
20–39 years . . . . .	428	62.6	0.13	58.2	59.2	59.9	60.8	62.6	64.2	65.0	65.5	66.6
40–59 years . . . . .	417	61.9	0.11	57.9	58.7	59.3	60.1	61.6	63.5	64.8	65.4	66.3
60 years and over . . . . .	341	60.6	0.11	56.7	57.5	58.1	59.1	60.6	62.1	63.1	63.6	64.5
Mexican American												
20 years and over . . . . .	620	61.9	0.12	57.7	58.6	59.1	60.0	61.9	63.6	64.7	65.2	66.2
20–39 years . . . . .	247	62.4	0.16	58.1	59.1	59.7	60.5	62.5	64.1	64.9	65.3	66.6
40–59 years . . . . .	220	61.8	0.17	57.7	58.5	58.8	59.8	61.8	63.4	64.6	65.3	66.0
60 years and over . . . . .	153	*60.5	0.16	*56.4	*57.6	*58.1	*59.1	*60.4	*61.9	*62.9	*63.2	*64.5

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,232	175.7	0.21	163.4	166.2	168.0	170.6	175.6	180.8	183.7	185.4	188.1
20–29 years . . . . .	937	176.4	0.26	164.9	166.9	168.5	171.1	176.2	181.3	184.5	186.4	188.8
30–39 years . . . . .	914	176.6	0.30	163.8	167.1	168.8	171.5	176.6	181.6	184.4	186.6	189.1
40–49 years . . . . .	872	176.2	0.42	163.8	166.8	168.5	171.0	176.1	180.9	184.3	185.7	187.7
50–59 years . . . . .	852	176.0	0.50	164.5	166.9	168.5	170.7	175.6	181.3	183.7	185.4	188.5
60–69 years . . . . .	877	175.3	0.46	162.1	165.5	167.4	170.3	175.6	180.8	183.1	184.2	187.4
70–79 years . . . . .	486	173.0	0.32	162.2	164.3	165.4	168.3	172.6	177.4	180.0	182.2	185.2
80 years and over . . . . .	294	171.6	0.59	159.7	163.0	164.2	167.5	171.9	176.2	179.0	180.3	182.8
Non-Hispanic white												
20 years and over . . . . .	2,094	177.1	0.27	165.5	168.0	169.7	172.1	176.8	181.7	184.5	186.3	188.9
20–39 years . . . . .	715	178.2	0.27	166.8	169.1	171.0	173.2	178.3	183.3	186.1	187.6	189.6
40–59 years . . . . .	655	177.5	0.43	166.7	168.9	170.3	173.1	177.5	182.0	184.9	186.2	188.9
60 years and over . . . . .	724	175.2	0.34	163.9	165.9	167.7	170.2	175.2	180.1	182.7	183.8	187.0
Non-Hispanic black												
20 years and over . . . . .	1,222	176.4	0.29	164.9	167.7	169.1	171.2	175.9	181.4	184.0	186.1	188.8
20–39 years . . . . .	405	177.4	0.31	165.7	168.5	169.8	171.8	177.2	182.7	185.2	187.0	189.8
40–59 years . . . . .	394	176.5	0.48	165.3	167.9	169.4	171.6	176.0	181.3	182.8	185.0	188.0
60 years and over . . . . .	423	174.1	0.38	162.5	165.5	167.1	169.5	173.8	178.6	182.4	183.8	186.2
Non-Hispanic Asian												
20 years and over . . . . .	666	170.3	0.41	158.7	161.1	163.1	165.6	170.1	174.6	177.5	179.1	181.3
20–39 years . . . . .	260	172.3	0.38	161.0	163.9	166.0	168.1	172.2	176.6	178.8	180.4	183.0
40–59 years . . . . .	247	170.2	0.55	159.4	161.7	163.4	165.8	170.0	174.4	176.8	178.7	180.9
60 years and over . . . . .	159	165.7	0.60	155.0	157.8	159.0	161.6	165.3	169.5	172.1	173.4	177.0
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,089	171.3	0.25	159.5	161.9	163.7	166.3	170.9	176.0	178.8	180.7	183.4
20–39 years . . . . .	385	172.4	0.29	160.5	163.5	165.3	167.5	172.3	177.3	179.7	181.6	184.3
40–59 years . . . . .	381	170.8	0.46	158.5	161.5	163.1	165.8	170.6	175.4	177.7	180.2	183.5
60 years and over . . . . .	323	167.7	0.37	156.7	159.1	160.6	162.9	167.3	171.7	174.5	176.4	179.7
Mexican American												
20 years and over . . . . .	627	171.0	0.31	159.1	162.0	163.7	166.1	170.4	175.8	178.4	180.5	182.8
20–39 years . . . . .	233	172.2	0.43	160.1	163.5	165.2	167.5	172.1	177.1	180.0	181.6	183.5
40–59 years . . . . .	227	169.8	0.52	157.9	160.9	162.3	164.8	169.7	174.4	177.1	178.7	182.5
60 years and over . . . . .	167	168.4	0.39	158.2	159.7	161.8	164.4	168.2	172.6	175.7	177.1	178.7

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Inches								
20 years and over . . . . .	5,232	69.2	0.08	64.3	65.4	66.1	67.2	69.1	71.2	72.3	73.0	74.1
20–29 years . . . . .	937	69.4	0.10	64.9	65.7	66.3	67.4	69.4	71.4	72.6	73.4	74.3
30–39 years . . . . .	914	69.5	0.12	64.5	65.8	66.5	67.5	69.5	71.5	72.6	73.5	74.4
40–49 years . . . . .	872	69.4	0.17	64.5	65.7	66.3	67.3	69.3	71.2	72.6	73.1	73.9
50–59 years . . . . .	852	69.3	0.20	64.8	65.7	66.3	67.2	69.1	71.4	72.3	73.0	74.2
60–69 years . . . . .	877	69.0	0.18	63.8	65.2	65.9	67.1	69.1	71.2	72.1	72.5	73.8
70–79 years . . . . .	486	68.1	0.12	63.9	64.7	65.1	66.3	67.9	69.8	70.9	71.7	72.9
80 years and over . . . . .	294	67.6	0.23	62.9	64.2	64.7	65.9	67.7	69.4	70.5	71.0	72.0
Non-Hispanic white												
20 years and over . . . . .	2,094	69.7	0.10	65.2	66.2	66.8	67.7	69.6	71.5	72.7	73.3	74.4
20–39 years . . . . .	715	70.1	0.11	65.7	66.6	67.3	68.2	70.2	72.1	73.3	73.8	74.7
40–59 years . . . . .	655	69.9	0.17	65.6	66.5	67.0	68.1	69.9	71.7	72.8	73.3	74.4
60 years and over . . . . .	724	69.0	0.14	64.5	65.3	66.0	67.0	69.0	70.9	71.9	72.4	73.6
Non-Hispanic black												
20 years and over . . . . .	1,222	69.5	0.11	64.9	66.0	66.6	67.4	69.3	71.4	72.4	73.3	74.3
20–39 years . . . . .	405	69.8	0.12	65.2	66.3	66.9	67.6	69.7	71.9	72.9	73.6	74.7
40–59 years . . . . .	394	69.5	0.19	65.1	66.1	66.7	67.6	69.3	71.4	72.0	72.8	74.0
60 years and over . . . . .	423	68.5	0.15	64.0	65.2	65.8	66.7	68.4	70.3	71.8	72.4	73.3
Non-Hispanic Asian												
20 years and over . . . . .	666	67.0	0.16	62.5	63.4	64.2	65.2	67.0	68.8	69.9	70.5	71.4
20–39 years . . . . .	260	67.8	0.15	63.4	64.5	65.4	66.2	67.8	69.5	70.4	71.0	72.0
40–59 years . . . . .	247	67.0	0.22	62.7	63.7	64.3	65.3	66.9	68.7	69.6	70.4	71.2
60 years and over . . . . .	159	65.2	0.24	61.0	62.1	62.6	63.6	65.1	66.7	67.7	68.3	69.7
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,089	67.4	0.10	62.8	63.8	64.5	65.5	67.3	69.3	70.4	71.1	72.2
20–39 years . . . . .	385	67.9	0.11	63.2	64.4	65.1	65.9	67.8	69.8	70.8	71.5	72.6
40–59 years . . . . .	381	67.2	0.18	62.4	63.6	64.2	65.3	67.2	69.1	69.9	70.9	72.2
60 years and over . . . . .	323	66.0	0.15	61.7	62.6	63.2	64.1	65.9	67.6	68.7	69.4	70.7
Mexican American												
20 years and over . . . . .	627	67.3	0.12	62.6	63.8	64.5	65.4	67.1	69.2	70.2	71.1	72.0
20–39 years . . . . .	233	67.8	0.17	63.0	64.4	65.0	66.0	67.8	69.7	70.9	71.5	72.2
40–59 years . . . . .	227	66.9	0.21	62.2	63.4	63.9	64.9	66.8	68.6	69.7	70.3	71.8
60 years and over . . . . .	167	66.3	0.15	62.3	62.9	63.7	64.7	66.2	67.9	69.2	69.7	70.4

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Body mass index								
2 years	220	16.8	0.13	14.7	15.1	15.4	15.9	16.7	17.6	18.1	18.3	18.9
3 years	223	16.3	0.12	14.4	14.7	15.1	15.4	16.0	17.1	17.4	17.7	18.8
4 years	229	16.2	0.11	14.1	14.5	14.6	14.9	15.8	16.7	17.4	17.8	19.7
5 years	195	16.3	0.17	13.9	14.3	14.6	15.0	16.1	16.9	17.4	18.3	20.6
6 years	246	16.5	0.18	14.1	14.3	14.6	15.1	16.0	17.1	18.0	18.8	20.5
7 years	231	17.4	0.24	13.9	14.4	14.7	15.2	16.2	18.3	20.4	22.8	25.0
8 years	227	17.9	0.24	14.1	14.7	15.1	15.5	16.6	19.3	21.3	22.5	24.2
9 years	218	18.0	0.28	†	14.2	14.8	15.5	17.1	19.1	21.5	22.9	25.6
10 years	207	19.5	0.47	14.4	14.8	15.5	16.2	17.9	21.8	23.7	25.2	28.0
11 years	186	21.2	0.46	15.2	15.7	16.0	17.1	20.5	23.8	26.3	27.8	30.3
12 years	181	20.6	0.45	15.2	16.1	16.8	17.6	19.2	22.3	25.3	27.9	29.7
13 years	175	22.6	0.56	16.3	17.0	17.4	18.7	21.0	25.4	27.4	29.7	31.6
14 years	184	22.8	0.48	16.8	17.7	18.6	19.4	21.2	24.2	28.1	30.0	33.7
15 years	156	23.6	0.58	17.1	17.9	18.3	19.5	22.0	26.0	28.4	30.7	36.5
16 years	178	24.5	0.40	18.3	18.8	19.1	20.4	22.9	26.9	30.4	31.3	36.7
17 years	147	24.5	0.58	18.1	18.8	19.1	20.4	23.6	26.2	29.1	31.8	36.2
18 years	160	26.3	0.86	18.8	19.7	20.0	21.6	24.6	28.8	32.5	33.4	38.8
19 years	144	25.4	0.71	17.0	17.8	19.5	21.8	23.7	27.6	31.2	36.1	40.2
Female												
2 years	264	16.6	0.11	14.4	14.8	15.3	15.7	16.3	17.2	17.8	18.3	18.9
3 years	199	16.3	0.17	14.3	14.6	14.9	15.3	15.9	16.7	17.6	18.0	19.2
4 years	206	16.2	0.18	13.5	14.1	14.3	14.7	15.9	17.2	17.7	18.0	20.4
5 years	178	16.1	0.18	13.7	14.1	14.4	14.8	15.6	16.8	17.6	18.2	20.8
6 years	216	16.7	0.26	13.6	14.0	14.3	14.7	15.9	18.1	19.6	20.4	22.3
7 years	211	17.0	0.30	13.4	13.6	14.1	14.7	16.1	18.3	20.5	21.9	23.4
8 years	197	18.1	0.28	14.1	14.5	14.7	15.5	17.1	19.7	21.5	22.4	25.2
9 years	206	19.6	0.34	14.4	15.1	15.4	16.2	18.3	21.4	24.1	25.5	29.2
10 years	187	19.5	0.45	13.9	14.6	15.1	16.4	19.1	21.6	24.2	25.1	26.8
11 years	230	20.7	0.47	14.5	15.4	16.1	17.0	19.3	23.3	25.8	28.1	31.8
12 years	166	22.6	0.64	15.5	16.6	17.0	18.0	21.0	26.1	27.7	30.3	35.9
13 years	160	22.0	0.59	16.0	16.5	17.1	18.1	20.5	24.3	27.0	30.4	31.6
14 years	169	23.2	0.58	16.9	18.3	18.6	19.1	21.5	26.6	28.3	29.4	32.7
15 years	150	24.6	0.86	17.4	18.8	19.1	20.4	23.2	27.2	30.8	32.6	37.3
16 years	187	24.6	0.76	17.7	18.6	19.1	20.0	22.5	26.1	31.9	35.4	40.0
17 years	139	25.4	0.68	18.4	19.1	19.6	20.3	22.9	29.4	33.0	34.6	38.8
18 years	154	25.7	1.12	18.3	19.5	20.4	20.9	23.5	27.5	30.3	35.5	43.4
19 years	152	25.8	0.84	17.0	18.4	18.9	20.2	23.4	29.5	32.7	37.6	42.5

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.NOTES: Data exclude pregnant females. Body mass index (BMI) is calculated as: BMI = weight(kilograms)/height(meters<sup>2</sup>).

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Body mass index								
20 years and over . . . . .	5,413	29.2	0.17	19.6	21.0	22.0	23.6	27.7	33.2	36.5	39.3	43.3
20–29 years . . . . .	853	27.6	0.32	18.6	19.8	20.7	21.9	25.6	31.8	36.0	38.9	42.0
30–39 years . . . . .	915	29.4	0.33	19.8	21.1	22.0	23.3	27.6	33.1	36.6	40.0	44.7
40–49 years . . . . .	978	29.6	0.39	20.0	21.5	22.5	23.7	28.1	33.4	37.0	39.6	44.5
50–59 years . . . . .	922	30.2	0.40	19.9	21.5	22.2	24.5	28.6	34.4	38.3	40.7	45.2
60–69 years . . . . .	886	29.7	0.27	20.0	21.7	23.0	24.5	28.9	33.4	36.1	38.7	41.8
70–79 years . . . . .	525	29.6	0.41	20.5	22.1	22.9	24.6	28.3	33.4	36.5	39.1	42.9
80 years and over . . . . .	334	26.6	0.32	19.3	20.4	21.3	23.3	26.1	29.7	30.9	32.8	35.2
Non-Hispanic white												
20 years and over . . . . .	2,151	28.8	0.22	19.5	20.9	21.9	23.4	27.3	32.6	36.0	38.8	43.0
20–39 years . . . . .	649	28.0	0.30	19.0	20.4	21.1	22.3	25.9	31.8	35.8	38.9	42.5
40–59 years . . . . .	686	29.4	0.34	19.8	21.4	22.1	23.6	27.9	33.4	37.2	40.1	43.8
60 years and over . . . . .	816	28.9	0.31	19.8	21.4	22.6	24.2	27.9	32.4	35.0	37.5	41.2
Non-Hispanic black												
20 years and over . . . . .	1,261	32.5	0.25	20.9	22.8	24.3	26.6	31.3	36.8	40.5	43.5	48.8
20–39 years . . . . .	380	32.1	0.35	19.7	21.8	23.5	25.9	31.0	36.9	40.6	43.4	47.1
40–59 years . . . . .	480	33.3	0.44	21.9	23.5	24.9	27.1	31.9	37.2	41.7	44.8	50.4
60 years and over . . . . .	401	31.7	0.45	21.6	22.8	24.1	26.2	30.9	35.8	39.0	41.3	46.1
Non-Hispanic Asian												
20 years and over . . . . .	691	24.2	0.22	18.4	19.1	19.8	20.8	23.3	26.7	28.8	30.5	32.6
20–39 years . . . . .	258	23.3	0.31	17.9	18.6	19.0	19.9	22.4	25.0	28.3	30.0	31.8
40–59 years . . . . .	267	24.9	0.30	19.1	19.9	20.4	21.5	23.9	27.2	29.1	31.6	34.2
60 years and over . . . . .	166	24.7	0.34	18.9	19.9	20.5	21.7	24.1	27.2	29.2	30.2	31.4
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,163	30.0	0.27	20.8	22.1	23.1	25.1	28.9	33.9	36.9	38.8	42.8
20–39 years . . . . .	408	29.3	0.45	19.9	21.7	22.3	24.4	27.9	32.9	36.4	38.6	42.6
40–59 years . . . . .	416	31.0	0.34	21.7	22.7	23.7	26.1	30.2	34.9	37.6	39.5	44.1
60 years and over . . . . .	339	30.3	0.34	21.5	22.4	23.6	25.9	29.5	34.3	36.4	38.4	41.2
Mexican American												
20 years and over . . . . .	609	30.7	0.35	21.4	22.5	23.8	25.8	29.6	34.8	37.5	39.5	43.8
20–39 years . . . . .	238	29.8	0.55	20.3	21.9	23.0	24.9	28.8	32.9	36.5	38.7	42.7
40–59 years . . . . .	219	31.8	0.40	22.6	23.8	25.0	26.4	30.8	35.8	38.0	40.5	44.1
60 years and over . . . . .	152	*31.1	0.47	*21.3	*22.2	*23.9	*26.1	*30.2	*35.5	*38.2	*39.3	*41.6

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.NOTES: Data exclude pregnant females. Body mass index (BMI) is calculated as: BMI = weight(kilograms)/height(meters<sup>2</sup>).

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Body mass index								
20 years and over . . . . .	5,223	28.7	0.13	20.7	22.2	23.0	24.6	27.7	31.6	34.0	36.1	39.8
20–29 years . . . . .	936	27.2	0.38	19.3	20.5	21.2	22.5	25.5	30.5	33.1	35.1	39.2
30–39 years . . . . .	914	28.9	0.24	21.1	22.4	23.3	24.8	27.5	31.9	35.1	36.5	39.3
40–49 years . . . . .	871	29.4	0.20	21.9	23.4	24.3	25.7	28.5	31.9	34.4	36.5	40.0
50–59 years . . . . .	852	29.1	0.24	21.6	22.7	23.6	25.4	28.3	32.0	34.0	35.2	40.3
60–69 years . . . . .	873	29.4	0.41	21.6	22.7	23.6	25.3	28.0	32.4	35.3	36.9	41.2
70–79 years . . . . .	484	28.6	0.30	21.5	23.2	23.9	25.4	27.8	30.9	33.1	34.9	38.9
80 years and over . . . . .	293	26.7	0.25	20.0	21.5	22.5	24.1	26.3	29.0	31.1	32.3	33.8
Non-Hispanic white												
20 years and over . . . . .	2,091	28.7	0.16	20.9	22.3	23.2	24.8	27.7	31.6	34.0	36.0	39.5
20–39 years . . . . .	715	27.7	0.37	20.1	21.1	21.9	23.2	26.4	30.6	33.4	35.9	38.5
40–59 years . . . . .	655	29.4	0.25	22.0	23.2	24.1	25.7	28.5	32.2	34.2	36.0	40.0
60 years and over . . . . .	721	29.0	0.30	21.4	22.8	23.7	25.3	27.9	31.6	34.1	36.0	39.4
Non-Hispanic black												
20 years and over . . . . .	1,218	28.9	0.20	20.0	21.1	22.4	24.0	27.9	32.2	35.2	37.7	41.9
20–39 years . . . . .	404	28.4	0.38	19.5	20.5	21.4	23.3	26.4	32.5	35.4	37.2	41.3
40–59 years . . . . .	394	29.7	0.33	20.2	21.9	22.9	25.1	28.7	32.4	35.5	39.2	42.5
60 years and over . . . . .	420	28.6	0.37	20.4	22.1	22.7	24.2	27.7	31.6	33.6	36.5	40.4
Non-Hispanic Asian												
20 years and over . . . . .	665	25.2	0.17	19.1	20.6	21.3	22.4	24.6	27.3	28.7	30.2	31.8
20–39 years . . . . .	260	25.2	0.30	18.5	20.1	20.7	22.0	24.2	27.7	30.2	31.4	33.5
40–59 years . . . . .	247	25.2	0.17	20.4	21.1	21.9	23.0	25.0	27.3	28.2	29.4	30.6
60 years and over . . . . .	158	24.9	0.32	18.5	20.5	21.6	22.7	24.8	26.7	27.7	28.5	29.8
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,088	29.3	0.26	21.4	22.9	23.9	25.5	28.6	32.0	33.9	36.4	39.9
20–39 years . . . . .	385	29.3	0.39	20.7	22.1	23.4	24.9	28.6	32.4	34.8	37.3	40.1
40–59 years . . . . .	380	29.5	0.28	22.6	23.8	24.7	26.4	28.8	31.7	33.5	35.3	38.9
60 years and over . . . . .	323	28.8	0.31	22.4	23.7	24.2	25.5	27.9	31.6	33.0	34.5	37.5
Mexican American												
20 years and over . . . . .	627	29.7	0.26	21.8	23.4	24.4	26.1	29.2	32.3	34.8	37.2	40.0
20–39 years . . . . .	233	29.7	0.45	21.3	22.5	23.7	25.3	29.2	32.6	35.1	38.2	40.1
40–59 years . . . . .	227	29.9	0.32	22.9	24.2	25.5	26.8	29.3	32.0	33.7	36.0	39.6
60 years and over . . . . .	167	29.5	0.40	22.2	23.8	24.3	25.8	28.9	32.2	33.5	36.5	39.3

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.NOTE: Body mass index (BMI) is calculated as: BMI = weight(kilograms)/height(meters<sup>2</sup>).

SOURCE: 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
Birth–2 months . . . . .	75	39.4	0.20	36.3	36.7	37.3	38.3	39.4	40.4	41.2	41.6	41.9
3–5 months . . . . .	90	42.7	0.23	39.8	40.3	41.2	41.8	42.6	43.7	44.3	44.5	45.3
6 months . . . . .	35	*44.0	0.20	†	*42.3	*42.5	*43.4	*43.9	*44.7	*44.9	*45.4	†
Female												
Birth–2 months . . . . .	72	38.0	0.16	35.7	36.2	36.4	37.0	38.0	38.7	39.4	39.9	40.2
3–5 months . . . . .	104	41.3	0.18	38.5	39.0	39.6	40.4	41.2	42.3	42.9	43.3	43.7
6 months . . . . .	38	*43.2	0.23	*41.3	*41.8	*42.0	*42.1	*42.7	*44.0	*44.4	*44.9	†

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

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 17. Recumbent length in centimeters for children from birth through age 47 months and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
Birth–2 months . . . . .	75	57.5	0.41	51.6	52.9	54.7	55.1	57.7	59.5	60.6	61.3	†
3–5 months . . . . .	90	64.0	0.35	58.9	59.5	60.8	61.9	64.2	66.3	67.5	68.0	68.5
6–8 months . . . . .	103	68.9	0.28	64.5	65.8	66.4	67.1	68.7	70.6	71.1	71.6	72.7
9–11 months . . . . .	96	73.5	0.28	68.8	69.7	70.2	71.6	73.3	75.1	76.6	77.1	77.9
1 year . . . . .	239	81.6	0.28	74.8	76.0	76.9	78.6	81.3	84.4	86.5	87.2	89.1
2 years . . . . .	238	92.4	0.41	85.4	86.9	87.9	89.5	92.4	95.4	96.7	97.6	99.3
3 years . . . . .	219	100.0	0.38	92.4	93.6	95.2	96.9	99.8	102.7	104.7	105.4	108.6
Female												
Birth–2 months . . . . .	71	55.7	0.24	51.0	53.0	53.5	54.0	55.5	57.5	58.4	59.4	60.1
3–5 months . . . . .	104	62.9	0.39	57.9	58.7	59.4	60.1	62.5	65.8	66.5	66.8	67.0
6–8 months . . . . .	91	67.3	0.29	63.1	63.8	64.3	65.1	67.0	69.3	70.3	70.8	71.6
9–11 months . . . . .	104	71.5	0.24	67.6	68.5	68.8	69.8	71.6	72.9	73.6	74.4	75.1
1 year . . . . .	221	80.8	0.43	71.9	73.7	75.3	76.8	80.9	84.5	86.3	87.1	88.7
2 years . . . . .	276	90.4	0.31	83.8	85.4	85.9	87.6	90.1	93.2	95.3	96.5	97.6
3 years . . . . .	192	99.2	0.35	91.9	93.5	95.4	96.6	99.2	101.7	103.6	104.4	106.1

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

SOURCE: 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
2 years	200	48.7	0.23	43.5	44.7	45.7	47.1	48.3	50.2	51.5	52.4	53.3
3 years	203	50.3	0.23	45.4	46.2	46.9	48.5	50.1	51.6	52.7	53.4	54.8
4 years	217	52.9	0.32	47.2	47.7	48.3	49.3	52.1	55.3	56.5	57.2	63.0
5 years	182	55.0	0.50	48.5	49.7	50.4	51.9	54.1	56.4	59.4	60.8	63.9
6 years	239	57.0	0.48	49.8	50.9	51.9	53.0	55.6	59.3	61.4	63.3	67.7
7 years	226	60.6	0.66	51.3	52.6	53.3	55.0	57.9	62.3	68.6	75.2	81.0
8 years	219	62.8	0.61	52.5	54.4	55.2	56.4	59.9	66.6	72.0	74.1	80.8
9 years	213	64.4	0.80	52.2	54.9	56.6	58.1	61.5	67.5	72.3	78.8	86.5
10 years	199	69.1	1.25	55.2	56.5	58.2	59.9	64.2	76.3	81.0	86.2	90.8
11 years	182	74.9	1.40	57.7	60.3	61.6	64.0	71.5	82.4	90.3	95.2	101.1
12 years	172	73.9	1.37	58.6	61.4	63.1	65.8	70.1	77.5	87.6	89.9	98.6
13 years	169	79.5	1.56	62.0	64.1	65.7	68.9	74.8	89.5	93.9	100.7	†
14 years	176	79.8	1.26	64.3	65.8	67.6	70.3	75.4	84.5	95.8	102.0	111.4
15 years	152	82.3	1.53	†	68.0	69.0	71.3	77.4	88.0	94.4	103.4	114.9
16 years	174	84.8	1.09	68.8	70.7	71.5	74.1	78.6	92.3	101.7	104.7	117.1
17 years	143	84.4	1.66	69.5	71.8	73.0	74.2	80.0	88.1	95.8	105.8	120.9
18 years	156	87.9	1.55	†	71.6	73.7	76.9	85.0	95.8	101.2	105.5	119.0
19 years	142	87.0	1.90	69.9	72.0	73.6	76.6	82.5	90.7	102.2	†	†
Female												
2 years	241	48.3	0.33	43.0	43.9	44.5	45.7	48.2	50.4	51.5	52.0	54.3
3 years	182	51.1	0.48	45.0	46.0	46.4	47.6	50.1	53.4	55.4	56.9	59.1
4 years	194	53.1	0.49	46.2	47.8	48.4	49.5	51.8	55.2	57.7	58.4	64.6
5 years	170	54.7	0.44	47.2	48.5	49.3	51.4	54.0	56.2	58.8	62.1	66.6
6 years	210	57.5	0.66	49.5	50.3	51.6	52.5	55.3	60.5	65.5	68.4	73.2
7 years	204	59.1	0.78	49.3	50.0	51.2	52.5	57.0	63.3	68.5	70.3	76.8
8 years	190	63.7	0.85	52.1	53.4	54.3	56.3	59.9	69.2	73.9	75.6	83.3
9 years	198	68.0	1.05	54.3	55.4	56.5	58.8	65.6	74.5	81.3	85.6	91.8
10 years	182	69.5	1.29	54.8	56.4	57.4	60.1	66.9	77.7	82.9	87.5	89.4
11 years	223	73.5	1.16	58.9	59.8	61.0	63.9	70.1	79.9	87.0	92.5	98.6
12 years	163	78.0	1.58	59.2	62.0	64.9	67.0	74.4	86.3	92.0	98.7	108.0
13 years	155	77.1	1.32	61.9	64.6	66.6	69.6	73.6	82.1	87.9	97.6	100.1
14 years	163	79.6	1.30	66.0	67.7	68.8	70.3	76.1	85.9	93.9	97.2	101.3
15 years	146	82.2	1.79	67.1	69.4	70.0	73.0	77.2	89.0	98.5	104.4	108.4
16 years	180	83.5	2.28	65.7	68.1	69.7	72.1	78.6	87.2	101.8	108.8	†
17 years	133	85.0	1.61	67.5	70.1	72.2	73.4	80.1	95.7	101.3	102.2	114.5
18 years	153	84.7	2.18	67.0	69.3	70.6	72.8	79.9	89.6	97.6	112.2	†
19 years	145	86.7	1.76	67.4	68.5	69.7	74.9	82.0	92.3	101.0	117.2	123.2

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

NOTE: Data exclude pregnant females.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,116	96.9	0.38	73.8	77.3	79.9	84.4	94.8	106.5	113.9	119.2	127.9
20–29 years . . . . .	812	91.0	0.88	70.5	72.9	74.4	78.0	86.9	100.4	109.9	115.8	125.6
30–39 years . . . . .	885	96.0	0.74	74.0	76.5	78.8	82.6	92.7	104.8	113.2	120.3	128.7
40–49 years . . . . .	935	97.1	0.79	74.7	77.8	80.1	84.2	95.7	107.2	113.8	119.0	128.1
50–59 years . . . . .	887	99.7	0.85	76.5	80.1	82.8	86.6	97.5	109.1	116.1	124.8	134.0
60–69 years . . . . .	856	99.7	0.71	77.9	81.2	84.8	88.9	99.0	108.0	115.3	119.6	127.1
70–79 years . . . . .	471	100.3	0.87	77.5	82.5	86.3	91.1	99.2	109.2	115.2	119.1	125.0
80 years and over . . . . .	270	94.3	0.84	76.0	79.2	81.3	85.3	93.5	102.1	106.7	109.2	115.4
Non-Hispanic white												
20 years and over . . . . .	2,032	96.8	0.45	74.0	77.6	79.9	84.3	94.8	106.2	113.4	119.0	128.0
20–39 years . . . . .	631	92.9	0.79	72.1	74.4	76.9	79.7	89.3	102.7	111.5	117.9	126.7
40–59 years . . . . .	665	98.1	0.73	74.9	78.6	81.4	85.0	95.9	107.5	114.9	121.2	132.9
60 years and over . . . . .	736	98.8	0.71	77.6	80.5	84.5	88.7	97.8	107.2	113.3	117.8	124.6
Non-Hispanic black												
20 years and over . . . . .	1,177	102.5	0.48	76.1	80.5	84.2	89.9	100.9	113.5	120.2	126.3	133.5
20–39 years . . . . .	359	100.0	1.02	71.4	77.1	80.2	86.3	97.7	111.6	119.3	125.7	134.4
40–59 years . . . . .	455	104.3	0.87	78.5	83.2	87.2	90.9	102.6	114.9	122.2	127.4	134.5
60 years and over . . . . .	363	103.4	0.96	80.5	84.2	87.3	92.7	102.3	113.0	119.2	123.2	130.1
Non-Hispanic Asian												
20 years and over . . . . .	652	85.3	0.56	69.5	72.0	73.5	77.1	83.5	92.4	97.3	101.2	106.3
20–39 years . . . . .	246	81.6	0.73	66.2	69.5	70.9	73.6	79.8	87.1	92.5	96.4	102.2
40–59 years . . . . .	248	87.3	0.71	71.9	73.8	75.8	79.2	85.3	93.4	99.1	102.9	108.5
60 years and over . . . . .	158	88.5	0.94	71.4	76.1	78.6	81.5	86.9	95.0	99.2	103.6	106.8
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,115	97.3	0.77	75.0	78.7	81.9	86.2	95.5	106.8	112.7	117.0	126.0
20–39 years . . . . .	390	95.0	1.16	73.7	76.1	78.6	83.7	92.0	104.2	109.8	116.9	127.0
40–59 years . . . . .	406	99.0	0.83	78.4	81.2	83.5	88.8	97.3	108.5	113.2	116.6	125.0
60 years and over . . . . .	319	100.7	0.84	80.5	84.0	86.3	91.3	99.0	108.9	115.2	119.8	125.1
Mexican American												
20 years and over . . . . .	585	98.7	0.96	75.9	80.3	83.5	87.5	96.7	108.4	113.9	119.5	126.7
20–39 years . . . . .	230	96.4	1.47	74.1	77.4	80.4	85.0	93.9	106.0	111.0	119.4	127.7
40–59 years . . . . .	213	100.7	0.93	80.5	83.7	86.4	90.4	98.8	110.2	113.7	116.5	123.3
60 years and over . . . . .	142	*102.1	1.41	*78.5	*83.5	*85.2	*90.5	*101.5	*112.3	*120.0	*122.9	*126.4

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

NOTE: Data exclude pregnant females.

SOURCE: 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,018	101.5	0.39	78.2	82.3	85.6	90.4	100.3	110.5	116.8	121.2	129.5
20–29 years . . . . .	914	93.6	1.03	73.5	75.8	77.8	81.3	89.5	102.4	110.5	115.3	126.0
30–39 years . . . . .	889	99.5	0.57	79.4	82.5	85.3	89.1	97.0	107.2	114.7	118.9	127.5
40–49 years . . . . .	842	102.8	0.48	83.0	87.0	89.4	92.8	101.1	109.5	115.4	120.9	128.6
50–59 years . . . . .	832	104.3	0.60	82.8	87.3	90.3	94.3	103.5	113.0	117.9	121.4	131.3
60–69 years . . . . .	840	106.8	1.01	83.7	87.6	90.8	96.0	105.6	116.4	122.5	127.5	133.2
70–79 years . . . . .	453	106.2	0.75	85.6	91.5	93.6	98.3	105.3	113.8	118.2	122.1	127.3
80 years and over . . . . .	248	103.6	0.74	83.1	88.5	92.6	97.0	103.0	110.3	115.3	118.0	122.6
Non-Hispanic white												
20 years and over . . . . .	2,010	102.8	0.47	79.7	84.3	87.1	92.1	101.4	111.9	118.0	121.9	129.7
20–39 years . . . . .	701	96.6	1.10	76.7	79.3	81.3	85.0	93.5	104.8	113.3	118.4	125.8
40–59 years . . . . .	639	104.9	0.59	85.4	89.2	91.7	95.5	103.7	112.5	118.4	121.4	129.9
60 years and over . . . . .	670	107.3	0.75	85.0	90.5	93.7	98.5	106.5	115.7	121.0	125.8	131.3
Non-Hispanic black												
20 years and over . . . . .	1,164	98.7	0.57	73.7	76.6	79.5	85.0	97.0	109.4	115.7	121.5	132.2
20–39 years . . . . .	390	93.7	0.95	72.2	73.9	75.5	79.0	90.8	105.5	112.0	116.1	125.5
40–59 years . . . . .	381	101.9	0.99	75.3	80.6	83.9	89.5	100.1	111.1	118.5	125.5	136.2
60 years and over . . . . .	393	103.0	1.01	79.4	85.3	87.3	92.7	102.1	111.1	119.1	123.2	132.3
Non-Hispanic Asian												
20 years and over . . . . .	636	90.4	0.47	73.9	76.7	79.1	82.9	90.2	97.0	101.2	103.9	107.6
20–39 years . . . . .	250	88.7	0.87	70.6	74.6	76.3	79.4	87.2	96.0	102.5	104.8	110.3
40–59 years . . . . .	236	91.4	0.41	77.2	79.7	82.2	85.6	91.1	96.5	100.2	101.7	105.9
60 years and over . . . . .	150	92.7	0.71	74.3	81.2	84.0	86.2	93.4	98.3	101.8	102.9	107.4
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,051	100.8	0.76	79.1	83.9	86.9	90.8	100.0	108.4	114.5	118.8	127.6
20–39 years . . . . .	377	99.2	1.09	76.9	81.4	84.0	88.6	97.3	107.6	114.4	117.4	128.9
40–59 years . . . . .	373	102.3	0.87	83.5	87.2	89.6	93.2	101.3	108.9	114.3	118.5	126.1
60 years and over . . . . .	301	103.8	0.88	86.6	89.6	91.8	95.1	101.6	110.4	116.6	120.3	125.6
Mexican American												
20 years and over . . . . .	604	101.9	0.85	79.7	85.2	87.9	92.0	100.8	109.2	116.3	120.1	128.1
20–39 years . . . . .	228	100.5	1.33	77.8	82.5	85.2	89.9	99.0	108.8	115.9	120.1	128.9
40–59 years . . . . .	223	103.0	0.96	85.3	88.6	90.9	93.8	101.9	108.9	115.9	119.5	125.9
60 years and over . . . . .	153	105.5	1.07	85.1	89.7	93.7	97.0	102.5	112.8	118.5	120.7	127.1

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 21. Sagittal abdominal diameter 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
8 years . . . . .	197	14.2	0.18	11.6	12.0	12.4	12.7	13.4	15.2	16.3	17.0	18.4
9 years . . . . .	211	14.4	0.18	11.7	12.1	12.4	12.9	14.0	15.0	16.3	17.8	19.6
10 years . . . . .	199	15.4	0.31	12.1	12.4	12.7	13.1	14.5	17.6	18.4	19.7	20.8
11 years . . . . .	182	16.7	0.31	12.6	13.1	13.5	14.1	15.8	18.6	19.7	21.3	22.9
12 years . . . . .	169	16.3	0.31	12.3	13.3	13.6	14.2	15.7	17.2	19.2	20.6	21.9
13 years . . . . .	169	17.5	0.34	13.6	14.1	14.4	15.1	16.8	19.4	20.4	21.2	23.6
14 years . . . . .	175	17.7	0.30	14.1	14.3	14.7	15.3	16.8	19.0	21.7	22.1	25.0
15 years . . . . .	152	18.3	0.34	†	14.7	15.3	16.0	17.3	19.7	21.0	22.3	26.9
16 years . . . . .	173	18.8	0.24	15.1	15.4	15.7	16.3	17.4	20.9	21.8	23.1	25.8
17 years . . . . .	143	18.8	0.41	14.9	15.4	15.6	16.3	18.0	19.9	21.5	23.9	26.2
18 years . . . . .	156	19.6	0.41	†	15.8	16.1	16.9	18.7	21.4	22.6	23.8	26.3
19 years . . . . .	142	19.4	0.41	15.6	15.9	16.2	16.9	18.4	20.4	23.4	24.6	27.6
Female												
8 years . . . . .	177	14.4	0.21	11.3	11.9	12.0	12.5	13.8	15.3	17.2	17.5	18.9
9 years . . . . .	198	15.5	0.28	11.8	12.2	12.5	12.9	14.8	17.2	18.6	19.8	21.7
10 years . . . . .	182	15.5	0.28	11.5	12.4	12.7	13.5	14.9	17.0	18.2	18.7	21.1
11 years . . . . .	221	16.4	0.28	12.5	13.1	13.3	13.8	15.5	18.3	19.9	20.8	22.7
12 years . . . . .	163	17.2	0.32	13.2	13.9	14.2	14.5	16.5	19.0	20.8	21.9	23.3
13 years . . . . .	156	17.1	0.33	13.7	13.9	14.6	14.9	16.0	18.1	20.5	21.5	22.8
14 years . . . . .	162	17.4	0.30	13.9	14.5	14.9	15.3	16.5	19.0	20.9	21.4	22.5
15 years . . . . .	145	18.1	0.45	13.4	14.6	15.0	15.6	17.1	20.0	22.2	23.1	24.4
16 years . . . . .	179	18.6	0.49	14.4	14.6	14.9	15.9	17.6	20.2	22.5	24.7	28.1
17 years . . . . .	132	18.9	0.34	14.8	15.0	15.4	16.0	17.7	21.7	23.1	23.5	25.1
18 years . . . . .	150	18.7	0.46	14.6	15.0	15.6	16.2	17.7	19.9	22.1	23.0	26.5
19 years . . . . .	143	19.1	0.38	14.6	15.0	15.4	16.1	18.2	20.6	23.1	25.4	28.3

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

NOTE: Data exclude pregnant females.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 22. Sagittal abdominal diameter 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	4,954	21.9	0.10	15.8	16.6	17.2	18.4	21.2	24.7	26.7	28.1	30.3
20–29 years . . . . .	788	20.2	0.21	15.0	15.7	16.1	16.9	19.1	22.7	25.2	26.6	28.6
30–39 years . . . . .	862	21.4	0.17	15.5	16.4	16.9	17.7	20.4	24.3	26.2	27.4	29.9
40–49 years . . . . .	927	22.0	0.24	15.8	16.5	16.9	18.4	21.2	24.9	26.8	28.0	30.9
50–59 years . . . . .	870	22.9	0.23	16.5	17.4	18.1	19.3	22.4	25.7	27.9	29.8	31.9
60–69 years . . . . .	827	22.7	0.16	17.1	17.9	18.4	19.5	22.3	25.3	27.1	28.6	30.0
70–79 years . . . . .	443	23.1	0.23	16.9	18.4	19.1	20.0	23.1	25.7	27.3	28.4	29.8
80 years and over . . . . .	237	21.6	0.25	16.5	17.5	17.9	19.2	21.3	23.7	24.8	26.2	27.5
Non-Hispanic white												
20 years and over . . . . .	1,971	21.8	0.13	15.8	16.6	17.1	18.2	21.1	24.4	26.6	27.9	30.1
20–39 years . . . . .	622	20.5	0.19	15.2	15.9	16.4	17.0	19.2	22.7	25.5	26.8	29.1
40–59 years . . . . .	655	22.2	0.22	16.1	16.6	17.1	18.5	21.5	24.9	27.1	28.9	31.8
60 years and over . . . . .	694	22.5	0.16	17.0	17.9	18.4	19.6	22.1	24.8	26.7	27.7	29.4
Non-Hispanic black												
20 years and over . . . . .	1,140	24.1	0.13	17.4	18.8	19.5	20.8	23.8	26.8	28.5	29.9	31.6
20–39 years . . . . .	349	23.2	0.23	16.6	17.8	18.6	19.9	22.6	26.1	27.9	28.7	30.8
40–59 years . . . . .	450	24.6	0.23	18.0	19.3	20.1	21.1	24.3	27.4	29.3	30.8	32.0
60 years and over . . . . .	341	24.6	0.24	18.4	19.3	20.0	21.6	24.5	27.2	28.8	29.9	31.6
Non-Hispanic Asian												
20 years and over . . . . .	634	18.9	0.17	14.6	15.1	15.7	16.5	18.2	20.6	22.1	23.6	24.9
20–39 years . . . . .	235	18.0	0.18	14.2	14.7	15.1	15.8	17.4	19.5	20.9	21.7	22.7
40–59 years . . . . .	248	19.3	0.27	15.0	15.6	15.9	16.8	18.5	21.0	23.2	24.1	25.5
60 years and over . . . . .	151	20.0	0.28	15.1	16.2	16.9	18.0	19.3	21.6	23.3	24.2	26.3
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,075	22.0	0.20	16.1	16.9	17.7	18.9	21.4	24.7	26.4	27.6	29.4
20–39 years . . . . .	376	21.1	0.29	15.5	16.3	16.9	17.9	20.4	23.9	25.5	26.5	28.3
40–59 years . . . . .	397	22.7	0.24	17.0	17.7	18.6	19.8	22.0	25.4	27.1	28.3	30.0
60 years and over . . . . .	302	23.2	0.26	17.6	18.6	19.1	20.0	22.8	25.9	27.3	28.8	30.0
Mexican American												
20 years and over . . . . .	567	22.3	0.26	16.2	17.2	17.9	19.2	21.7	24.9	26.7	27.7	29.7
20–39 years . . . . .	221	21.4	0.37	15.5	16.4	17.0	18.3	20.7	24.3	25.6	26.6	28.4
40–59 years . . . . .	210	23.1	0.26	17.4	17.9	19.1	20.2	22.5	25.7	27.4	28.2	29.8
60 years and over . . . . .	136	*23.6	0.40	*17.4	*18.6	*19.3	*20.2	*23.0	*26.8	*28.8	*29.3	*30.5

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

NOTE: Data exclude pregnant females.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 23. Sagittal abdominal diameter 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	4,962	23.3	0.11	17.3	18.1	18.8	20.1	22.8	25.9	27.6	29.0	31.1
20–29 years . . . . .	912	21.2	0.26	16.0	16.8	17.3	17.9	19.9	23.3	25.7	26.8	29.2
30–39 years . . . . .	886	22.7	0.15	17.4	18.2	18.7	19.8	22.0	24.9	27.1	28.2	30.0
40–49 years . . . . .	836	23.8	0.15	18.4	19.1	19.9	20.9	23.3	25.9	28.0	29.5	31.3
50–59 years . . . . .	821	24.1	0.17	18.2	19.1	19.8	21.2	23.6	26.7	28.1	29.7	31.7
60–69 years . . . . .	831	24.6	0.30	17.9	19.1	20.0	21.4	24.2	27.1	29.3	30.8	32.9
70–79 years . . . . .	442	24.6	0.22	18.5	19.9	20.8	22.0	24.5	26.8	28.4	29.7	31.3
80 years and over . . . . .	234	23.8	0.24	18.5	19.7	20.3	21.4	23.4	25.8	27.2	28.2	29.3
Non-Hispanic white												
20 years and over . . . . .	1,981	23.5	0.14	17.4	18.4	19.0	20.3	23.0	26.1	27.9	29.2	31.2
20–39 years . . . . .	700	21.8	0.28	16.5	17.4	17.8	18.7	21.1	23.9	26.2	27.7	29.7
40–59 years . . . . .	632	24.2	0.17	18.5	19.3	20.2	21.3	23.6	26.5	28.3	29.7	31.5
60 years and over . . . . .	649	24.7	0.22	18.2	19.5	20.3	21.6	24.5	26.9	28.8	30.1	32.1
Non-Hispanic black												
20 years and over . . . . .	1,150	23.5	0.14	17.0	17.7	18.5	19.6	22.8	26.3	28.3	29.8	32.4
20–39 years . . . . .	388	22.0	0.21	16.5	17.1	17.4	18.5	21.0	25.1	26.4	28.1	30.3
40–59 years . . . . .	374	24.4	0.26	17.7	18.8	19.5	20.7	23.7	27.1	29.5	30.5	33.2
60 years and over . . . . .	388	24.8	0.28	17.9	19.6	20.5	21.7	24.3	27.7	29.1	30.7	32.8
Non-Hispanic Asian												
20 years and over . . . . .	635	20.5	0.15	16.0	16.7	17.3	18.2	20.3	22.4	23.6	24.4	25.6
20–39 years . . . . .	250	19.9	0.24	15.4	16.3	16.7	17.4	19.1	21.9	23.6	24.5	25.8
40–59 years . . . . .	236	20.7	0.14	16.4	17.4	17.8	18.9	20.7	22.3	23.3	23.9	25.1
60 years and over . . . . .	149	21.5	0.22	16.1	17.5	18.6	19.6	21.8	23.0	24.3	24.9	25.7
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,041	23.1	0.20	17.1	18.2	19.1	20.3	22.8	25.4	27.0	28.1	30.3
20–39 years . . . . .	376	22.6	0.30	16.7	17.7	18.3	19.6	22.1	25.1	26.6	27.9	29.5
40–59 years . . . . .	369	23.6	0.21	17.8	19.1	20.0	21.1	23.3	25.6	27.1	28.2	30.4
60 years and over . . . . .	296	24.1	0.25	18.9	19.6	20.2	21.5	23.5	26.3	27.9	28.7	30.7
Mexican American												
20 years and over . . . . .	600	23.4	0.23	17.4	18.5	19.5	20.6	23.0	25.6	27.5	28.7	30.5
20–39 years . . . . .	227	22.9	0.39	16.7	17.9	18.8	19.8	22.5	25.4	27.0	28.3	29.5
40–59 years . . . . .	221	23.9	0.22	18.4	19.8	20.5	21.5	23.5	25.7	27.5	29.0	30.7
60 years and over . . . . .	152	24.5	0.31	18.4	19.7	20.3	21.6	24.2	27.2	28.2	29.1	31.6

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: NCHS, National Health and Nutrition Examination Survey.



**Table 24. Midarm circumference in centimeters for children and adolescents aged 2 months through 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
2–5 months	93	14.1	0.11	12.1	12.4	12.8	13.2	14.1	14.9	15.3	15.6	16.5
6–8 months	103	14.8	0.12	13.1	13.2	13.3	13.9	14.8	15.5	16.1	16.2	16.4
9–11 months	95	15.4	0.15	13.3	13.8	14.2	14.5	15.3	16.2	16.5	16.7	17.3
1 year	228	15.5	0.08	13.6	14.2	14.4	14.9	15.4	16.1	16.7	16.9	17.3
2 years	227	16.2	0.09	14.5	14.8	15.1	15.4	16.1	16.7	17.1	17.5	18.6
3 years	214	16.6	0.11	14.9	15.2	15.5	15.9	16.4	17.4	17.9	18.1	18.4
4 years	217	17.3	0.10	15.2	15.5	15.8	16.1	16.9	18.1	18.9	19.2	20.8
5 years	184	18.1	0.21	15.4	15.8	16.3	16.8	17.6	18.9	19.7	20.3	22.6
6 years	238	18.8	0.20	15.7	16.5	16.8	17.4	18.3	19.5	20.8	21.2	22.7
7 years	228	20.0	0.21	16.5	16.9	17.1	18.0	19.1	21.0	22.9	24.8	26.4
8 years	223	20.9	0.23	16.9	17.4	17.9	18.4	20.3	22.8	24.2	25.2	26.6
9 years	216	21.4	0.30	17.1	17.7	17.8	18.9	20.6	22.9	24.8	26.2	28.2
10 years	199	22.9	0.45	17.6	18.7	19.1	19.9	21.9	25.4	27.2	28.7	29.9
11 years	182	25.2	0.42	19.2	20.0	20.4	21.7	24.9	27.9	29.6	30.6	32.6
12 years	173	25.4	0.45	20.0	20.7	21.4	22.2	24.7	27.5	29.5	31.4	34.1
13 years	170	27.5	0.42	21.2	22.0	22.8	24.0	26.6	30.4	32.2	34.0	35.1
14 years	177	28.3	0.33	21.8	23.8	24.0	25.2	27.6	29.8	33.2	35.0	37.3
15 years	153	29.7	0.50	22.4	23.8	24.5	26.0	28.7	33.1	35.2	35.7	39.8
16 years	174	30.8	0.33	24.6	25.7	26.0	27.1	30.2	33.8	35.6	36.4	39.3
17 years	144	30.7	0.47	24.3	25.1	26.2	27.5	30.4	32.9	34.6	37.1	38.3
18 years	157	32.8	0.70	26.0	26.5	27.5	28.9	32.0	34.9	37.8	39.5	42.1
19 years	142	32.1	0.53	25.4	25.9	27.2	28.6	31.3	34.7	37.0	39.4	42.9
Female												
2–5 months	113	13.6	0.10	11.5	12.1	12.3	12.9	13.5	14.3	14.7	14.9	15.2
6–8 months	90	14.5	0.13	12.8	13.1	13.2	13.7	14.4	15.0	15.5	15.8	†
9–11 months	104	15.3	0.19	13.2	13.8	13.9	14.4	15.2	16.3	16.7	16.9	†
1 year	215	15.6	0.10	13.5	14.0	14.3	14.7	15.6	16.3	16.7	17.0	17.6
2 years	267	16.2	0.10	14.4	14.6	14.8	15.2	16.1	16.9	17.4	17.7	18.3
3 years	184	16.8	0.15	14.6	15.0	15.3	15.8	16.5	17.4	18.1	18.7	19.4
4 years	196	17.5	0.19	15.0	15.4	15.7	16.2	17.3	18.5	19.0	19.5	21.3
5 years	171	18.1	0.17	15.5	15.9	16.2	16.8	17.7	18.9	19.4	20.8	22.6
6 years	211	19.1	0.26	15.7	16.2	16.7	17.3	18.6	20.2	22.1	23.0	23.6
7 years	204	19.9	0.30	16.0	16.7	17.1	17.7	19.0	21.5	22.6	24.8	26.0
8 years	192	21.3	0.24	17.4	17.9	18.1	18.8	20.5	23.4	24.4	25.0	26.8
9 years	201	23.0	0.31	17.8	18.7	19.3	20.0	22.0	25.0	27.2	28.3	30.2
10 years	182	23.5	0.41	17.5	18.6	19.4	20.6	23.2	25.7	27.7	28.5	29.7
11 years	226	24.6	0.37	18.9	19.4	20.3	21.5	23.7	27.1	28.9	30.6	32.2
12 years	164	26.5	0.50	19.9	21.0	21.6	22.8	25.5	29.5	31.7	33.0	36.5
13 years	157	26.0	0.52	20.4	21.1	21.7	23.1	25.2	28.7	30.5	31.8	34.0
14 years	164	27.3	0.54	21.2	22.0	22.7	24.2	25.7	30.4	32.7	34.0	34.9
15 years	148	28.5	0.70	22.1	23.9	24.3	24.8	27.6	30.4	34.0	35.1	37.9
16 years	180	28.8	0.53	23.0	24.3	24.8	25.4	27.1	31.0	34.4	37.0	39.6
17 years	134	29.4	0.48	22.9	24.1	24.4	25.9	27.8	32.5	34.3	35.8	36.6
18 years	153	29.4	0.80	21.8	24.2	25.2	25.6	28.1	31.2	34.1	36.7	†
19 years	149	30.0	0.63	23.1	24.1	24.8	25.8	28.3	32.6	36.4	38.8	42.6

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

NOTE: Data exclude pregnant females.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 25. 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,191	32.2	0.12	24.6	25.9	26.9	28.3	31.4	35.4	37.7	39.6	42.3
20–29 years . . . . .	821	31.4	0.26	24.1	24.9	26.0	27.2	30.4	34.5	37.5	39.4	41.6
30–39 years . . . . .	892	32.7	0.24	25.1	26.5	27.4	28.6	31.6	35.6	38.2	40.3	43.4
40–49 years . . . . .	952	32.7	0.25	25.4	26.5	27.4	28.5	32.0	36.0	38.0	39.7	43.1
50–59 years . . . . .	898	32.8	0.28	25.2	26.1	27.3	28.8	31.9	36.0	38.9	40.7	42.8
60–69 years . . . . .	863	32.4	0.23	24.7	26.4	27.6	28.7	31.9	35.4	37.4	38.7	41.3
70–79 years . . . . .	484	32.1	0.31	24.8	26.3	27.3	28.4	31.5	35.1	37.2	39.4	42.1
80 years and over . . . . .	281	29.1	0.27	22.5	23.7	24.5	26.0	29.1	31.9	33.3	34.1	34.9
Non-Hispanic white												
20 years and over . . . . .	2,070	32.0	0.16	24.6	25.9	26.8	28.3	31.2	35.0	37.4	39.3	41.9
20–39 years . . . . .	640	31.9	0.22	24.6	25.8	26.5	28.0	30.7	34.8	37.7	39.4	42.2
40–59 years . . . . .	676	32.4	0.25	25.2	26.2	27.1	28.5	31.6	35.5	38.0	40.0	42.5
60 years and over . . . . .	754	31.6	0.25	23.9	25.6	26.7	28.3	31.1	34.6	36.2	38.0	40.3
Non-Hispanic black												
20 years and over . . . . .	1,193	34.8	0.15	25.6	27.5	28.7	30.6	34.2	38.1	40.9	42.6	45.6
20–39 years . . . . .	360	34.6	0.29	24.5	26.6	28.0	30.3	34.2	38.1	40.9	42.3	45.4
40–59 years . . . . .	465	35.4	0.24	26.7	28.2	29.3	31.3	34.8	38.7	41.7	43.8	46.3
60 years and over . . . . .	368	34.0	0.31	25.8	27.3	28.5	30.0	33.5	36.9	39.7	41.3	44.0
Non-Hispanic Asian												
20 years and over . . . . .	657	28.4	0.18	23.2	24.0	24.6	25.5	27.9	30.6	32.4	33.2	35.0
20–39 years . . . . .	247	27.7	0.26	22.7	23.5	24.0	25.0	27.0	29.8	32.1	33.0	34.3
40–59 years . . . . .	250	29.2	0.30	24.0	24.8	25.3	26.5	28.5	31.1	33.1	34.1	36.8
60 years and over . . . . .	160	28.5	0.27	23.3	24.3	24.8	26.0	28.2	30.6	31.6	32.4	34.1
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,129	32.6	0.21	25.4	26.7	27.7	29.1	31.9	35.5	37.6	39.0	41.4
20–39 years . . . . .	395	32.2	0.38	24.9	26.4	27.3	28.7	31.4	34.9	37.4	39.2	41.2
40–59 years . . . . .	409	33.1	0.27	25.8	27.3	28.1	29.3	32.4	36.3	37.9	39.0	41.9
60 years and over . . . . .	325	32.5	0.25	24.9	26.6	27.5	29.2	32.1	35.0	37.0	38.6	40.9
Mexican American												
20 years and over . . . . .	592	33.0	0.29	25.7	27.2	28.1	29.4	32.1	36.0	38.4	39.8	41.7
20–39 years . . . . .	231	32.5	0.50	25.4	26.6	27.7	29.0	31.6	34.9	38.5	39.8	41.3
40–59 years . . . . .	215	33.8	0.28	27.1	28.0	28.8	29.7	33.3	36.7	38.4	39.5	42.4
60 years and over . . . . .	146	*33.0	0.36	*24.7	*26.1	*27.9	*29.5	*32.8	*36.2	*37.8	*39.7	*41.5

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

NOTE: Data exclude pregnant females.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 26. 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,059	34.3	0.08	27.7	28.9	29.8	31.2	33.9	36.8	38.3	39.5	41.7
20–29 years . . . . .	917	33.7	0.28	26.8	28.0	28.7	30.2	33.2	36.7	38.4	39.5	42.4
30–39 years . . . . .	892	35.0	0.16	28.5	29.8	30.5	31.9	34.6	37.4	39.2	40.3	42.4
40–49 years . . . . .	849	35.3	0.15	29.0	30.5	31.2	32.6	35.1	37.4	38.9	40.0	42.2
50–59 years . . . . .	836	34.4	0.19	28.1	29.3	30.0	31.7	34.2	37.0	38.2	39.5	41.7
60–69 years . . . . .	850	34.0	0.25	28.1	29.2	29.9	31.0	33.8	36.1	38.0	39.4	41.7
70–79 years . . . . .	460	32.8	0.17	26.7	27.9	29.1	30.5	32.7	35.0	36.4	37.7	39.1
80 years and over . . . . .	255	30.9	0.24	24.9	26.9	27.5	28.7	30.7	33.0	34.3	35.6	36.7
Non-Hispanic white												
20 years and over . . . . .	2,030	34.3	0.10	27.9	29.1	29.9	31.4	34.0	36.8	38.2	39.4	41.6
20–39 years . . . . .	703	34.2	0.26	27.7	28.6	29.5	30.9	33.7	36.9	38.5	39.7	42.1
40–59 years . . . . .	645	35.0	0.19	28.6	29.8	31.0	32.4	34.9	37.2	38.6	39.5	41.6
60 years and over . . . . .	682	33.5	0.19	27.4	28.6	29.5	30.7	33.0	35.6	37.4	38.4	40.4
Non-Hispanic black												
20 years and over . . . . .	1,174	35.2	0.16	27.0	28.5	29.8	31.4	35.0	38.5	40.3	41.8	44.1
20–39 years . . . . .	390	35.1	0.35	26.9	28.2	29.3	31.2	34.8	38.7	40.4	41.7	44.2
40–59 years . . . . .	383	36.0	0.25	27.5	29.5	30.6	32.1	35.5	39.3	41.1	42.7	44.7
60 years and over . . . . .	401	33.7	0.32	26.0	27.9	29.1	30.4	33.4	36.5	38.4	39.9	41.7
Non-Hispanic Asian												
20 years and over . . . . .	641	31.3	0.17	25.7	27.1	27.9	29.0	30.9	33.5	34.8	35.9	37.4
20–39 years . . . . .	251	31.9	0.32	25.5	26.7	27.6	28.9	31.4	34.5	36.1	37.0	38.5
40–59 years . . . . .	238	31.3	0.20	26.8	28.0	28.6	29.5	30.9	33.0	34.0	34.8	36.3
60 years and over . . . . .	152	29.9	0.23	25.2	26.2	26.8	28.2	29.6	31.6	32.6	33.6	35.0
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,053	34.4	0.18	28.3	29.6	30.5	31.7	34.2	36.7	38.1	39.2	41.1
20–39 years . . . . .	378	34.7	0.28	28.0	29.6	30.8	31.9	34.5	37.2	38.7	39.8	41.7
40–59 years . . . . .	373	34.5	0.19	29.1	30.3	31.0	32.1	34.3	36.3	37.7	38.3	40.8
60 years and over . . . . .	302	32.6	0.23	27.2	28.4	29.2	30.3	32.2	34.7	36.0	37.2	39.1
Mexican American												
20 years and over . . . . .	606	34.5	0.16	28.5	30.1	30.9	32.0	34.3	36.7	38.1	39.0	41.1
20–39 years . . . . .	229	34.9	0.28	28.6	30.3	31.1	32.2	34.7	37.2	38.7	39.8	41.7
40–59 years . . . . .	223	34.4	0.25	29.1	30.4	31.1	32.2	34.3	36.2	37.7	38.2	39.9
60 years and over . . . . .	154	33.0	0.28	27.1	28.5	29.4	30.5	32.7	35.2	36.5	38.0	39.5

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 27. Upper arm length in centimeters for children and adolescents aged 2 months through 19 years and number of examined persons, mean, standard error of the mean, and selected percentiles, by sex and age: United States, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
2–5 months . . . . .	93	12.7	0.12	10.7	11.1	11.8	11.0	12.6	13.3	13.7	13.9	14.1
6–8 months . . . . .	103	13.8	0.08	†	12.8	12.8	13.0	13.7	14.0	14.6	14.9	15.5
9–11 months . . . . .	95	14.9	0.10	†	13.8	13.9	14.2	14.9	15.5	15.9	16.0	16.5
1 year . . . . .	228	16.5	0.10	14.5	15.1	15.4	15.5	16.4	17.4	17.9	18.0	18.5
2 years . . . . .	226	18.6	0.10	16.9	17.1	17.4	17.7	18.6	19.4	19.8	20.3	20.5
3 years . . . . .	215	20.2	0.11	18.1	18.4	18.7	19.2	20.0	21.2	21.5	21.7	22.2
4 years . . . . .	217	21.9	0.11	19.9	20.4	20.5	20.8	21.8	22.9	23.3	23.5	24.2
5 years . . . . .	184	23.4	0.13	21.0	21.6	21.9	22.6	23.4	24.3	24.7	25.0	25.5
6 years . . . . .	240	24.7	0.16	21.9	22.5	23.0	23.7	24.6	25.7	26.6	26.8	27.2
7 years . . . . .	228	26.5	0.14	23.1	24.0	24.5	25.3	26.5	27.6	28.0	28.5	29.2
8 years . . . . .	224	27.6	0.18	24.4	25.0	25.6	26.3	27.5	28.9	29.5	30.0	30.6
9 years . . . . .	216	28.9	0.19	25.9	26.5	26.8	27.5	28.9	30.0	30.9	31.3	32.0
10 years . . . . .	200	30.4	0.21	27.2	28.0	28.4	29.1	30.2	31.5	32.2	32.6	33.9
11 years . . . . .	182	32.4	0.23	29.0	29.7	29.9	30.5	32.2	33.8	34.8	35.5	†
12 years . . . . .	173	33.6	0.24	29.9	30.8	31.1	31.8	33.5	35.3	36.0	36.4	37.0
13 years . . . . .	170	35.6	0.20	31.5	32.5	33.1	33.9	35.8	37.1	38.0	38.5	39.0
14 years . . . . .	177	36.7	0.23	33.2	33.7	34.4	35.2	36.4	38.0	39.5	39.8	40.9
15 years . . . . .	153	37.7	0.18	34.1	34.9	35.4	36.2	37.5	38.9	40.0	40.9	41.4
16 years . . . . .	174	38.2	0.20	34.8	35.5	35.9	36.6	37.9	39.7	40.6	41.3	41.9
17 years . . . . .	144	38.4	0.29	34.9	35.3	35.9	36.7	38.2	39.4	40.6	41.1	†
18 years . . . . .	157	38.6	0.25	34.4	35.5	35.8	36.8	38.7	40.0	40.7	41.2	42.0
19 years . . . . .	142	38.5	0.22	†	35.9	36.1	37.0	38.4	39.9	40.5	41.7	42.6
Female												
2–5 months . . . . .	113	12.2	0.11	10.7	10.8	11.0	11.5	12.0	12.9	13.2	13.4	†
6–8 months . . . . .	90	13.3	0.13	11.7	11.9	12.0	12.4	13.1	14.0	14.4	14.7	15.0
9–11 months . . . . .	104	14.5	0.12	12.8	13.1	13.4	13.6	14.3	15.2	15.5	15.7	†
1 year . . . . .	215	16.3	0.12	13.9	14.3	14.5	15.0	16.1	17.3	17.8	18.0	18.5
2 years . . . . .	269	18.3	0.07	16.2	16.5	16.9	17.4	18.0	19.0	19.5	20.0	20.4
3 years . . . . .	184	19.8	0.09	17.9	18.4	18.5	19.0	19.9	20.4	20.9	21.0	21.8
4 years . . . . .	195	21.6	0.12	19.4	19.7	19.9	20.4	21.5	22.4	23.0	23.5	24.4
5 years . . . . .	171	23.1	0.18	20.4	20.9	21.4	21.9	22.9	23.9	24.6	25.2	25.6
6 years . . . . .	211	24.5	0.17	21.6	22.0	22.4	23.3	24.4	25.6	26.5	26.9	27.9
7 years . . . . .	204	25.9	0.16	23.4	23.8	24.1	24.7	25.7	27.0	27.7	28.1	29.3
8 years . . . . .	191	27.6	0.11	24.5	24.8	25.4	26.2	27.5	28.7	29.7	30.0	31.3
9 years . . . . .	201	29.3	0.23	25.8	26.5	27.0	27.9	28.9	30.7	31.2	31.6	33.4
10 years . . . . .	182	30.9	0.26	27.1	28.2	28.6	29.2	30.7	32.3	33.3	33.8	†
11 years . . . . .	226	32.4	0.18	28.6	29.4	29.9	31.0	32.3	33.7	34.5	35.3	35.7
12 years . . . . .	164	33.8	0.18	30.4	30.8	31.4	32.4	33.6	35.0	36.0	36.2	37.6
13 years . . . . .	157	34.4	0.19	30.9	31.6	31.9	33.0	34.1	35.8	36.5	36.9	37.6
14 years . . . . .	164	35.0	0.19	31.8	32.5	33.1	33.7	34.9	36.2	36.7	36.9	37.6
15 years . . . . .	148	35.4	0.27	31.4	32.5	33.0	33.7	35.4	36.8	37.6	38.4	†
16 years . . . . .	179	35.4	0.26	32.3	32.7	33.2	33.5	35.4	36.6	37.6	38.8	39.8
17 years . . . . .	134	35.6	0.24	32.4	32.9	33.1	33.6	35.4	36.7	38.5	38.6	39.3
18 years . . . . .	153	35.3	0.23	32.1	32.6	32.9	33.9	35.3	36.8	37.5	37.8	38.3
19 years . . . . .	149	35.9	0.30	31.6	32.9	33.5	34.2	35.7	37.3	38.7	39.0	39.6

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 28. 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,302	35.9	0.07	32.4	33.0	33.6	34.4	35.9	37.2	38.1	38.7	39.6
20–29 years . . . . .	891	35.7	0.08	32.4	33.1	33.6	34.3	35.5	37.0	37.9	38.5	39.4
30–39 years . . . . .	930	36.1	0.09	32.4	32.9	33.6	34.5	36.0	37.4	38.5	39.2	40.0
40–49 years . . . . .	956	36.0	0.10	32.5	33.1	33.7	34.4	35.9	37.3	38.2	39.0	39.9
50–59 years . . . . .	897	35.9	0.11	32.3	33.0	33.6	34.4	36.0	37.5	38.1	38.6	39.5
60–69 years . . . . .	863	35.9	0.10	32.3	33.0	33.6	34.4	35.9	37.1	37.9	38.4	39.3
70–79 years . . . . .	485	35.9	0.11	32.2	33.2	33.7	34.4	35.9	37.2	38.4	39.0	39.8
80 years and over . . . . .	280	35.4	0.16	31.8	32.6	33.1	34.0	35.4	37.0	37.7	38.1	38.8
Non-Hispanic white												
20 years and over . . . . .	2,109	36.1	0.08	32.7	33.5	34.0	34.7	36.0	37.3	38.1	38.8	39.5
20–39 years . . . . .	679	36.2	0.09	32.8	33.6	34.0	34.8	36.0	37.4	38.4	38.9	39.7
40–59 years . . . . .	677	36.2	0.11	32.8	33.6	34.0	34.7	36.1	37.5	38.2	38.9	39.6
60 years and over . . . . .	753	36.0	0.09	32.4	33.3	33.9	34.5	35.9	37.1	37.9	38.5	39.3
Non-Hispanic black												
20 years and over . . . . .	1,226	36.9	0.07	32.9	33.9	34.5	35.3	36.9	38.3	39.2	39.9	40.7
20–39 years . . . . .	392	36.7	0.12	32.5	33.8	34.3	35.1	36.5	38.1	39.2	39.9	40.7
40–59 years . . . . .	465	37.1	0.12	33.2	34.2	34.7	35.5	37.0	38.4	39.3	39.9	40.6
60 years and over . . . . .	369	36.9	0.16	32.9	34.0	34.5	35.1	37.0	38.3	39.2	39.7	41.1
Non-Hispanic Asian												
20 years and over . . . . .	672	33.8	0.09	30.7	31.5	31.9	32.5	33.7	35.0	35.6	36.0	36.9
20–39 years . . . . .	260	34.0	0.13	30.8	31.6	32.1	32.7	34.0	35.2	35.8	36.3	36.9
40–59 years . . . . .	252	33.9	0.14	30.9	31.5	31.9	32.5	33.7	35.0	35.7	36.3	37.2
60 years and over . . . . .	160	33.3	0.20	30.3	30.8	31.5	32.0	33.2	34.5	35.2	35.6	36.0
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,148	34.9	0.08	31.5	32.4	32.7	33.4	34.8	36.2	37.0	37.5	38.4
20–39 years . . . . .	414	35.1	0.12	31.8	32.5	32.9	33.6	35.0	36.3	37.0	37.6	38.5
40–59 years . . . . .	409	34.7	0.12	31.5	32.1	32.5	33.2	34.6	36.2	37.0	37.5	38.1
60 years and over . . . . .	325	34.6	0.12	31.2	32.0	32.4	33.2	34.4	35.8	36.7	37.4	38.3
Mexican American												
20 years and over . . . . .	602	34.9	0.10	31.5	32.3	32.6	33.4	34.8	36.2	37.0	37.5	38.3
20–39 years . . . . .	240	35.0	0.16	31.5	32.5	32.9	33.5	34.9	36.2	37.0	37.4	38.5
40–59 years . . . . .	216	34.8	0.14	31.4	32.0	32.5	33.4	34.6	36.3	37.0	37.6	38.0
60 years and over . . . . .	146	*34.6	0.21	*31.3	*31.9	*32.3	*33.0	*34.3	*35.8	*36.7	*37.7	*38.2

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: NCHS, National Health and Nutrition Examination Survey.



**Table 29. 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,059	39.1	0.07	35.2	36.1	36.7	37.5	39.1	40.7	41.5	42.0	43.0
20–29 years . . . . .	918	38.9	0.10	34.7	35.8	36.3	37.1	38.7	40.5	41.6	42.1	43.0
30–39 years . . . . .	890	39.1	0.09	35.4	36.1	36.6	37.5	39.0	40.4	41.4	41.9	42.9
40–49 years . . . . .	848	39.2	0.12	35.3	36.3	36.8	37.6	39.1	40.5	41.5	41.9	43.2
50–59 years . . . . .	837	39.3	0.12	35.6	36.4	37.0	37.7	39.2	40.8	41.6	42.0	43.1
60–69 years . . . . .	850	39.4	0.16	35.4	36.2	36.9	37.8	39.3	41.0	41.8	42.4	43.4
70–79 years . . . . .	461	39.0	0.15	35.0	35.8	36.4	37.3	38.9	40.7	41.4	41.9	42.6
80 years and over . . . . .	255	39.2	0.18	34.8	35.7	36.3	37.8	39.5	40.9	41.6	42.3	42.9
Non-Hispanic white												
20 years and over . . . . .	2,030	39.5	0.08	35.9	36.6	37.2	37.9	39.4	40.9	41.7	42.2	43.2
20–39 years . . . . .	703	39.2	0.11	35.5	36.3	37.0	37.6	39.1	40.6	41.7	42.2	43.0
40–59 years . . . . .	645	39.6	0.12	36.4	36.9	37.3	38.0	39.5	40.9	41.7	42.2	43.3
60 years and over . . . . .	682	39.6	0.14	35.8	36.5	37.2	38.0	39.5	41.0	41.9	42.4	43.3
Non-Hispanic black												
20 years and over . . . . .	1,173	39.6	0.11	35.7	36.4	37.0	37.9	39.6	41.2	42.0	42.8	43.6
20–39 years . . . . .	389	39.6	0.22	35.7	36.2	36.8	37.7	39.5	41.4	42.3	42.9	43.5
40–59 years . . . . .	382	39.7	0.12	35.7	36.7	37.2	38.0	39.7	41.2	42.0	42.6	43.7
60 years and over . . . . .	402	39.5	0.10	35.5	36.5	37.2	37.9	39.5	41.0	41.8	42.4	43.1
Non-Hispanic Asian												
20 years and over . . . . .	641	37.0	0.12	33.4	34.2	34.7	35.5	36.9	38.4	39.3	39.9	40.5
20–39 years . . . . .	251	37.3	0.16	33.7	34.4	34.9	35.9	37.3	38.8	39.8	40.0	40.9
40–59 years . . . . .	238	37.2	0.14	33.7	34.6	35.2	35.6	37.1	38.3	39.2	39.9	40.4
60 years and over . . . . .	152	36.1	0.18	32.5	33.2	33.9	34.6	36.1	37.5	38.0	38.6	39.5
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,054	38.1	0.10	34.5	35.3	35.7	36.5	38.0	39.5	40.3	40.9	41.8
20–39 years . . . . .	378	38.3	0.14	34.8	35.5	36.0	36.7	38.1	39.6	40.4	41.0	41.9
40–59 years . . . . .	374	38.0	0.14	34.3	35.1	35.5	36.4	38.0	39.4	40.4	40.9	41.8
60 years and over . . . . .	302	37.4	0.11	34.1	34.9	35.4	36.1	37.2	38.5	39.5	40.0	40.8
Mexican American												
20 years and over . . . . .	607	38.0	0.12	34.5	35.4	35.8	36.4	37.9	39.5	40.2	40.7	41.6
20–39 years . . . . .	229	38.1	0.16	34.6	35.4	35.9	36.5	38.0	39.5	40.3	40.9	41.7
40–59 years . . . . .	224	38.0	0.18	34.5	35.2	35.7	36.4	38.0	39.5	40.2	40.6	41.7
60 years and over . . . . .	154	37.5	0.12	34.3	35.0	35.4	36.3	37.3	38.5	39.6	40.1	40.7

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 30. 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, 2011–2014**

Sex and age <sup>1</sup>	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male				Centimeters								
8 years . . . . .	203	30.7	0.23	27.0	27.8	28.1	28.9	30.6	31.9	32.9	33.5	34.5
9 years . . . . .	216	31.9	0.18	28.2	28.5	29.1	30.2	32.2	33.2	34.3	34.7	36.1
10 years . . . . .	198	34.2	0.25	30.2	30.9	31.2	32.4	34.2	35.8	36.4	37.1	38.2
11 years . . . . .	182	36.2	0.25	32.0	32.5	32.9	34.3	36.0	37.9	38.9	39.7	40.6
12 years . . . . .	171	37.7	0.29	33.6	34.8	35.2	35.9	37.5	39.5	40.1	40.6	41.2
13 years . . . . .	168	39.9	0.24	35.6	36.5	37.1	38.1	39.9	41.2	42.4	43.6	44.1
14 years . . . . .	176	41.2	0.24	37.2	38.2	38.6	39.1	40.8	43.0	44.2	44.5	45.7
15 years . . . . .	151	42.2	0.22	37.9	38.4	39.0	40.5	42.0	44.2	44.7	45.6	46.0
16 years . . . . .	173	42.3	0.27	38.6	39.5	39.9	40.7	42.0	43.8	44.9	45.5	46.4
17 years . . . . .	141	42.7	0.33	38.4	39.6	39.9	40.0	42.8	44.4	45.5	46.4	47.8
18 years . . . . .	157	42.5	0.34	38.4	38.8	39.4	40.6	42.0	44.4	45.3	46.0	47.9
19 years . . . . .	140	42.5	0.37	37.6	39.1	39.8	40.3	42.2	44.8	45.9	46.3	†
Female												
8 years . . . . .	175	30.7	0.18	26.9	27.6	28.3	29.4	30.6	32.2	32.8	33.4	34.4
9 years . . . . .	201	32.5	0.22	29.1	29.6	30.0	30.7	32.3	34.0	34.9	35.2	36.2
10 years . . . . .	182	34.5	0.28	30.4	30.8	31.2	32.1	34.5	35.9	37.7	38.0	38.9
11 years . . . . .	222	36.1	0.19	30.9	32.7	33.5	34.8	36.1	38.0	38.5	39.0	39.7
12 years . . . . .	164	37.5	0.25	33.3	34.4	34.8	35.7	37.3	38.9	39.7	40.5	42.4
13 years . . . . .	156	38.3	0.26	33.8	35.6	35.9	36.6	38.2	39.5	40.6	41.2	42.2
14 years . . . . .	164	38.7	0.25	34.7	35.5	36.4	37.1	38.6	40.1	41.2	41.9	42.9
15 years . . . . .	147	38.6	0.31	34.3	35.3	35.6	36.5	38.6	40.4	41.2	41.7	42.9
16 years . . . . .	178	38.7	0.19	34.5	35.3	35.9	37.0	38.8	40.2	41.3	41.5	43.1
17 years . . . . .	134	39.0	0.27	34.9	35.8	36.8	37.3	38.8	40.5	41.7	41.9	42.4
18 years . . . . .	152	38.4	0.20	34.7	35.4	35.9	36.4	38.0	39.9	40.6	41.5	43.1
19 years . . . . .	147	39.0	0.25	34.9	35.2	36.2	36.9	39.2	40.4	41.2	42.1	43.2

† Estimate not shown because the standard error could not be computed due to small sample size.

<sup>1</sup>Age at time of examination.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 31. 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,225	37.1	0.07	31.9	33.1	33.9	35.1	37.1	39.2	40.1	40.9	41.9
20–29 years . . . . .	886	38.6	0.12	34.2	35.3	36.0	36.9	38.6	40.1	41.0	41.6	43.0
30–39 years . . . . .	917	38.1	0.10	33.3	34.3	35.0	36.1	38.0	39.9	41.0	41.5	42.8
40–49 years . . . . .	953	37.4	0.11	32.0	33.2	34.2	35.4	37.2	39.5	40.4	41.1	42.1
50–59 years . . . . .	884	36.8	0.14	31.8	33.0	33.6	34.9	36.9	38.8	39.5	40.1	41.3
60–69 years . . . . .	844	35.9	0.15	30.9	32.2	33.1	34.0	35.9	37.9	38.8	39.4	40.4
70–79 years . . . . .	473	35.4	0.17	30.4	31.2	32.2	33.5	35.4	37.4	38.2	39.0	40.0
80 years and over . . . . .	268	35.0	0.20	30.5	31.4	32.0	33.0	35.0	37.2	37.9	38.4	39.0
Non-Hispanic white												
20 years and over . . . . .	2,074	37.2	0.08	32.1	33.4	34.3	35.3	37.3	39.2	40.0	40.7	41.7
20–39 years . . . . .	671	38.6	0.11	34.4	35.4	36.2	37.0	38.6	40.1	41.0	41.5	42.7
40–59 years . . . . .	670	37.3	0.11	32.4	33.7	34.6	35.6	37.3	39.4	40.0	40.5	41.5
60 years and over . . . . .	733	35.8	0.11	31.2	32.2	33.0	34.0	35.9	37.6	38.5	39.1	39.8
Non-Hispanic black												
20 years and over . . . . .	1,204	38.9	0.09	33.4	34.9	35.8	36.9	39.0	41.0	42.0	42.9	44.1
20–39 years . . . . .	389	40.0	0.15	35.4	36.3	37.1	38.0	40.0	41.7	43.1	43.8	44.7
40–59 years . . . . .	460	38.8	0.12	33.2	35.0	35.9	36.9	38.8	40.9	41.8	42.3	43.6
60 years and over . . . . .	355	37.1	0.16	31.3	33.4	34.0	35.0	37.2	39.0	40.2	41.1	41.8
Non-Hispanic Asian												
20 years and over . . . . .	666	35.4	0.14	31.1	32.1	32.8	33.7	35.3	37.1	38.0	38.5	39.3
20–39 years . . . . .	258	36.4	0.16	32.7	33.5	34.0	34.8	36.3	37.9	38.6	39.0	39.9
40–59 years . . . . .	250	35.3	0.19	31.2	32.1	32.9	33.5	35.1	36.9	37.9	38.5	39.3
60 years and over . . . . .	158	33.8	0.19	30.2	30.7	31.1	32.2	33.9	35.2	35.9	36.6	37.5
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,135	35.7	0.16	30.5	31.9	32.6	33.7	35.9	37.9	38.7	39.4	40.4
20–39 years . . . . .	410	36.9	0.16	32.6	33.7	34.2	35.2	36.7	38.5	39.4	40.0	41.0
40–59 years . . . . .	407	35.1	0.19	30.6	31.6	32.1	33.2	35.0	37.0	38.0	38.6	39.7
60 years and over . . . . .	318	33.4	0.21	28.7	29.9	30.2	31.4	33.2	35.4	36.7	37.4	38.2
Mexican American												
20 years and over . . . . .	594	35.4	0.16	30.2	31.6	32.3	33.5	35.6	37.3	38.3	38.9	39.9
20–39 years . . . . .	238	36.4	0.14	32.4	33.4	34.1	35.0	36.3	38.0	38.7	39.3	40.0
40–59 years . . . . .	214	34.8	0.23	30.1	31.1	31.9	32.7	34.7	36.8	37.9	38.5	39.5
60 years and over . . . . .	142	*32.9	0.32	*27.8	*28.9	*29.9	*30.9	*32.8	*34.8	*36.2	*37.1	*38.0

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

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 32. 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 Hispanic origin and age: United States, 2011–2014**

Race and Hispanic origin 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 Hispanic-origin groups <sup>1</sup>				Centimeters								
20 years and over . . . . .	5,013	41.2	0.09	36.2	37.2	38.0	39.1	41.1	43.1	44.2	45.0	46.1
20–29 years . . . . .	912	42.3	0.09	37.5	38.6	39.3	40.2	42.3	44.0	45.1	46.1	47.0
30–39 years . . . . .	887	41.8	0.10	37.3	38.3	39.2	40.0	41.7	43.6	44.6	45.2	46.3
40–49 years . . . . .	837	41.3	0.15	36.7	37.6	38.2	39.3	41.1	43.1	44.2	45.0	46.0
50–59 years . . . . .	832	40.9	0.17	35.8	37.0	37.9	39.0	41.0	42.9	44.1	44.8	45.5
60–69 years . . . . .	841	40.2	0.26	34.9	36.3	37.0	38.1	40.1	42.4	43.5	44.2	45.4
70–79 years . . . . .	454	39.2	0.14	34.3	35.5	36.2	37.0	39.2	41.2	42.2	42.9	44.2
80 years and over . . . . .	250	39.4	0.22	34.5	35.6	36.5	37.3	39.2	41.2	42.4	43.2	44.3
Non-Hispanic white												
20 years and over . . . . .	2,012	41.3	0.11	36.5	37.5	38.3	39.4	41.3	43.2	44.3	45.0	46.1
20–29 years . . . . .	701	42.3	0.11	38.0	39.1	39.6	40.4	42.3	43.8	44.9	45.9	46.9
40–59 years . . . . .	638	41.4	0.16	36.8	37.9	38.5	39.5	41.3	43.1	44.3	45.0	45.7
60 years and over . . . . .	673	40.0	0.20	35.1	36.3	37.0	38.0	39.9	42.0	43.1	44.0	45.0
Non-Hispanic black												
20 years and over . . . . .	1,159	42.7	0.11	37.6	38.9	39.4	40.5	42.6	44.7	45.7	46.4	47.6
20–29 years . . . . .	388	43.6	0.20	38.8	39.9	40.2	41.4	43.6	45.4	46.5	47.3	48.4
40–59 years . . . . .	377	42.4	0.15	37.8	39.0	39.4	40.4	42.4	44.2	45.3	45.9	47.2
60 years and over . . . . .	394	41.1	0.16	36.0	37.4	38.0	38.9	41.1	43.1	44.2	44.9	45.9
Non-Hispanic Asian												
20 years and over . . . . .	637	39.3	0.15	34.5	35.7	36.4	37.2	39.2	41.1	42.1	42.9	44.2
20–29 years . . . . .	248	40.5	0.16	36.4	37.1	37.9	38.4	40.4	42.1	43.5	44.3	44.8
40–59 years . . . . .	237	39.0	0.20	34.9	36.1	36.5	37.2	38.9	40.9	41.3	41.9	42.9
60 years and over . . . . .	152	36.9	0.18	33.0	33.7	34.1	35.2	36.8	38.5	39.5	40.0	40.7
Hispanic <sup>2</sup>												
20 years and over . . . . .	1,048	40.0	0.09	35.0	36.2	37.0	38.0	40.0	42.0	43.0	43.8	44.6
20–29 years . . . . .	375	40.8	0.13	36.3	37.4	38.1	39.1	40.6	42.6	43.5	44.2	45.0
40–59 years . . . . .	372	39.6	0.14	34.7	35.6	36.5	37.7	39.6	41.2	42.5	43.3	44.5
60 years and over . . . . .	301	37.8	0.16	33.7	34.4	35.0	35.9	37.6	39.4	40.5	41.4	42.6
Mexican American												
20 years and over . . . . .	602	39.9	0.10	34.8	35.9	36.7	37.9	40.0	41.7	43.0	43.9	44.7
20–29 years . . . . .	227	40.7	0.17	36.0	37.2	37.8	39.0	40.6	42.4	43.6	44.2	45.0
40–59 years . . . . .	222	39.3	0.19	34.6	35.4	36.1	37.1	39.2	40.9	42.2	43.0	44.4
60 years and over . . . . .	153	37.8	0.24	33.7	34.4	35.0	35.8	37.7	39.1	40.4	41.4	42.6

<sup>1</sup>Includes persons of other races.<sup>2</sup>Includes Mexican-American persons.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

# Appendix

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

Measurement	Survey years									
	1960–1962 <sup>1–3</sup>	1963–1965 <sup>4</sup>	1966–1970 <sup>5</sup>	1971–1974 <sup>6,7</sup>	1976–1980 <sup>8</sup>	1988–1994 <sup>9</sup>	1999–2002 <sup>10</sup>	2003–2006 <sup>11</sup>	2007–2010 <sup>12</sup>	2011–2014
<b>Weight, height, and length</b>										
Weight . . . . .	X	X	X	X	X	X	X	X	X	X
Standing height . . . . .	X	X	X	X	X	X	X	X	X	X
Recumbent length . . . . .	...	...	...	...	X	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	X
Upper leg length . . . . .	...	...	...	...	...	X	X	X	X	X
Foot length . . . . .	...	X	...	...	...	...	...	...	...	...
Crown-rump length . . . . .	...	...	...	...	X	...	...	...	...	...
<b>Indices</b>										
Body mass index <sup>13</sup> . . . . .	...	...	...	...	X	X	X	X	X	X
<b>Skinfolds</b>										
Subscapular skinfold . . . . .	X	X	X	X	X	X	X	X	X	...
Triceps skinfold . . . . .	X	X	X	X	X	X	X	X	X	...
Thigh skinfold . . . . .	...	...	...	...	...	X	...	...	...	...
Suprailiac skinfold . . . . .	...	...	...	...	...	X	...	...	...	...
<b>Circumferences and breadths</b>										
Head circumference . . . . .	...	...	...	...	X	X	X	X	X	X
Chest circumference . . . . .	X	X	...	X	X	...	...	...	...	...
Waist circumference . . . . .	X	X	...	...	...	X	X	X	X	X
Sagittal abdominal diameter . . . . .	...	...	...	...	...	...	...	...	...	X
Midarm circumference . . . . .	X	X	X	X	X	X	X	X	X	X
Midhigh 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	...	...	...	...
Biliac breadth . . . . .	...	...	...	...	...	X	...	...	...	...

See footnotes at end of table.

**Appendix table. Historical summary of published anthropometric reference data—Con.**

Measurement	Survey years									
	1960–1962 <sup>1–3</sup>	1963–1965 <sup>4</sup>	1966–1970 <sup>5</sup>	1971–1974 <sup>6,7</sup>	1976–1980 <sup>8</sup>	1988–1994 <sup>9</sup>	1999–2002 <sup>10</sup>	2003–2006 <sup>11</sup>	2007–2010 <sup>12</sup>	2011–2014
Circumferences and breadths—Con.										
Bitrochanteric breadth . . .	...	...	...	X	X	...	...	...	...	...
Elbow breadth . . . . .	...	...	...	X	X	X	...	...	...	...
Elbow-elbow breadth . . .	X	X	...	...	...	...	...	...	...	...
Seat breadth . . . . .	X	X	...	...	...	...	...	...	...	...
Foot breadth . . . . .	...	X	...	...	...	...	...	...	...	...

... Category not applicable.

<sup>1</sup>Stoudt HW, Damon A, McFarland R, Roberts J. Weight, height, and selected body dimensions of adults. National Center for Health Statistics. Vital Health Stat 11(8). 1965. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_008.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_008.pdf).

<sup>2</sup>Stoudt HW, Damon A, McFarland RA, Roberts J. Skinfolds, body girths, biacromial diameter, and selected anthropometric indices of adults: United States, 1960–1962. National Center for Health Statistics. Vital Health Stat 11(35). 1970. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_035acc.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_035acc.pdf).

<sup>3</sup>Roberts J. Weight by height and age of adults: United States, 1960–1962. National Center for Health Statistics. Vital Health Stat 11(14). 1966. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_014acc.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_014acc.pdf).

<sup>4</sup>Malina RM, Hamill PVV, Lemeshow S. Selected body measurements of children 6–11 years: United States. National Center for Health Statistics. Vital Health Stat 11(123). 1973. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_123acc.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_123acc.pdf).

<sup>5</sup>Hamill PVV, Johnston FE, Lemeshow S. Height and weight of youths 12–17 years: United States. National Center for Health Statistics. Vital Health Stat 11(124). 1973. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_124.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_124.pdf).

<sup>6</sup>Abraham S, Johnson CL, Najjar MF. Weight and height of adults 18–74 years of age: United States, 1971–74. National Center for Health Statistics. Vital Health Stat 11(211). 1979. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_211.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_211.pdf).

<sup>7</sup>Johnson CL, Fulwood R, Abraham S, Bryner JD. Basic data on anthropometric measurements and angular measurements of the hip and knee joints for selected age groups 1–74 years of age: United States, 1971–1975. National Center for Health Statistics. Vital Health Stat 11(219). 1981. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_219.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_219.pdf).

<sup>8</sup>Najjar MF, Rowland M. Anthropometric reference data and prevalence of overweight: United States, 1976–80. National Center for Health Statistics. Vital Health Stat 11(238). 1987. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_238.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_238.pdf).

<sup>9</sup>McDowell MA, Fryar CD, Ogden CL. Anthropometric reference data for children and adults: United States, 1988–1994. National Center for Health Statistics. Vital Health Stat 11(249). 2009. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_249.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_249.pdf).

<sup>10</sup>McDowell MA, Fryar CD, Hirsch R, Ogden CL. Anthropometric reference data for children and adults: U.S. population, 1999–2002. Advance data from vital and health statistics; no 361. Hyattsville, MD: National Center for Health Statistics. 2005. Available from: <http://www.cdc.gov/nchs/data/ad/ad361.pdf>.

<sup>11</sup>McDowell MA, Fryar CD, Ogden CL, Flegal KM. Anthropometric reference data for children and adults: United States, 2003–2006. National health statistics reports; no 10. Hyattsville, MD: National Center for Health Statistics. 2008. Available from: <http://www.cdc.gov/nchs/data/nhsr/nhsr010.pdf>.

<sup>12</sup>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. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_11/sr11\\_252.pdf](http://www.cdc.gov/nchs/data/series/sr_11/sr11_252.pdf).

<sup>13</sup>Body mass index (BMI) is calculated as:  $BMI = \text{weight(kilograms)}/\text{height(meters)}^2$ .

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



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