| | NOAA COMMISSIONED OFFICER CORPS DIRECTIVES | CHAPTER | VERSION |
|---|---|---|---|
| | PHYSICAL FITNESS AND BODY COMPOSITION | 16 | 2.0 |
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| | | October 1, 2024 | |
| | | REVIEW DATE | |
| | Rear Admiral Chad Cary, NOAA<br>Director, NOAA Corps | October 1, 2029 | |

**Purpose**

This chapter prescribes physical fitness and body composition requirements for NOAA Corps officers.

**References**

(A) 33 U.S.C. § 3007 – Training and Physical Fitness

(B) U.S. Coast Guard Health Promotion Manual, Commandant Instruction M6200.1E.

(C) U.S. Coast Guard Weight and Body Fat Standards Manual, Commandant Instruction M1020.8H

(D) U.S. Coast Guard Body Composition Desk Guide, updated March 10, 2020

(E) U.S. Coast Guard Fitness Assessment Protocols and Procedures

(F) U.S. Coast Guard Officer Candidate School Health and Physical Readiness Manual, updated July 2021.

(G) Commissioned Personnel Center Standard Operating Procedure 1100-01 - NOAA Corps Officer Training Center Basic Officer Training Class Standing Orders

(H) U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. 2018.

(I) NOAA Administrative Order 202-1106: NOAA Sexual Assault and Sexual Harassment Prevention and Response Policy

| DOCUMENT HISTORY | | |
|---|---|---|
| **Version** | **Description of Change** | **Effective Date** |
| 2.0 | Section 16005, title16002 (A),(3) – Addition of HPR assessment to achieve 'physical readiness'<br><br>16004 (A),(1),(a) – suggestion of 180 min of PA to include 60 min cardio, 60 min of strength, 60 min to officer's discretion<br><br>16004 (A),(1),(e) – Additionally, an officer can obtain a temporary fitness waiver from Dietitian and Nutrition Manager at CPC.<br><br>16005 – Physical Readiness Testing (PRT)<br><br>***CURRENTY UNDER DEVELOPMENT***<br><br>16006 (A),(2) – Using Inbody 570 for Bioelectrical Impedance Analysis (BIA) testing instead of traditional tape measurements. If an officer fails the testing, they have 30 days to contact the dietitian at CPC to initiate consultations with the dietitian.<br><br>16007 (D) – Reference to BIA device<br><br>16008 (A) – Introduction to BIA device to measure body composition.<br><br>16008 (B),(2) – Tape measure method details have been included as a 'last resort' option if an officer cannot access a BIA device<br><br>16008, (E) – BCP (Body Composition Plan) duration recommendations differ significantly from the previous outline. New recommendations are as follows: The personalized BCP would be determined by the dietitian. I don't believe we can prescribe a specific rate of weight loss. It is very dependent on the individual. However, if the officer is making consistent effort to lose the weight and seeing the dietitian at scheduled sessions, they are following the BCP.<br><br>Sessions with the dietitian includes intake, nutrition counseling, fitness recommendations, action plan with follow ups as necessary.<br><br>Officer will be placed on maintenance after intervention with RDN. BC will be monitored by the dietitian.<br><br>16009 – The definition of noncompliance according to this document is as follows:<br><br>(a) If an officer fails to provide either BMI or BCA in their OPF at the time required.<br><br>(b) If an officer fails to contact the Dietitian Nutrition Program Manager at CPC when prompted to after their BCA.<br><br>(c) If an officer does not follow the guidelines for BCP NCD 16007(C)<br><br>(d) If an officer does not obtain the necessary documentation for a body composition waiver (16010), (16011).<br><br>(e) If an officer fails HPR assessment and does not follow the guidelines NCD 16005. | Oct. 1, 2024 |

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|---|---|---|
| 1.0 | Initial Document | Dec 19, 2022 |

## Chapter 16 – Physical Fitness and Body Composition

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**16001 – Authority**

(A) Section 217 of the Hydrographic Services Improvements Act of 2002, as amended by Section 104 of the National Oceanic and Atmospheric Administration Commissioned Officer Corps Amendments Act of 2020 (Amendments Act of 2020), directs the Secretary of Commerce to ensure that officers maintain a high physical state of readiness by establishing standards of physical fitness for officers that are substantially equivalent to those prescribed for officers of the Coast Guard. (33 U.S.C. § 3007).

(B) The Director, in accordance with authority delegated through Department Organization Order (DOO) 10-15 and NOAA Delegation of Authority 86, with respect to provisions of Chapter 43 of Title 33 of the United States Code regarding commissioned officers, may establish such standards.

(C) As directed by the Amendments Act of 2020, this Chapter draws heavily from practices of the U.S. Coast Guard policies, manuals, and instructions (references B through E), but these publications are not binding for the NOAA Corps and its personnel. They are listed here as instructive guides, and in the event of an inconsistency between a U.S. Coast Guard publication and this Directive, this Directive supersedes all other guidance and references.

**16002 – Purpose**

(A) Active duty NOAA Corps officers must maintain a high state of readiness to safely carry out operational missions at sea, in the air, and underwater. Physically fit officers have a greater chance of successfully responding to inherently dangerous or physically demanding situations and higher stress levels in operational and emergency situations. Physical readiness is achieved through:

(1) Strength training – On 2 or more days per week, work all major muscle groups (e.g., legs, hips, back, abdomen, head, shoulders, arm).

(2) Endurance training – On 2 or more days per week, participate in moderate-intensity aerobic activity (e.g., brisk walking, running, biking).

(3) Successfully complete and pass the Health and Physical Readiness (HPR) test NCD 16005. (Currently under development)

(B) Physical activity also has beneficial effects for general health and wellness. Engaging in regular physical activity is an effective way to reduce stress, manage weight, decrease risk of disease and injury, improve body composition, and improve morale. Years of research categorically support the premise that exercise leads to improved physical function, decreased risk of chronic disease, and decreased disability.

(C) Maintenance of weight and body composition standards – Administration of the body composition policy is an administrative process designed to ensure that all NOAA Corps officers are able to meet the NOAA Corps' operational needs. The higher someone's body mass index (BMI), the higher their risk for diseases such as heart disease, high blood pressure, type 2 diabetes, certain cancers, and more, which can negatively interfere with their performance of duty. Excess abdominal fat is an important, independent risk factor

for disease. BMI and body composition measurements are recognized by the National Institutes of Health as appropriate methods for assessment of obesity corresponding to risk for disease. Management of the body composition policy is an administrative process designed to ensure that all NOAA Corps officers are capable of meeting the NOAA Corps' operational needs and maintaining a healthy weight and body fat percentage.

**16003 – Physical Fitness Requirements for Officer Candidates**

(A) Initial physical fitness standards for newly assessed Officer Candidates

(1) Upon arrival at the Basic Officer Training Class (BOTC), newly assessed Officer Candidates must pass an HPR test with a minimum score. The standard used is set by the Director, Commissioned Personnel Center (CPC), and is based upon the Coast Guard's HPR standards as described in the U.S. Coast Guard Officer Candidate School Health and Physical Readiness Manual. Achieving the minimum score on this test is essential to assess the Officer Candidate's ability to safely train and to reduce the risk of preventable injury in a physically demanding training environment.

(2) Failure to obtain a minimum passing score in the initial HPR test, as described by the BOTC Performance and Deficiency Matrix, will result in a Performance Aptitude Review (PAR), as described in the Commanding Officer, NOAA Corps Officer Training Center's standing orders. The PAR Panel may recommend administrative actions from remedial physical training up to dismissal from BOTC.

(B) Physical fitness requirement for completion of Basic Officer Training Class

(1) Officer Candidates must pass a final HPR test with a minimum score. The standards used are set by the Director, CPC. The standards used for the final HPR test are based upon the Coast Guard's HPR standards as described in the U.S. Coast Guard Officer Candidate School Health and Physical Readiness Manual.

(2) Failure to pass the final HPR test will result in a PAR. The PAR Panel may recommend administrative actions up to dismissal from BOTC.

**16004 – Physical Fitness Policy for Active Duty Officers**

(A) All NOAA Corps officers are required to achieve and maintain a high state of physical readiness. In order to maintain a high state of physical readiness:

(1) All active duty NOAA Corps officers are required to develop Personal Fitness Plans (NOAA Form 56-78). Officers must submit the completed Personal Fitness Plans (PFP) to their immediate supervisor, or, if their supervisor is not a NOAA Corps officer, to the next highest NOAA Corps officer in their direct chain of command, twice each year in the months of April and October. The designated Line Office Liaison fills that role if the officer's entire chain of command is civilian. The officer will submit their PFP in their official personnel file (OPF). Supervisors must provide the officer the opportunity to participate in fitness-enhancing activities as described:

(a) All active duty NOAA Corps officers must engage in physical activity as outlined in their PFP for a cumulative minimum of 180 minutes per week. Officers may consider their PFP to include 60 minutes of aerobic activity, 60 minutes of strength training, and 60 min of physical activity at the officer's own discretion. However, strength training should be a priority to help promote and support body composition standards. NCD 16008

(b) Officers may contact the Dietitian Nutritionist Program Manager at CPC for further guidance on physical fitness activities to ensure a state of readiness.

(c) NOAA Corps officers, as leaders and commissioned officers of the United States, are expected to act with honor and integrity with respect to meeting physical activity requirements and, as such, manage themselves accordingly.

(d) Physical activity should produce a training effect, as measured by a medium to vigorous level of intensity. A non-exhaustive list of examples of medium- and vigorous-intensity exercises and muscle-strengthening activities are described in Appendix 16.0.1. Diving operations, measured from time in the water to time out of the water, may count toward this requirement.

(e) If an officer is unable to participate in an activity for a short period (2 weeks or less) due to medical conditions, a written statement from their current supervisor, commanding officer, or Line Office Liaison officer, as appropriate, is required. Alternatively, an officer can request a temporary waiver of fitness-enhancing activity in writing from the Dietitian Nutrition Program Manager at CPC. If the officer's inability to participate in fitness-enhancing activity is expected to last longer than 2 weeks, the officer should be referred to Medical Affairs at CPC to determine if a medical waiver is necessary.

(B) Supervisor Responsibilities – Every chain of command must:

(1) Allow all NOAA Corps officers a minimum of 180 minutes per week for exercise and physical activity during working hours, operations and workload permitting. If operations and workload do not permit such time during working hours, NOAA Corps officers are still required to adhere to the 180 minutes per week of exercise during off-duty hours unless covered by an exception described in NCD 16004(3). Supervisors and commanding officers may:

(a) Limit the working hours during which fitness activities may be performed to prevent or mitigate disruptions to unit or work-group efficiency and effectiveness.

(b) Allow participation of NOAA Corps officers in group fitness activities during working hours that count toward the required 180 minutes, unless CPC has approved a waiver or exemption as described in NCD 16010 or 16011.

(c) Order more specific measures to accomplish oversight of a PFP if, in their discretion, they determine such oversight is necessary to ensure compliance

with Paragraph (A)(1)(a). Officers who fail to follow orders with respect to these measures may be subject to disciplinary action.

(2) Reflect compliance with this policy in the NOAA Corps officer's Officer Evaluation Report under the health and well-being section. This reflection will not include a qualitative evaluation or judgment of the officer's perceived physical fitness or physical strength but may generally remark upon quantitative measures relating to goals listed in the officer's PFP (e.g., setting a personal record for a 5-kilometer run). An officer that meets the minimum requirements of this policy should receive a minimum score of four. Officers who exceed expectations or achieve personal goals may be given higher ratings. Officers who do not comply or do not make a reasonable effort to comply should receive a score of three or lower.

(3) Exceptions

(a) NOAA Diver Training – NOAA Corps officers are excused from fitness-enhancing activity and PFP requirements while attending NOAA Diver Training due to the physical demands of such training.

(b) The Director, Marine Operations and the Commanding Officer, Aircraft Operations Center, Line Office Liaison may waive fitness-enhancing activity and PFP requirements for officers undertaking any other physically demanding course of training on a case-by-case basis (e.g., firefighting, rescue swimming) or for other reasons as needed by operations and workload.

(c) Ship Commanding Officers may temporarily waive fitness-enhancing activity and PFP requirements during periods of heavy weather underway where physical exercise is either impractical or unsafe.

**16005 – Active Duty Officers Physical Readiness Testing Policy**

***CURRENTLY UNDER DEVELOPMENT***

**16006 – Body Composition Policy**

(A) All active duty NOAA Corps officers, officer candidates, and officer applicants are required to meet body composition standards contained in this directive. This requirement is met through the conduct of a Body Composition Assessment (BCA) once per calendar year for officers and during the initial physical examination for applicants. The BCA will consist of the following components in the following order and documented in the officer's OPF.

(1) BMI Assessment – Officers and officer applicants will undergo a BMI screening according to NCD 16006. If the officer or officer applicant is within BMI standards of 19 (minimum) and 27.5 (maximum), regardless of age or gender. the officer or officer applicant is compliant. If an officer exceeds the BMI standards, they must undergo a body composition assessment. Officer applicants who exceed

the weight and body composition will undergo BCA in accordance with MEPS processing.

(2) BCA – The BCA method for an officer will be completed by Bioelectrical Impedance Analysis (BIA). Officer applicant BCA will be performed at MEPS. If an officer or officer applicant passes the body composition screening assessment, they are compliant. If an officer 's BCA exceeds the BIA standards, they will be referred to the Dietitian Nutritionist Program Manager at CPC for further evaluation. If an officer applicant exceeds the BCA standards during MEPS, they are not moved forward in the application process. NOAA Corps officers who will be away from their permanent duty station during the scheduled assessment period should make arrangements to be screened no more than 15 calendar days before the beginning of the month or 15 days after the end of the month. If the officer's travel precludes an assessment during this window, the officer and their chain of command should make every effort to coordinate an assessment as soon as is practicable.

(B) Commanding officers may direct officers who are noncompliant with the physical fitness policy described in NCD 16004 to be evaluated for compliance with the body composition policy outside of regularly scheduled annual assessments. This assessment will be conducted according to NCD 16006 and 16007 and documented as an official assessment.

(C) Officers will undergo an assessment immediately upon expiration of any waiver as described in NCD 16009 or exemption as described in NCD 16010. This assessment will be conducted according to NCD 16006 and 16007 and documented as an official assessment.

(D) Commands will verify an officer's compliance with this policy upon receipt of orders to any training described in NCD 16004.

(E) All new accessions (including selectees for educational assistance programs leading to a commission, officers re-entering active duty following a career intermission authorized by 33 U.S.C. § 3036, officers reappointing according to NCD 01212, and inter-service transfers according to NCD 01304) must be in compliance with this policy. Officer applicants are assessed as part of their initial physical examination during MEPS. Officer candidates will follow the requirements in NCD 16003.

(F) Officers are compliant with body composition standards if they meet any one of the following conditions:

(1) The officer does not exceed the maximum screening weight; NCD 16006,

(2) The officer is in compliance with body composition standards; NCD 16007, or

(3) The officer has an approved waiver as described in NCD 16010 or an exception as described in NCD 16011.

(4) Officers whose body composition fall outside of standards and who has followed the guidelines of NCD 16008 (D).

**16007 – Body Mass Index /Weight Standards and Assessment Procedures**

(A) The NOAA Corps weight standards utilize the Body Mass Index (Appendix 16.0.02). The NOAA Corps minimum BMI standard is 19.0, and the maximum standard is 27.5 in accordance with USCG standards M1020.8H, regardless of age or gender.

(B) BMI is the ratio of an individual's height and weight squared. It provides a general indication of an individual's health and is used to screen individuals who may be at risk for other health issues. BMI is recognized by the CDC as one method for general population assessment of obesity corresponding to risk for disease.

(C) NOAA Corps officers who fall within the BMI standards will be deemed compliant with the BCA.

(D) Officers who do not meet weight and/or BMI standards will be referred to complete a Bioelectrical Impedance Analysis (BIA). BIA measures body composition differently compared to BMI calculations and might result in the officer's body composition falling within approved standards. NOAA Corps officers who exceed their maximum allowable weight as measured according to this Chapter are required to undergo a body composition assessment by using the BIA device. If an officer falls within the BMI standards, they may perform a BCA for valuable data on their body composition and health indicators.

(E) Officers will input their calculated BMI in their OPF under the nutrition tab. There is an embedded BMI calculator within the OPF Nutrition tab. All medical documents must be treated as confidential to comply with Federal Health Insurance Portability and Accountability Act (HIPAA) and Privacy Act laws.

(F) BMI/Weight Screening Process

(1) Attire

(a) The standard attire for a normal weight screening is the uniform of the day (socks, no shoes).

(b) Officers may wear gym clothing. When wearing authorized gym clothing, the clothes must be clean and presentable, and appropriate undergarments must be worn.

(2) Weight

(a) Weight scales must be zeroed before each use, and the manufacturer's instructions must be followed. Where there are questions about a scale's accuracy, two scales may be used to determine accuracy and zeroing.

(b) Round measurements to the nearest whole number. For example, 215.4 is recorded as 215; 215.5 is recorded as 216.

(c) The following weight allowances are deducted for attire worn during weight assessment:

(i) T-shirt and gym shorts (no footwear): 1 pound.

(ii) T-shirt and trousers or sweatpants (no footwear): 2 pounds.

(iii) Service Dress uniforms or flight suits (no footwear): 3 pounds.

(iv) Operational Dress Uniform (no footwear): 4 pounds.

(v) Any other attire (no footwear): no deduction taken.

(3) Height

(a) When measuring height, instruct officers to remove their shoes.

(b) Have the officer stand upright (position of attention) with feet together, flat on the floor.

(c) The measurement device must be a height scale, usually found on the back of scales, or at a minimum be made of metal or fiberglass (i.e., no flexible tape measures).

(d) Round measurements to the nearest whole number. For example: 65.4 is recorded as 65; 65.5 is recorded as 66.

(e) Because height does not change appreciably over time, it may not be necessary to re-measure height during every assessment.

**16008 – Body Composition Standards and Assessment Procedures**

(A) Body Composition Standards – Body composition is measured by using BIA technology. For maximum allowable body fat percentages (Table 16.0.1). Any measurement at or under the maximum allowable body fat percentages will be considered in standard with the BCA.

(B) Bioelectrical Impedance Analysis (BIA) Procedure

(1) Officers are responsible for accessing their nearest BIA device. A comprehensive list of locations is available on CPC's website. Officers will follow device procedures as indicated on each device. Data collected should be recorded in the officer's OPF. If an officer is unable to access a BIA device, they should contact the Dietitian Nutritionist Program Manager at CPC for further guidance.

(2) If an officer is unable to access a BIA device and the Dietitian Nutritionist Program Manager is unable to provide access to a device, an officer will undergo a tape-measure method to determine body composition.

(a) Standard Tape Method Procedures

(i) Spring-Loaded Tension Tapes – For consistency, spring-loaded tension tape measurements are required when conducting body fat assessments, and the manufacturer's instructions must be followed.

(ii) Proper Technique of Measurements – When measuring circumferences, apply the tape so that it makes contact with the skin (except the hip measurement for females, in which case the measurement is made over the officer's undergarments or gym shorts), conforms to the body surface being measured, and does not

compress the underlying soft tissues. Make all circumference measurements in the horizontal plane (i.e., parallel to the floor), except the neck measurement, where the tape measure is placed perpendicular to the neck's long axis.

(iii) Proper Recording of Measurements – Take all circumference measurements three times and record them to the nearest half inch. If any of the three measurements differ by more than 1 inch from the other two, take an additional measurement, compute a mathematical average of the three closest measurements to the nearest half-inch, and record this value. If three sets are within 1 inch of each other, do not average, and use the lowest set's total as the circumference value (CV).

(iv) Order of Measurements – Each set of measurements will be completed sequentially to minimize errors associated with repetitive measurement readings. For example, when measuring males, complete one set of abdomen and neck measurements and repeat in the same sequence/order until you have three sets of measurements. When measuring females, complete one set of waist, hip, and neck measurements and repeat in the same sequence/order until you have three sets of measurements.

(b) Body Fat Calculations – A body fat calculator and body fat estimation charts for women and men are included in Appendices 16.0.3 and 16.0.4, respectively. CVs are calculated from the formulas below and compared with the member's height to determine the estimated body fat percentage. Round the calculated CV results down to the nearest half-inch.

(i) Male CV = Abdomen – Neck (in inches)

(ii) Female CV = Waist + Hips – Neck (in inches)

(iii) Gender Considerations – Officers will be subject to the measurement method that reflects their gender as recorded in DEERS unless the officer requests, and CPC has granted, permission to be measured according to the other gender's standards.

(iv) COs must ensure that both male and female testers are available to officers undergoing the tape method procedure.

(c) Neck Measurement Procedure (Men and Women)

(i) Measure the neck circumference at a point just below the larynx (Adam's apple) and perpendicular to the long axis of the neck. Do not place the tape over the Adam's apple.

(ii) The officer should look straight ahead during measurement, with shoulders down (not hunched).

(iii) Care should be taken to avoid involving the shoulder/neck muscles (trapezius) in the measurement.

(iv) Round neck measurements **up** to the nearest half inch (e.g., round 16 1/4 inches to 16 1/2 inches).

(d) Abdominal Circumference Value Measurement Procedure (Men Only)

(i) Measure abdominal circumference (AC) against the skin at the navel (belly button), level and parallel to the floor.

(ii) Arms are at the sides.

(iii) Record the measurement at the end of the officer's normal, relaxed exhalation. The officer will not hold their breath during measurements.

(iv) Round abdominal measurements to the nearest half inch (e.g., round 34 3/4 to 34 1/2).

(v) Determine the CV by subtracting the neck and abdominal measurements. For example, if the neck measurement is 12 inches and abdominal measurements are 36 inches, the CV will be 24.0 (36.0 – 12.0 = 24.0).

(vi) Compare the CV against the height measurement in the percentage body fat estimation chart in Appendix 16.0.4 to determine the estimated body fat percentage. Example: If the CV is 24 inches and the height is 70 inches, the body fat percentage will be 26.

(e) Circumference Value Measurement Procedure (Women Only)

(i) Measure the natural waist circumference against the skin at the point of minimal abdominal circumference, usually located about halfway between the navel and the lower end of the sternum (breast bone). Ensure that the tape is level and parallel to the floor.

(ii) Arms are at the sides.

(iii) Record the measurement at the end of the officer's normal, relaxed exhalation. The officer will not hold their breath during measurements.

(iv) Round the natural waist measurement **to the nearest half inch (e.g., round 28 5/8** to 28 1/2 inches).

(v) Measure the hip circumference while facing the officer's right side by placing the tape around the hips to pass over the most significant protrusion of the gluteal muscles (buttocks) as viewed from the side. Hip measurements may be taken to skin or over undergarments or clothes (gym shorts). If the officer elects to be measured over the clothes, only one inch will be subtracted from the hip measurement.

Ensure the tape is level and parallel to the floor. Apply sufficient tension to minimize the effect of clothing.

(vi) Round the hip measurement **down** to the nearest half inch (e.g., round 44 3/8 inches to 44 inches).

(vii) Determine the CV:

(viii) Add the waist and hip measurements

(ix) Subtract the neck measurement from the value found in (a) above.

(x) Example: If the neck measurement is 12 inches, the waist measurement is 24 inches, and the hip measurement is 36 inches, the CV will be 48 inches (24 + 36 – 12 = 48)

(xi) Compare the CV against the height measurement in the percentage body fat estimation chart in Appendix 16.0.4 to determine the estimated body fat percentage. For example, if the CV is 48 inches and the height is 60 inches, the body fat percentage will be 22.

(f) Abdominal Circumference (AC) Measurement

(i) The AC measurement may be taken in addition to or instead of the standard taping measures. The AC is a circumferential measure of abdominal circumference at the iliac crest (top of the hipbone). This measurement is highly correlated with internal fat and indicative of actual disease risk independent of body mass. Increased health risks associated with overfat are related to total body fat and more closely to fat distribution. Upper body fat, specifically abdominal fat, presents the most significant health risk. It is highly linked to cardiovascular diseases and metabolic disorders such as diabetes. Reducing abdominal girth or circumference is more critical than normalizing body weight. Exercise increases muscle mass and can mask reductions in circumference (i.e., with proper exercise, body weight may stay the same or even increase, but belt size will reduce). Since abdominal fat is an independent risk factor for disease, evaluating AC is important to a member's health risk.

(ii) A high risk of current and future disease exists for males with an AC over 40 inches and for females with an AC over 35.5 inches, regardless of age or height. The health risk is moderate for males with an AC over 35 inches and for females with an AC over 31.5 inches.

(g) Abdominal Circumference Measurement Procedure:

(i) The AC measurement will be taken to skin. The taper will read these taping procedures to the officer and then take the measurement. Spring-loaded tension tape measures are required for consistency, and the manufacturer's instructions must be followed.

(ii) The officer will stand facing forward with their arms to their side, similar to the position of attention. The taper will measure the member's right side. During the measurement, the officer will adjust clothing so it does not fall over the waist.

(iii) The taper will set the end of the tape directly above the hipbone (iliac crest) and ask the member to hold it in place (Figure 16.0.1). If desired, the officer may assist in locating the measurement landmark by resting the right hand on the hip and using the rearward-facing right thumb to locate the iliac crest.

(iv) The taper will walk around to confirm the parallel placement of the tape and then kneel to measure the AC at the end of the member's normal breath exhalation.

(v) The taper will ensure the member does not hold their breath.

(vi) The taper will repeat the sequence/order of measurement three times and record each measurement rounding down to the nearest 1/2 inch. If any of the measurements differ by more than one inch from the other two, the taper will take an additional measurement. The taper will take an average of the three closest measurements and round down to the nearest half-inch. The taper will record this as the AC measurement.

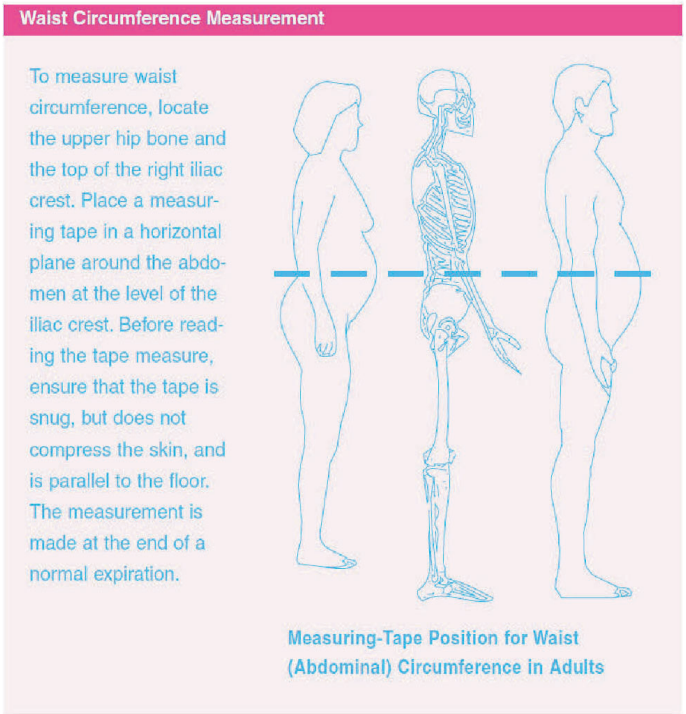


Figure 16.0.1. Measuring Tape Position for Waist (Abdominal) Circumference in Adults, from The Practical Guide to the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults, National Institutes of Health, Publication No. 00-4084, October 2000.

(vii) AC Standard – The maximum AC is 40 inches for males and 35.5 inches for females, regardless of height or weight. Any measurement at or under the maximum circumference will be considered compliant with the body composition policy.

(C) Body Composition Plan (BCP)

(1) Body Composition Plan Determination – An officer will be placed on a BCP if body composition assessment result is found outside of standards. See Table 16.01.

Table 16.01 Maximum Allowable Body Fat Percentage (MABF)

| Age | Percent Body Fat (Men) | Percent Body Fat (Women) |
|---|---|---|
| Less than 30 | 22% | 32% |
| Less than 40 | 24% | 34% |
| Age 40 or more | 26% | 36% |

(2) Commencement of Body Composition Plan – The period of BCP begins immediately upon a not within standards assessment.

(D) Post-Assessment Period (30 calendar days)

(1) Officers without a waiver or exemption found not within standards of body composition must contact the Dietitian Nutrition Program Manager in CPC within 30 calendar days, who will assist the officer in managing their case. CPC, in consultation with Medical Affairs and a primary care manager, if necessary, will evaluate the officer's ability to safely lose the required weight or improve body composition to reach within the established standards and participate in physical activity.

(2) Failure to Complete Required Documentation – Failure to comply with NCD 16009(B)(1) is considered disobeying an order and may be subject to appropriate disciplinary measures by NCD Chapter 7.

(3) Officers who Achieve Standards Before the 30-Day Deadline – If an officer complies with body composition standards during the 30-day window following an out of standards assessment, will be considered compliant with the BCA.

(DI) Body Composition Plan Duration

(1) The duration for an officer to reach within standards is highly specific to the individual officer. The BCP period will be determined by the Dietitian

Nutritionist Program Manager at CPC, in consultation with Medical Affairs and a primary care manager, if necessary.

(2) The Dietitian Nutritionist Program Manager will monitor and evaluate the BCP period.

(3) During the BCP, officers will provide self-reported BCA measurements upon request of the Dietitian Nutritionist Program Manager to monitor the officer's progress during BCP.

(4) If the officer is found noncompliant at the end of the BCP period, refer to NCD 16009 (C).

**16009 – Body Composition and Health and Physical Readiness Noncompliance**

(A) An officer is noncompliant when one or more of the following occurs:

(a) If an officer fails to provide either BMI or BCA in their OPF at the time required.

(b) If an officer fails to contact the Dietitian Nutrition Program Manager at CPC when prompted to after their BCA.

(c) If an officer does not follow the guidelines for BCP NCD 16007(C)

(d) If an officer does not obtain the necessary documentation for a body composition waiver NCD 16010, 16011.

(B) Documentation of Noncompliance – Noncompliance with the NOAA Corps body composition policy described in NCD 16005 must be documented in a memorandum for the record to be submitted to the officer's OPF. Sample entries are available on the CPC website.

(1) Requirement for Documentation – All officers found noncompliant NCD 16009 (A) must sign the memorandum of noncompliance documenting their noncompliance unless covered by a waiver.

(2) Exceptions to Required Documentation—If an officer has a CPC-approved waiver under NCD 16009 or an exemption under NCD 16010 at the time of an annual BCA, that officer will be considered compliant.

(3) Requirements During a BCP Period

(a) Officers on a BCP must:

(i) Maintain reasonable contact with the Dietitian Nutritionist Program Manager at CPC.

(ii) Undergo body composition assessments according to NCD 16006 and 16007 as determined by the Dietitian Nutritionist Program

Manager in accordance with the BCP. These assessments are documented and monitored within the NOAA Corps medical system of record (e.g., MHS Genesis).

(b) Progress During BCP Period

(i) Officers should demonstrate reasonable and consistent progress throughout their BCP period, as determined by the dietitian.

(ii) Officers who come into compliance while on a BCP will no longer be subject to the requirements of paragraph (7) of this Section, and the BCP period will be terminated.

(4) Injury or Illness While on a Body Composition Plan – officers who have an injury or illness should immediately consult with their primary care manager. If the primary care manager recommends and CPC approves a waiver, the officer will be reevaluated after the waiver period to assess whether it is necessary to continue the BCP.

(5) Officers are encouraged to seek guidance from the Dietitian Nutrition Program Manager at CPC and the officer's primary care manager concerning safe exercises and healthy eating habits to maintain progress toward standards.

(6) Conclusion of the BCP Period—At the end of the BCP period, the Director of CPC, via the CPC Dietitian Nutritionist Program manager, will evaluate the officer for compliance. If the case warrants special consideration (e.g., officers who have made reasonable progress and are near compliance but not for any reason that would require a medical waiver or exemption), the BCP period may be extended. Extensions must be documented by an amendment to the BCP.

Table 16.0.2. Actions to be taken by the Director of CPC after the BCP period

| Step | Action | Result |
|---|---|---|
| **1** | Evaluate and record the officer against weight and body composition standards. See Table 16.0.1. | If the officer is within standards, go to step 2.<br><br>If the officer is not within standards, go to step 3. |
| **2** | No action is required. | Compliant |
| **3** | Contact the Dietitian Nutritionist Program Manager for further guidance on BCP. | If the officer contacts the Dietitian Nutritionist Program manager within required timeframe, go to step4.<br><br>If the officer does not contact the Dietitian Nutritionist Program Manager within the required timeframe, go to step 5. |
| **4** | Follow direction of personalized BCP. | Compliant |
| **5** | Document noncompliance with a memorandum for the record, submitted to the officer's OPF.<br><br>Notify the officer's immediate supervisor, or, if their supervisor is not a NOAA Corps officer, the next highest NOAA Corps officer in their direct chain of command. | Noncompliant |

(C) Consequences of Noncompliance – If an officer is found noncompliant in accordance to this document, NCD 16009 (A), the following limitations and restrictions apply:

(1) Withholding of Promotion – Noncompliant officers may be considered and selected for promotion if they are noncompliant with body composition standards, but they will not be promoted until they have been documented as compliant. The Director of CPC will be advised of compliance or noncompliance of officers by the Dietitian Nutritionist Program Manager.

(2) Assignment Restrictions – Noncompliant officers should not be assigned to command or executive officer positions or other billets as determined by the Director, such as details to other executive branch agencies or the legislative branch, liaison assignments to other uniformed services, recruiting billets, or designation as a Line Office Liaison. The Director of CPC and Officer Career Management Division will be advised of compliance or noncompliance of officers by the Dietitian Nutritionist Program Manager.

(3) Training Restrictions – Noncompliant officers may not be assigned to full—or part-time university training or to any training provided by other uniformed services. If the officer is found noncompliant while enrolled in such training and the resulting BCP period is determined to be less than the course duration, they may be permitted to remain in the training while on a BCP. If the resulting BCP period is determined to be greater than the course duration, they may be disenrolled, subject to the determination of the Director at CPC. The Director of CPC and OMAO Training Division will be advised of compliance or noncompliance of officers by the Dietitian Nutritionist Program Manager.

(4) The Director, NC may waive consequences in this section at their discretion.

**16010 – Medical Waivers**

(A) Approving Authority – The Director, CPC, via the NOAA Corps Medical Affairs Branch, is responsible for deciding whether to grant medical waiver requests. Each medically related waiver request will be evaluated case-by-case. Officers seeking a waiver must submit the request along with the required documentation listed in NCD 16010. Physical activity requirements, BCAs, and/or BCP procedures should continue while awaiting a CPC waiver decision, unless not practicable.

(B) Intent – Authorizing a medical waiver is to avoid penalizing an officer who may be noncompliant with their BCP due to a medical condition or medications that directly contribute to weight gain. Officers can request a waiver regardless of whether an they are noncompliant with body composition standards.

(C) CPC will review and decide on all waiver requests and provide the decision to the officer in writing within 30 days of receiving the request.

(D) CPC may grant medical waiver requests to officers who are unable to maintain compliance with body composition standards for the following medical reasons:

(1) Diagnosed physiological medical conditions;

(2) Acute illnesses;

(3) Use of prescription medications that are not otherwise disqualifying for continued service (e.g., prescribed corticosteroids) but contribute to the officer's inability to maintain compliance with weight standards, and

(4) Other medical conditions evaluated by NOAA Corps Medical Affairs as limiting the officer's ability to maintain compliance.

(E) Waiver requests must include the following documentation:

(1) A memorandum from the officer to Director at CPC via their commanding officer requesting a waiver that includes the officer's name, reason for waiver, and duration of time requested;

(2) Signed copy of Authorization for Release of Medical Records (NOAA Form 56-67);

(3) All of the officer's current and past BCPs and waiver documentation;

(4) Command Weight Referral form, using SF-600, signed by the command and the reviewing physician, and

(5) All documentation from the officer's primary care manager related to the waiver request, including a list of the officer's current medications.

(F) Duration of Waiver – CPC will grant an adequate amount of time to allow the officer's waived medical condition to be effectively stabilized and to return to compliance. During the waiver period, officers who exceed standards will be considered compliant and will not be placed on a BCP.

(G) Requirements During the Waiver Period

(1) Officers granted a medical waiver for BCPs must participate in all body composition assessments and continue to comply with their personal fitness plan to the extent their primary care manager has deemed it medically safe. However, officers who exceed body composition standards during an authorized waiver will be considered compliant.

(2) Officers are accountable for meeting prescribed physical standards after stabilizing their medical condition. The waiver period is not considered a BCP period.

(3) At the completion of the waiver period, an officer with an approved waiver will be assessed according to NCD 16006 and 16007, as appropriate, to verify compliance.

(4) Waiver Extension—The Director, CPC, via the NOAA Corps Medical Affairs Branch, may grant an extension to a medical waiver on a case-by-case basis if circumstances warrant. Officers requesting an extension must contact Medical Affairs before their medical waiver period ends.

**16011 – Exemptions**

(A) Approving Authority – The Director, CPC, approves exemption requests. Each exemption request will be evaluated on a case-by-case basis.

(B) Intent – The intent of authorizing an exemption is to avoid penalizing an officer whose physical or mental conditions are the result of illness and may interfere with an officer's ability to exercise or maintain body composition standards.

(C) Exemption requests must include the following information:

(1) A memorandum from the officer to the Director, CPC via their commanding officer requesting an exemption that includes the officer's name, and reason for exemption;

(2) Signed copy of Authorization for Release of Medical Records (NOAA Form 56-67), where appropriate, and

(3) All documentation from the officer's primary care manager related to the exemption request, where appropriate.

(D) Maternity Exemption

(1) An officer is exempt from compliance with body composition standards during pregnancy and is not required to participate in body composition assessments.

(2) Post-Birth/Termination Exemption

(a) Officers who were pregnant fewer than 20 weeks are exempt for at least 6 months from the date of pregnancy termination, which may be extended on a case-by-case basis.

(b) Officers who were pregnant 20 weeks or more are exempt for at least 12 months from the date of pregnancy completion or termination (e.g., delivery, miscarriage), which may be extended on a case-by-case basis.

(3) Expiration of Exemption—Upon expiration of the exemption period, an officer should undergo a body composition assessment as soon as practicable.

(4) Officers on maternity convalescent leave and primary or secondary caregiver leave are not required to break their leave to participate in body composition assessments.

(5) Officers under a maternity exemption are not required to participate in command-directed physical fitness activities or maintain physical fitness plans as described in NCD 16004. Still, they are encouraged to engage in physical activity in accordance with the orders of their medical providers.

(E) Assisted Reproductive Service and Hormone Replacement Therapy Exemption

(1) Officers undergoing assisted reproductive service (ARS) and hormone replacement therapy (HRT) and/or the medications used for ARS/HRT may experience associated physiological changes resulting in exceeding body composition standards.

(2) Eligibility

(a) The following exemption will be granted to officers requesting qualifying treatment for infertility or gender dysphoria treatment.

(b) Officers are not required to comply with body composition standards when requesting.

(3) Qualifying Treatment

(a) The following treatments qualify for an ARS/HRT exemption: in vitro fertilization (IVF), gamete intrafallopian transfer (GIFT), in vitro maturation (IVM), and HRT. An officer may request an exemption under this section to Medical Affairs after a physician has endorsed a fertility treatment plan.

(b) No officer is required to receive an ARS/HRT exemption before ARS/HRT treatment, but any officer undergoing ARS/HRT without an ARS/HRT exemption will be held to policies and standards.

(4) Request for ARS/HRT Exemption

(a) Director, CPC via NOAA Corps Medical Affairs Branch is the approving authority but is required to consult with Medical Affairs for ARS/HRT exemptions.

(b) A physician must endorse the ARS/HRT treatment plan. The plan must clearly indicate the start date of the treatment and state that an increase in body fat measurement is a possible side effect of treatment.

(c) After receiving the positive endorsement, an officer may request an ARS/HRT exemption from Medical Affairs through their commanding officer.

(5) Current ARS/HRT Exemption – Officers who receive an ARS/HRT exemption will:

(a) Participate in scheduled body composition assessments.

(b) Be considered compliant until the end of the exemption, regardless of the measurements.

(c) Make efforts to become or maintain compliance and continue with their personal fitness plan.

(6) Duration of ARS/HRT Exemption

(a) All ARS/HRT exemptions last 12 months from the date of approval and will only be canceled earlier if the officer becomes pregnant, at which point the officer will be granted a maternity exemption.

(b) At the expiration of the ARS/HRT exemption, if an officer is found to be noncompliant, they must have the noncompliance documented and be placed on a BCP.

(7) Limitations on ARS/HRT Exemption

(a) No extensions to the duration of an exemption are authorized.

(b) There is no limit on the number of ARS/HRT exemptions in an officer's career.

(F) Eating Disorders Exemption – Officers diagnosed with an eating disorder by a qualified medical professional is considered for exemptions case-by-case.

(G) Sexual Assault Recovery Exemption

(1) Intent – This exemption policy intends to assist officers with recovery from sexual assault.

(2) Policy

(a) An officer who is the victim of and who makes a report of sexual assault by NOAA Administrative Order (NAO) 202-1106 may submit a 6-month exemption request to the Director, CPC via NOAA Corps Medical Affairs if the sexual assault, as defined by NAO 202-1106, occurred within 1 year of the exemption request.

(b) An officer may make such an exemption request directly to the Director, CPC, via NOAA Corps Medical Affairs, without going through their chain of command if desired.

(c) Officers who receive an exemption will:

(i) Be considered compliant until the end of the exemption.

(ii) Make efforts to become compliant and continue with their personal fitness plans.

(d) At the expiration of the 6-month exemption period, if an officer is found to be noncompliant, they must have the noncompliance documented and be placed on a BCP.

(H) Nicotine Cessation Exemption

(1) Intent—Officers who cease using nicotine products may gain weight. The nicotine cessation exemption intends to encourage officers who are within body composition standards to quit using nicotine products without fear of being found noncompliant due to subsequent weight gain associated with nicotine cessation. This is an incentive for officers to stop using nicotine and adopt a healthier lifestyle.

(2) Policy

(a) Officers who are addicted to nicotine may submit an exemption request through their chain of command to the Director, CPC, via NOAA Corps Medical Affairs Branch, for a one-time 6-month exemption. If authorized, the nicotine cessation exemption period will commence on the day the officer quits using nicotine products, and concludes 6 months after that. During this period, officers who exceed program standards will be considered compliant.

(b) Nicotine cessation exemptions will not be granted to noncompliant officers on the date of request. Commands must verify an officer's compliance by conducting a body composition assessment before submitting a nicotine cessation exemption request. Upon compliance verification, the exemption will be documented by a memorandum for the record and submitted to the officer's OPF.

(c) Officers under this exemption must participate in all body composition assessments.

(3) Exemption Period for Nicotine Cessation

(a) Authorized exemptions for nicotine cessation will be effective for a period of 6 months from the date the officer informs their command of their abstinence from nicotine, either with or without the benefit of a formal nicotine cessation program.

(b) If an officer does not remain abstinent from nicotine for the entire 6-month period, the exemption will cease, and the officer will be assessed as soon as is practicable and, if found noncompliant and appropriate, have their noncompliance documented and be placed on a BCP. Supervisors who learn of the officer's nicotine use must immediately notify the Director, CPC via NOAA Corps Medical Affairs with supporting evidence.

**Appendix 16.0.1 Exercises**

Moderate-intensity physical activities

(1) Walking briskly (2.5 miles per hour or faster)

(2) Recreational swimming

(3) Bicycling slower than 10 miles per hour on level terrain

(4) Tennis (doubles)

(5) Active forms of yoga (e.g., Vinyasa, power yoga)

(6) Ballroom or line dancing

(7) General yard work and home repair work

(8) Exercise classes (e.g., water aerobics)

Vigorous-intensity physical activities

(1) Jogging or running

(2) Swimming laps

(3) Tennis (singles)

(4) Vigorous dancing

(5) Bicycling faster than 10 miles per hour

(6) Jumping rope

(7) Heavy yard work (e.g., digging or shoveling, with heart rate increases)

(8) Hiking uphill or with a heavy backpack

(9) High-intensity interval training (HIIT)

(10) Exercise classes (e.g., vigorous step aerobics, kick boxing)

Muscle-strengthening activities

(1) Muscle-strengthening activities should be performed on 2 or more days per week.

(2) Muscle-strengthening activities do not count toward the aerobic activity total.

(3) All major muscle groups should be worked throughout the course of the week. These are the legs, hips, back, abdomen, chest, shoulders, and arms.

(4) Exercises for each muscle group should be repeated 8–12 times per set. As exercises become easier, increase the weight or do another set.

(5) Examples of muscle-strengthening activities:

- (a) Lifting weights
- (b) Working with resistance bands
- (c) Calisthenics that use body weight for resistance (e.g., push-ups, pull-ups, planks)
- (d) Carrying heavy loads
- (e) Heavy gardening (digging or shoveling)

Flexibility

(1) Take an extra 10 minutes to stretch the major muscle groups each time you perform aerobic or strength-training activities.

(2) Hold stretches for 10–30 seconds and repeat each stretch three to four times.

Appendix 16.0.2 Body Mass Index Table

# Body Mass Index Table

| | Height in Inches/Body Weight in pounds | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Normal | | | | | | Overweight | | | | | Obese | | | | | | | | | | Extreme Obesity | | | | | | | | | | | | | | | |
| **BMI** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** | **41** | **42** | **43** | **44** | **45** | **46** | **47** | **48** | **49** | **50** | **51** | **52** | **53** | **54** |
| 58 | 91 | 96 | 100 | 105 | 110 | 115 | 119 | 124 | 129 | 134 | 138 | 143 | 148 | 153 | 158 | 162 | 167 | 172 | 177 | 181 | 186 | 191 | 196 | 201 | 205 | 210 | 215 | 220 | 224 | 229 | 234 | 239 | 244 | 248 | 253 | 258 |
| 59 | 94 | 99 | 104 | 109 | 114 | 119 | 124 | 128 | 133 | 138 | 143 | 148 | 153 | 158 | 163 | 168 | 173 | 178 | 183 | 188 | 193 | 198 | 203 | 208 | 212 | 217 | 222 | 227 | 232 | 237 | 242 | 247 | 252 | 257 | 262 | 267 |
| 60 | 97 | 102 | 107 | 112 | 118 | 123 | 128 | 133 | 138 | 143 | 148 | 153 | 158 | 163 | 168 | 174 | 179 | 184 | 189 | 194 | 199 | 204 | 209 | 215 | 220 | 225 | 230 | 235 | 240 | 245 | 250 | 255 | 261 | 266 | 271 | 276 |
| 61 | 100 | 106 | 111 | 116 | 122 | 127 | 132 | 137 | 143 | 148 | 153 | 158 | 164 | 169 | 174 | 180 | 185 | 190 | 195 | 201 | 206 | 211 | 217 | 222 | 227 | 232 | 238 | 243 | 248 | 254 | 259 | 264 | 269 | 275 | 280 | 285 |
| 62 | 104 | 109 | 115 | 120 | 126 | 131 | 136 | 142 | 147 | 153 | 158 | 164 | 169 | 175 | 180 | 186 | 191 | 196 | 202 | 207 | 213 | 218 | 224 | 229 | 235 | 240 | 246 | 251 | 256 | 262 | 267 | 273 | 278 | 284 | 289 | 295 |
| 63 | 107 | 113 | 118 | 124 | 130 | 135 | 141 | 146 | 152 | 158 | 163 | 169 | 175 | 180 | 186 | 191 | 197 | 203 | 208 | 214 | 220 | 225 | 231 | 237 | 242 | 248 | 254 | 259 | 265 | 270 | 278 | 282 | 287 | 293 | 299 | 304 |
| 64 | 110 | 116 | 122 | 128 | 134 | 140 | 145 | 151 | 157 | 163 | 169 | 174 | 180 | 186 | 192 | 197 | 204 | 209 | 215 | 221 | 227 | 232 | 238 | 244 | 250 | 256 | 262 | 267 | 273 | 279 | 285 | 291 | 296 | 302 | 308 | 314 |
| 65 | 114 | 120 | 126 | 132 | 138 | 144 | 150 | 156 | 162 | 168 | 174 | 180 | 186 | 192 | 198 | 204 | 210 | 216 | 222 | 228 | 234 | 240 | 246 | 252 | 258 | 264 | 270 | 276 | 282 | 288 | 294 | 300 | 306 | 312 | 318 | 324 |
| 66 | 118 | 124 | 130 | 136 | 142 | 148 | 155 | 161 | 167 | 173 | 179 | 186 | 192 | 198 | 204 | 210 | 216 | 223 | 229 | 235 | 241 | 247 | 253 | 260 | 266 | 272 | 278 | 284 | 291 | 297 | 303 | 309 | 315 | 322 | 328 | 334 |
| 67 | 121 | 127 | 134 | 140 | 146 | 153 | 159 | 166 | 172 | 178 | 185 | 191 | 198 | 204 | 211 | 217 | 223 | 230 | 236 | 242 | 249 | 255 | 261 | 268 | 274 | 280 | 287 | 293 | 299 | 306 | 312 | 319 | 325 | 331 | 338 | 344 |
| 68 | 125 | 131 | 138 | 144 | 151 | 158 | 164 | 171 | 177 | 184 | 190 | 197 | 203 | 210 | 216 | 223 | 230 | 236 | 243 | 249 | 256 | 262 | 269 | 276 | 282 | 289 | 295 | 302 | 308 | 315 | 322 | 328 | 335 | 341 | 348 | 354 |
| 69 | 128 | 135 | 142 | 149 | 155 | 162 | 169 | 176 | 182 | 189 | 196 | 203 | 209 | 216 | 223 | 230 | 236 | 243 | 250 | 257 | 263 | 270 | 277 | 284 | 291 | 297 | 304 | 311 | 318 | 324 | 331 | 338 | 345 | 351 | 358 | 365 |
| 70 | 132 | 139 | 146 | 153 | 160 | 167 | 174 | 181 | 188 | 195 | 202 | 209 | 216 | 222 | 229 | 236 | 243 | 250 | 257 | 264 | 271 | 278 | 285 | 292 | 299 | 306 | 313 | 320 | 327 | 334 | 341 | 348 | 355 | 362 | 369 | 376 |
| 71 | 136 | 143 | 150 | 157 | 165 | 172 | 179 | 186 | 193 | 200 | 208 | 215 | 222 | 229 | 236 | 243 | 250 | 257 | 265 | 272 | 279 | 286 | 293 | 301 | 308 | 315 | 322 | 329 | 338 | 343 | 351 | 358 | 365 | 372 | 379 | 386 |
| 72 | 140 | 147 | 154 | 162 | 169 | 177 | 184 | 191 | 199 | 206 | 213 | 221 | 228 | 235 | 242 | 250 | 258 | 265 | 272 | 279 | 287 | 294 | 302 | 309 | 316 | 324 | 331 | 338 | 346 | 353 | 361 | 368 | 375 | 383 | 390 | 397 |
| 73 | 144 | 151 | 159 | 166 | 174 | 182 | 189 | 197 | 204 | 212 | 219 | 227 | 235 | 242 | 250 | 257 | 265 | 272 | 280 | 288 | 295 | 302 | 310 | 318 | 325 | 333 | 340 | 348 | 355 | 363 | 371 | 378 | 386 | 393 | 401 | 408 |
| 74 | 148 | 155 | 163 | 171 | 179 | 186 | 194 | 202 | 210 | 218 | 225 | 233 | 241 | 249 | 256 | 264 | 272 | 280 | 287 | 295 | 303 | 311 | 319 | 326 | 334 | 342 | 350 | 358 | 365 | 373 | 381 | 389 | 396 | 404 | 412 | 420 |
| 75 | 152 | 160 | 168 | 176 | 184 | 192 | 200 | 208 | 216 | 224 | 232 | 240 | 248 | 256 | 264 | 272 | 279 | 287 | 295 | 303 | 311 | 319 | 327 | 335 | 343 | 351 | 359 | 367 | 375 | 383 | 391 | 399 | 407 | 415 | 423 | 431 |
| 76 | 156 | 164 | 172 | 180 | 189 | 197 | 205 | 213 | 221 | 230 | 238 | 246 | 254 | 263 | 271 | 279 | 287 | 295 | 304 | 312 | 320 | 328 | 336 | 344 | 353 | 361 | 369 | 377 | 385 | 394 | 402 | 410 | 418 | 426 | 435 | 443 |

Source: Adapted from *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report.*

# USCG Body Fat Calculator

**Select Gender:** Female

**Age:**

**Height in Inches:**

**Neck:**

**Abdominal:**

**Buttocks:**

If Male Leave Blank

**Body Fat:**

**USCG Standards:**

| | Male | Female |
|---|---|---|
| Age: <30 | 22% | 32% |
| <40 | 24% | 34% |
| >40 | 26% | 36% |

Unofficial calculator, not to be used in place of official charts.

brett.f.ayer@uscg.mil

V1.3

**U. S. Navy Standard Formula**

Male: % body fat = 86.010 x log10(abdomen - neck) - 70.041 x log10(height) + 36.77

Female: % body fat = 163.205 x log10(waist + hip - neck) - 97.684 x log10(height) - 78.387

# PERCENTAGE FAT ESTIMATION FOR WOMEN (1 of 2)

**Height (in)**

| **CV *** | **58** | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **45.0** | 19 | **59** 18 | **60** 18 | **61** 17 | **62** 16 | **63** 16 | **64** 15 | **65** 14 | **66** 14 | **67** 13 | **68** 12 | **69** 12 | **70** 11 | **71** 11 | **72** 10 | **73** 9 | **74** 9 | **75** 8 | **76** 8 | **77** 7 | **78** 7 | **79** 6 |
| **45.5** | 20 | 19 | 19 | 18 | 17 | 16 | 16 | 15 | 14 | 14 | 13 | 13 | 12 | 11 | 11 | 10 | 10 | 9 | 8 | 8 | 7 | 7 |
| **46.0** | 21 | 20 | 19 | 19 | 18 | 17 | 17 | 16 | 15 | 15 | 14 | 13 | 13 | 12 | 12 | 11 | 10 | 10 | 9 | 9 | 8 | 8 |
| **46.5** | 21 | 21 | 20 | 19 | 19 | 18 | 17 | 17 | 16 | 15 | 15 | 14 | 14 | 13 | 12 | 12 | 11 | 11 | 10 | 9 | 9 | 8 |
| **47.0** | 22 | 22 | 21 | 20 | 19 | 19 | 18 | 17 | 17 | 16 | 16 | 15 | 14 | 14 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9 |
| **47.5** | 23 | 22 | 22 | 21 | 20 | 19 | 19 | 18 | 18 | 17 | 16 | 16 | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 10 | 10 |
| **48.0** | 24 | 23 | 22 | 22 | 21 | 20 | 20 | 19 | 18 | 18 | 17 | 16 | 16 | 15 | 15 | 14 | 13 | 13 | 12 | 12 | 11 | 11 |
| **48.5** | 24 | 24 | 23 | 22 | 22 | 21 | 20 | 20 | 19 | 18 | 18 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 12 | 12 | 11 |
| **49.0** | 25 | 24 | 24 | 23 | 22 | 22 | 21 | 20 | 20 | 19 | 18 | 18 | 17 | 17 | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 12 |
| **49.5** | 26 | 25 | 24 | 24 | 23 | 22 | 22 | 21 | 20 | 20 | 19 | 19 | 18 | 17 | 17 | 16 | 16 | 15 | 14 | 14 | 13 | 13 |
| **50.0** | 27 | 26 | 25 | 24 | 24 | 23 | 22 | 22 | 21 | 21 | 20 | 19 | 19 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 |
| **50.5** | 27 | 27 | 26 | 25 | 25 | 24 | 23 | 23 | 22 | 21 | 21 | 20 | 19 | 19 | 18 | 18 | 17 | 16 | 16 | 15 | 15 | 14 |
| **51.0** | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 23 | 23 | 22 | 21 | 21 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 15 | 15 |
| **51.5** | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 23 | 23 | 22 | 21 | 21 | 20 | 20 | 19 | 18 | 18 | 17 | 17 | 16 | 16 |
| **52.0** | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 23 | 23 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 17 | 17 | 16 |
| **52.5** | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 23 | 23 | 22 | 22 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 17 |
| **53.0** | 31 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 23 | 23 | 22 | 22 | 21 | 20 | 20 | 19 | 19 | 18 | 18 |
| **53.5** | 31 | 31 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 19 | 19 | 18 |
| **54.0** | 32 | 31 | 31 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 24 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 |
| **54.5** | 33 | 32 | 31 | 31 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 24 | 23 | 22 | 22 | 21 | 21 | 20 | 20 |
| **55.0** | 33 | 33 | 32 | 31 | 31 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 24 | 23 | 22 | 22 | 21 | 21 | 20 |
| **55.5** | 34 | 33 | 33 | 32 | 31 | 31 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 21 | 21 |
| **56.0** | 35 | 34 | 33 | 33 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 22 |
| **56.5** | 35 | 35 | 34 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 26 | 25 | 24 | 24 | 23 | 23 | 22 |
| **57.0** | 36 | 35 | 34 | 34 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 26 | 25 | 24 | 24 | 23 | 23 |
| **57.5** | 37 | 36 | 35 | 34 | 34 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 23 |
| **58.0** | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 |
| **58.5** | 38 | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 26 | 25 | 25 |
| **59.0** | 38 | 38 | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 26 | 25 |
| **59.5** | 39 | 38 | 38 | 37 | 36 | 35 | 35 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 27 | 27 | 26 | 26 |
| **60.0** | 40 | 39 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 26 |
| **60.5** | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 27 |
| **61.0** | 41 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 | 28 |
| **61.5** | 41 | 41 | 40 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 35 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 | 28 |
| **62.0** | 42 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 35 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 29 |
| **62.5** | 42 | 42 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 | 29 |
| **63.0** | 43 | 42 | 42 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 30 | 30 |
| **63.5** | 44 | 43 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 30 |
| **64.0** | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 31 |
| **64.5** | 45 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 36 | 35 | 34 | 34 | 33 | 33 | 32 | 32 |
| **65.0** | 45 | 45 | 44 | 43 | 42 | 42 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 34 | 33 | 33 | 32 |
| **65.5** | 46 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 34 | 33 | 33 |
| **66.0** | 46 | 46 | 45 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 34 | 33 |
| **66.5** | 47 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 36 | 35 | 35 | 34 | 34 |

## PERCENTAGE FAT ESTIMATION FOR WOMEN (2 of 2)

| | Height (in) | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CV *** | **58** | **59** | **60** | **61** | **62** | **63** | **64** | **65** | **66** | **67** | **68** | **69** | **70** | **71** | **72** | **73** | **74** | **75** | **76** | **77** | **78** | **79** |
| **67.0** | 47 | 47 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 35 | 34 |
| **67.5** | 48 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 | 38 | 38 | 37 | 36 | 36 | 35 | 35 |
| **68.0** | 48 | 48 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 40 | 40 | 39 | 39 | 38 | 38 | 37 | 36 | 36 | 35 |
| **68.5** | 49 | 48 | 48 | 47 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 40 | 40 | 39 | 39 | 38 | 37 | 37 | 36 | 36 |
| **69.0** | 49 | 49 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 37 | 37 | 36 |
| **69.5** | 50 | 49 | 49 | 48 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 37 | 37 |
| **70.0** | 50 | 50 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 43 | 42 | 41 | 41 | 40 | 40 | 39 | 38 | 38 | 37 |
| **70.5** | 51 | 50 | 50 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 38 | 38 |
| **71.0** | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 | 38 |
| **71.5** | 52 | 51 | 51 | 50 | 49 | 48 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 39 | 39 |
| **72.0** | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 41 | 40 | 40 | 39 |
| **72.5** | 53 | 52 | 52 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 43 | 42 | 42 | 41 | 40 | 40 |
| **73.0** | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 44 | 43 | 43 | 42 | 41 | 41 | 40 |
| **73.5** | 54 | 53 | 53 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 44 | 43 | 42 | 42 | 41 | 41 |
| **74.0** | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 44 | 43 | 42 | 42 | 41 |
| **74.5** | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 43 | 43 | 42 | 42 |
| **75.0** | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 43 | 42 |
| **75.5** | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 47 | 46 | 46 | 45 | 44 | 44 | 43 | 43 |
| **76.0** | 56 | 56 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 47 | 46 | 45 | 45 | 44 | 44 | 43 |
| **76.5** | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 48 | 47 | 46 | 46 | 45 | 45 | 44 | 44 |
| **77.0** | 57 | 57 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 45 | 44 |
| **77.5** | 58 | 57 | 56 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 49 | 48 | 47 | 47 | 46 | 46 | 45 | 45 |
| **78.0** | 58 | 57 | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | 50 | 49 | 48 | 48 | 47 | 47 | 46 | 46 | 45 |
| **78.5** | 59 | 58 | 57 | 56 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 51 | 50 | 49 | 49 | 48 | 48 | 47 | 47 | 46 | 45 |
| **79.0** | 59 | 58 | 58 | 57 | 56 | 56 | 55 | 54 | 54 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 49 | 48 | 48 | 47 | 46 | 46 |
| **79.5** | 60 | 59 | 58 | 57 | 57 | 56 | 55 | 55 | 54 | 53 | 53 | 52 | 52 | 51 | 50 | 50 | 49 | 49 | 48 | 47 | 47 | 46 |

***** **Circumference Value = waist circumference + hip circumference – neck circumference (in inches)**

# PERCENTAGE FAT ESTIMATION FOR MEN

**Height (in)**

| **CV *** | **58** | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **13.5** | 10 | **59** 10 | **60** 9 | **61** 9 | **62** 8 | **63** 8 | **64** 7 | **65** 7 | **66** 7 | **67** 6 | **68** 6 | **69** 5 | **70** 5 | **71** 4 | **72** 4 | **73** 3 | **74** 3 | **75** 3 | **76** 2 | **77** 2 | **78** 1 | **79** 1 |
| **14.0** | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 3 | 3 | 2 |
| **14.5** | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 7 | 6 | 6 | 5 | 5 | 5 | 4 | 4 |
| **15.0** | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 7 | 6 | 6 | 5 | 5 |
| **15.5** | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 9 | 8 | 8 | 7 | 7 | 7 | 6 |
| **16.0** | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 9 | 8 | 8 | 7 |
| **16.5** | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 11 | 11 | 10 | 10 | 9 | 9 | 9 |
| **17.0** | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 10 |
| **17.5** | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 14 | 13 | 13 | 12 | 12 | 12 | 11 | 11 |
| **18.0** | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 15 | 14 | 14 | 13 | 13 | 13 | 12 | 12 |
| **18.5** | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 14 | 13 | 13 |
| **19.0** | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 15 | 14 | 14 |
| **19.5** | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 18 | 17 | 17 | 16 | 16 | 16 | 15 | 15 |
| **20.0** | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 19 | 18 | 18 | 17 | 17 | 17 | 16 | 16 |
| **20.5** | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 19 | 18 | 18 | 17 | 17 | 17 |
| **21.0** | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 20 | 19 | 19 | 18 | 18 | 18 |
| **21.5** | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 20 | 19 | 19 | 18 |
| **22.0** | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 20 | 19 |
| **22.5** | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 23 | 22 | 22 | 21 | 21 | 21 | 20 |
| **23.0** | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 23 | 22 | 22 | 21 | 21 |
| **23.5** | 31 | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 23 | 23 | 23 | 22 | 22 |
| **24.0** | 32 | 31 | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 23 | 23 | 23 |
| **24.5** | 33 | 32 | 32 | 31 | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 23 |
| **25.0** | 33 | 33 | 32 | 32 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 24 | 24 |
| **25.5** | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 31 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 26 | 25 | 25 |
| **26.0** | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 26 | 26 | 26 |
| **26.5** | 36 | 35 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 27 | 26 |
| **27.0** | 36 | 36 | 35 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 27 | 27 |
| **27.5** | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 28 | 28 | 28 |
| **28.0** | 38 | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 30 | 30 | 29 | 29 | 29 | 28 |
| **28.5** | 38 | 38 | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 29 | 29 |
| **29.0** | 39 | 39 | 38 | 37 | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 30 | 30 | 30 |
| **29.5** | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 32 | 32 | 31 | 31 | 31 | 30 |
| **30.0** | 40 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 33 | 33 | 32 | 32 | 32 | 31 | 31 |
| **30.5** | 41 | 40 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 32 | 32 | 32 |
| **31.0** | 42 | 41 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 37 | 37 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 33 | 33 | 33 | 32 |
| **31.5** | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 34 | 34 | 33 | 33 | 33 |
| **32.0** | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 35 | 35 | 34 | 34 | 34 | 33 |
| **32.5** | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 36 | 36 | 35 | 35 | 35 | 34 | 34 |
| **33.0** | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 34 |
| **33.5** | 44 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 40 | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 35 | 35 |
| **34.0** | 45 | 44 | 44 | 43 | 43 | 42 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 36 | 36 | 36 |
| **34.5** | 46 | 45 | 44 | 44 | 43 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 36 |
| **35.0** | 46 | 46 | 45 | 45 | 44 | 44 | 43 | 43 | 42 | 42 | 41 | 41 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 37 | 37 | 37 |

***** **Circumference Value = abdomen circumference – neck circumference (in inches)**