	NOAA COMMISSIONED OFFICER CORPS DIRECTIVES	CHAPTER	VERSION
	PHYSICAL FITNESS AND BODY COMPOSITION	16	1.0
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	<i>Nancy L. Hann, RADM/NOAA</i>	December 19, 2022	
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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 Officer Candidate School Health and Physical Readiness Manual, updated July 2021.
- (F) Commissioned Personnel Center Standard Operating Procedure 1100-01, NOAA Corps Officer Training Center Basic Officer Training Class Standing Orders
- (G) U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. 2018.
- (H) NOAA Administrative Order 202-1106: NOAA Sexual Assault and Sexual Harassment Prevention and Response Policy

Document History

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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 (Act) 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 Act, 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 on 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 shall control.

16002 – Purpose

Active duty NOAA Corps officers must maintain a high state of readiness in order 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:

- (A) Physical fitness and activity - The Centers for Disease Control and Prevention (CDC) describe a variety of health benefits associated with physical activity, including lower risk of disease, improved cognition, improved quality of life, reduced anxiety and risk of depression, improved sleep, slowed or reduced weight gain, weight loss (when combined with reduced calorie intake), and improved bone health.¹ The CDC recommends that adults do:
 - (1) At least 150 minutes of moderate-intensity or 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity.
 - (a) The CDC defines moderate-intensity activity as achieving a heart rate between 64 and 76 percent of an individual's maximum heart rate based on age. To estimate maximum age-related heart rate, subtract age from 220.

¹ U.S. Department of Health and Human Services. *Physical Activity Guidelines for Americans, 2nd edition*. 2018.

- (b) The CDC defines vigorous-intensity activity as achieving a heart rate between 77 and 93 percent of an individual's maximum heart rate based on age.
 - (2) Muscle-strengthening activities of moderate or greater intensity that involve all major muscle groups on two or more days a week.
- (B) Maintenance of healthy weight and body fat standards - A high amount of body fat is associated with increased risk of heart disease, cancer, diabetes, and digestive and blood level diseases, which can interfere with performance of duty. Excess abdominal fat is an important, independent risk factor for disease. Body mass index (BMI) and circumference-based measurements are recognized by the National Institutes of Health as appropriate methods for assessment of obesity corresponding to risk for disease. Administration 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 maintain 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, newly assessed Officer Candidates must pass a Health and Physical Readiness (HPR) test with a minimum score. The standard used shall be set by the Director, CPC and shall be 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 make recommendations for 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 standard used shall be set by the Director, CPC.
 - (2) Failure to pass the final HPR test will result in a PAR. The PAR Panel may make recommendations for 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 physical state of readiness:

- (1) All active duty NOAA Corps officers are required to develop Personal Fitness Plans (NOAA Form 56-78). Officers shall 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 shall fill that role if the officer's entire chain of command is civilian. The officer and their supervisor, commanding officer, or Line Office Liaison, as appropriate, shall keep the officer's most recent PFP on file. Supervisors must provide 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. It is strongly recommended that the PFP include 150 minutes of cardiorespiratory activity and 30 minutes of strength training.
 - (b) 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. However, if a supervisor, in their discretion believes that more oversight is necessary for an officer, they may order more specific measures to accomplish that oversight. Officers who fail to follow orders with respect to these measures can be subject to disciplinary action.
 - (c) 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. Because the effects of physical activity are cumulative, exercise sessions may vary in length, with a minimum of 10 minutes, in order to be beneficial. In general, physical activity sessions should be spread out over at least three days per week.
 - (d) If an officer is unable to participate in fitness enhancing activity for a short period (two weeks or less) due to medical conditions, a written statement from their primary care manager to their current supervisor, commanding officer, or Line Office Liaison officer, as appropriate, is required. If the officer's inability to participate in fitness enhancing activity is expected to last longer than two weeks, the officer should be referred to CPC to determine if a medical waiver is necessary.
- (B) Supervisor Responsibilities – Every chain of command must:
 - (1) Allow all NOAA Corps officers time for exercise and physical activity a minimum of 180 minutes per week 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(C). 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) Require 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 16009](#) or [16010](#).
 - (c) May 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 wellbeing section. This reflection shall 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 (for example, setting a personal record for a 5 kilometer run). It is recommended that an officer who does not comply or make a reasonable effort to comply should not receive a score greater than three for this section.
- (C) Exceptions
- (1) Basic Officer Training Class - Officer Candidates enrolled in the Basic Officer Training Class are not subject to the physical fitness policy for active duty officers. Instead, they are subject to physical fitness training administered by the Commanding Officer, NOAA Corps Officer Training Center under [NCD 16003](#).
 - (2) 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.
 - (3) The Director, Marine Operations and the Commanding Officer, Aircraft Operations Center 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.
 - (4) 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 – Body Composition Policy

- (A) All active duty NOAA Corps officers and officer candidates are required to meet body fat standards contained in this directive. This requirement is met through the conduct of a Body Composition Assessment (BCA) once per calendar year. The BCA will consist of the following components and in the following order, and documented on NOAA Form 56-79, NOAA Corps Body Composition Screening Record:
- (1) BMI/Weight assessment – Officers and officer candidates will undergo a weight screening according to [NCD 16006](#). If the officer or candidate is within weight standards, the officer or candidate is compliant. If the officer exceeds the weight standards, they must undergo a body fat assessment.
 - (2) Body fat assessment – The standard tape method body fat screening OR abdominal circumference (AC) measurement must be completed according to [NCD 16007](#). Officers and officer candidates may take both tests. If the officer or officer candidate passes either measurement, the officer or officer candidate is compliant. If an officer fails one (if declining to take other) or both measurements, the officer is placed on a body composition plan described in [NCD 16008](#). If an officer candidate fails one (if declining to take other) or both measurements, the officer candidate will be subject to a PAR, which may make recommendations for administrative actions up to dismissal from BOTC.
- (B) NOAA Corps officers that 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.
- (C) Commanding officers may direct officers who are non-compliant 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.
- (D) 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.
- (E) Commands will verify an officer's compliance with this policy upon receipt of orders to any training described in [NCD 16004](#).
- (F) Accessions – 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 candidates are assessed as part of their initial physical examination.

- (G) Officers are compliant with body composition standards if they meet any one of the following conditions:
- (1) The officer does not exceed maximum screening weight;
 - (2) The officer is within maximum allowable body fat or abdominal circumference standards; or
 - (3) The officer has an approved waiver as described in [NCD 16009](#) or exception as described in [NCD 16010](#).

16006 – BMI/Weight Standards and Assessment Procedures

- (A) The NOAA Corps weight standards utilize the Body Mass Index. The NOAA Corps minimum BMI standard is 18.5 and the maximum standard is 27.5, regardless of age or gender. Minimum and maximum screening weights corresponding to these standards are listed in Appendix 16.0.2 of this chapter.
- (B) Body Mass Index – 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 of the best methods for population assessment of obesity corresponding to risk for disease. According to the CDC, a normal weight status will have a BMI between 18.5 and 24.9. A BMI range between 25.0 and 29.9 is considered overweight and a BMI over 30.0 is considered obese. A BMI calculator is available at the CDC website: <http://www.cdc.gov>.
- (C) NOAA Corps officers who fall within the BMI standards will be deemed compliant with the BCA.
- (D) NOAA Corps officers who exceed their maximum allowable weight as measured according to this Chapter shall be required to undergo a body fat assessment using either the standard taping method or abdominal circumference measurement as described in [NCD 16007](#).
- (E) BMI/Weight Screening Process
- (1) Attire – The uniform of the day (socks, no shoes) is the standard attire for a normal weight screening. Officers may wear gym clothing if taping is required. When wearing authorized gym clothing, the clothes must be clean and presentable and appropriate undergarments shall be worn. Compression garments or shape wear of any kind are not authorized during assessments.
 - (2) Weight
 - (a) Weight scales must be zeroed prior to each use and the manufacturer's instructions must be followed. Where there are questions as to the accuracy of a scale, 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 shall be 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.

16007 – Body Fat Standards and Assessment Procedures

- (A) Body Fat Standards – Body fat is measured using the same circumference-based methods as the Coast Guard (males: height, neck circumference, and an abdominal circumference at the navel; females: height, neck circumference, waist circumference at the thinnest portion of the abdomen, and hips). Maximum allowable body fat percentages and percent fat estimation charts are in Appendix 16.0.2. Any measurement at or under the maximum allowable body fat percentages will be considered compliant with the BCA.
- (B) Standard Tape Method Procedures
 - (1) 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.
 - (2) Proper Technique of Measurements – When measuring circumferences, apply the tape so that it makes contact with the skin (with the exception of the hip measurement for females, in which case the measurement shall be 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), with the exception of the neck measurement where the tape measure is placed perpendicular to the neck’s long axis.

- (3) Proper Recording of Measurements – Take all circumference measurements three times and record them to the nearest half inch. If any of the three measurements differs by more than one inch from the other two, take an additional measurement and compute a mathematical average of the three closest measurements to the nearest half inch and record this value. If three sets are within 1.0 inch of each other, do not average, and use the lowest set’s total as the circumference value.
 - (4) 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 then 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.
 - (5) Body Fat Calculations – Body fat estimation charts are included in Appendix 16.0.2. Circumference values (CV) are calculated from the formulas below and compared with the member’s height to determine estimated body fat percentage. Round the calculated results of the CV down to the nearest half-inch.
 - (a) Male CV = Abdomen – Neck (in inches)
 - (b) Female CV = Waist + Hips – Neck (in inches)
 - (6) Gender Considerations
 - (a) 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.
 - (b) COs must ensure that both a male and female tester are available to officers undergoing the Tape Method Procedure.
- (C) Neck Measurement Procedure (Men and Women)
- (1) 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.
 - (2) The officer should look straight ahead during measurement, with shoulders down (not hunched).
 - (3) Care should be taken so as not to involve the shoulder/neck muscles (trapezius) in the measurement.
 - (4) Round neck measurements **up** to the nearest half inch (e.g., round 16 ¼ inches to 16 ½ inches).

(D) Circumference Value Measurement Procedure (Men Only)

- (1) Measure abdominal circumference against the skin at the navel (belly button), level and parallel to the floor.
 - (a) Arms are at the sides.
 - (b) Record the measurement at the end of the officer's normal, relaxed exhalation. The officer will not hold breath during measurements.
- (2) Round abdominal measurements **down** to the nearest half inch (e.g., round 34 $\frac{3}{4}$ to 34 $\frac{1}{2}$).
- (3) Determine the CV by subtracting the neck measurement from the abdominal measurement. For example, if the neck measurement is 12 inches and the abdominal measurement is 36 inches, the CV will be 24.0 (36.0 – 12.0 = 24.0).
- (4) Compare the CV against the height measurement in the percent fat estimation chart in Appendix 16.0.2 to determine the estimated body fat percentage. Example: If the CV is 24 and the height is 70.0, the body fat percentage will be 26.

(E) Circumference Value Measurement Procedure (Women Only)

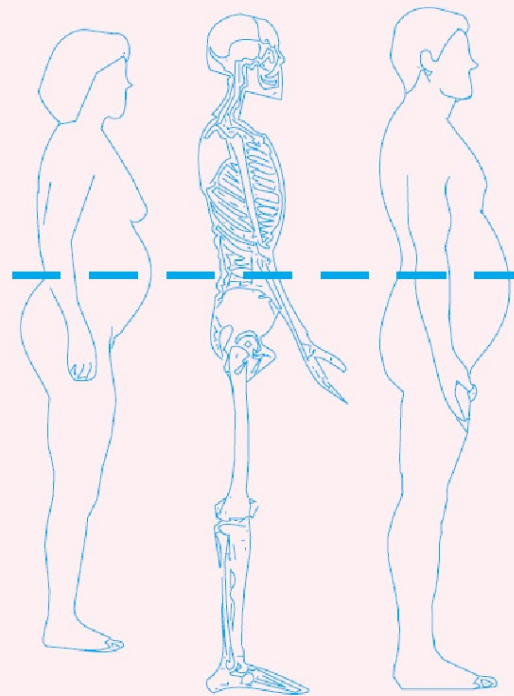
- (1) Measure the natural waist circumference, against the skin, at the point of minimal abdominal circumference, usually located about halfway between the navel and the lower end of the sternum (breast bone). Ensure that the tape is level and parallel to the floor.
 - (a) Arms are at the sides.
 - (b) Record the measurement at the end of the officer's normal, relaxed exhalation. The officer will not hold breath during measurements.
- (2) Round the natural waist measurement **down** to the nearest half inch (e.g., round 28 $\frac{5}{8}$ inches to 28 $\frac{1}{2}$ inches).
- (3) Measure the hip circumference while facing the officer's right side by placing the tape around the hips so that it passes over the greatest 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, one inch will be subtracted from the hip measurement only. Ensure the tape is level and parallel to the floor. Apply sufficient tension to minimize the effect of clothing.
- (4) Round the hip measurement **down** to the nearest half inch (e.g., round 44 $\frac{3}{8}$ inches to 44 inches).
- (5) Determine circumference value:
 - (a) Add the waist and hip measurements
 - (b) Subtract the neck measurement from the value found in (a) above.

- (c) 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 48.0 ($24.0 + 36.0 - 12.0 = 48.0$)
 - (6) Compare the CV against the height measurement in the percent fat estimation chart in Appendix 16.0.2 to determine the estimated body fat percentage. For example, if the CV is 48.0 and the height is 60.0, the body fat percentage will be 22.
- (F) Abdominal Circumference (AC) Measurement
- (1) The AC measurement may be taken in addition to or in lieu of the standard taping measures. The AC is a circumferential measure of abdominal girth at the iliac crest (top of the hipbone). This measurement is highly correlated with internal fat and indicative of true disease risk independent of body mass. Increased health risks associated with overfat are not only related to total body fat, but also more closely to fat distribution. Upper body fat, specifically abdominal fat, presents the greatest health risk. It is highly linked to cardiovascular diseases and metabolic disorders such as diabetes. Reducing abdominal girth or circumference is more important than normalizing body weight. Exercise increases muscle mass and can mask reductions in girth (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, the evaluation of AC is important to a member’s health risk.
 - (2) 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.
 - (3) Abdominal Circumference Measurement Procedure:
 - (a) The AC measurement will be taken to skin. The taper will read these taping procedures to the officer and then take the measurement. For consistency, spring-loaded tension tape measures are required and the manufacturer’s instructions must be followed.
 - (b) The officer will stand facing forward with their arms to their side similar to the position of attention. The taper will take the measurement from the member’s right side. The officer will adjust clothing so it does not fall over their waist during the measurement.
 - (i) 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, using rearward facing right thumb to locate the iliac crest.

- (ii) The taper will walk around to confirm parallel placement of the tape and then kneel down to measure the AC at the end of the member's normal breath exhalation.
- (iii) The taper will ensure the member does not hold their breath.
- (iv) The taper will repeat the sequence/order of measurement three times and record each measurement rounding down to the nearest $\frac{1}{2}$ inch. If any of the measurements differ by more than one inch from the other two, an additional measurement will be taken by the taper. 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.

Waist Circumference Measurement

To measure waist circumference, locate the upper hip bone and the top of the right iliac crest. Place a measuring tape in a horizontal plane around the abdomen at the level of the iliac crest. Before reading the tape measure, ensure that the tape is snug, but does not compress the skin, and is parallel to the floor. The measurement is made at the end of a normal expiration.



Measuring-Tape Position for Waist (Abdominal) Circumference in Adults

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.

- (4) Abdominal Circumference Standard – The maximum AC is 40.0 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.

16008 – Body Composition Noncompliance

- (A) Documentation of Noncompliance – Noncompliance with the NOAA Corps body composition policy described in NCD [16005](#) shall 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 with body composition standards during any assessment 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 that the officer undergoes an annual BCA, that officer will be considered compliant.
- (B) Post Assessment Period (30 calendar days)
- (1) Officers without a waiver or exemption found noncompliant with body composition standards must contact the 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 body fat to reach compliance with established standards and participate in physical activity.
 - (2) Failure to Complete Required Documentation – Failure to comply with [16008\(B\)\(1\)](#) is considered disobeying an order and may be subject to appropriate disciplinary measures in accordance with NCD Chapter 7.
 - (3) Officers who Achieve Compliance Prior to the 30 Day Deadline – If an officer becomes compliant with body composition standards during the 30 day window following a noncompliant assessment, they will be considered compliant with the BCA.
- (C) Body Composition Plan (BCP)
- (1) Body Composition Plan Determination – An officer will be placed on a BCP if found noncompliant with body composition standards.
 - (2) Commencement of Body Composition Plan – The period of BCP begins immediately upon a noncompliant assessment.
 - (3) Body Composition Plan Duration
 - (a) The BCP period shall not exceed eight months (if based on body fat) or 35 weeks (if based on weight). See Table 16.0.1.
 - (b) The BCP period shall equal the amount of time it would take the member to lose all excess body fat at an average of one percent body fat per month

or one pound per week, whichever is greater, unless the period would exceed 35 weeks.

- (c) If the officer's maximum allowable body fat percentage and maximum allowable weight screening weight would result in a BCP period exceeding a period of eight months, they will be subject to consequences described in subsection D of this Section. If the officer exceeds one measurement but not the other by an amount resulting in a period of more than eight months, they will be given a BCP period based on the smaller measurement.

Table 16.0.1. Choosing an Appropriate Body Composition Plan Period.

Choosing an Appropriate BCP Period		
Period Based on Weight	Period Based on Body Fat	Applicable Period
Equal to or less than 35 weeks	Equal to or less than eight months	Choose longer period
Equal to or less than 35 weeks	More than eight months	Choose a period based on weight
More than 35 weeks	Equal to or less than eight months	Choose a period based on body fat
More than 35 weeks	More than eight months	Subject to consequences of NCD 16008(D)

- (4) Requirements During a BCP Period
- (a) Officers on a BCP must:
- (i) Maintain contact with the CPC point of contact for physical fitness compliance as directed by the Director, CPC.
 - (ii) Undergo body composition assessments according to [NCD 16006](#) and [16007](#) at a minimum of once per month to monitor weight/body fat loss. These assessments shall be documented with CPC.
- (b) Progress During BCP Period
- (i) Officers should demonstrate reasonable and consistent progress throughout their BCP period, which means losing excess body fat at a rate of at least one percent per month or one pound per week.
 - (ii) Officers who come into compliance while on a BCP will no longer be subject to the requirements of paragraph (6) of this Section, and the BCP period shall be terminated. This shall be documented in a memorandum for the record to be submitted to the officer's OPF.

- (5) Injury or Illness While on a Body Composition Plan – Noncompliant 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 at the conclusion of the waiver period to assess whether it is necessary to continue the BCP.
- (6) Officers are encouraged to seek guidance from CPC and their primary care manager concerning safe exercises and healthy eating habits to maintain progress toward compliance.
- (7) Conclusion of the BCP Period – At the end of the BCP period, the commanding officer must 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 commanding officer may extend the BCP period by an additional 30 calendar days. Extensions must be documented by a memorandum for the record and submitted to the officer’s OPF.

Table 16.0.2. Actions to be taken by the officer’s command at the conclusion of the BCP period

Step	Action
1	Evaluate the officer against weight and body fat standards. <ul style="list-style-type: none"> - If the officer is compliant, go to step 2. - If the officer is noncompliant, go to step 3.
Officer Compliant	
2	<ul style="list-style-type: none"> - Document compliance with a memorandum for the record, submitted to the officer’s OPF.
Officer Noncompliant	
3	<ul style="list-style-type: none"> - Conduct command verification of measurements - Document noncompliance with a memorandum for the record, submitted to the officer’s OPF.

- (D) Consequences of Noncompliance – If an officer is found noncompliant with body composition standards following a prescribed BCP period, the following limitations and restrictions shall apply:
 - (1) Withholding of Promotion – Noncompliant officers may be considered and selected for promotion if noncompliant with body composition standards, but they will not be promoted until they have been documented as compliant.
 - (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 to the legislative

branch, liaison assignments to other uniformed services, recruiting billets, or designation as a Line Office Liaison.

- (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.

16009 – Medical Waivers

- (A) Approving Authority – The Director, CPC is responsible for deciding whether to grant medical waiver requests. Each medically related waiver request will be evaluated on a case-by-case basis. Officers seeking a waiver must submit the request along with the required documentation listed in 16010(D). Physical activity requirements, BCAs and/or BCP procedures should continue while awaiting a waiver decision from CPC unless not practicable.
- (B) Intent – The intent of authorizing a medical waiver is to avoid penalizing an officer who may be noncompliant with BCP due to a medical condition or medications that directly contribute to weight gain. Officers can request a waiver regardless of whether an officer is noncompliant with body composition standards.
- (C) CPC will review and render a decision on all waiver requests, and provide the decision to the officer in writing within 30 days of receipt of 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, acute illnesses; and
 - (2) 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.
- (E) Waiver requests must include the following documentation:
 - (1) A memorandum from the officer to CPC via their commanding officer requesting a waiver that includes the officer's name, current weight and body fat measurements, and reason for waiver and duration of time requested.
 - (2) Signed copy of Authorization for Release of Medical Records (NOAA Form 56-67).
 - (3) All memoranda documenting the officer's current BCP, past BCPs, and waivers.
 - (4) Command Weight Referral form, using SF-600, signed by the command and reviewing physician.

- (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 time period to allow the officer's waived medical condition to be effectively stabilized and the amount of time 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 Waiver Period
 - (1) Officers granted a medical waiver for BCP are required to 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 to be medically safe to do so. 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 their medical condition has been stabilized. The waiver period is not considered a BCP period.
 - (3) An officer with an approved waiver will be assessed according to [NCD 16006](#) and [16007](#) as appropriate upon the completion of the waiver period to verify compliance.
 - (4) Waiver Extension – CPC may grant an extension on a case by case basis to a medical waiver if circumstances warrant. Officers requesting an extension must contact CPC before the end of their medical waiver period.

16010 – Exemptions

- (A) Approving Authority – The Director, CPC shall be the approving authority for 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 that are not the result of illness 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 CPC via their commanding officer requesting an exemption that includes the officer's name, current weight and body fat measurements, and reason for exemption.
 - (2) Signed copy of Authorization for Release of Medical Records (NOAA Form 56-67), where appropriate.
 - (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 six 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 (delivery, miscarriage, etc.), 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 is 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 to maintain physical fitness plans as described in [NCD 16004](#), but 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 must only be granted for officers requesting qualifying treatment for infertility or gender dysphoria treatment.
 - (b) Officers are not required to be compliant with body composition standards when making the request.
 - (3) Qualifying Treatment
 - (a) Only the following treatments qualify for an ARS/HRT exemption: in vitro fertilization (IVF), gamete intrafallopian transfer (GIFT), in vitro maturation (IVM), and hormone replacement therapy. An officer may request an exemption under this section to Medical Affairs after a physician has positively endorsed a fertility treatment plan.
 - (b) No officer is required to receive an ARS/HRT exemption prior to ARS/HRT treatment, but any officer undergoing ARS/HRT without an ARS/HRT exemption must be held to policies and standards.
 - (4) Request for ARS/HRT Exemption

- (a) CPC is the approving authority but is required to consult with Medical Affairs for ARS/HRT exemptions.
 - (b) A physician must positively endorse the ARS/HRT treatment plan. The plan must clearly indicate the start date of the treatment and state that an increase in measurement of body fat is a possible side effect of treatment.
 - (c) After receiving the positive endorsement, an officer may request an ARS/HRT exemption through their commanding officer to Medical Affairs.
- (5) Current ARS/HRT Exemption - Officers who receive an ARS/HRT exemption shall:
- (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 shall 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 who are diagnosed by a qualified medical professional with an eating disorder shall be considered for exemptions on a case-by-case basis.
- (G) Sexual Assault Recovery Exemption
- (1) Intent – The intent of this exemption policy is 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 in accordance with NOAA Administrative Order (NAO) 202-1106 may submit a six month exemption request to CPC if the sexual assault, as

defined by NAO 202-1106, occurred within one year of the exemption request.

- (b) An officer may make such an exemption request directly to CPC without going through their chain of command, if desired.
- (c) Officers who receive an exemption shall:
 - (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 six month exemption period, if an officer is found to be noncompliant, they shall have the noncompliance documented and be placed on a BCP.

(H) Nicotine Cessation Exemption

- (1) Intent – It is possible that officers who cease the use of nicotine products may gain weight. The intent of the nicotine cessation exemption is 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 quit 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 CPC for a one-time six month exemption. If authorized, the nicotine cessation exemption period will commence on the day the officer quits using nicotine products and concludes six months thereafter. During this period, officers who exceed program standards will be considered compliant.
 - (b) Nicotine cessation exemptions will not be granted to officers who are noncompliant on the date of request. Commands must verify an officer's compliance by conducting a body composition assessment prior to submitting a nicotine cessation exemption request. Upon verification of compliance, the exemption will be documented by a memorandum for the record and submitted to the officer's OPF.
 - (c) Officers under this exemption are required to 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 six 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 six 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 shall notify CPC immediately with supporting evidence.

Appendix 16.0.1: NOAA Corps Exercise Guidelines

(A) Health-related Components of Physical Fitness

- (1) There are five components of physical fitness:
 - (a) Cardiorespiratory fitness – the ability to perform large-muscle, whole-body exercises at moderate-to-vigorous intensities for extended periods of time.
 - (b) Musculoskeletal fitness – the integrated function of muscle strength, muscle endurance, and muscle power to enable performance of work.
 - (c) Flexibility – the range of motion available at a joint or group of joints.
 - (d) Balance – the ability to maintain equilibrium while moving or while stationary.
 - (e) Speed – the ability to move the body quickly.
- (2) A well balanced exercise program should include activities that address all of the health-related components of fitness. Aerobic activities develop cardiorespiratory endurance and burn calories to aid in achieving a healthy body composition. Muscle-strengthening activities develop muscular strength and endurance and assist with the development of a healthy body composition. Activities such as stretching and yoga help improve flexibility. Physical activity guidelines for adults are presented below.

(B) Aerobic Activities

- (1) According to the CDC, adults should perform 2 hours and 30 minutes (150 minutes) per week of moderate-intensity aerobic activity.
- (2) Aerobic activity should be performed for at least 10 minutes at a time and spread out throughout the week.
- (3) For greater health benefits, 5 hours (300 minutes) per week at a moderate-intensity level or 2 hours and 30 minutes (150 minutes) at a vigorous-intensity level or an equivalent mix of both is recommended.
- (4) The American College of Sports Medicine states that moderate-intensity physical activity between 150-250 minutes per week is effective in preventing weight gain, but will only provide modest weight loss. Physical activity greater than 250 minutes per week is recommended for weight loss and the prevention of weight gain.

(C) Examples of 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 or power yoga)
 - (6) Ballroom or line dancing
 - (7) General yard work and home repair work
 - (8) Exercise classes like water aerobics
- (D) Examples of 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 (digging or shoveling, with heart rate increases)
 - (8) Hiking uphill or with a heavy backpack
 - (9) High-intensity interval training (HIIT)
 - (10) Exercise classes like vigorous step aerobics or kick boxing
- (E) Muscle strengthening activities
- (1) Muscle-strengthening activities should be performed on two 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 to 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, and planks)
 - (d) Carrying heavy loads
 - (e) Heavy gardening (digging or shoveling)

(F) 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 to 30 seconds and repeat each stretch three to four times.

Appendix 16.0.2: Screening Weights and Maximum Allowable Body Fat Percentage

- (A) Screening Weights – Screening weights listed below are age- and gender-neutral. NOAA Corps officers who fall below the minimum weight standards may be referred for a medical evaluation.

Minimum Screening Weight (lbs) for BMI \geq 18.5	Height (inches)	Maximum Screening Weight (lbs) for BMI \leq 27.5
89	58	131
92	59	136
95	60	141
98	61	145
101	62	150
104	63	155
108	64	160
111	65	165
115	66	170
118	67	175
122	68	181
125	69	186
129	70	192
133	71	197
136	72	203
140	73	208
144	74	214
148	75	220
152	76	226
156	77	232
160	78	238
164	79	244
168	80	250

- (A) Maximum Allowable Body Fat Percentage (MABF) – NOAA Corps officers who exceed **both** Maximum Screening Weight and MABF are considered noncompliant with the NOAA Corps Body Composition Policy unless they fall under the maximum abdominal circumference standard described in NCD 16007(F).

Age	MABF (Men)	MABF (Women)
Under 30	22%	32%
Under 40	24%	34%
Age 40 or greater	26%	36%

PERCENT BODY FAT ESTIMATION FOR MEN - STANDARD TAPE METHOD PROCEDURE

CV *	Height (inches)																					
	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
13.5	10	10	9	9	8	8	7	7	7	6	6	5	5	4	4	3	3	3	2	2	1	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	11	11	10	10	9	9	9	8	8	7	7
16.5	18	17	17	16	16	15	15	14	14	14	13	13	12	12	11	11	10	10	9	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	16	16	15	15	14	14	14	13	13	13
19.0	23	23	22	22	21	21	20	20	19	19	18	18	17	17	16	16	15	15	15	14	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	24	24	23	23	23	22	22	22
24.0	32	31	31	30	30	29	29	28	28	28	27	27	26	26	25	25	24	24	24	23	23	23
24.5	33	32	32	31	31	30	30	29	29	28	28	27	27	26	26	25	25	25	24	24	23	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	27	27	26	26	26	26
26.5	36	35	35	34	34	33	33	32	32	31	31	30	30	29	29	28	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	33	33	32	32	31	31	31	30	30	29	29	29
29.0	39	39	38	37	37	37	36	36	35	35	34	34	33	33	32	32	31	31	30	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	35	35	34	34	33	33	33	33
32.0	43	42	42	41	41	40	40	39	39	38	38	37	37	36	36	35	35	34	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	35	35	34	34
33.5	44	44	43	43	42	42	41	41	40	40	40	39	39	38	38	37	37	36	36	35	35	35
34.0	45	44	44	43	43	42	42	41	41	40	40	39	39	38	38	38	37	37	36	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 (Men) = Abdomen Circumference – Neck Circumference (in inches)

$$\text{Body Fat Percentage (Men)} = 86.01 \times \log_{10}(\text{CV}) - 70.041 \times \log_{10}(\text{height}) + 36.76$$

PERCENT BODY FAT ESTIMATION FOR WOMEN - STANDARD TAPE METHOD PROCEDURE (1 of 2)

CV*	Height (inches)																					
	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
45.0	19	18	18	17	16	16	15	14	14	13	12	12	11	11	10	9	9	8	8	7	7	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	24	23	23	22	22	21	20	20	19	19	18	18	17
53.5	31	31	30	29	29	28	27	27	26	25	24	23	23	22	22	21	21	20	19	19	18	17
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	26	25	25	24	24	23	23	22	21	21	20
56.0	35	34	33	33	32	31	30	30	29	29	28	27	26	25	25	24	24	23	23	22	22	21
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	35	34	34	33	33	32	32	31	30	30
64.0	44	43	43	42	41	41	40	39	39	38	37	37	36	35	34	34	33	33	32	32	31	30
64.5	45	44	43	43	42	41	41	40	39	39	38	37	37	36	35	34	34	33	33	32	32	31
65.0	45	45	44	43	42	42	41	40	40	39	38	38	37	37	36	35	35	34	34	33	33	32

*Circumference Value (Women) = Waist Circumference + Hip Circumference – Neck Circumference (in inches)

Body Fat Percentage (Women) = 163.205×log₁₀(CV) – 97.684×log₁₀(height) + 73.387

PERCENT BODY FAT ESTIMATION FOR WOMEN - STANDARD TAPE METHOD PROCEDURE (2 of 2)

CV*	Height (inches)																					
	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
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
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	45	44	44	43	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	48	48	47	47	46	46	45
79.0	59	58	58	57	56	56	55	54	54	53	52	52	51	50	50	49	48	48	47	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 (Women) = Waist Circumference + Hip Circumference – Neck Circumference (in inches)

$$\text{Body Fat Percentage (Women)} = 163.205 \times \log_{10}(\text{CV}) - 97.684 \times \log_{10}(\text{height}) + 73.387$$