



CCI 241.01
EFFECTIVE DATE: 3 November 2022

By Order of the Assistant Secretary for Health:

ADM Rachel L. Levine, M.D.

SUBJECT: Readiness and Duty Requirements

1. PURPOSE: This Instruction establishes the individual readiness standards and duty requirements that Public Health Service (PHS) officers in the U.S. Public Health Service (USPHS) Commissioned Corps must follow while on active duty in the USPHS Commissioned Corps.
2. APPLICABILITY: This Instruction applies to all members of the Regular Corps and the Ready Reserve Corps. This Instruction does not apply to PHS officers appointed under the Junior or Senior Commissioned Officer Student Training and Extern Programs (see Commissioned Corps Instruction (CCI) [371.02](#), "Junior Commissioned Officer Student Training and Extern Program," and [CCI 371.03](#), "Senior Commissioned Officer Student Training and Extern Program," respectively).
3. AUTHORITY:
 - 3-1. [42 U.S.C. § 202](#), "Administration and supervision of Service"
 - 3-2. [42 U.S.C. § 204](#), "Commissioned Corps and Ready Reserve Corps"
 - 3-3. [42 U.S.C. § 204a](#), "Deployment readiness"
 - 3-4. Commissioned Corps Directive (CCD) [111.03](#), "Conditions of Service"
 - 3-5. [CCD 121.02](#), "Deployment and Readiness"
 - 3-6. "Delegations of Authorities Relating to the U.S. Public Health Service (PHS) Commissioned Corps," dated 24 July 2003.
4. PROPONENT: The proponent of this Instruction is the Assistant Secretary for Health (ASH). The responsibility for ensuring the day-to-day supervision of the USPHS Commissioned Corps belongs to the Surgeon General (SG), who has delegated daily operations to Commissioned Corps Headquarters (CCHQ).
5. SUMMARY OF REVISIONS AND UPDATES: This is the fifth issuance of this Instruction in the electronic Commissioned Corps Issuance System (eCCIS) and replaces CCI 241.01, "Readiness and Duty Requirements," dated 10 November 2021. This version:
 - 5-1. Clarifies language regarding the American Heart Association (AHA) Advanced Cardiac Life Support (ACLS). (See Section 6-2.b.(2)(a)(ii).

- 5-2. Update to the list of approved Basic Life Support (BLS) classes. (See Section 6-2.b.(2)(a)(v)).
- 5-3. Establishes the USPHS Commissioned Corps will begin using the Deployment Preparation Plan (DPP) in evaluating an officer's readiness status on 31 March 2023. (See Section 6-2.h.(1)).
- 5-4. Establishes the submission requirements for the DPP and that it must be submitted on an appropriate DDP Form. (See Section 6-2.h.(2)).

6. POLICY:

6-1. General.

- a. This Instruction establishes policy, assigns responsibilities, and prescribes procedures to ensure overall USPHS Commissioned Corps force readiness. PHS officers must maintain effective performance, growth and professional development, proper conduct, professionalism, and flexibility to ensure the readiness of the USPHS Commissioned Corps to respond to urgent or emergency public health care needs that cannot otherwise be met at the Federal, State, and local levels.
- b. Pursuant to 42 U.S.C. § 204a(a)(3), PHS officers who fail to meet or maintain force readiness standards established by the ASH without an approved waiver may be subject to disciplinary action. Failure to meet or maintain force readiness standards may constitute grounds for involuntary separation or involuntary retirement.
- c. As members of a uniformed service, PHS officers have a continuing duty and responsibility to maintain deployment readiness. In order to guide officers in how to maintain deployment readiness, this Instruction provides the standards used to determine the basic level of readiness (basic readiness) for all officers.

6-2. Requirements.

- a. Professional Competence/Credentials. The USPHS Commissioned Corps requires all PHS officers to maintain competence consistent with their profession and their designated deployment role(s), including but not limited to:
 - (1) A current unrestricted professional license/certification/registration appropriate for the officer's category and discipline pursuant to [CCI 251.01](#) "Professional Licensure and Certification;" and
 - (2) Additional professional training as determined by the SG.
- b. Deployment Readiness. In order to maintain the continuous deployment readiness of the USPHS Commissioned Corps, PHS officers must continuously maintain deployment-specific skills and knowledge, demonstrate physical fitness requirements, and prepare to deploy at the request of the Secretary and designees to meet urgent or emergency public health care needs in sometimes austere conditions both within and outside the United States.
 - (1) Physical Fitness.
 - (a) Annual Physical Fitness Test (APFT). The SG has the responsibility for developing and implementing appropriate APFT requirements that may include requirements such as evaluations of an officer's cardiorespiratory endurance, upper body endurance, core endurance, and/or flexibility. The SG will determine standards and details regarding performance and scoring of each category as well as required reporting.
 - (b) The USPHS Commissioned Corps requires all PHS officers to successfully complete, pass, and submit an APFT annually to CCHQ, prior to the expiration of the previous year's test, and to report and record results in accordance with guidance by the SG. While it is a requirement for officers to maintain fitness levels year-round, the USPHS Commissioned Corps recommends that officers review the APFT requirements and prepare 30 days in

advance of their annual test to ensure they will successfully pass. Officers who do not pass the APFT (which results in a lapse in meeting readiness requirements) or who falsify their APFT are subject to disciplinary actions consistent with the CCD 111.03, "Conditions of Service" (see Section 6-3.).

- (c) The Office of the Surgeon General (OSG) and/or CCHQ may require officers to provide verification of a submitted fitness level. Such verification may include requiring the officer to demonstrate any or all portions of the APFT virtually or in-person.
- (2) Training. In addition to any supplemental training requirements established by the SG, the USPHS Commissioned Corps requires PHS officers to complete and submit deployment-specific training that includes the following:
- (a) Basic Life Support (BLS). PHS officers must complete and maintain currency in one of the following basic life support training classes:
 - (i) American Heart Association (AHA) Basic Life Support for health care providers;
 - (ii) AHA Advanced Cardiac Life Support (ACLS) for officers who maintain currency in another basic life support class that is listed in this Subsection;
 - (iii) American Red Cross CPR/AED for the professional rescuer;
 - (iv) American Safety and Health Institute (ASHI) CPR and AED for healthcare providers and professional responders;
 - (v) AHA Resuscitation Quality Improvement (RQI);
 - (vi) Instructor certification for any of the above courses; or
 - (vii) Another basic life support training that is equivalent to the courses listed above and that is reviewed and pre-approved by the SG.
 - (b) Deployment Role-Specific Training. In order to accomplish the Department's mission(s), PHS officers must possess a basic level of knowledge and competency. The SG will determine the specific courses required to meet the basic level of readiness which will include, but are not limited to, the following topics:
 - (i) Public health and basic infectious disease management;
 - (ii) Deployment and emergency response activities, to include natural and man-made disasters;
 - (iii) Incident command and management;
 - (iv) Basic safety, security, force health protection, and preventive medicine for field operations; and

- (v) Resiliency, potential behavioral health impacts of deployment, and cultural awareness.
 - (c) Other Required Training as Approved by SG and/or CCHQ.
- c. Deployment Role. The USPHS Commissioned Corps will base a PHS officer's primary deployment role on the officer's degree that qualified the officer for a commission in the USPHS Commissioned Corps (i.e., qualifying degree). All officers must maintain their professional competence, in accordance with CCD 111.03, "Conditions of Service," for which the officer is professionally licensed/credentialed for the qualifying degree. The officer must maintain those skills through training and recertification commensurate with that qualifying degree. Officers may select a secondary deployment role as long as they are sufficiently trained and competent in this secondary role. CCHQ will validate the role(s) selected by the officer by checking the officer's education and certification.
 - (1) All officers in a clinical profession/deployment role must complete minimal clinical requirements as outlined in Section 6-2.d. The USPHS Commissioned Corps requires officers with clinical expertise who are not currently billeted in a clinical position, but are in a clinical profession and a primary clinical deployment role, to complete clinical practice hours in accordance with Section 6-2.d.
 - (2) Officers in the following health care professions – Preventive Medicine, Preventive Dentistry, or Preventive Veterinarian Medicine – may choose a clinical or non-clinical role.
 - (3) An officer placed in a clinical role because of this Instruction who is in a non-clinical role on the effective date of this Instruction and who does not have the required clinical practice hours through a special pays contract must complete the clinical practice hours and submit evidence of this completion to CCHQ by 31 December 2022 and then annually in subsequent years. However, the SG may extend this deadline by no more than six months. Until such an officer fulfills the clinical practice hours requirement, the USPHS Commissioned Corps will not deploy the officer in a clinical role except in the circumstance when the officer is supervised by another officer who meets these requirements.
- d. Clinical Practice Hours. All PHS officers commissioned in clinical professions and officers in a clinical deployment role must perform a minimum of 80 clinical practice hours per year in their clinical discipline or specialty, consistent with their qualifying degree and their current professional license, certification, or registration.
 - (1) Officers on a deployment in a clinical role can use their time on deployment to count toward their clinical practice hours as verified by the onsite supervisor and/or CCHQ.
 - (2) Officers must submit proof of completion of the performance of clinical practice hours (not including nonclinical administrative duties) on an annual basis and include formal documentation from the institution(s) where the officer completed the clinical services. The SG will establish procedures for this documentation and submission (see Personnel Operations Memorandum (POM) [821.77](#), "Certification of Practice Hours").
- e. Uniforms. All PHS officers must obtain and maintain all required components of the Service Dress Blue (SDB), Operational Dress Uniform (ODU), and Physical Training Uniform (PTU). Additionally, the USPHS Commissioned Corps may

prescribe the Service Khaki for wear in certain deployment environments. Each uniform must be serviceable and worn properly. The USPHS Commissioned Corps may subject officers to disciplinary action if they do not have these required uniforms.

- f. Health Standards. All PHS officers must maintain medical readiness standards determined by the ASH so they remain deployable. The Readiness and Deployment Branch (RDB) will consult with the Medical Affairs Branch (MAB) that will evaluate an officer's health status in relationship to specific missions to determine the officer's deployability. Absent a specific temporary medical waiver, all officers must be continuously able to fully perform their deployment responsibilities without significant long-term impact from any medical, mental health, or dental conditions. Any officer considered medically non-deployable for more than 12 consecutive months must be referred to MAB for a fitness for duty determination (see [CCI 393.01](#), "Medical Review Board").
- (1) Officers who develop a medical condition that prevents them from safely deploying must request a deployment waiver from MAB within 7 days, but no later than 21 days, after the diagnosis of the condition or after hospital discharge (if applicable), whichever comes later. All officers who are medically unable to deploy must request a deployment waiver regardless of whether the officer is "on call" or "backup" or the SG, or designee, has designated the officer as mission critical. Failure to request a waiver in the designated time period is grounds for disciplinary action (see [CCD 111.02](#), "Disciplinary Action," [CCI 221.02](#), "Medical Readiness," and [POM 821.75](#), "Readiness Compliance").
 - (2) All officers must maintain and submit basic immunization status by obtaining all required immunizations outlined in [CCI 221.02](#), "Medical Readiness," Section 6-3.b. Because the USPHS Commissioned Corps can deploy officers to various environments, it may require them to obtain additional immunizations specific to the deployment mission or location as determined by the Director, CCHQ.
 - (3) All officers must submit annual periodic health updates (PHU) to keep their medical readiness status current, as outlined in [CCI 221.02](#).
 - (4) In order to fulfill the mission and responsibilities of the USPHS Commissioned Corps, all officers must make themselves ready for deployment to various environments and areas of need. The SG may establish additional health standards for officer deployability to environments with limited healthcare and logistic resources.
- g. Retention Weight Standards. PHS officers must maintain compliance with retention weight standards. The SG determines procedures for monitoring, enforcing, and reporting height and weight information. The USPHS Commissioned Corps' retention weight standards are as follows:
- (1) General.
 - (a) PHS officers who need to obtain or report an updated weight requirement (Body Mass Index (BMI) and estimated percentage body fat (EPBF)) or "taping" must have this completed by a medical provider or healthcare professional (i.e., Registered Dietitian or Exercise Physiologist/Specialist) who is trained and/or qualified to complete "taping." Such provider/professional must be credentialed or authorized to perform "taping" at the officer's medical facility/site or Military Treatment Facility (MTF) where the

officer receives their medical care. If there is no credentialed or authorized provider where the officer receives their medical care, the officer may get the “taping” performed at another facility that has a medical provider or healthcare professional who is trained and/or qualified to complete “taping” (as defined in previous sentences); however, the acceptance of this “taping” is subject to approval by CCHQ.

- (b) Unless an officer has a fellow officer as the official direct medical provider, an officer’s peers may not serve as weight evaluators when completing the PHU or form [PHS-7044-1](#). Additionally, under no circumstances, may an officer’s family members serve as the weight evaluator or PHU medical provider.
 - (c) The OSG and/or CCHQ may require officers to provide verification of compliance for any discrepancies reported in their BMI and/or EPBF.
- (2) Annual Weight Reporting. Beginning with officers who have a January 2021 birth month, officers must submit height and weight information (BMI and/or measurements needed to calculate EPBF) annually with submission of their PHU or as otherwise required by the ASH or OSG.
- (a) The PHU and, if required, the Verified Weight Report (form [PHS-7044-1](#)), will provide and determine the annual baseline weight. Only officers with a BMI of 27.6 kg/m² or greater must obtain and include their EPBF or “taping” results on the Verified Weight Report (Form PHS-7044-1).
 - (b) All documents containing weight measurements must be completed and signed by the medical provider or healthcare professional at the time of completion of that document and include the provider’s credentials.
 - (c) Any officer identified as non-compliant with retention weight standards and required to submit quarterly weight reports using the Verified Weight Report (Form PHS-7044-1) must have this submission completed and signed by a medical provider or healthcare professional (i.e., Registered Dietitian or Exercise Physiologist/Specialist).
- (3) Body Mass Index (BMI).
- (a) The USPHS considers an officer in compliance when the officer maintains a BMI between 19.0 kg/m² and 27.5 kg/m², regardless of age and gender. (See chart titled “Minimum and Maximum Allowable Weights (in pounds) Based on Officer Height (in inches)” in Appendix A.)
 - (b) An officer with a BMI of 27.6 kg/m² or greater must be under the threshold (allowable) EPBF to be in compliance (see chart titled “Threshold Percent Body Fat for Officers Exceeding Maximum BMI” in Appendix B). The USPHS Commissioned Corps

calculates EPBF as outlined in Appendix B. The USPHS Commissioned Corps bases limits on age and gender as follows:

- (i) Ages less than 28 years: less than or equal to 24% for males, less than or equal to 32% for females;
 - (ii) Ages 28 – 39 years: less than or equal to 26% for males, less than or equal to 35% for females;
 - (iii) Ages 40 years and greater: less than or equal to 28% for males, less than or equal to 38% for females.
- (c) Officers who are identified as non-compliant with Retention Weight Standards with BMI either below the minimum (18.9 kg/m² or lower) or above the maximum (27.6 kg/m² or greater and exceeding the EPBF threshold) have additional requirements and due dates to demonstrate progress towards achieving compliance with retention weight standards. For more information, see POM 821.66, "Retention Weight Standards." It is the officer's individual responsibility to meet and maintain requirements as outlined.
- h. Deployment Preparation Plan (DPP). The USPHS Commissioned Corps requires PHS officers to complete and submit an annual DPP to CCHQ. Officers must also establish and update this plan after a change in family circumstances and after a change in personal status. DPPs enhance officer and dependent readiness by facilitating the care and support of the officer's dependent family during planned and unplanned absences of the officer.
- (1) Officers must maintain and submit an updated DPP to CCHQ annually, prior to the expiration of the previous year's DPP. An updated DPP must also be submitted within three months after a change in family circumstances and/or personal status. The USPHS Commissioned Corps will begin using the DPP in evaluating an officer's readiness status on 31 March 2023, at which point an officer's failure to have an updated and current DPP will constitute a failure to meet readiness requirements as detailed in Section 6-3. below.
 - (2) The DPP must be submitted on the DPP Form. Basic components of a DPP include, but are not limited to, the following:
 - (a) Officer's duty station and supervisory points of contact (POC), including names, telephone numbers, e-mail addresses; and agency liaison and USPHS Commissioned Corps POCs and corresponding contact information;
 - (b) Dependent family member information and any special needs or accommodations for dependent family members;
 - (c) Emergency or alternate caregivers who could assume responsibility for dependent family members if the officer was deployed emergently or incapacitated;
 - (d) Address any dependent appointments or home maintenance needs that would occur during short- (less than or equal to 30 days) and long- (over 30 days) term deployments;

- (e) Consideration of logistical needs, such as transporting the officer's dependent family member(s) to and from school, daycare, or other healthcare-related facilities;
- (f) Consideration of legal and financial arrangements, such as regular bill payment; unexpected costs that might arise from accident or injury while the officer is unavailable; and other legal documents such as power of attorney (POA), advanced directives, and last wills and testaments; and
- (g) Any additional standards determined by the ASH or the SG.

6-3. Failure to Meet or Maintain Readiness Requirements.

- a. Absent an approved waiver for the officer, the USPHS Commissioned Corps will mark PHS officers who fail to meet or maintain the basic level of force readiness as "Not Qualified" on their monthly readiness check on the first of the month. The USPHS Commissioned Corps will continue to mark officers as "Not Qualified" on the first day of subsequent months until they remedy the condition that put them out of compliance.
 - (1) Failed readiness checks remain on an officer's historic record even after the officer has regained the basic level of force readiness with subsequent readiness checks.
 - (2) Officers who are marked "Not Qualified" may not be eligible for promotion in accordance with [CCI 331.01](#), "Permanent Grade Promotions," [CCI 332.01](#), "Temporary Promotions," and [CCI 322.03](#), "Flag Grade Positions and Promotion" (see also [POM 821.74](#), "Promotion Precepts and Criteria"). Such officers also are subject to disciplinary action in accordance with [CCD 111.02](#), "Disciplinary Action," and [CCI 211.07](#), "Accountability for Conduct and Performance," among others.
- b. Failure to meet or maintain the basic level of force readiness also constitutes grounds for involuntary separation or involuntary retirement. (See [CCD 123.01](#), "Involuntary Separations," [CCI 382.03](#), "Involuntary Termination of Commission," and [CCI 385.01](#), "Involuntary Retirement (20 Years).")
- c. Failure to meet or maintain the basic level of force readiness may have additional consequences as outlined in applicable policy Instructions (e.g., eligibility to receive special pays, eligibility to receive awards, eligibility for retention on duty after reaching mandatory retirement, etc.).

7. RESPONSIBILITIES:

- 7-1. The ASH is responsible for establishing policies related to readiness and duty requirements to ensure the readiness of PHS officers to respond to urgent or emergency public health care needs.
- 7-2. The SG is responsible for ensuring the day-to-day supervision of the USPHS Commissioned Corps.
 - a. The SG has the authority to establish readiness and duty requirements in accordance with this Instruction.
 - b. The SG will establish procedures to monitor and manage the individual readiness and duty requirements outlined in this Instruction.

- 7-3. All PHS officers are responsible for adhering to the requirements established in this Instruction.
- a. Each officer must obtain and submit through CCHQ, before the due date, records of all medical readiness requirements (e.g. necessary PHU/examinations, and immunizations) and training requirements in order to continuously meet basic readiness requirements.
 - b. All officers must verify and ensure that their personnel record reflects their continuous basic readiness.
 - c. It is the officer's responsibility to be familiar with the published policies that apply to all PHS officers and maintain an ongoing awareness of updates and changes to USPHS Commissioned Corps' policies, including any periodic changes to the readiness and duty requirements policy and requirements.
 - d. An officer must maintain current and updated personal and duty station contact information (e.g., e-mail, phone, address) in CCHQ systems in order to facilitate CCHQ's communication of information to the officer. CCHQ is not responsible if officers do not receive intended communication(s) due to missing or outdated contact information.
 - (1) Officers may not insert a personal email in the field for Work/Duty Station email. This field must always be an officer's government-issued email address.
8. HISTORICAL NOTES: This is the fourth issuance of this Instruction in the eCCIS.
- 8-1. CCI 241.01, "Readiness and Duty Requirements," dated 10 November 2021.
 - 8-2. CCI 241.01, "Readiness and Duty Requirements," dated 2 July 2020.
 - 8-3. CCI 241.01, "Readiness and Duty Requirements," dated 3 December 2018.
 - 8-4. CCI 241.01, "Readiness and Duty Requirements," dated 22 June 2018.
 - 8-5. Commissioned Corps Personnel Manual (CCPM) CC26.1.8, "PHS Readiness Standards," dated 18 December 2003.

Appendix A

USPHS Commissioned Corps Allowable Weight Standards

Minimum and Maximum Allowable Weights (in pounds)¹
(Regardless of age or gender)

| Height (inches) ² | Minimum Weight (in pounds) (BMI 19.0 kg/m ²) | Maximum Weight (in pounds) (BMI 27.5 kg/m ²) |
|------------------------------|---|---|
| 58 | 91 | 131 |
| 59 | 94 | 136 |
| 60 | 97 | 141 |
| 61 | 100 | 145 |
| 62 | 104 | 150 |
| 63 | 107 | 155 |
| 64 | 110 | 160 |
| 65 | 114 | 165 |
| 66 | 117 | 170 |
| 67 | 121 | 175 |
| 68 | 125 | 180 |
| 69 | 128 | 186 |
| 70 | 132 | 191 |
| 71 | 136 | 197 |
| 72 | 140 | 202 |
| 73 | 144 | 208 |
| 74 | 148 | 214 |
| 75 | 152 | 220 |
| 76 | 156 | 225 |
| 77 | 160 | 231 |
| 78 | 164 | 237 |
| 79 | 168 | 244 |
| 80 | 173 | 250 |

Classification of Underweight, Overweight and Obesity by BMI³

| | BMI (kg/m ²) |
|-----------------------------------|--------------------------|
| Underweight | ≤ 18.4 |
| Normal weight | 18.5 - 24.9 |
| Overweight | 25.0 - 29.9 |
| Obesity (<i>Class I and II</i>) | 30.0 - 39.9 |
| Extreme Obesity | ≥ 40 |

¹ Testing officials will measure weight with the officer in light clothing (e.g., workout clothing) on calibrated scales (balance beam or digital), with shoes removed and socks worn. They will record the measurement to the nearest pound (i.e., round down for values 0.4 and lower and round up for values 0.5 or higher). The USPHS Commissioned Corps does not permit any deduction for clothing.

² Testing officials will measure height with the officer standing on flat surface, at attention, with head held horizontal, looking directly forward, with the line of vision horizontal, and the chin parallel to the floor. The body should be straight, but not rigid. The testing official should round measurements to the nearest inch (i.e., round down for values 0.4 and lower and round up for values 0.5 or higher).

³ Source: [Centers for Disease Control and Prevention](#).

Appendix B

Estimated Percent Body Fat (EPBF) Calculations⁴

1. General.

- a. This Appendix outlines the method to determine an officer's EPBF. The USPHS Commissioned Corps will not permit any substitute methods of assessment (e.g., underwater weighing, skinfold calipers, bioelectric impedance analysis (BIA), etc.)
- b. The official EPBF is final and will not be reversed by a subsequent medical waiver for EPBF. Officers must address any potential medical issues prior to the official EPBF. Standards are determined by established maximum weight for height standards.
- c. Threshold EPBF for Officers Exceeding Maximum BMI

| Age | Male | Female |
|------------|-------|--------|
| ≤ 27 y.o. | ≤ 24% | ≤ 32% |
| 28-39 y.o. | ≤ 26% | ≤ 35% |
| ≥ 40 y.o. | ≤ 28% | ≤ 38% |

2. Altering EPBF.

- a. The USPHS Commissioned Corps discourages officers from using extreme body fat reducing methods or quick-fix approaches to meet EPBF standards. Dehydration methods are dangerous, and officers put themselves at risk if they have not reduced fat through a proper diet and exercise program.
- b. Testing Officials should make certain that officers do not attempt to alter their EPBF measurements (e.g., not using body wraps, starvation, and sauna suits). If a testing official detects attempts at temporary altering one's measurements, the officer must wait at least 72 hours before reattempting the official EPBF measurement. Any attempt to influence the EPBF measurement through intimidation, coercion, or other means may result in disciplinary action.

3. Tape Measure Specifications.

- a. Testing officials must use a tape measure made of non-stretchable material, preferably fiberglass. Do not use cloth or steel tape measures. The USPHS Commissioned Corps prefers tape that is self-retracting, with locking capability, that can accurately measure circumference in both 1/16 inch and millimeter increments.
- b. The tape measure width should be 1/4 inch – 3/8 inch and calibrated (i.e., compared with a yardstick or metal ruler). This is done by aligning the tape measure with the quarter inch markings on the ruler.

⁴ Adopted from the Navy Physical Readiness Program, Guide 4, The Body Composition Assessment (BCA), dated January 2016.

Appendix B (continued)

4. Measurement Guidelines.

- a. Testing officials are to measure males at the neck and abdomen and females at the neck, waist, and hips.
- b. They should take all measurements for men and women on the right side of the body with the tape parallel to the floor.
- c. When measuring circumferences, testing officials should apply the tape measure so that it makes contact with the skin, conforms to the body surface being measured, and does not compress the underlying soft tissues.
- d. Officials are to take all circumference measurements two times, sequentially, and record results to the nearest 1/2 inch. If one of the two measurements differs by more than one inch, they should take an additional measurement and compute a mathematical average of the two closest measurements to the nearest 1/2 inch and record this value.
- e. Each set of measurements must be completed sequentially to discourage assumption of repeated measurement readings. Do not, for example, complete two neck circumferences followed by two abdomen circumferences. Continue the process until both sets of measurements have been taken (e.g., for a woman measure the neck, then the waist, then the hips, and then repeat the series of measurements: neck, waist, and hips).

5. Procedures for Men.

- a. Testing officials must take circumference measurements at the neck and abdomen. Take neck measurements on bare skin, at the point just below the larynx (Adam's Apple) and perpendicular to the long axis of the neck. Do not place the tape measure over the larynx. The officer should look straight ahead during this measurement with shoulders down and relaxed (not hunched).
- b. The tape should be as close to horizontal as anatomically feasible (the tape line in the front of the neck should be at the same height as the tape line in the back of the neck).
- c. Care should be taken so as not to involve the shoulder/neck muscles (trapezius) in the measurement.
- d. Round the neck measurement up to the nearest 1/2 inch and record (e.g., round 16 $\frac{1}{4}$ inches to 16 $\frac{1}{2}$ inches).
- e. Officials must take abdomen measurements on bare skin, across the naval (belly button) and with the officer's arms down on the sides. If redness and lines in the skin are observed, turn the officer away for 72 hours. This is an indication that officer has attempted to alter the EPBF circumference measurement.
 - (1) Take measurements at the end of officer's normal, relaxed exhalation. Discourage the officer from holding his breath by taking the measurement after several exhales.
 - (2) Round the abdominal measurement down to nearest 1/2 inch and record (e.g., round 34 $\frac{3}{4}$ inches to 34 $\frac{1}{2}$ inches).

Appendix B (continued)

- f. EPBF Calculation for Men.⁵
- (1) Subtract neck circumference from abdominal circumference to obtain the circumference value (CV). (Abdominal – Neck = Circumference Value)
 - (2) Use the Percent Body Fat Estimation for the men's table to locate the column which matches the officer's height⁶ (rounded up to nearest half inch) and the appropriate row in the table which matches the officer's cumulative circumference value (rounded down to nearest half inch).
 - (3) Follow the applicable column down and row across until they intersect; this number represents officer's EPBF.
 - (4) For circumference values less than the value in table, body fat percentage is less than or equal to smallest body fat percentage in the column. For circumference values greater than value in table, body fat percentage is greater than or equal to largest body fat percentage in the column.
6. Procedures for Women
- a. Testing officials must take circumference measurements for women at the neck, natural waist, and hips. They should take neck measurements on bare skin, at a point just below the larynx and perpendicular to the long axis of the neck.
 - b. The officer should look straight ahead during measurement, with shoulders down and relaxed (not hunched).
 - c. Round neck measurement up to the nearest 1/2 inch and record (e.g., round 13 3/8 inches to 13½ inches).
 - d. Take natural waist measurements on bare skin, at point of minimal abdominal circumference, usually located about halfway between the navel and the lower end of the sternum (breastbone).
 - (1) When this site is not easily observed, take several measurements at probable sites and use smallest value.
 - (2) Ensure the tape is level and parallel to the floor and make sure the officer's arms are at her sides. Take measurements at the end of officer's normal, relaxed exhalation. Round natural waist measurement down and record to nearest ½ inch and record (e.g., round 28 5/8 inches to 28½ inches).
 - e. Take hip measurements over the shorts only. The USPHS Commissioned Corps does not allow officers to wear control-top panty hose, spandex tights, and other "shaping" garments during measurements. The USPHS Commissioned Corps also prohibits tight-fitting rubberized foundation garments or exercise belts for at least 30 minutes prior to measurement.

⁵ Computerized versions of the PDF form PHS-7044-1, "Verified Weight Report," automatically performs the calculation and eliminates the need for the manual calculation and looking up the EPBF values in the chart. If the automatic calculation results in a fractional result, the result can be rounded to the nearest whole number (i.e., round down for values 0.4 and lower and round up for values 0.5 or higher).

⁶ The height measurement is taken with the officer standing on flat surface, at attention, with head held horizontal, looking directly forward, with the line of vision horizontal, and the chin parallel to the floor. The body should be straight, but not rigid.

Appendix B (continued)

- (1) Measure hip circumference while facing officer's right side by placing the tape around the hips so that it passes over the greatest protrusion of the gluteus muscles (buttocks) as viewed from the side.
 - (2) Make sure the tape is level and parallel to the floor. Apply sufficient tension on the tape to minimize effect of clothing.
 - (3) Round hip measurement down to nearest 1/2 inch and record (e.g., round 44 3/8 inches to 44 inches).
- f. EPBF Calculation for Women⁷
- (1) Add waist and hip circumferences, then subtract neck circumference to obtain officer's circumference value (CV). (Waist + Hips - Neck = CV)
 - (2) Use the Percent Body Fat Estimation for Women Table (Table 3) to locate the column which matches the officer's height⁸ (rounded up to nearest half inch) and the row which matches the officer's cumulative circumference value (rounded down to nearest half inch).
 - (3) Follow applicable column down and row across until they intersect; this number represents officer's EPBF.
 - (4) For circumference values less than the value in table, body fat percentage is less than or equal to smallest body fat percentage in the column. For circumference values greater than the value in the table, body fat percentage is greater than or equal to largest body fat percentage in column.
7. Example Calculation.
- Neck Measurement #1 = 13.0 inches
- Neck Measurement #2 = 14.5 inches
- Neck Measurement #3 = 13.5 inches
- Add 13.0 and 13.5, which are the two closest measurements ($13.0 + 13.5 = 26.5$)
- Divide the sum by 2 ($26.5 \div 2 = 13.25$)
- Round the quotient up to the nearest 1/2 inch (13.25 is rounded up to 13.5)
- Therefore, the Average Neck Measurement is 13.5 inches.

⁷ Computerized versions of the PDF form PHS-7044-1, "Verified Weight Report," automatically perform the calculation and eliminate the need for the manual calculation and looking up the EPBF values in the chart. If the automatic calculation results in a fractional result, the result can be rounded to the nearest whole number (i.e., round down for values 0.4 and lower and round up for values 0.5 or higher).

⁸ Testing officials should take the height measurement with the officer standing on flat surface, at attention, with head held horizontal, looking directly forward, with the line of vision horizontal, and the chin parallel to the floor. The body should be straight, but not rigid.

Appendix B (continued)

Table for Men: Percent Body Fat Estimation

| Circumference | Height (inches) | | | | | | | | | | | | | | | | | | | |
|---------------|-----------------|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|
| | 60 | 60.5 | 61 | 61.5 | 62 | 62.5 | 63 | 63.5 | 64 | 64.5 | 65 | 65.5 | 66 | 66.5 | 67 | 67.5 | 68 | 68.5 | 69 | 69.5 |
| 13 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| 13.5 | 9 | 9 | 9 | 9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| 14 | 11 | 11 | 10 | 10 | 10 | 10 | 9 | 9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| 14.5 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 9 | 9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| 15 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 9 | 9 | <10 |
| 15.5 | 15 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 10 | 10 |
| 16 | 16 | 16 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 12 | 11 |
| 16.5 | 17 | 17 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 12 |
| 17 | 18 | 18 | 18 | 17 | 17 | 17 | 17 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 14 |
| 17.5 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 17 | 17 | 17 | 17 | 16 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 |
| 18 | 20 | 20 | 20 | 19 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 18 | 17 | 17 | 17 | 17 | 16 | 16 | 16 | 16 |
| 18.5 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 19 | 19 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 17 | 17 | 17 | 17 |
| 19 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 20 | 19 | 19 | 19 | 19 | 18 | 18 | 18 | 18 |
| 19.5 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 19 | 19 | 19 | 19 |
| 20 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 |
| 20.5 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 21 |
| 21 | 26 | 26 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 21 |
| 21.5 | 27 | 27 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 23 | 22 |
| 22 | 28 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 23 | 23 |
| 22.5 | 29 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 24 | 24 | 24 |
| 23 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 26 | 25 | 25 | 25 |
| 23.5 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 |
| 24 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 27 | 26 |
| 24.5 | 32 | 31 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 27 |

*Circumference value = abdomen circumference - neck circumference (in inches)

Appendix B (continued)

Table for Men: Percent Body Fat Estimation (continued)

| Circumference Value* | Height (inches) | | | | | | | | | | | | | | | | | | | |
|----------------------|-----------------|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|
| | 70 | 70.5 | 71 | 71.5 | 72 | 72.5 | 73 | 73.5 | 74 | 74.5 | 75 | 75.5 | 76 | 76.5 | 77 | 77.5 | 78 | 78.5 | 79 | 79.5 |
| 15 | 9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| 15.5 | 10 | 10 | 9 | 9 | 9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| 16 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 9 | 9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| 16.5 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 9 | 9 | <9 | <9 | <9 | <9 |
| 17 | 13 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 9 |
| 17.5 | 14 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 |
| 18 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 12 |
| 18.5 | 17 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 | 13 |
| 19 | 18 | 17 | 17 | 17 | 17 | 16 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 14 |
| 19.5 | 18 | 18 | 18 | 18 | 18 | 17 | 17 | 17 | 17 | 17 | 16 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 15 |
| 20 | 19 | 19 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 18 | 17 | 17 | 17 | 17 | 17 | 16 | 16 | 16 | 16 | 16 |
| 20.5 | 20 | 20 | 20 | 20 | 19 | 19 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 18 | 17 | 17 | 17 | 17 | 17 | 16 |
| 21 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 20 | 19 | 19 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 18 | 17 |
| 21.5 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 20 | 19 | 19 | 19 | 19 | 19 | 18 | 18 |
| 22 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 20 | 20 | 19 | 19 |
| 22.5 | 24 | 24 | 23 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 21 | 20 | 20 | 20 |
| 23 | 25 | 24 | 24 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 22 | 21 | 21 | 21 | 21 |
| 23.5 | 25 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 22 | 22 |
| 24 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 23 | 22 |
| 24.5 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 24 | 23 | 23 |
| 25 | 28 | 28 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 24 |
| 25.5 | 29 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 25 |
| 26 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 26 | 25 |
| 26.5 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 27 | 26 | 26 | 26 |
| 27 | 31 | 30 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 28 | 27 | 27 | 27 | 27 |
| 27.5 | 31 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 28 | 27 |
| 28 | 32 | 32 | 32 | 31 | 31 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 28 |

Circumference value = abdomen circumference - neck circumference (in inches)

Appendix B (continued)

Table for Women: Percent Body Fat Estimation

| Circumference Value* | Height (Inches) | | | | | | | | | | | | | | | | | | | |
|----------------------|-----------------|------|-----|------|-----|------|-----|------|-----|------|----|------|----|------|----|------|----|------|----|------|
| | 58 | 58.5 | 59 | 59.5 | 60 | 60.5 | 61 | 61.5 | 62 | 62.5 | 63 | 63.5 | 64 | 64.5 | 65 | 65.5 | 66 | 66.5 | 67 | 67.5 |
| 50.5 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 21 | 21 |
| 51 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 24 | 23 | 23 | 23 | 22 | 22 | 22 |
| 51.5 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 24 | 23 | 23 | 23 | 22 |
| 52 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 24 | 23 | 23 |
| 52.5 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 24 |
| 53 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 25 | 24 |
| 53.5 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 |
| 54 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 |
| 54.5 | 33 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 |
| 55 | 33 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 |
| 55.5 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 |
| 56 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 28 |
| 56.5 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 |
| 57 | 36 | 36 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 |
| 57.5 | 37 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 |
| 58 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 31 | 31 | 31 |
| 58.5 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 31 |
| 59 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 |
| 59.5 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 33 |
| 60 | 40 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 |
| 60.5 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 |
| 61 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 |
| 61.5 | 41 | 41 | 41 | 40 | 40 | 40 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 35 | 35 |
| 62 | 42 | 42 | 41 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 35 |
| 62.5 | >42 | >42 | >41 | >41 | >40 | >40 | >40 | >39 | >39 | >39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 |
| 63 | >42 | >42 | >41 | >41 | >40 | >40 | >40 | >39 | >39 | >39 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 |
| 63.5 | >42 | >42 | >41 | >41 | >40 | >40 | >40 | >39 | >39 | >39 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 |
| 64 | >42 | >42 | >41 | >41 | >40 | >40 | >40 | >39 | >39 | >39 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 38 |

Circumference value = natural waist + hip - neck circumference (in inches)

Appendix B (continued)

Table for Women: Percent Body Fat Estimation (continued)

| PERCENT BODY FAT ESTIMATION FOR WOMEN (CONT'D) | | | | | | | | | | | | | | | | | | | | |
|--|-----------------|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|
| Circumference | Height (inches) | | | | | | | | | | | | | | | | | | | |
| | 68 | 68.5 | 69 | 69.5 | 70 | 70.5 | 71 | 71.5 | 72 | 72.5 | 73 | 73.5 | 74 | 74.5 | 75 | 75.5 | 76 | 76.5 | 77 | 77.5 |
| 56 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 22 |
| 56.5 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 24 | 24 | 23 | 23 |
| 57 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 24 | 24 | 24 | 24 |
| 57.5 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 24 |
| 58 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 | 25 |
| 58.5 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 25 |
| 59 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 26 | 26 |
| 59.5 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 27 |
| 60 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 27 |
| 60.5 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 28 | 28 | 28 |
| 61 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 28 |
| 61.5 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 29 | 29 |
| 62 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 30 |
| 62.5 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 | 30 | 30 |
| 63 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 |
| 63.5 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 31 |
| 64 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 32 | 32 | 32 |
| 64.5 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 32 |
| 65 | 38 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 33 | 33 | 33 |
| 65.5 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 33 |
| 66 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 35 | 34 | 34 |
| 66.5 | 40 | 40 | 39 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 35 | 35 |
| 67 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 35 | 35 |
| 67.5 | 41 | 41 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 | 36 |
| 68 | 42 | 41 | 41 | 41 | 40 | 40 | 40 | 40 | 39 | 39 | 39 | 38 | 38 | 38 | 38 | 37 | 37 | 37 | 36 | 36 |
| 68.5 | 42 | 42 | 42 | 41 | 41 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 37 |
| 69 | 43 | 42 | 42 | 42 | 41 | 41 | 41 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 39 | 38 | 38 | 38 | 37 | 37 |
| 69.5 | 43 | 43 | 43 | 42 | 42 | 42 | 41 | 41 | 41 | 41 | 40 | 40 | 40 | 39 | 39 | 39 | 39 | 38 | 38 | 38 |

Circumference value = natural waist + hip - neck circumference (in inches)