

How To...

**Measure Your
Body Fat**

**Quick...Easy...
And With No
Special
Equipment**



Introduction

“ATTTTEEEEEEN-TION!!!!!!

HEY YOU! SOLDIER! TAKE YOUR SHIRT OFF! NOW UP AGAINST THE WALL! STAND UP STRAIGHT! GET THAT CHIN UP! QUIT SUCKING THAT GUT IN... YOU CAN'T HIDE IT! IT'S TIME TO SEE IF ANY OF THOSE “GROUNDHUMPINGS” YOU CALL A SORRY EXCUSE FOR PUSHUPS HAD ANY EFFECT ON THE AMOUNT OF FAT AROUND YOUR WAISTLINE! IF YOU HAVEN'T MADE ANY PROGRESS I'M GOING TO MAKE SURE THAT EVERY SINGLE DAY OF YOUR LIFE IS A MISERABLE HEL...”



Whoops! Sorry! Just had a minor flashback to my 10 years of programming...er...I mean “service” in the Army. You see, as a side responsibility to my unit (aside from “blowing stuff up”), I was also in charge of the “Weight Control Program” for all of our “overweight” soldiers.

It was my duty to not only counsel them on what to eat and provide a supplemental exercise program to get the fat off, but I would **also** measure them every month to determine their body fat levels and ensure they were making satisfactory progress. If they didn't...they were sent home! No excuses!

Well, ok...not really!

A Word From The "Muscle Nerd" ...

"Now, c'mon! You don't **REALLY** think I was as bad as my opening statement made it seem, do you?"



Besides, being 'overweight' by military standards **DOESN'T** mean you need to be in a 'weight-control' program. They understand that body **WEIGHT** is **NOT** the same as body **FAT**!

With daily fitness training and pushups 'till your arms fall off', we built a lot of **MUSCLE** as well. Therefore, we needed a way to **MEASURE** how much of that weight was **FAT**...and how much was **LEAN** body mass.

And the exact process we used is what I'm about to share with you right now..."

In the pages that follow, I'm going to share with you an adapted version of the U.S. military's **Weight Control Program Manual** that provides a **STEP-BY-STEP** process for determining your general body fat percentage.

This information will help you determine how much of your body weight is composed of **FAT** and how much is composed of **LEAN** mass (including muscle, bones, skin...everything else but fat).

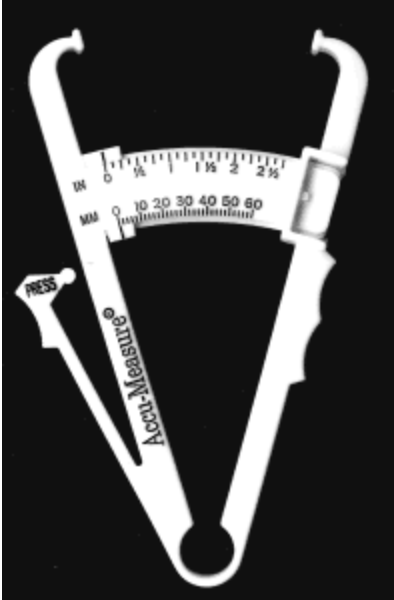
But most importantly, this information is necessary for entering in your personal data in the **OPTIMUM ANABOLICS** diet calculation charts (located within **FACTOR 8** of the program) and in the accompanying software, the **ANABOLIC GROWTH TRACKER 5000**).

It's important to note that the method used by the military is **NOT** an exact measurement tool (which is what every single soldier who **DIDN'T** make progress would always try to use as their excuse!).

Also, the resulting body fat percentages only go down to 9% for MEN and 19% for women. Levels lower than this require a more accurate measurement tool so as you make progress in your loss of body fat, I **STRONGLY** suggest you purchase a **BODY FAT CALIPER** that will give you a much more accurate reading. These are pretty inexpensive devices and very simple to use.

If you're reading this manual, then it most likely means that you are already an **OPTIMUM ANABOLICS** user. If you are and you don't yet have your own body fat caliper, I **STRONGLY** suggest you pick up a set.

And you **DON'T** need to spend a lot of money either.



The finest pair I have (and I've tried them all!) is just the simple set of...

[Accu-Measure Fitness 3000 Body Fat Tester](#)

...from AccuFitness.

You'll want to pick up a pair if you're truly **SERIOUS** about tracking your loss of bodyfat and gains in lean muscle mass.

While you're at their website, be sure to **ALSO** get a set of their [MyoTape Body Tape Measure](#).

It's indispensable for measuring the progress in your individual muscle groups and waistline!

And now...on to "Drill Sergeant Muscle Nerd's" version of the military's **BODYFAT CALCULATION PROCEDURES...**

BODY FAT CALCULATION PROCEDURES

For calculating your body fat, the only tool you're going to need is a **MEASURING TAPE** that you can pick up at any discount department store or sewing shop (and someone to help measure you, though I wouldn't call them a "tool" if I were you!).

However, to get the most accurate reading, we in the military had certain specifications that were required (hell...we have specs for **EVERYTHING**...from how we made our bed to how we rolled our **UNDERWEAR – EXACTLY 6"** – and placed it in the drawer!). Here are your "military" guidelines when looking for a measuring tape...

"E3.1.4.1.2. Use a tape measure made of non-stretchable material, preferably fiberglass. Do not use cloth or steel tapes. The tape measure width should be 1/4-3/8". The tape measure should be calibrated (i.e., compared with a yardstick or a metal ruler to ensure validity). This is done by aligning the fiberglass tape measure with the quarter inch markings on the ruler. The markings should match those on the ruler; if not, do not use that tape measure."

Now, measuring body fat content is a bit different for males than it is for females in that you'll have different locations on the body where you place the tape.

For **MALES** you will use a combination of:

- Height
- Neck Circumference, and
- Abdominal Circumference (at the naval)

While **FEMALES** will use:

- Height
- Neck Circumference
- Waist Circumference (at the thinnest point of the abdomen), and
- Hips

Ok...on to some more **GENERAL GUIDELINES**...

- All circumference and height measurements are in **INCHES**.
- Round calculated results to the closest value, erring on the side that gives you the **BEST** reading (you were going to anyway, weren't you?!)

Circumference Measurement Tips

Discrepancies in body fat estimates have frequently been traced to improper measurement techniques. The most common discrepancies stem from:

- Improper handling of the measurement tape
- Errors in the choice of measurement sites, and
- Improperly calibrated height measurement devices.

When measuring circumferences, apply the tape so that it makes contact with the skin, conforms to the body surface being measured, and does NOT compress the underlying soft tissues.

In the hip circumference measurement (for women), however, you may need firmer pressure to compress standard physical training uniform or gym clothing.

Make all circumference measurements in the horizontal plane (i.e., parallel to the floor).

Height And Weight Measurements

The **HEIGHT MEASUREMENT** should be taken in **standard gym clothing, standing on a flat surface** with the **head and line of vision held horizontal** looking directly forward, and the **chin parallel to the floor**.

Shoes will **not** be worn. The body should be **straight but not rigid**, similar to the body position when at the position of “attention”.

The measurement will be recorded to the **nearest 1/2"**.

The **WEIGHT** should be measured without clothes if possible. Shoes should not be worn.

The measurement shall be made on a calibrated scale for accuracy and recorded to the **nearest pound** with the following guidelines:

(**NOTE:** If measuring in **Kg**, be sure to take your weight and **multiply by 2.2** to use these calculations)

- If your weight fraction is **less** than 1/2-pound, round **down** to the nearest pound.
- If your weight fraction is 1/2-pound or greater, round **up** to the next whole pound.

Body Fat Measurements For Men

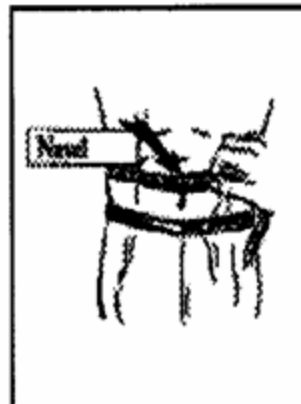
- Take all circumference measurements **three times** and record them to the **nearest 1/2 inch**.
- If any of the three measurements differs by more than **one inch** from the other two, take an **additional measurement** and compute a mathematical average of the three closest measurements to the **nearest 1/2 inch** and record this value.
- Each set of measurements will be completed **sequentially** to discourage assumption of repeated measurement readings.
- Complete 1 set of **abdomen** and **neck** measurements (**NOT**, for example, three abdomen circumferences followed by three neck circumferences). Continue the process by measuring the abdomen and neck in series until you have **three sets of measurements**.

Circumference Sites And Landmarks For Men:

Abdomen:

- Have someone measure your abdominal circumference using a **tape measure** against the skin **at the navel** (belly button), **level** and **parallel to the floor**. (See diagram on next page.)
- Arms are at the sides.
- Record the measurement at the **end** of your normal, relaxed exhalation.
- Round abdominal measurement down to the nearest $\frac{1}{2}$ inch (for example, round $34\frac{3}{4}$ to $34\frac{1}{2}$) and record the measurement in the **Body Fat Calculation Formula Table For Men** on [page 8](#).

Diagram - Male Abdomen Measurement



Neck:

- Have someone 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 measure over the Adam's Apple.
- You should look straight ahead during measurement, with shoulders down (not hunched). The tape will 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).
- Care should be taken so as not to involve the shoulder/neck muscles (trapezius) in the measurement.
- Round neck measurement up to the nearest $\frac{1}{2}$ inch (for example, round $16\frac{1}{4}$ inches to $16\frac{1}{2}$ inches) and record the measurement in the **Body Fat Calculation Formula Table For Men** on [page 8](#)

Diagram - Male Neck Measurement



Determine percent body fat for males by **SUBTRACTING** the **NECK** from the **ABDOMINAL** measurement (use the **Body Fat Calculation Formula Table For Men** on [page 8](#)) to find your “**Circumference Value**”.

Next, compare this value against the **height** measurement from the **Percent Body Fat Estimation Table For Men** starting on [page 13](#).

Body Fat Calculation Formula Table For Men

Circumference Site	Measurement 1	Measurement 2	Measurement 3			Average of 3 Measurements
Abdomen				Average of all 3 ABDOMEN Measurements (Round DOWN to nearest ½ inch)	=	
Neck				Average of all 3 NECK Measurements (Round UP to nearest ½ inch)	=	
				<u>SUBTRACT</u> the average NECK measurement from the average ABDOMEN measurement	=	
<p>The result is your “CIRCUMFERENCE VALUE”</p> <p>Refer to this number in the Tables beginning on page 13 to find your Body Fat %</p>						

Table 1: Percent Body Fat Estimation For Men

Yellow Cells = % Body Fat	Height (inches)									
	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5
Circumference Value										
13.5	9	9								
14.0	11	11	10	10	10	10	9	9		
14.5	12	12	12	11	11	11	11	10	10	10
15.0	13	13	13	13	12	12	12	12	11	11
15.5	15	14	14	14	14	13	13	13	13	12
16.0	16	16	15	15	15	15	14	14	14	14
16.5	17	17	16	16	16	16	15	15	15	15
17.0	18	18	18	17	17	17	17	16	16	16
17.5	19	19	19	18	18	18	18	17	17	17
18.0	20	20	20	19	19	19	19	18	18	18
18.5	21	21	21	20	20	20	20	19	19	19
19.0	22	22	22	21	21	21	21	20	20	20
19.5	23	23	23	22	22	22	22	21	21	21
20.0	24	24	24	23	23	23	23	22	22	22
20.5	25	25	25	24	24	24	24	23	23	23
21.0	26	26	25	25	25	25	24	24	24	24
21.5	27	27	26	26	26	26	25	25	25	25
22.0	28	27	27	27	27	26	26	26	26	25
22.5	29	28	28	28	28	27	27	27	27	26
23.0	29	29	29	29	28	28	28	28	27	27
23.5	30	30	30	29	29	29	29	28	28	28
24.0	31	31	30	30	30	30	29	29	29	29
24.5	32	31	31	31	31	30	30	30	30	29
25.0	32	32	32	32	31	31	31	31	30	30
25.5	33	33	33	32	32	32	32	31	31	31
26.0	34	34	33	33	33	33	32	32	32	32
26.5	35	34	34	34	34	33	33	33	33	32
27.0	35	35	35	35	34	34	34	34	33	33
27.5	36	36	36	35	35	35	35	34	34	34

Table 1: Percent Body Fat Estimation For Men (Continued)

Yellow Cells = % Body Fat	Height (inches)									
Circumference Value*	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5
28.0	37	36	36	36	36	35	35	35	35	34
28.5			37	37	36	36	36	36	35	35
29.0					37	37	37	36	36	36
29.5								37	37	36

Table 1: Percent Body Fat Estimation For Men (Continued)

Yellow Cells = % Body Fat	Height (inches)									
	Circumference Value	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0
14.5	10	9	9							
15.0	11	11	10	10	10	10	10	9	9	
15.5	12	12	12	11	11	11	11	11	10	10
16.0	13	13	13	13	12	12	12	12	12	11
16.5	14	14	14	14	14	13	13	13	13	12
17.0	16	15	15	15	15	14	14	14	14	14
17.5	17	16	16	16	16	16	15	15	15	15
18.0	18	18	17	17	17	17	16	16	16	16
18.5	19	19	18	18	18	18	17	17	17	17
19.0	20	20	19	19	19	19	18	18	18	18
19.5	21	21	20	20	20	20	19	19	19	19
20.0	22	21	21	21	21	21	20	20	20	20
20.5	23	22	22	22	22	21	21	21	21	21
21.0	24	23	23	23	23	22	22	22	22	21
21.5	24	24	24	24	23	23	23	23	23	22
22.0	25	25	25	25	24	24	24	24	23	23
22.5	26	26	26	25	25	25	25	24	24	24
23.0	27	27	26	26	26	26	26	25	25	25
23.5	28	27	27	27	27	27	26	26	26	26
24.0	28	28	28	28	28	27	27	27	27	26
24.5	29	29	29	29	28	28	28	28	27	27
25.0	30	30	30	29	29	29	29	28	28	28
25.5	31	31	30	30	30	30	29	29	29	29
26.0	31	31	31	31	31	30	30	30	30	29
26.5	32	32	32	32	31	31	31	31	30	30
27.0	33	33	32	32	32	32	32	31	31	31
27.5	34	33	33	33	33	32	32	32	32	32

Table 1: Percent Fat Estimation For Men, continued

Yellow Cells = % Body Fat	Height (inches)									
	Circumference Value	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0
28.0	34	34	34	34	33	33	33	33	32	32
28.5	35	35	34	34	34	34	34	33	33	33
29.0	36	35	35	35	35	34	34	34	34	34
29.5	36	36	36	36	35	35	35	35	34	34
30.0	37	37	36	36	36	36	35	35	35	35
30.5			37	37	37	36	36	36	36	35
31.0						37	37	36	36	36
31.5									37	37

Table 1: Percent Body Fat Estimation For Men (Continued)

Yellow Cells = % Body Fat	Height (inches)									
	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5
Circumference Value										
15.5	10	10	9	9	9					
16.0	11	11	11	10	10	10	10	10	9	9
16.5	12	12	12	12	11	11	11	11	11	10
17.0	13	13	13	13	13	12	12	12	12	11
17.5	14	14	14	14	14	13	13	13	13	13
18.0	15	15	15	15	15	14	14	14	14	14
18.5	17	16	16	16	16	15	15	15	15	15
19.0	18	17	17	17	17	16	16	16	16	16
19.5	18	18	18	18	18	17	17	17	17	17
20.0	19	19	19	19	19	18	18	18	18	18
20.5	20	20	20	20	19	19	19	19	19	18
21.0	21	21	21	21	20	20	20	20	20	19
21.5	22	22	22	21	21	21	21	21	20	20
22.0	23	23	23	22	22	22	22	22	21	21
22.5	24	24	23	23	23	23	23	22	22	22
23.0	25	24	24	24	24	24	23	23	23	23
23.5	25	25	25	25	25	24	24	24	24	24
24.0	26	26	26	26	25	25	25	25	25	24
24.5	27	27	27	26	26	26	26	26	25	25
25.0	28	28	27	27	27	27	26	26	26	26
25.5	29	28	28	28	28	27	27	27	27	27
26.0	29	29	29	29	28	28	28	28	28	27
26.5	30	30	30	29	29	29	29	28	28	28
27.0	31	30	30	30	30	30	29	29	29	29
27.5	31	31	31	31	30	30	30	30	30	29

Table 1: Percent Body Fat Estimation For Men (Continued)

Circumference Value	Height (inches)									
	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5
28.0	32	32	32	31	31	31	31	31	30	30
28.5	33	32	32	32	32	32	31	31	31	31
29.0	33	33	33	33	32	32	32	32	32	31
29.5	34	34	34	33	33	33	33	32	32	32
30.0	35	34	34	34	34	34	33	33	33	33
30.5	35	35	35	35	34	34	34	34	34	33
31.0	36	36	35	35	35	35	35	34	34	34
31.5	36	36	36	36	36	35	35	35	35	35
32.0	37	37	37	36	36	36	36	36	35	35
32.5				37	37	36	36	36	36	36
33.0							37	37	36	36
33.5										37

Table 1: Percent Body Fat Estimation For Men (Continued)

Circumference Value	Height (inches)									
	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5
16.5	10	10	10	10	9	9				
17.0	11	11	11	11	10	10	10	10	10	9
17.5	12	12	12	12	12	11	11	11	11	11
18.0	13	13	13	13	13	12	12	12	12	12
18.5	14	14	14	14	14	13	13	13	13	13
19.0	15	15	15	15	15	14	14	14	14	14
19.5	16	16	16	16	16	15	15	15	15	15
20.0	17	17	17	17	17	16	16	16	16	16
20.5	18	18	18	18	17	17	17	17	17	16
21.0	19	19	19	19	18	18	18	18	18	17
21.5	20	20	20	19	19	19	19	19	18	18
22.0	21	21	20	20	20	20	20	20	19	19
22.5	22	22	21	21	21	21	21	20	20	20
23.0	23	22	22	22	22	22	21	21	21	21
23.5	23	23	23	23	23	22	22	22	22	22
24.0	24	24	24	24	23	23	23	23	23	22
24.5	25	25	25	24	24	24	24	24	23	23
25.0	26	25	25	25	25	25	24	24	24	24
25.5	26	26	26	26	26	25	25	25	25	25
26.0	27	27	27	27	26	26	26	26	26	25
26.5	28	28	27	27	27	27	27	26	26	26
27.0	29	28	28	28	28	28	27	27	27	27
27.5	29	29	29	29	28	28	28	28	28	27

Table 1: Percent Body Fat Estimation For Men (Continued)

Circumference Value	Height (inches)									
	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5
28.0	30	30	29	29	29	29	29	29	28	28
28.5	31	30	30	30	30	30	29	29	29	29
29.0	31	31	31	31	30	30	30	30	30	29
29.5	32	32	31	31	31	31	31	30	30	30
30.0	32	32	32	32	32	31	31	31	31	31
30.5	33	33	33	32	32	32	32	32	32	31
31.0	34	33	33	33	33	33	33	32	32	32
31.5	34	34	34	34	33	33	33	33	33	33
32.0	35	35	34	34	34	34	34	33	33	33
32.5	35	35	35	35	35	34	34	34	34	34
33.0	36	36	36	35	35	35	35	35	34	34
33.5	37	36	36	36	36	36	35	35	35	35
34.0		37	37	37	36	36	36	36	36	35
34.5					37	37	37	36	36	36
35.0								37	37	36

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

Body Fat Measurements For Women

Body Fat Measurements For Women

- Take all circumference measurements **three times** and record them to the **nearest 1/2 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 1/2 inch** and record this value.
- Each set of measurements will be completed **sequentially** to discourage assumption of repeated measurement readings.
- Complete one set of **waist, hip, and neck** measurements (**NOT**, for example, three waist measurements followed by three hip measurements). Continue the process by measuring the waist, hip, neck series until you have **three sets of measurements**.

Circumference Sites And Landmarks For Women

Neck:

- Have someone measure your neck circumference at a point just below the larynx (Adam's Apple) and perpendicular to the long axis of the neck.
- You should look straight ahead during measurement, with shoulders down (not hunched).
- Round the neck measurement up to nearest 1/2 inch (for example, round 13 3/8 inches to 13 1/2 inches) and record the measurement in the **Body Fat Calculation Formula Table For Women** on [page 20](#).

Diagram - Female Neck



Measurement

Waist:

- 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). When you cannot easily see this site, take several measurements at probable sites and use the **smallest** value.
- Be sure that the tape is level and parallel to the floor.
- Your arms must be at the sides.
- Take measurements at the end of your normal relaxed exhalation.
- Round the natural waist measurement down to the nearest $\frac{1}{2}$ inch (for example, round 28 $\frac{5}{8}$ inches to 28 $\frac{1}{2}$ inches) and record the measurement in the **Body Fat Calculation Formula Table For Women** on [page 20](#).

Diagram - Waist Measurement

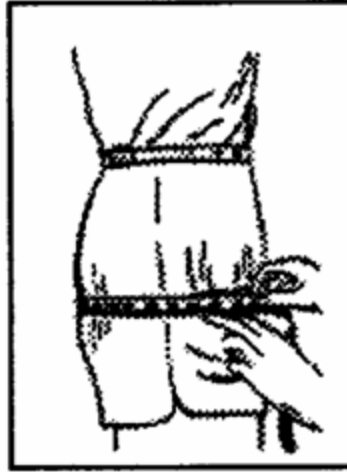


Hip:

- Measure the hip circumference while facing your 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.
- Make sure the tape is level and parallel to the floor.
- Apply sufficient tension on the tape to minimize the effect of clothing if worn.

- Round the hip measurement down to the nearest $\frac{1}{2}$ inch (for example, round 44 $\frac{3}{8}$ inches to 44 inches) and record the measurement in the **Body Fat Calculation Formula Table For Women** on [page 20](#).

Diagram - Hip Measurement



Determine percent body fat for females by **ADDING** the **WAIST** and the **HIP** measurements, and **SUBTRACTING THE NECK MEASUREMENT** (use the **Body Fat Calculation Formula Table For Women** on [page 20](#)) to find your “**Circumference Value**”.

Next, compare this value against the **height** measurement from the **Percent Body Fat Estimation Table For Women** starting on [page 21](#).

Body Fat Calculation Formula Table For Women

Circumference Site	Measurement 1	Measurement 2	Measurement 3			Average of 3 Measurements
Waist				Average of all 3 WAIST Measurements (Round DOWN to nearest ½ inch)	=	
Hips				Average of all 3 HIP Measurements (Round DOWN to nearest ½ inch)	=	
				ADD the average WAIST measurement the average HIP measurement (This will be “ Answer A ” to be referred to in the next calculation)	=	
Neck				Average of all 3 NECK Measurements (Round UP to nearest ½ inch)	=	
				SUBTRACT the average NECK measurement from “ Answer A ” (the sum of the average WAIST and HIP measurements)	=	
<p>The result is your “CIRCUMFERENCE VALUE” Refer to this number in the Tables beginning on page 21 to find your Body Fat %</p>						

Table 2: Percent Body Fat Estimation For Women

Yellow Cells = % Body Fat	Height (inches)									
	Circumference Value	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0
45.0	19									
45.5	20	20	19							
46.0	21	20	20	20	19					
46.5	21	21	21	20	20	20	19	19		
47.0	22	22	22	21	21	20	20	20	19	19
47.5	23	23	22	22	22	21	21	21	20	20
48.0	24	23	23	23	22	22	22	21	21	21
48.5	24	24	24	23	23	23	22	22	22	21
49.0	25	25	24	24	24	23	23	23	22	22
49.5	26	26	25	25	24	24	24	23	23	23
50.0	27	26	26	26	25	25	24	24	24	23
50.5	27	27	27	26	26	26	25	25	25	24
51.0	28	28	27	27	27	26	26	26	25	25
51.5	29	28	28	28	27	27	27	26	26	26
52.0	29	29	29	28	28	28	27	27	27	26
52.5	30	30	29	29	29	28	28	28	27	27
53.0	31	30	30	30	29	29	29	28	28	28
53.5	31	31	31	30	30	30	29	29	29	28
54.0	32	32	31	31	31	30	30	30	29	29
54.5	33	32	32	32	31	31	31	30	30	30
55.0	33	33	33	32	32	32	31	31	31	30
55.5	34	34	33	33	33	32	32	32	31	31
56.0	35	34	34	34	33	33	33	32	32	31
56.5	35	35	35	34	34	34	33	33	32	32
57.0	36	36	35	35	34	34	34	33	33	33
57.5	37	36	36	35	35	35	34	34	34	33
58.0	37	37	36	36	36	35	35	35	34	34
58.5	38	37	37	37	36	36	36	35	35	35
59.0	38	38	38	37	37	37	36	36	36	35
59.5	39	39	38	38	38	37	37	36	36	36
60.0	40	39	39	38	38	38	37	37	37	36
60.5	40	40	39	39	39	38	38	38	37	37

Table 2: Percent Body Fat Estimation For Women (Continued)

Circumference Value*	Height (inches)									
	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5
61.0	41	40	40	40	39	39	39	38	38	38
61.5	41	41	41	40	40	40	39	39	38	38
62.0	42	42	41	41	40	40	40	39	39	39
62.5	42	42	42	41	41	41	40	40	40	39
63.0	43	43	42	42	42	41	41	41	40	40
63.5	44	43	43	42	42	42	41	41	41	40
64.0	44	44	43	43	43	42	42	42	41	41
64.5	45	44	44	44	43	43	43	42	42	42
65.0	45	45	45	44	44	43	43	43	42	42
65.5	46	45	45	45	44	44	44	43	43	43
66.0	46	46	46	45	45	45	44	44	43	43
66.5	47	46	46	46	45	45	45	44	44	44
67.0			47	46	46	46	45	45	45	44
67.5				47	46	46	46	45	45	45
68.0					47	47	46	46	46	45
68.5							47	46	46	46
69.0								47	47	46
69.5										47

Table 2: Percent Body Fat Estimation For Women (Continued)

Circumference Value	Height (inches)									
	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5
47.5	19	19								
48.0	20	20	20	19						
48.5	21	21	20	20	20	19				
49.0	22	21	21	21	20	20	20	19	19	
49.5	22	22	22	21	21	21	20	20	20	19
50.0	23	23	22	22	22	21	21	21	21	20
50.5	24	23	23	23	23	22	22	22	21	21
51.0	25	24	24	24	23	23	23	22	22	22
51.5	25	25	25	24	24	24	23	23	23	22
52.0	26	26	25	25	25	24	24	24	23	23
52.5	27	26	26	26	25	25	25	24	24	24
53.0	27	27	27	26	26	26	25	25	25	24
53.5	28	28	27	27	27	26	26	26	25	25
54.0	29	28	28	28	27	27	27	26	26	26
54.5	29	29	29	28	28	28	27	27	27	26
55.0	30	30	29	29	29	28	28	28	27	27
55.5	31	30	30	30	29	29	29	28	28	28
56.0	31	31	30	30	30	30	29	29	29	28
56.5	32	31	31	31	30	30	30	29	29	29
57.0	32	32	32	31	31	31	30	30	30	29
57.5	33	33	32	32	32	31	31	31	30	30
58.0	34	33	33	33	32	32	32	31	31	31
58.5	34	34	34	33	33	33	32	32	32	31
59.0	35	35	34	34	34	33	33	33	32	32
59.5	35	35	35	34	34	34	33	33	33	33
60.0	36	36	35	35	35	34	34	34	33	33
60.5	37	36	36	36	35	35	35	34	34	34

Table 2: Percent Body Fat Estimation For Women (Continued)

Circumference Value	Height (inches)									
	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5
61.0	37	37	37	36	36	36	35	35	35	34
61.5	38	37	37	37	36	36	36	36	35	35
62.0	38	38	38	37	37	37	36	36	36	35
62.5	39	39	38	38	38	37	37	37	36	36
63.0	40	39	39	39	38	38	38	37	37	37
63.5	40	40	39	39	39	38	38	38	37	37
64.0	41	40	40	40	39	39	39	38	38	38
64.5	41	41	41	40	40	40	39	39	39	38
65.0	42	41	41	41	40	40	40	39	39	39
65.5	42	42	42	41	41	41	40	40	40	39
66.0	43	42	42	42	41	41	41	41	40	40
66.5	43	43	43	42	42	42	41	41	41	40
67.0	44	44	43	43	43	42	42	42	41	41
67.5	44	44	44	43	43	43	42	42	42	41
68.0	45	45	44	44	44	43	43	43	42	42
68.5	45	45	45	44	44	44	43	43	43	43
69.0	46	46	45	45	45	44	44	44	43	43
69.5	46	46	46	45	45	45	44	44	44	44
70.0	47	47	46	46	46	45	45	45	44	44
70.5			47	46	46	46	46	45	45	45
71.0				47	47	46	46	46	45	45
71.5						47	47	46	46	46
72.0							47	47	46	46
72.5									47	47

Table 2: Percent Body Fat Estimation For Women (Continued)

Circumference Value	Height (inches)									
	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5
49.5	19									
50.0	20	20	19							
50.5	21	20	20	20	19	19				
51.0	21	21	21	20	20	20	19	19		
51.5	22	22	21	21	21	20	20	20	20	19
52.0	23	22	22	22	21	21	21	21	20	20
52.5	23	23	23	22	22	22	22	21	21	21
53.0	24	24	23	23	23	22	22	22	22	21
53.5	25	24	24	24	23	23	23	23	22	22
54.0	25	25	25	24	24	24	24	23	23	23
54.5	26	26	25	25	25	24	24	24	24	23
55.0	27	26	26	26	25	25	25	25	24	24
55.5	27	27	27	26	26	26	25	25	25	25
56.0	28	28	27	27	27	26	26	26	25	25
56.5	29	28	28	28	27	27	27	26	26	26
57.0	29	29	29	28	28	28	27	27	27	26
57.5	30	29	29	29	29	28	28	28	27	27
58.0	30	30	30	29	29	29	29	28	28	28
58.5	31	31	30	30	30	29	29	29	29	28
59.0	32	31	31	31	30	30	30	29	29	29
59.5	32	32	32	31	31	31	30	30	30	29
60.0	33	32	32	32	32	31	31	31	30	30
60.5	33	33	33	32	32	32	32	31	31	31

Table 2: Percent Fat Estimation For Women (Continued)

Yellow Cells = % Body Fat	Height (inches)										
	Circumference Value	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5
61.0	34	34	33	33	33	32	32	32	32	32	31
61.5	35	34	34	34	33	33	33	32	32	32	32
62.0	35	35	35	34	34	34	33	33	33	33	32

Table 2: Percent Body Fat Estimation For Women (Continued)

Yellow Cells = % Body Fat	Height (inches)									
	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5
62.5	36	35	35	35	34	34	34	34	33	33
63.0	36	36	36	35	35	35	34	34	34	34
63.5	37	37	36	36	36	35	35	35	34	34
64.0	37	37	37	36	36	36	36	35	35	35
64.5	38	38	37	37	37	36	36	36	36	35
65.0	38	38	38	38	37	37	37	36	36	36
65.5	39	39	38	38	38	37	37	37	37	36
66.0	40	39	39	39	38	38	38	37	37	37
66.5	40	40	39	39	39	39	38	38	38	37
67.0	41	40	40	40	39	39	39	39	38	38
67.5	41	41	41	40	40	40	39	39	39	38
68.0	42	41	41	41	40	40	40	40	39	39
68.5	42	42	42	41	41	41	40	40	40	39
69.0	43	42	42	42	41	41	41	41	40	40
69.5	43	43	43	42	42	42	41	41	41	41
70.0	44	43	43	43	43	42	42	42	41	41
70.5	44	44	44	43	43	43	42	42	42	42
71.0	45	44	44	44	44	43	43	43	42	42
71.5	45	45	45	44	44	44	43	43	43	43
72.0	46	45	45	45	45	44	44	44	43	43
72.5	46	46	46	45	45	45	44	44	44	44
73.0	47	46	46	46	45	45	45	45	44	44
73.5		47	47	46	46	46	45	45	45	44
74.0				47	46	46	46	46	45	45
74.5					47	47	46	46	46	45
75.0							47	46	46	46
75.5								47	47	46
76.0										47

Table 2: Percent Body Fat Estimation For Women (Continue)

Circumference Value	Height (inches)									
	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5
52.0	20	19	19							
52.5	20	20	20	19	19					
53.0	21	21	20	20	20	20	19	19		
53.5	22	21	21	21	21	20	20	20	19	19
54.0	22	22	22	21	21	21	21	20	20	20
54.5	23	23	22	22	22	22	21	21	21	20
55.0	24	23	23	23	22	22	22	22	21	21
55.5	24	24	24	23	23	23	23	22	22	22
56.0	25	25	24	24	24	23	23	23	23	22
56.5	26	25	25	25	24	24	24	24	23	23
57.0	26	26	26	25	25	25	24	24	24	24
57.5	27	26	26	26	26	25	25	25	25	24
58.0	27	27	27	27	26	26	26	25	25	25
58.5	28	28	27	27	27	27	26	26	26	25
59.0	29	28	28	28	27	27	27	27	26	26
59.5	29	29	29	28	28	28	27	27	27	27
60.0	30	30	29	29	29	28	28	28	28	27

Table 2: Percent Body Fat Estimation For Women (Continued)

Yellow Cells = % Body Fat	Height (inches)									
	Circumference Value	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0
60.5	30	30	30	30	29	29	29	28	28	28
61.0	31	31	30	30	30	30	29	29	29	28
61.5	32	31	31	31	30	30	30	30	29	29
62.0	32	32	32	31	31	31	30	30	30	30
62.5	33	32	32	32	32	31	31	31	30	30
63.0	33	33	33	32	32	32	32	31	31	31
63.5	34	34	33	33	33	32	32	32	32	31
64.0	34	34	34	34	33	33	33	32	32	32
64.5	35	35	34	34	34	33	33	33	33	32
65.0	35	35	35	35	34	34	34	33	33	33
65.5	36	36	35	35	35	35	34	34	34	33
66.0	37	36	36	36	35	35	35	35	34	34
66.5	37	37	37	36	36	36	35	35	35	35
67.0	38	37	37	37	36	36	36	36	35	35
67.5	38	38	38	37	37	37	36	36	36	36
68.0	39	38	38	38	38	37	37	37	36	36
68.5	39	39	39	38	38	38	37	37	37	37
69.0	40	39	39	39	39	38	38	38	37	37
69.5	40	40	40	39	39	39	39	38	38	38
70.0	41	40	40	40	40	39	39	39	38	38
70.5	41	41	41	40	40	40	40	39	39	39
71.0	42	41	41	41	41	40	40	40	39	39
71.5	42	42	42	41	41	41	41	40	40	40
72.0	43	42	42	42	42	41	41	41	40	40
72.5	43	43	43	42	42	42	42	41	41	41
73.0	44	43	43	43	43	42	42	42	41	41
73.5	44	44	44	43	43	43	42	42	42	42
74.0	45	44	44	44	44	43	43	43	42	42
74.5	45	45	45	44	44	44	43	43	43	43

Table 2: Percent Body Fat Estimation For Women (Continued)

Yellow Cells = % Body Fat	Height (inches)									
Circumference Value	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5
75.0	46	45	45	45	44	44	44	44	43	43
75.5	46	46	46	45	45	45	44	44	44	44
76.0	47	46	46	46	45	45	45	45	44	44
76.5		47	46	46	46	46	45	45	45	44
77.0			47	47	46	46	46	45	45	45
77.5					47	47	46	46	46	45
78.0						47	47	46	46	46
78.5								47	47	46
79.0										47