

YOUR MAX WAIST SIZE FOR HEALTH

From PROFESSIONAL WEIGHT CONTROL for WOMEN – U.S. Edition
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Your waist-to-hip ratio is often viewed as an indicator of your health and your risk of developing serious health conditions. It is also used as a measurement of obesity, which in turn is often another possible indicator of other more serious health conditions.

Measurement: Your waist should be measured at its smallest circumference, usually just above your belly button. If your waist is convex rather than concave, such as is the case in pregnancy and obesity, the waist should be measured at a horizontal level one-inch above the navel. Hip circumference is measured at the widest part of the buttocks or hip.

The National Institute of Diabetes, Digestive and Kidney Diseases states that women with waist-to-hip ratios of more than 0.8 are at increased health risk. Moreover, The Centers for Disease Control and Prevention (CDC) has found that women with a ratio less than 0.8 are considered safe. And waist-to-hip ratios of 0.7 for women correlate strongly with general health and fertility. Women within the 0.7 range have optimal levels of estrogen and are less susceptible to major diseases such as diabetes, cardiovascular disorders and ovarian cancers.

Example 1: Calculate the waist-to-hip ratio for a woman whose measurements are as follows:

**Waist circumference = 32 inches
Hip circumference = 40 inches**

Hence her calculated Waist-to-Hip Ratio = $32 / 40 = 0.8$, which is just acceptable.

Percent Body Fat

Lean body weight consists of non-fat tissue such as muscle, bone, organs and connective tissue. The remaining weight is the fat component and is often expressed as a percentage of total body weight, i.e., as "body fat percentage." (See the article in this series, "Your Percent Body Fat.") An age-adjusted weight profile for women versus body fat percentage is as follows:

Age (years)	Underweight	Healthy Range	Overweight	Obese
20 - 40	Less than 21	21 - 33 %	33 - 39 %	Over 39 %
41 - 60	Less than 23	23 - 35 %	35 - 40 %	Over 40 %
61 - 80	Less than 24	24 - 36 %	36 - 42 %	Over 42 %

Table 1: Age-Adjusted Body Fat Percentage for Women*

* Gallagher et al., Am J Clin Nut 2000; 72:694-701

Maximum Waist Size

The waist size beyond which a woman has increased health risk is referred to as her maximum waist size. To determine maximum waist size, we inserted into a U.S. Navy body-girth correlation equation a maximum waist-to-hip ratio of 0.8 and from Table 1 a maximum age-adjusted body fat percentage. (The maximum age-adjusted body fat percent from Table 1, for women 20 to 40 years old, is 33%.) We then solved for the maximum waist size as a function of neck size and height. The unique resulting equation is presented in three tables, one of which is shown here as Table 2.

Example 2: Determine the maximum waist size for a 25 year-old woman whose is 5'-2" tall (62 inches) and has a 14-inch neck circumference.

Enter the left column of Table 2 with a height of 62 inches. From this number run your finger horizontally (to the right) until it intersects the vertical column headed by her 14-inch

neck size. The number at the intersection is her Maximum Waist Size which is 29.3 inches.

HEIGHT (inches)	NECK SIZE (inches)									
	13	13.5	14	14.5	15	15.5	16	16.5	17	17.5
58	27.9	28.1	28.3	28.5	28.8	29.0	29.2	29.4	29.6	29.8
59	28.2	28.4	28.6	28.8	29.0	29.2	29.4	29.6	29.8	30.0
60	28.4	28.6	28.8	29.0	29.2	29.4	29.6	29.8	30.0	30.2
61	28.6	28.8	29.0	29.2	29.4	29.7	29.9	30.1	30.3	30.5
62	28.8	29.1	29.3	29.5	29.7	29.9	30.1	30.3	30.5	30.7
63	29.1	29.3	29.5	29.7	29.9	30.1	30.3	30.5	30.7	30.9
64	29.3	29.5	29.7	29.9	30.1	30.3	30.5	30.7	30.9	30.2
65	29.5	29.7	29.9	30.1	30.3	30.6	30.8	31.0	30.2	30.4
66	29.7	30.0	30.2	30.4	30.6	30.8	31.0	30.2	30.4	30.6
67	30.0	30.2	30.4	30.6	30.8	31.0	30.2	30.4	30.6	30.8
68	30.2	30.4	30.6	30.8	31.0	30.2	30.4	30.6	30.8	32.0
69	30.4	30.6	30.8	31.0	31.2	31.4	31.6	31.8	32.1	32.3
70	30.6	30.8	31.0	31.2	31.4	31.7	31.9	32.1	32.3	32.5
71	30.8	31.0	31.2	31.5	31.7	31.9	32.1	32.3	32.5	32.7
72	31.1	31.3	31.5	31.7	31.9	32.1	32.3	32.5	32.7	32.9
73	31.3	31.5	31.7	31.9	32.1	32.3	32.5	32.7	32.9	33.1
74	31.5	31.7	31.9	32.1	32.3	32.5	32.7	32.9	33.1	33.3
75	31.7	31.9	32.1	32.3	32.5	32.7	32.9	33.1	33.3	33.5
76	31.9	32.1	32.3	32.5	32.7	32.9	33.1	33.3	33.5	33.8

Values in table are maximum waist circumferences (in inches)

Table 2: Maximum Waist Size for Women Ages 20 to 40

The preceding excerpt is from:

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