

## ACSM Body Composition (% Body Fat) For Men and Women

### Male

<u>Percentile</u>	<u>Fitness Category</u>	<u>AGE</u>				
		<u>20-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50-59</u>	<u>60+</u>
90	Well Above Average	7.1-11.7	11.3-15.8	13.6-18	15.3-19.7	15.3-20.7
70	Above Average	11.8-15.8	15.9-18.9	18.1-21	19.8-22.6	20.8-23.4
50	Average	15.9-19.4	19-22.2	21.1-24	22.7-25.6	23.5-26.6
30	Below Average	19.5-25.8	22.3-27.2	24.1-28.8	25.7-30.2	26.7-31.1
10	Well Below Average	25.9	27.3	28.9	30.3	31.2

### Female

<u>Percentile</u>	<u>Fitness Category</u>	<u>AGE</u>				
		<u>20-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50-59</u>	<u>60+</u>
90	Well Above Average	14.5-18.9	15.5-19.9	18.5-23.4	21.6-26.5	21.1-27.4
70	Above Average	19-22	20-23	23.5-26.3	26.6-30	27.5-30.8
50	Average	22.1-25.3	23.1-26.9	26.4-30	30.1-33.4	30.9-34.2
30	Below Average	25.4-32	27-32.7	30.1-34.9	33.5-37.8	34.3-39.2
10	Well Below Average	32.1	32.8	35	37.9	39.3

\*Data provided by the Institute for Aerobics Research, Dallas, TX (1994). Study population for the data set was predominately White and college educated.

*Taken from ACSM'S Health-Related Physical Fitness Assessment Manual, 2ndEd. 2008. pg 59.*

## Cardiovascular Fitness Testing: 3 minute Step Box @ 96 beats per minute

### Normal Range: Male

<u>Age</u>	<u>18-25</u>	<u>26-35</u>	<u>36-45</u>	<u>46-55</u>	<u>56-65</u>	<u>65+</u>
Excellent	<79	<81	<83	<87	<86	<88
Above Average	<80-99	82-99	84-103	88-105	87-103	89-103
Average	100-105	100-107	104-112	106-116	104-112	104-113
Below Average	106-116	108-117	113-119	117-122	113-120	114-120
Poor	117-128	118-128	120-130	123-132	121-129	121-130
Very Poor	<129	>129	>131	>133	>130	>131

### Normal Range: Female

<u>Age</u>	<u>18-25</u>	<u>26-35</u>	<u>36-45</u>	<u>46-55</u>	<u>56-65</u>	<u>65+</u>
Excellent	<85	<88	<90	<94	<95	<90
Above Average	86-108	89-111	91-110	95-115	99-112	91-115
Average	109-117	112-119	111-118	116-120	113-118	116-122
Below Average	118-126	120-126	119-128	121-126	119-128	119-128
Poor	127-140	127-138	129-140	127-135	129-139	129-134
Very Poor	<141	>139	>141	>136	>140	>135

## Cardiovascular Testing: 12 Inch YMCA Step test for 3 Minutes @ 96 bpm

1. Set the Metronome at 96 beats per minute.
2. Have subject read the “When To Stop” flyer
3. Have the subject step up and down on a 12-inch box step to the beat of the metronome for 3 minutes. Both feet must contact the top of the box on the “up” portion of the cycle, and both feet must contact the floor on the “down” portion of the cycle. Tester to assist subject to get in “beat” with the metronome by saying “up, up, down, down: and informing the subject to either speed up or slow down stepping.
4. After 3 minutes, the subject should immediately sit down on the box for the recovery period. This should take place within 5 seconds of stopping. At this point, the tester should take a full one-minute recovery heart rate by either palpating the radial pulse, or by placing the *Pulse Ox* on either the first or second finger of the subject and recording the results at one full minute. If two subjects are stepping at the same time, both to sit at the same time and take one subject’s pulse rate at 1 minute with the *Pulse Ox* and then immediately place the sensor on the other subject’s finger and recording an immediate reading.

Percentile by Age Groups and Gender for YMCA Sit & Reach Test (Inches)  
 ACSM's Health-Related Physical Assessment Manual, Second Edition 2008, pages 72-73

Age							
		18-25	26-35	36-45	46-55	56-65	>65
	Gender	Male	Male	Male	Male	Male	Male
Fitness Category	Percentile						
Well Above Average	90	22	21	21	19	17	17
	80	20	19	19	17	15	15
Above Average	70	19	17	17	15	13	13
	60	18	17	16	14	13	12
Average	50	17	15	15	13	11	10
	40	15	14	13	11	9	9
Below Average	30	14	13	13	10	9	8
	20	13	11	11	9	7	7
Well Below Average	10	11	9	-	6	5	4

  

Age							
		18-25	26-35	36-45	46-55	56-65	>65
	Gender	Female	Female	Female	Female	Female	Female
Fitness Category	Percentile						
Well Above Average	90	24	23	22	21	20	20
	80	22	21	21	20	19	18
Above Average	70	21	20	19	18	17	17
	60	20	20	18	17	16	17
Average	50	19	19	17	16	15	15
	40	18	17	16	14	14	14
Below Average	30	17	16	15	14	13	13
	20	16	15	14	12	11	11
Well Below Average	10	14	13	12	10	9	9

## Muscular Endurance Test Procedures

### *Push-up*

1. The push up test is administered with male subjects starting in the standard “down” position (hands pointing forward and under the shoulder, back straight, head up, using the toes as the pivotal point) and female subjects in the modified “knee push-up” position (legs together, lower leg in contact with mat with ankles plantar-flexed, back straight, hands shoulder width apart, head up, using the knees as the pivotal point.)
2. The subject must raise the body by straightening the elbows and return to the “down” position, until the chin touches the mat. The stomach should not touch the mat.
3. For both men and women, the subject’s back must be straight at all times and the subject must push up to a straight arm position.
4. The maximal number of push-ups performed consecutively without rest is counted as the score.
5. The test is stopped when the client strains forcibly or is unable to maintain the appropriate technique within two repetitions.

### *Curl-up (Crunch)*

1. Individual assumes a supine position on a mat with the knees at 90 degrees. The arms are at the side, palms facing down with the middle fingers touching a piece of masking tape. A second piece of masking tape is placed 10 cm apart. Shoes remain on during the test.
2. A metronome is set to 50 beats per minute and the individual does slow, controlled curl-ups to lift the shoulder blades off the mat (trunk makes a 30-degree angle with the mat) in time with the metronome at a rate of 25 per minute. The test is done for 1 minute. The low back should be flattened before curling up.
3. Individual performs as many curl-ups as possible without pausing, to a maximum of 25.

### Fitness Categories by Age Groups and Gender for Partial Curl-UP

Age										
Category	20-29		30-39		40-49		50-59		60-69	
Gender	M	F	M	F	M	F	M	F	M	F
Excellent	25	25	25	25	25	25	25	25	25	25
Very Good	24	24	24	24	24	24	24	24	24	24
	21	18	18	18	18	19	17	19	16	17
Good	20	17	17	17	17	18	16	18	15	16
	16	14	15	13	13	11	11	10	11	8
Fair	15	13	14	12	12	10	10	9	10	7
	11	5	11	6	6	4	8	6	6	3
Needs Improvement	10	4	10	5	5	3	7	5	5	2

*The Canadian Physical Activity, Fitness & Lifestyle Approach: CSEP- Health & Fitness Program's Health-Related Appraisal and Counseling Strategy. 3<sup>rd</sup> ed.*

### Fitness Categories by Age Groups and Gender for Push-Ups

Age										
Category	20-29		30-39		40-49		50-59		60-69	
Gender	M	F	M	F	M	F	M	F	M	F
Excellent	36	30	30	27	25	24	21	21	18	17
Very Good	35	29	29	26	24	23	20	20	17	16
	29	21	22	20	17	15	13	11	11	12
Good	28	20	21	19	16	14	12	10	10	11
	22	15	17	13	13	11	10	7	8	5
Fair	21	14	16	12	12	10	9	6	7	4
	17	10	12	8	10	5	7	2	5	2
Needs Improvement	16	9	11	7	9	4	6	1	4	1

*The Canadian Physical Activity, Fitness & Lifestyle Approach: CSEP- Health & Fitness Program's Health-Related Appraisal and Counseling Strategy. 3<sup>rd</sup> ed.*

## Waist to Hip Ratio procedure

ACSM's Health-Related Physical Fitness Assessment Manual; Second Edition 2008 pages 47-48.

"The waist-to-hip (WHR) is a comparison between the circumference of the waist to the circumference of the hip. This ratio best represents the distribution of body weight, and perhaps body fat, on an individual. The pattern of body weight distribution is recognized as an important predictor of health risks of obesity. Individuals with more weight or circumference on the trunk are at increased risk of hypertension, type 2 diabetes, hyperlipidemia, an CAD compared with individuals who are of equal weight but have more of their weight distributed on the extremities. Some experts suggest that the waist circumference alone may be used as an indicator oh health risk."

Waist = the smallest circumference, usually above the umbilicus and below the xiphoid process



Hip = the largest circumference around the buttocks, above the gluteal fold (posterior extension)



$$\text{WHR} = \frac{\text{Waist Circumference}}{\text{Hip Circumference}}$$

- Take the average of 3 measurements (ideally within ¼ inch of the other)
- Use a nylon tape measure with a tension measure
- Measure in either inches or centimeters
- Note = 1 inch = 2.54 centimeters

*Example: A male client has a waist circumference of 32 inches (81.3cm) and a hip circumference of 35 inches (88.9 cm). The WHR is  $32/35 = 0.914$  (0.91)*

“An increased risk of overall mortality is associated with upper body obesity. A person with upper body obesity is carrying more weight on the trunk compared with the buttocks and has a higher WHR than lower body obesity. The waist circumference may also be used alone as an indicator of abdominal obesity. For example, health risk is very high for young men when WHR is more than 0.95 and for young women when the WHR is more than 0.86. For people 60-69 years old, the WHR values are greater than 1.03 for men and greater than .090 for women for the same risk classification”. *ACSM*

Men 18-59 years old =  $\geq 0.96$  High Risk  
 Men >60 years old =  $\geq 1.04$  High Risk

Women 18-59 years old =  $\geq 0.87$  High Risk  
 Women >60 years old =  $\geq 0.91$  High Risk