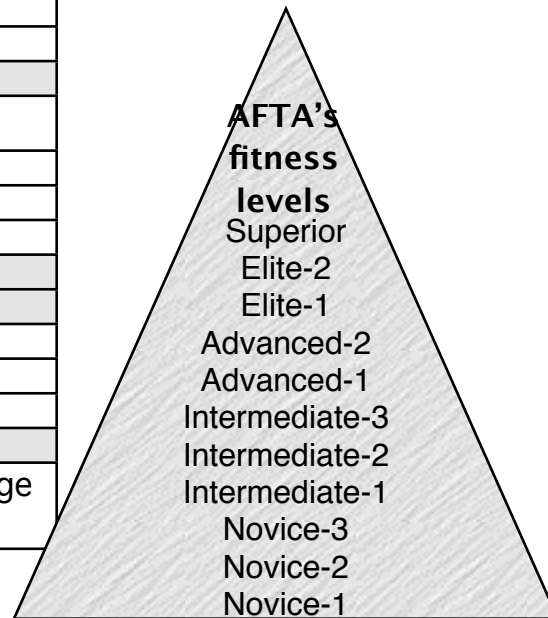
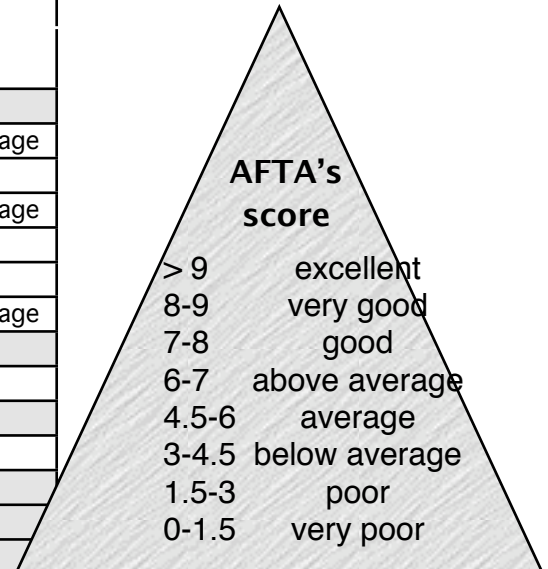


# AFTA's Fitness Evaluation

American Fitness Testing Association

Name: John Doe Age: 50 Tester: Chris Morin Test site: FitTec Test number: 1

Test	Your Values	Goal Values	Your Score	Your Classification
Skinfolds (mm)				
Chest fat thickness	12	10	6.9	leaner than average
Triceps fat thickness	8	6	9.7	very,very lean
Side fat thickness	19	15	6.5	leaner than average
Thigh fat thickness	13	10	8.5	very lean
Lower back fat thickness	29	23	5.7	average fat
Abdomen fat thickness	24.5	20	6.1	leaner than average
% Body fat	17.1 %	10 %	6.3	above average
Aerobic capacity expressed as ml/kg/min	38.2	45.8	6.3	above average
Muscular endurance	repetitions			
Push ups test	14	17	3	poor
Sit ups test	24	29	2.7	poor
Box jumps test	43	52	7.8	very good
Muscular strength	one repetition maximum (pounds)			
Leg strength tests	39	47	-0.1	very poor
Push strength tests	92	110	2.4	poor
Pull strength curl tests	65	78	7.8	very good
Flexibility	inches			
Upper body flexibility	43	34.4	4	below average
Mid-body flexibility	4.5	5.4	-5.7	very poor
Lower body flexibility	19	22.8	7.4	very good
<b>Overall score</b>			<b>4.4</b>	<b>below average</b>



Your values are the results of each of the tests performed (example: 14 push ups means that you performed 14 push ups). Goal values are the results AFTA would like to see after 3 months of conditioning. Your score is a numerical value from -5 to as high as 12, which is used to classify how well you did on each of the tests (see top triangle). Overall score is not a simple average of all the scores, it's based on a weighted equation, where some tests are weighted more than others. AFTA would like to see scores of 6 and above on all the tests. Fitness levels range from novice to superior. AFTA would like everyone to reach an advanced level or beyond after several months of conditioning.

**Your fitness level is determined to be Novice-3.**

# AFTA's Fitness Evaluation

Date: 7/17/08 Serial number:760

**Correction: Due to the high amount of fat distributed at the waist the % fat calculation may be skewed.**

**AFTA's fitness evaluation** determines the level of the five components of fitness (body composition, flexibility, muscular strength and endurance, and aerobic capacity). AFTA's believes adequate physical fitness is the ability to handle work stress and daily tasks without becoming fatigued. It's a state of overall vitality, related to, but not a measure of athletic ability. Exercise physiologists and personal trainers measure fitness components through various tests to evaluate physiological state, prescribe proper exercise programs, and monitor gains throughout defined periods of time. Improvement in the components of fitness results from a well designed conditioning program.

Your overall level of fitness is considered to be below average.

**Anthropometry and body composition** are the measures of your height and weight and the amount of lean and fat weight. *Your weight and height was 165 lbs and 69 inches the day you were tested.* Many health problems including heart disease, hypertension, strokes, atherosclerosis, and diabetes, along with decreased work capacity, relate to excess weight, more specifically body fat. *Based on height and weight charts, your ideal weight range is 139-175 lbs.*

BMI standards	
<=15,	medically significant starvation
>15&<=25,	desirable
>25&<=35,	overweight
>35&<=40,	medically significant obesity
>40&<=45	super obesity
>45&<=50,	morbid obesity
>50,	super morbid obesity)

Another way to determine body composition is through body mass index (BMI) (a ratio of weight to height). *Your BMI is 24.4, which is considered to be desirable.* Many who strength train, play sports, have big bones, or who are very muscular can have body weights way beyond the ideal height and weight range and can have high BMI values, which may classify them as obese. This classification may be wrong due to the presence of high levels of lean tissue. There are some people who have ideal weights and BMI, but have high levels of body fat with low levels of lean tissue.

AFTA believes a better way of measuring body composition is through determining percent body fat, a measure of fat and lean weight. AFTA uses the skinfold caliper technique to estimate percent body fat. This procedure has a low margin of error in estimating body fat. Specific measures of skinfolds are very reliable and tell individuals where there maybe specific problems. *Your body fat percentage is 17.1, which is considered leaner than average.*

**Table 1**

Body location	Ideal measures	Your measures
Shoulders	45.92	46.5
Chest	38.59	39.5
Right arm	12.47	12.5
Left arm	12.47	12.5
Waist	28.96	33.5
Buttock	34.47	37
Right leg	20.25	20
Left leg	20.25	19
Right calf	14.09	15
Left calf	14.09	15
Waist/hip ratio	< 0.9	0.9

Average % body fat levels for men and women in their twenties are 15% and 25%, where a healthy range for those in their thirties is between 6-21% for men and 15-25% for women. AFTA would like to see a change in your percent body fat to 10% in a 3 to 6 month period of training.

# AFTA's

## Fitness Evaluation

To get to this percent body fat you would need to change your current fat weight 28.2 lbs. to 15.2 lbs, a total fat loss of **13 lbs.** Your lean weight is 136.8 lbs. Someone starting a conditioning program should expect to gain 5 to 10 lbs. of lean weight due to the addition of muscle. The addition of muscle will enhance your appearance and improve your performance.

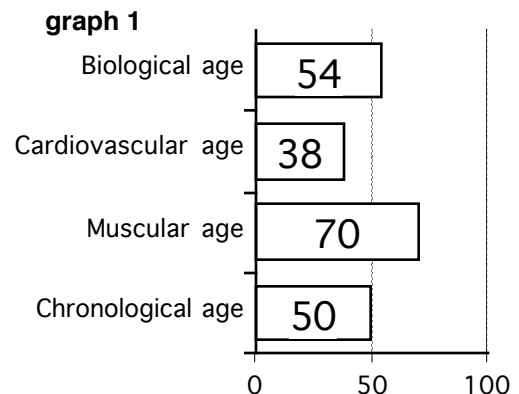
AFTA also uses circumference measures as a means of determining body shape (**see table 1**). Compare your circumferences to those of an athletic/ideal physique. Another way to use circumferences is to figure your waist to hip ratio by dividing your waist by your hips. A healthy waist to hip ratio is less than or equal to **.90**. To get a full analysis of body shape have an AFTA physique evaluation performed on you.

**Cardiorespiratory ability** is the capacity of the heart, lungs, and blood vessels to supply oxygen and nutrients to the muscles for a sustained period of time, several minutes or more. The most widely used test of cardiorespiratory capacity is the VO 2 max test. VO 2 max is the maximum amount of oxygen consumed during physical work, expressed as millimeters of oxygen consumed per minute of maximum exercise per kilogram of body weight, ml/kg/min (VO 2 max = maximum volume of oxygen consumed). Some consider it to be the number one predictor of fitness. Your VO2 max value is 38.23 ml/kg/min, which is considered to be above average. A VO2 max score which is below 32.5 for men and 35 for women is considered a health concern. Athletic VO2 max scores range from 53-58 and 58-64 ml/kg/min, for women and men. AFTA would like to see an improvement of 20% in aerobic ability in a 3 to 6 month period of training. AFTA considers body composition and aerobic ability the most important components of the fitness evaluation because they reflect general health and well being.

**Muscular strength and endurance** is the ability of a muscle group to generate force. Muscular strength is the maximum amount of force generated by a muscle group. Your muscular strength is considered to be average. Muscular endurance is the capability of a muscle to sustain a force for a prolonged period (20 or more repetitions). Your muscular endurance is considered to be poor. AFTA would like to see an improvement of 20% in muscular ability in a 3 to 6 month period of training.

**Flexibility** is the capacity of a joint to move freely throughout a full range of motion. Your flexibility is considered to be below average. AFTA would like to see an improvement of 20% in flexibility in a 3 to 6 month period of training.

**Physical and chronological age analysis** (*your age was 50 the day you were tested*) The Tufts University Department of Aging in association with Dr. William Evans developed an equation to determine **muscular and cardiovascular age** based on similar tests that were performed in this fitness evaluation. Based on these equations your muscular age is **70** years and your cardiovascular age is **38** years. There is much debate on the age at physical peak; it varies in sports as well in



# AFTA's Fitness Evaluation

testing. For our purposes consider 19 years the best possible score. Your **biological age** based on an average is **54** years.

## Coronary heart disease risk factor analysis

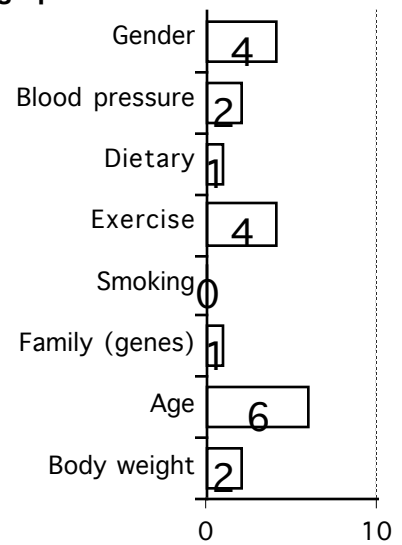
Coronary heart disease (CHD) is still the number one killer of Americans. It's responsible for more than 1.5 million heart attacks and causes more than 550,000 deaths annually in the United States. Beginning at about the age of 40 in men and 60 for women, CHD is the single largest cause of death in the western world. Various personal and environmental risk factors have been identified that appear to play causative roles in making individuals susceptible to the disease. Some are shown in graph 2 and are used to determine a risk classification for you, (see graph 2: 1-2 good, 3 average, 4-5 poor, >6 very poor).

Some other risk factors not used in the analysis are 1) diabetes 2) personality and behavior patterns 3) high uric acid levels 4) pulmonary function 5) race 6) tension and stress 7) EKG abnormalities.

Your risk of developing CHD, based on answers you gave in your medical screening, is **an average risk**. The risk categories are well below average, below average, average, moderate, high, and very high. The results of this analysis doesn't mean that you have CHD or that you'll ever get it, but it should be used as a warning to you that you should do something about the modifiable risk factors, those which you can change, such as reducing blood pressure, body weight, cholesterol level, smoking habit, stress, as well as getting more exercise. AFTA must stress that lack of exercise is a risk factor for CHD. Your blood pressure and heart rate the day you were tested was 120/88 and 66 bts/min. A blood pressure of 120/80 is normal while 140/90 is borderline high. Heart rates below 55 bts/min are considered athletic in most cases.

**RISK CATEGORIES**  
**well below average**  
**below average**  
**average**  
**moderate**  
**high**  
**very high**

graph 2



## Training guidelines

AFTA as well as other exercise groups recommend that all healthy adults participate in a fitness program that includes strength and aerobic training. See **table 2** for tips on how to

table 2

Strength Training	average level of strength training tips
Frequency	2-3 x a week
Intensity	moderate intensity
Sets	2-3
Repetitions	10-12, same weight
Exercises	machines and dumbbells
Aerobic Training	above average level of aerobic ability training tips
Frequency	4-6 x a week
Intensity	moderate to high intensity, see target heart rate range and RPE range
Duration	20-40 minutes, some interval
Exercises	see MET chart for exercises based on your MET range
Warm up	Warm up before any training with light aerobic activity and stretches
Cool down	Light activity and stretches after training

# AFTA's

## Fitness Evaluation

strength and aerobic train for your level of fitness.

Strength training improves power and endurance, while increasing muscle mass, tone, and bone density. It's made up of a variety of activities where the musculature is overloaded to

**table 4**

Rating of Perceived Exertion (RPE) Chart (overall body effort during exercise)	
6	
7	VERY, VERY LIGHT
8	
9	VERY LIGHT
10	
11	FAIRLY LIGHT
12	
13	SOMEWHAT HARD
14	
15	HARD
16	
17	VERY HARD
18	
19	VERY, VERY HARD
20	MAXIMAL

fatigue in a short period of time (examples dumbbells, barbells, Nautilus, calisthenics, etc.). It's also called weight lifting and resistance training. A strength training program should include exercises that works all the major muscle groups (**see table 3**).

Aerobic training improves cardiorespiratory health and reduces body fat. Aerobic activities are those which are rhythmical and continuous which can be sustained for prolonged periods of time (examples: walking, running, biking). Flexibility training aids in proper muscle balance and posture, while reducing the chance of injuries.

Flexibility training should be performed on a daily basis after a warm up or cool down. AFTA has a full pamphlet describing the training expectations of the various levels of fitness. See your fitness trainer or AFTA associate for guidance on how to fitness train.

**table 6**

Activity and exercises	Calories Burnt in 20 Minutes
Walking 3.5 mph	120
Jumping rope	120
Racquetball	267
Aerobic dance	155
Cycling 10 mph	165
Squash	318
Tennis	164
Skiing	165
Volleyball	75
Strength training	129
Climbing hills	182
Climber (moderate)	300
Cleaning	93
Canoeing	66
Running (12 min/mile)	164
Running (9 min/mile)	290
Running (7 min/mile)	342
Running (6 min/mile)	378
Swimming (crawl)	216

Training intensity  
In order to receive a physical change from a training program the intensity you work at must reach a certain threshold that your not accustomed to. Here are some suggestions for strength and aerobic training thresholds.

**table 3**

Standard strength exercises	
Exercise	Weight (lbs.)
Bench press	69
Pec dec	35
Arm curl	49
Triceps extensions	49
Lateral raise	24
Lat pulldown	69
Lower back	29
Ab machine	29
Inner & outer thigh	37
Leg curls	18
Leg extensions	29
Leg press	59

**table 5**

ACTIVITIES	METS
REST	1.0
BILLIARDS	2.5
FISHING	2-4
BOWLING	2-4
TABLE TENNIS	3-5
WALKING	3-6
EXERCISE BIKE ( LOW LEVELS )	3-6
VOLLEYBALL	3-6
LIGHT CONDITIONING EXERCISE	4-6
HANDBALL	3-7
DANCING ( SOCIAL )	4-7
SKIING ( WATER )	5-7
SKIING ( DOWNHILL )	5-8
BASKETBALL ( NON GAME )	3-9
TENNIS	4-9
STAIR CLIMBING	4-8
SWIMMING	4-8
AEROBIC DANCE	6-9
CLIMBING HILLS	5-10
HEAVY CONDITIONING EXERCISE	6-8
EXERCISE BIKE	6-12
SOCCER	6-12
SKIING ( CROSS COUNTRY )	6-12
BASKETBALL ( GAME )	7-12
SQUASH/RACQUETBALL	8-12
SNOW SHOEING	8-14
ROPE JUMPING ( 60-80 SKIPS/MIN )	9
RUNNING ( 12 MIN MILE )	8.7
RUNNING ( 11 MIN MILE )	9.4
RUNNING ( 10 MIN MILE )	10.2
RUNNING ( 9 MIN MILE )	11.2
RUNNING ( 8 MIN MILE )	12.5
RUNNING ( 7 MIN MILE )	14.1

See the **table 3** for a full list of **standard strength exercises** that you can perform, including possible suggested starting weights with a goal of 10 repetitions. These weights might be different from machine to machine and gym to gym, so don't use the weight if it feels like it's too much. If it feels light use more.

## AFTA's Fitness Evaluation

There 's a certain level at which you should perform your aerobic training to get cardiovascular benefit. This level can be determined through the target heart rate and RPE range. **Target heart rate range:** You need to stress your heart enough that the beats per minute exceed 128 bts/min. (lower training limit) while not exceeding 154 bts/min. (upper training limit). Your maximum heart rate is 170 bts/min. Never approach this number unless your very well trained. Target heart rate ranges don't work for all. Ask your fitness trainer or AFTA associate on how to measure heart rate. **Target RPE range:** Another way of determining aerobic exercise intensity is through rating your level of perceived exertion, which is an overall physical observation of how you feel (see **RPE chart, table 4**). Your RPE lower limit is 10, while upper limit is 14. The type of aerobic exercise that you can choose can be determined through using a **MET chart (table 5)**(MET=metabolic equivalent, 1 MET is the metabolic requirements at rest, while 3 METS is 3x the metabolic work at rest, such as walking). Your MET training range are exercises that have a MET of **6.6 to 9.3**.

When you exercise you use stored calories, some of which is body fat. The amount of activity that you do on a daily basis should approach **322** calories expended. Some of this activity can be planned exercise while some can be informal, like walking a greater distance to your car or using the stairs rather than an elevator or cleaning. See **table 6** to receive a better idea of how many calories you can burn in 20 minutes through various forms of activity.