

Introduction

Before a person begins a fitness program he or she should have basic knowledge of what is involved. Understanding where one is going, how one is going to get there, and when one has achieved set goals are factors that influence success.

The information presented in this Introduction Section will be needed at various points throughout the book. You will be asked to refer back to this section for a review at specific points. Since there is specific information you should know before beginning a fitness program, or early in a program, it is necessary to present these concerns first.

Physical Exam – Always Important

Both the fitness industry and the medical association agree that a thorough physical exam is needed for certain individuals before they begin a fitness program. The following guidelines should be followed in determining who should have a physical exam before beginning a fitness program. You should have a physical exam if you:

1. are 45 years of age or older for males and 55 or older for females. (*This is the recommendation by the American College of Sports Medicine. {www.acsm.org})
2. are classified as being obese. (For males this is having a body fat level which is more than 20 percent and for females it is a body fat level which is more than 30 percent.)
3. have a known or suspected medical problem.
4. have a known medical problem in your family history.

If you plan to engage in a very strenuous program, the physical exam becomes even more important. For the more strenuous programs the ages might need to be 40 for males and 45 for females.

*American College of Sports Medicine (ACSM). ACSM's Guidelines for Exercise Testing and Prescription, 6th edition, 2000. p.15.

How to Determine a Heart Ratio Count – Chapter 2

When you exercise your heart obviously beats faster as the number of heartbeats per minute increases. Your heart rate can be used to determine several evaluations concerning your heart, as well as your physical effort. You need to be able to tell if you are exercising at a level that meets your defined

goals. You also need to know if you are exercising at a level, which might be dangerous for you. As you stop exercising and your heart rate drops, you need to know if it is coming down at an acceptable rate. A healthy and well-conditioned heart will recover to its normal resting rate quicker than an unhealthy or poorly conditioned heart.

You should know the numbers for your resting heart rate, your exercise heart rate, and your five-minute exercise recovery heart rate. Resting heart rates are taken before you exercise and while you are in a resting condition. A good time to get this measurement accurately is before you get out of bed in the morning. The exercise heart rate is the measurement you take immediately upon completing an exercise session. Five-minute recovery heart rate is the measurement taken five minutes after you complete an exercise session. This number should drop significantly from the exercise measurement. If it remains high at the five-minute point, you may have pushed yourself too hard or there might be a health problem your physician would need to investigate.

To determine your heartbeat, find your pulse on the carotid artery in the neck area under your chin. Use your index and or middle finger to detect the pulse. The thumb is not recommended to use because at times a pulse in the thumb itself can be felt. Another site for detection is at the wrist using the radial artery. Some people find it a little more difficult to use. Upon finding the pulse look at a clock or watch and count the beats for 15 seconds. Multiple this number times four and you will have your heartbeats per minute.

How to Increase Your Chances of Adherence-Chapter 2

Below are suggestions for how we can increase our chances to continue our fitness programs. Everything we attempt in life should be preceded with a prayer of thanksgiving for what God has done for us and to ask him for strength.

1. Make sure you are self-motivated
2. Set clear and definite goals
3. Make sure your goals are realistic
4. Maintain a positive attitude
5. Avoid procrastination at all costs
6. Reward yourself when you reach one of your goals
7. Make exercising a priority
8. Chart your progress
9. Exercise with others
10. Use a lot of variety in your activities
11. Consider safety
12. Participate in special events
13. Keep workout clothing and shoes readily available
14. Make your exercise time convenient

15. Set a definite time and place
16. Some days it will be difficult--persevere
17. Keep a log of your daily workout
18. Evaluate your fitness level periodically
19. Evaluate your program periodically
20. Make changes if necessary and press on

Select a time of day that is the most convenient for you to be consistent. The time of day will vary for individuals because we are all different as to when we like to do things. The place where you exercise must be easily assessable and close enough to prevent the displeasure of having to drive too far. The type of activity people choose to use for fitness development is most crucial for adherence.

Conducting a Personal Assessment-Chapter 3

What factors are included in a personal assessment? A few are listed below. There could be many additional considerations.

1. Is your weight too high or too low? How much?
2. Do you have any physical or medical problems?
3. Are your nutritional habits healthful or unhealthful?
4. Are there exercises that you cannot or should not perform?
5. Do you need to improve your muscular strength and or endurance?
6. What is your current level of cardiovascular endurance?
7. What are your flexibility capabilities?
8. What percent of your body weight is fat?
9. What is your cholesterol level?
10. Do you engage in unhealthful activities such as smoking, etc.?
11. Is there anything in your life that would limit your participation or hinder you in any way?

Components of Physical Fitness-Chapter 3

Physical fitness involves five basic components. All of these areas need to be addressed when a person is contemplating physical fitness. Leaving one of these components out simple means a person will not be considered to have total fitness. These components will be discussed later.

1. Cardiovascular Endurance (CVE)
2. Muscular Endurance
3. Muscular Strength
4. Flexibility
5. Body Composition

How to Calculate an Exercise Range for your EMHR-Chapter 3

To find your estimated maximum heart rate (EMHR), subtract your age from 220. (A person who is 30 years old would have an EMHR of 190 beats per minute.) To calculate the acceptable range for your aerobic workout, multiple your EMHR times 60 percent (.60) and 90 percent (.90). The 60 percent number represents the minimum heart rate allowed and the 90 percent number represents the maximum allowed for an aerobic workout. You should keep your heart rate within this range continuously for the 20 to 60 minutes to produce a positive CV fitness workout. Check your heart rate during the walking exercise to see if you are within your range. Start out slowly and work up to a more intense workout.

Your Fitness Contract-Chapter 3

A sample fitness contract is presented below. Feel free to use it as is or change it in any way. Your contract must reflect your desires and goals.

I _____, am committing myself to engage in a program to increase my wellness and physical fitness levels. The following guidelines will be used in my program.

The length of this one-year contract is from _____ to _____

The method(s) of exercise will be _____

The minimum number of workouts per week will be _____

The days of the week I will work out will be _____

The amount of time for each workout session will be _____

The amount of time for stretching will be _____

My nutrition goals will be _____

My stress control goals will be _____

Other changes in my lifestyle will be _____

I will pray about my success each day.

Signed _____ Date _____

Witnessed by _____

When Will I...-Chapter 4

Decisions to begin walking (exercising) should include a timetable involving several “**when’s**.” The first when is, ‘when will I do my planning?’ Do not forget the value of planning and do not leave this step out. The second when is, ‘when do I plan to begin?’ Set a beginning date and stick to it. The third when is, ‘when do I plan to exercise?’ If you select a time that is not convenient, you will not adhere to your program. The fourth when is, ‘when do I plan to reach certain goals?’ You may have to move your timetable for some reason, such as an illness or injury, but you need to have one written down. The final when is, ‘when will I stop?’ This is the easiest to answer, never! Fitness is not a program. It is a process. This means you will never get to a point where you can quit. You just keep on keeping on. If you stop using the fitness qualities you have developed, you will lose them due to a lack of activity.

How to Calculate Your EBZ-Chapter 4

Physical fitness will result only when we exercise within our “Exercise Benefit Zone.” The Exercise Benefit Zone (**EBZ**) is defined as a level of exercising in which the body meets certain standards. We have already learned that our heart rate must reach at least 60 percent of our estimated maximum heart rate, but not more than 90 percent. Likewise, we know that we must exercise for a minimum of 20 minutes and going over one hour is not necessary. So our EBZ is defined as: exercising for 20-60 minutes with a heart rate of 60-90 percent of our estimated maximum heart rate.

Also, it is important that exercise be continuous during the exercise session. We should not exercise for 15 minutes, take a ten-minute break, and then exercise for another 15 minutes. Although there is still value for fitness purposes, this allows our heart rate to drop below the 60 percent level. By definition aerobic exercise dictates that we keep our heart rate within the 60-90 percent range for the full 20-60 minute session.

Why Warm-up and Cool-down?-Chapter 4

Warming up to exercise should take 5-10 minutes. Likewise, cooling down should take an equal amount of time. After exercising, we should always continue walking at a slower rate until our body systems have had time to return to a lower level of functioning. Your heart rate should approach 50 percent of your estimated maximum heart rate within five minutes after you conclude your exercise session. Higher exercise heart rate may require more time to come down. If your heart rate remains high five to ten minutes after you have stopped exercising, a visit with your physician may be in order. When we push ourselves into anaerobic work for too long, we may experience prolonged recovery.

After completing a workout session continue to walk for five or six minutes at a slower pace. Never stop your exercise session and just sit down. This will place stress on the body systems as they are still operating at a high rate. Cooling down after an exercise session is an important part of an exercise routine and should be planned for.

Benefits of Fitness to the Body-Chapter 5

Physiologically, a fit body has several advantages over an unfit body. A few of these benefits are listed here.

1. Improved functioning of the cardiovascular system
2. Better muscle tone, strength, and endurance
3. Improved muscular flexibility
4. Increased resting metabolic rate
5. More restful sleep
6. Raised levels of energy
7. Extended longevity and a slowing of the aging process
8. Prevention of and control of diabetes
9. Improved posture and physical appearance
10. Less tension that helps in coping with life's stresses

Why Walking is an Ideal Exercise-Chapter 7

Below are a few reasons walking is an ideal exercise. What would you add to the list?

1. Low expense - no club to join, machines to purchase, etc.
2. Age, body type and skill level are not factors

3. You can walk almost anywhere and at anytime
4. Other activities can be incorporated into the walking
5. Walking can be a family activity
6. Excellent for thinking, meditating, and planning
7. Levels can increase as fitness improves

Safety While Exercising-Chapter 7

Safety when exercising is necessary to avoid injury. One of the areas of concern is **where** you will be walking. The walking surface should be clear of rocks, sticks, glass, holes, etc. which could cause you to turn an ankle or trip and fall. Be aware of slick spots as well. When walking along side a street or road you should always walk facing the traffic. Don't expect cars to give you the right-of-way. Walk in areas you know to be safe. Avoid strange neighborhoods and wooded areas where someone could hide from your view. Mall walking has become popular recently and is a safe environment.

Knowing **when** to walk can be important for safety. Perhaps it is easier to discuss when not to walk. All of us must decide when exercise best fits our schedule. Walking early or late in darkness can be dangerous as potential muggers have the ability to hide in the darkness. Daylight hours would be better. If you walk at times other than daylight, always walk with a partner or partners. Walking in the heat of very hot days can create dangers of heat stroke or heat exhaustion. When illness or physical problems are present, listen to your body. It will tell you if you should exercise and to what extent.

How to walk should not be overlooked. Walking improperly has the potential to cause pain or cause physical stress and problems. Do not walk faster than your body is ready or capable of handling. Maintain correct posture and body alignment for smoothness in walking. Do not land flat-footed or on the ball of your foot. Land with your heels first and keep your foot in contact with the ground for as long as possible before picking it up to take the next step. Your feet and knees should be pointing as straight ahead as possible. Bend your arms at about a 90-degree angle at the elbow joint. With palms facing your body, each arm should swing in a straight path and remain fairly close to your body to avoid side-to-side swaying of your upper body and hips. Have a professional evaluate your walking style if pain persists when walking. When walking on a circular track, changing directions periodically may be of help.

What Does the Word Aerobic Mean?-Chapter 10

The word aerobic refers to exercising at a level at which the body is capable of providing enough oxygen to continue exercising for an extended period of time. This could be from 20 minutes to several hours.

Anaerobic refers to exercising at a higher level in which the body is using more oxygen to function than the lungs are capable of producing. Therefore, the body can only function for a short period of time before it has to stop because of a lack of oxygen to the body.

Exercising at a very low level will not be considered either aerobic or anaerobic work. The fitness profession has defined the criteria, which establishes when a person is exercising aerobically.

1. The exercise session must be continuous for at least 20 minutes. The recommended range is from 20 to 60 minutes. This is referred to as the duration.
2. The exercise session should occur at least three times per week, with four or five recommended. This is referred to as the frequency.
3. The activity should produce an appropriate rise in the exerciser's heart rate. This appropriate heart rate should be maintained continuously within an established range for the 20 to 60 minute-session.

Special Concerns for Women-Chapter 13

Premenstrual syndrome (PMS) is classified as an abnormal condition, not a disease. Its cause is not known, but some believe it to be due to an imbalance of hormones and brain chemicals. Treatment programs for PMS depend upon the symptoms and their severity. Her body will indicate to a female if the fitness program needs altering. There is evidence to indicate exercise can reduce the symptoms of PMS.

Walking for general fitness should create few problems. Any exercise, which feels all right, is most likely safe during the menstrual period. The more strenuous the exercise (from mild daily walking to strenuous athletic training), the greater the incidence of **amenorrhea** (absence of menstruation) and **oligomenorrhea** (very irregular menstruation).

Dysmenorrhea is painful cramps associated with menstruation. Exercise does not appear to aggravate this condition, but one may wish to exercise less strenuously if it helps. Flexibility exercises for the lower back and pelvic area may also help to alleviate the symptoms. Women who are more physically fit seem to experience dysmenorrhea less frequently.

Menopause is the final cessation of menstruation. There is little evidence to suggest that exercise has any affect upon the age of onset for menopause. Aerobic type exercises may help to reduce some of the risk factors associated with coronary heart disease, such as high blood pressure, elevated serum lipid

levels, and obesity. These problems can increase after menopause. Studies have shown that weight-bearing exercises alone can help to slow down the rate of bone loss that occurs after menopause.

One implication from current research is that exercise can be a factor in **osteoporosis** (a condition of decreasing bone density as calcium is depleted). It appears that exercise helps to stimulate the development of bone mass. Therefore, young girls who exercise may develop stronger bones with greater stores of calcium and thus be less prone to osteoporosis as they grow older. In general, research findings have revealed that young females who have exercised early in life have greater bone densities compared to more sedentary females. If amenorrhea persists, there may be an increase in risk for the development of osteoporosis. Although males can develop osteoporosis, it is primarily a problem for females.

There appear to be no physical or physiological reasons why a female cannot exercise during any phase of the menstruation cycle. Each female should monitor her physical condition during each phase, particularly as it relates to feelings toward her ability to exercise.

Exercise may cause a negative reaction with the following conditions.

1. Prior menstruation problems
2. High stress levels
3. Rapid, weight loss and low body weight or low body fat
4. Distance and intensity of the exercise
5. Inadequate fat and protein in the diet
6. Increased body temperature during exercise

Exercise does not necessarily have to cease because of pregnancy. However, complications may dictate no activity or limited activity. Whether or not one should exercise during pregnancy and the type of exercise program to follow may be dependant upon the fitness level or health status at the start of a pregnancy. Walking is an excellent exercise for those who can and should exercise during pregnancy.

The American College of Obstetricians and Gynecologists recommends the following guidelines for exercise during pregnancy.

1. Do not exceed target heart rates and limits established in consultation with your physician.
2. Do not exercise strenuously for more than 15 minutes at a time.
3. Avoid bouncing and jarring movements. Stretch very gently.
4. Exercise on a wooden floor or a tightly carpeted surface to reduce shock and provide a sure footing.

5. After the fourth month of pregnancy don't exercise lying on your back for more than short periods of time.
6. If you experience any unusual symptoms, stop exercising and consult your physician.

Walking and Mental Capacity **(Two Articles)**

Many of us live in fear of mental decline in our older years, but now there may be something you can do to help! What happens to our minds isn't just a matter of genetics or bad luck, exercise---or the lack thereof---also plays a key role, say the following two studies.

Study One

Abbott, Robert; White, Lon; Ross, Webster; Masaki, Kamal; Curb, David; and Petrovitch, Helen. "Walking and Dementia in Physically Capable Elderly Men", JAMA 2004; 292:1447-1453.

Researchers followed over 2,2000 people aged 71-93 for seven years. They found that those who walked less than one-quarter mile a day had twice the risk of dementia as those who walked at least two miles per day.

Study Two

Weuve, Jennifer; Kang, Hae Hee; Manson, JoAnn; Breteler, Monique; Ware, James; and Grodstein, Francine. "Physical Activity, Including Walking, and Cognitive Function in Older Women", JAMA 2004; 292:1454-1461.

Researchers tracked over 19,000 women for nine years and found those who exercised most cut their risk of memory problems by 20 percent. Those who walked at least an hour and a half per week also scored significantly higher on memory, attention, and other tests than women who walked less than 40 minutes per week. Walking is good for the body and it will also be sharpening your mind.