

Physical Training Leader Guide



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CHIEF's Sight Picture

30 July 2003

Fit To Fight

Our superb Total Force performance in Operations ENDURING FREEDOM and IRAQI FREEDOM secured our reputation as the greatest Air Force in the world. We should all take great pride in that. Our execution of the war plan was also consistent with our core values. Integrity, in that we upheld the highest standards of performance, learned from the things we could have done better, and will make ourselves better as a result; service before self, in that 40,000 warriors deployed forward, supported by thousands more back home, to do the right thing for the people of Iraq and to play our part in the joint air, land, and sea effort; and excellence, in that we demonstrated the ability to plan and execute air and space missions with a degree of precision never before achieved. When looking at our Air Force overall, I am very pleased. One aspect of our Total Force that does need improvement, however, is our physical fitness.

About ten years ago, we transitioned to fitness testing based on the cycle ergometry test. This was done to preclude injuries experienced in the previous 1.5-mile run format. It was also deemed a more precise and high-tech way to measure aerobic performance. My belief is that we are a much different Air Force today. We deploy to all regions of the world, living in tent cities and working on flight lines in extremes of temperatures. Some of our airmen today are operating from inside Iraq, subject to attack, and could be called upon to help defend the base, a trend that will surely increase in the growing expeditionary nature of our business. The amount of energy we devote to our fitness programs is not consistent with the growing demands of our warrior culture. It's time to change that.

We will soon release a new fitness program that gets back to the basics of running, sit-ups, and pushups. There will be accommodations made for those who aren't able to run for legitimate reasons. The cycle ergometry test may still be used for those not medically cleared to run. We are planning to issue physical training (PT) gear as part of the program and to put responsibility for PT in the chain of command, not with the medical community or the commander's support staff. I expect this effort to be led from the top, starting with commanders and senior NCOs, and I expect those who have trouble meeting the standards to be helped by others in their unit until they do meet the standard. Physical fitness should also be an area of concern for the Air Force civil servants. I encourage the civilian members of our Air Force organizations to join with their uniformed peers in participating in this program.

While we have weight and body fat standards that we must meet, there will be some, weightlifters in particular, who may be perfectly fit but not meet these standards. This is where I expect commanders to step in and make a decision. Everyone will have to pass the commander's eyeball test about how fit we are to wear the uniform. Every year we muster out about 400

people from our Air Force because of fitness issues. We should ask ourselves how many of those people were really trying to meet the standard and how many leaders and supervisors took an active part -- getting out and running with them, etc. -- in helping them meet the standard.

We will start this program on 1 January 2004 so there is plenty of time for us to get ready. You can use me as a benchmark. I am currently recovering from abdominal surgery and am not allowed to run for another two weeks. I won't be able to do any sit-ups for another month. During the first week in January I plan to lead all Air Force General Officers in the Pentagon and the Washington, DC area in the PT test. During the same week, Chief Master Sergeant of the Air Force Murray will do the same thing with our Command Chiefs in the area. We will follow that with the colonels, the remaining chief master sergeants, etc. We will ask the MAJCOM commanders to lead similar efforts as their operational situations allow. I think all of us can agree that we were disappointed with the fitness standards we found when we came into the operational Air Force. We expected to be required to sustain the standards required in basic training, the Air Force Academy, ROTC, or Officer Training School. Let's not disappoint ourselves any longer. The message is simple: if you are out of shape, fix it. If you have people in your squadron who need help, help them. January 2004 is the date. Be ready.




AIR FORCE
Air & Space Power



CHIEF's Sight Picture

9 September 2003

Fit To Fight #2 -- Are You Ready?

I have received a great deal of positive feedback from the first "Fit To Fight" Sight Picture. We now need to make sure that we, and everyone in our units and organizations, are on track to be ready for the test in January.

Be assured that we are all taking this seriously. We are working now on additional parts of the program that will have information for squadron physical training, nutrition guidelines, the fitness test scoring criteria, and provide details on accountability of commanders and individuals. Details will be out as soon as possible. In the meantime January is coming. Be ready.



John G. ...
AIR FORCE
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CHIEF's Sight Picture

17 October 2003

Fit To Fight #3 -- Assessing our Fitness

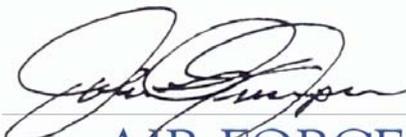
In July, I announced changes to our fitness program and asked everyone to be ready for January 2004. To be ready, you need to know how the new fitness program works. At my request, the Air Force Surgeon General has developed criteria to assess the fitness and readiness of our force. These criteria will bring about significant change in the way we currently manage our fitness and weight management programs. A new Air Force Instruction will be published in November 2003 detailing the changes. You can read the new fitness criteria tables at http://www.af.mil/news/USAF_Fitness_Charts.pdf. The tables give you a way to gauge your personal fitness, and just as important, the testing gives commanders a measure of their overall unit fitness.

I want to make very clear that my focus is not on passing a fitness test once a year. More important, we are changing the culture of the Air Force. This is about our preparedness to deploy and fight. It's about warriors. It is about instilling an expectation that makes fitness a daily standard -- an essential part of your service.

Commanders, supervisors, and front-line leaders must lead the way -- through unit physical training, personal involvement and, most important, by example. The forthcoming Air Force Instruction will delineate responsibility and accountability at each level. Commanders must understand it.

January 2004 -- be ready!




AIR FORCE
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CHIEF's Sight Picture

12 December 2003

Fit to Fight #4 – Supporting Fitness

Direct, immediate, and overwhelming feedback from the field says that airmen are taking the new fitness challenge seriously. We've seen as much as a 30 percent increase in the use of our fitness centers in the last three months. Clearly an Air Force-wide culture change is underway.

Our Fitness Centers, along with the Health and Wellness Centers, support a critical component of operational readiness. Many of you have noted that we now need to invest in our Fitness Centers to accommodate this increased use. And we are doing just that. From 2000 to 2005, we will renovate or construct 36 fitness centers. I have encouraged all commanders to include fitness center construction requirements in their military construction budget submittals and to provide adequate funding for equipment and training. We must provide the necessary resources to support and maintain all areas of fitness, including center construction, running trails and tracks, physical training fields, and improved fitness equipment. Allocating resources shows our commitment to fitness and our Fit to Fight effort.

As we expand our focus on fitness, the Air Force Sports Program continues to be a great showcase for Air Force fitness. I support and encourage our talented Air Force athletes who dedicate themselves to training and representing the Air Force in events around the world. Participants in Air Force Sports vie for advancement to Armed Forces, national and international competitions. Our 2003 athletes represented the Air Force at many events with numerous accomplishments:

- One of our Air Force wrestlers is a six-time Armed Forces Greco-Roman Champion
- We have three All-American Softball players
- We have two USA Track & Field national champions
- Our skeleton racer finished third in the World Cup competition
- And we have the number one fencer in the nation!

Our athletes represent the United States Armed Forces in 14 Conseil International du Sport Militaire Championships each year. This 122-nation organization promotes goodwill in the international military community through sports competition. We also have twenty Air Force members who are part of the World Class Athlete Program, training to qualify for the United States 2004 Olympic Team in their respective sport. I salute the talent, dedication,

and hard work of our Air Force athletes. Their positive representation of the Air Force to the public is invaluable for recruiting, retention, and esprit de corps and serves as an inspiration to us all in achieving warrior fitness.

I am extremely proud of our Air Force Sports and Fitness programs. They contribute to our readiness and quality of life and will improve the health and fitness of our force. During my travels around our Air Force, I plan to visit our fitness and health and wellness centers. I hope to see you there, preparing to meet the physical demands of our expeditionary force and getting Fit to Fight.

January 2004 – Get set!




AIR FORCE
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Section 2

Fitness Program Overview

All members of the Air Force must be physically fit to support the Air Force mission. Health benefits from an active lifestyle will increase productivity, optimize health, and decrease absenteeism while maintaining a higher level of readiness. The goal of the Fitness Program (FP) is to motivate all members to participate in a year-round physical conditioning program that emphasizes total fitness, to include proper aerobic conditioning, strength/flexibility training, and healthy eating. Commanders and supervisors must incorporate fitness into the AF culture to establish an environment for members to maintain physical fitness and health to meet mission requirements and deliver a fit and ready force. Commander-driven physical fitness training is the backbone of the AF physical fitness program. The program promotes aerobic and muscular fitness, flexibility, and optimal body composition of each member in the unit. Duty time must include physical training as an integral part of mission requirements. Commanders will offer a unit-based program at least 3 times a week conducted by trained Physical Training Leaders. The program will meet the current ability level of the members while encouraging and challenging members to progress to a higher fitness level. The annual fitness assessment provides commanders with a tool to assist in the determination of overall fitness of their military personnel. The 1.5 mile timed run or cycle ergometry, body composition, push-up and crunch tests are designed as a measurement of the effectiveness of the physical training program. However, training should not be limited to these test activities. The unit fitness program should incorporate activities to develop overall fitness, offer variety, and decrease repetitive strain injuries. Group sporting events such as volleyball, softball, etc. may be considered for esprit de corps, but not as a group physical training program.

Key Responsibilities

Wing Commander

- Provides an environment that supports and motivates a healthy lifestyle through optimal fitness and nutrition
- Encourages and supports unit fitness programs
- Reviews unit/squadron fitness metrics at least quarterly; ensures members maintain currency

Unit/Squadron Commander

- Implements and maintains a unit/squadron physical training program
- Appoints physical training leader (PT leader) to conduct unit PT and fitness assessments.

Unit Fitness Program Manager (UFPM)

- Oversees the administration of the fitness program for the unit
- Notifies the unit commander of members failing to attend scheduled fitness appointments

- Provides fitness metrics and unit status report to the unit commander/unit leaders monthly.

Immediate Supervisor

- Participates, supports, and promotes an overall understanding among personnel regarding the fitness program.
- Allows member up to 90 minutes of duty time for PT three to five times weekly; in cases where mission prohibits a member from participating in PT, the commander or first sergeant should be notified.
- Promotes participation in unit physical training programs.
- Ensures all subordinates complete scheduled fitness assessment and attend all required education/intervention appointments.

Physical Training Leader (PTL)

- Attends an initial physical training leader course instructed by Health and Wellness Center staff prior to overseeing and conducting the unit fitness program.
- Leads unit physical training (PT) program that is approved by the unit commander and the Fitness Program Manager
- Oversees and administers unit fitness assessments
- Maintains a good/excellent fitness level

Fitness Program Manager (FPM)

- Oversees administration of the installation fitness program
- Provides guidance and approval of group physical training programs to ensure safety and effectiveness of programs for unit/squadron commanders
- Trains unit PT Leaders to lead unit PT and conduct fitness assessments
- Conducts periodic quality checks on physical training and testing to ensure safe and effective fitness programs.
- Trains and certifies Fitness Assessment Monitors initially and renews certification annually
- Conducts Staff Assistance Visits on unit physical training and fitness testing as requested

Fitness Assessment Monitor (FAM)

- Conducts cycle ergometry assessments at the Health & Wellness Center
- Refers members with questions concerning the fitness program, safety, or their test score to the UFPM or FPM.

Military Treatment Facility Provider

- Reviews cardiovascular risk screening on all members during PHA evaluations to determine risk level
- Assess members at each visit and on request of their ability to fully participate in exercise and in fitness testing
- Evaluates members who remain in poor fitness level for 6 months for medical cause for inability to improve

Partnering

Health and Wellness Centers/Health Promotion Teams provide a wealth of knowledge and expertise. When developing a fitness program for the unit/squadron/group, consult with the Exercise Physiologist, who can provide guidance in the development of fitness programs to ensure safety and effectiveness. Programs should include variety and different levels of intensity to meet the various needs of the beginner up to the advanced exerciser. The Exercise Physiologist and Dietician/diet therapy technician can provide individualized counseling to members who need additional assistance. The Health and Wellness Center (HAWC) offers many programs to assist members in increasing his/her health and fitness. The HAWC will provide the Healthy Living Workshop, a program consisting of 3 educational components—behavioral change, nutrition and exercise, for all members who score in the poor and marginal categories. Commanders can refer members to the HAWC for additional assistance at any time.

Fitness Centers provide facilities to help facilitate group and individual fitness programs. Fitness Centers will conduct Fitness Improvement Programs, such as circuit training classes, spinning classes, and traditional aerobic classes. Coordinate with fitness facilities for group PT exercise sessions utilizing fitness equipment as well as participation in fitness classes. Coordinate court reservations with Fitness Centers. Try to reserve courts at off times. Consider what community resources are available for you to use to accomplish the fitness testing. For example, if you are at a base where weather may prohibit year round testing, consider utilizing a facility that may have an indoor track. *Please refer to Services Support of CSAF's New Fitness Program.*

Commanders

Unit Commanders will be the strongest advocates for the fitness program. Not only are they responsible for creating a fitness environment but their programs will play key roles in inspections.

Nutritional Medicine

The services offered by nutritional medicine are extensive and are not just for those who need to lose weight. They can assist in helping individuals who have specific needs as well as those wanting general nutrition information.

Behavioral Medicine

The varied programs offered through behavioral medicine can benefit the member in many different ways.

Section 3

Basic Physical Fitness Components

By definition, the term physical activity refers to “any bodily movement produced by skeletal muscles that results in energy expenditure.” Exercise is a part of physical activity and defined as “the planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness.” The following are the four components of fitness.

- **Cardiovascular or Aerobic Endurance**
- **Muscular Strength/Endurance**
- **Flexibility**
- **Body Composition**

The F.I.T.T.E.R. Principle

The F.I.T.T.E.R. Principle is a simple acronym that can be applied to the four components of fitness.

- **Frequency:** Developing fitness requires regular exercise. This is best expressed in number of days per week and can vary with the individual’s goals and needs.
- **Intensity:** Fitness benefits occur when a person exercises harder than their normal level of activity. The appropriate exercise intensity varies with each fitness component.
- **Time:** If fitness benefits are to occur, exercise sessions must last for a specific period of time.
- **Type:** The type of exercise that you perform must be specific to the desired goal.
- **Enjoyment:** Try to choose exercises and a workout schedule that you are more likely to enjoy and adhere to.
- **Rate of Progression:** Set weekly or daily goals to improve some aspect of the workout. Remember to start at an appropriate level to your current fitness level for safety.

Components of an Exercise Session

Exercise sessions can be divided into distinct components, which have a primary purpose. The purpose is designed to ensure safety as well as effective utilization of the session.

Warm-up: This key component is a must in every exercise session. Designed to prepare the body for the upcoming workout and to reduce injury. The activity lasts 5-10 minutes and involves using the large muscles of the body in a slow and rhythmic movement. An active warm-up is ideal. It increases blood flow to the muscles and prepares the muscles for the

activity. It's best to choose a warm-up activity that emphasizes the same muscles you plan to use. This can be as simple as walking before you initiate a run.

Cardio/Aerobic Phase: Cardiovascular endurance is the best defense against cardiovascular disease. The activity involves the use of large muscle groups over a prolonged period of time and is rhythmic and aerobic in nature.

There are several benefits gained from aerobic training:

- An increase in maximal aerobic capacity, essentially a stronger heart, lungs, and circulatory system.
- A decrease in the resting heart rate since the heart does not have to work as hard.
- A decrease in blood pressure both at rest and during exercise.

Muscular/Anaerobic Phase: Our body is made up of over 650 muscles making it the largest tissue in the body. In general, men are approximately 45% muscle, while women are approximately 36% muscle. The actual muscle is made up of millions of muscle fibers.

Benefits of Weight Training

- **Improves Body Composition!** Your lean weight is made up of bones, organs, (even skin), and muscles, which makes up approximately 50%. As you age, your percent body fat increases because you lose muscle at the rate of ½ pound per year. Strength training can help prevent this at any age.
- **Increases the metabolic rate.** Even at rest, muscle is very active tissue that requires up to 45 calories per pound per day. Thus, sensible strength training is an excellent way to avoid decreases in your muscle mass and metabolic rate.
- **Increase bone density.** This is especially important for women who are trying to reduce the risk of osteoporosis.
- **Prevention of injury.** The better conditioned your overall body is, the less risk of injury.
- **Perform daily activities without fatigue and improve ones posture.** Make sure to train your muscles evenly so proper posture is attained and muscle imbalances do not cause injury. Remember to stretch what you strengthen and strengthen what you stretch!
- **Self-esteem.** Self-confidence is a complex issue but most people who strength train will not just look better but feel better about themselves. Greater strength is associated with better functioning, more independence, and higher satisfaction.

Cool Down and Stretching: Cool downs are just the reverse of the warm-up. You should ease out of the activity and allow the body to cool down. It prevents blood from pooling in one place, which could lead to fainting, nausea or dizziness. Stretching is part of the post-workout phase and is an excellent way to relax. Stretching helps maintain and improve flexibility. Tendons tightening as you age and throughout a workout, stretching helps lengthen the muscles and tendons allowing for greater ease of movement.

Training Principles

The body has an initial response to exercise and with training over time, certain physiological adaptations occur. The changes occur because of the chronic exposure to exercise. However, certain training principles determine the specific types of changes that can happen. With all training principles is the underlying knowledge that each person is an individual. No matter what the type of training, each person will adapt as only his/her body is genetically coded. Heredity plays a major factor in the ability of individuals to attain a certain degree of exercise performance.

Overload Principle: For a system (aerobic or anaerobic) to improve it must be challenged beyond its current level of training. When the overload is consistent, the body will adapt to the overload and become more efficient. If the overload is in strength training, then that muscle becomes stronger or had greater endurance.

Specificity Principle: This key concept relates to the type of training performed and the particular system targeted. For example, a runner must run to become proficient at it. The gains made in fitness are specific. While there may be some cross-over in training, such as a bench press will assist in performing push-ups or high velocity biking can help in running, the training must be specific to the desired goal.

Progression Principle: This principle goes along with the overload principle. The overload to the system must be performed in a slow progression. This is to allow for the energy system to adjust safely and to prevent injury. There are three specific phases to the progression principle.

Phase I:

- Initial stage, 4-6 weeks in duration
- Body is adjusting to the changes
- Learning process

Phase II:

- Improvement stage, 4-5 months or until goal is achieved
- Body is use to exercises
- Time to apply training principles to improve

Phase III:

- Maintenance stage, >6 months
- Changes to program as necessary, big changes might put you back to Phase I

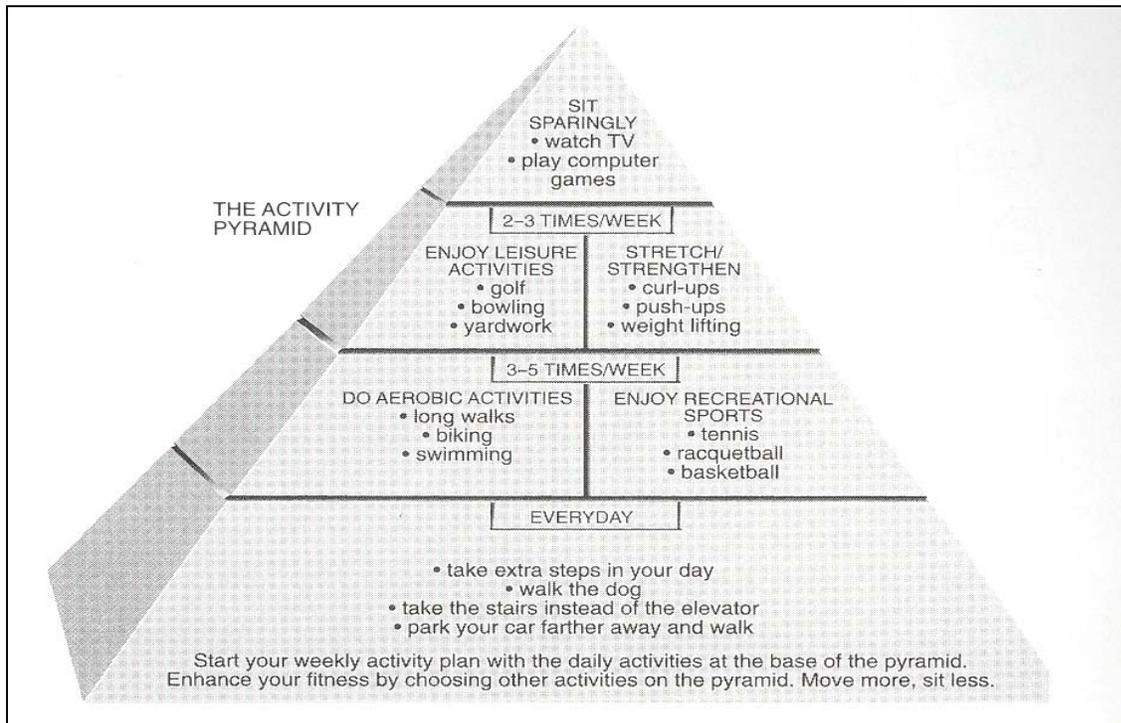
Regularity/Reversibility Principle: Fitness is an ongoing process. For improvements to occur there must be a regular change or adjustment to the workout. Detraining occurs rapidly and the benefits of exercise are lost twice as quickly as the initial gains are made. For a short period of time you can decrease the frequency of the exercise as long as you maintain the intensity and retain the level of fitness.

Balance Principle: It is extremely important to ensure the workout is balanced both between energy systems and within each system. That means that both the aerobic and anaerobic system must be trained. Within the aerobic system it's important to work on different types of training,

i.e. steady state exercising, speed work, interval training, etc. With strength training it's important to work opposing muscles groups to maintain balance and prevent injury.

Activity Pyramid

Similar to the food pyramid, the activity pyramid is suggested as a model to facilitate the adoption of a progressively more active lifestyle.



Section 4

Cardio/Aerobic Endurance

Aerobic means “with air” or with oxygen. There are two main groups of aerobic activity. The first is **primary** activities. Primary relates to those activities that are more continuous in nature such as running, biking, walking, rowing, stair climbing, or cross-country skiing. **Secondary** activities are more stop and go, or discontinuous, going from very intense to very light intensities such as racquetball, basketball, softball, or golf. These activities have more anaerobic (without air) characteristics in their make-up. Aerobic endurance is measured by the amount of oxygen the body uses during exercise. An individual's VO_2 max is a term used specifically to determine the maximum amount of O_2 used during an all out exercise performance. Everyone has a VO_2 max but most of us will never work to that potential. Both cycle ergometry and the 1.5-mile run is correlated to an estimated VO_2 and the measurement is stated in milliliters of O_2 per body weight per minute (ml/kg/min). For example, an ergo score of 30 means the individual uses 30 milliliters of oxygen every minute. The greater the VO_2 , the greater the consumption of oxygen, the greater the performance.

F.I.T.T.E.R.

Frequency: 3-5 days/week

Intensity: 60-90% of max Heart Rate

Time: 20-60 minutes

Type: Walking, running, cycling, swimming, etc.

Enjoyment: Select activities you are more likely to maintain, that fit into your schedule and that you like

Rate of Progression: Walk → Jog → Run

Determining Intensity:

Calculate your Target Heart Rate Zone

The Target Heart Rate Zone (THR) is the optimal range for the heart rate during the aerobic portion of an individual's exercise session.

Step 1: To estimate Maximum Heart Rate, use the following formula:

$$220 - \text{age} = \text{Maximum Heart Rate}$$

$$220 - 20 = 200$$

Step 2: Multiply 60% and 90% of maximum Heart Rate

$$(200 \times .6 = 120 \text{ and } 200 \times .9 = 180)$$

Step 3: The estimated Target Heart Rate range is: 120-180 beats per minute

Taking Your Heart Rate

Take your heart rate while exercising because as soon as you stop the heart rate will drop quickly. How fast your heart rate drops depends on your fitness level. You should never stop moving completely, continue an active cool down. Place the first two fingers (not the thumb) on the inside of your wrist to feel for your pulse. Count how many times your heart beats for 10 seconds, multiply by 6 to obtain beats per minute. For a 6 second count, add "0" to obtain beats per minute. You can also take your pulse at your neck or carotid artery, be extremely careful in this method as pressing too hard on both sides at the same time can result in problems.

For people who may be on medications that increase or decrease their heart rate, the Rate of Perceived Exertion (RPE) scale is a good way to monitor exercise intensity. It is a subjective scale where you are rating how hard you perceive you are working.

Rate of Perceived Exertion Chart

6	No exertion at all
7	
8	Extremely light
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very hard
18	
19	Extremely hard
20	Maximal exertion

Talk Test

A final method of checking the level of exercise intensity is the "talk test." This simply means that an exerciser should be able to talk to someone during a workout with only slight strain in the conversation. If the exerciser can't because of lack of breath, the level of intensity is too high and should be lowered.

Section 5

Muscular Strength/Endurance

It is not possible to have muscular strength without endurance or to have endurance without strength. Both concepts work together to perform a strength movement. However the terms can be defined by the following:

Muscular strength:

The amount of force that a muscle can produce with a single maximum effort such as a 1 Repetition Max.

Muscle endurance:

The capacity of a muscle to exert force repeatedly against a resistance or to hold a static contraction over time. This would include repeated sets and repetitions.

Benefits of weight lifting

- Reduce high blood pressure
- Reduce cholesterol
- Promote positive changes in bone density
- Promote positive changes in body composition
- Increase lean muscle mass and strength
- Help in maintenance of a healthy body weight through increased daily calorie expenditure
- Increase balance, coordination, and body awareness
- Prevention of injuries from daily activities and physical activity
- Accelerate rehabilitation and return to personal and occupational activity after injury
- Improve sport performance
- Decrease fatigue from normal daily activities
- Contribute to positive body image, self-esteem, and self-confidence

Proper Body Mechanics

The body tends to favor selected muscle groups. One muscle or muscle group naturally remains stronger while another remains weaker. A lack of balance between muscle groups can affect your posture, movement and even increase your risk of injury. So it is important to *strengthen what you stretch and stretch what you strengthen!* For example, the chest and back muscles should be evenly strengthened such that proper body mechanics and posture can be maintained.

Body mechanics is the science of movement and thus it can relate to how we lift, push, pull and carry things. Whether lifting weights in the gym or picking up a baby at home, it is imperative that proper body mechanics be used to prevent back pain and avoid injury. Statistics show that 8 out of 10 people experience low back pain (LBP) and 75% of LBP is due to improper body mechanics when lifting. With the new fitness program that tests strength and flexibility, as well as aerobic conditioning, many of us will be lifting, pushing, and pulling weights in order to

increase body strength. People need to use good posture and body mechanics to decrease risks of injury to their backs. A “neutral” spine neutral lordosis or “hollow” in the low back and neck with a moderate opposite curve in the mid back will result in a balanced spine. When lifting, pushing, pulling, or carrying use the 7 Basic Lifting Concepts below to prevent your back from hurting.

7 BASIC LIFTING CONCEPTS

1. Bring weight close to you – against your body is best.
2. Establish a good wide base of support – feet should be at least shoulder width apart.
3. Lift with your feet not only shoulder width apart, but diagonally, with one foot slightly in front of the other. This provides better forward/backward support.
4. Lock the hollow in your low back – by raising the chin to a level position, which places a slight hollow in the neck. This neck hollow will assure proper low back posture.
5. Inhale to stabilize this neutral or “Balanced Spine” posture.
6. Lift with your legs, while keeping the “Balanced Spine” posture”.
7. Never twist with a load, forward bending and twisting is the most common position for injuring the low back while lifting – pivot with your spine balanced instead

Strength Exercises

Healthy adults should perform a minimum of 8-10 exercises involving the major muscle groups a minimum of 2-4 times per week with a day of rest in between. At least one set of 8-12 repetitions to near-fatigue should be completed during each session.

Strength building exercises can be done with free weights, elastic resistance bands, and resistance machines or by performing callisthenic exercises. Callisthenic exercises use the body’s weight and the force of gravity as resistance. For some muscle groups, such as the abdominals, calisthenics may be the exercise of choice.

With free weights or machines, find a resistance or weight that you can do no more than 8-12 repetitions and then perform a minimum of two sets of each exercise. When you can do 12 repetitions for three sets, add enough resistance to bring you back to 8 reps and continue with that resistance until you can perform 10 to 12 reps at the new weight. An advantage of free weights and machines over calisthenics is that overload can be adjusted more easily as your strength increases.

Guidelines for a safe and effective strength program:

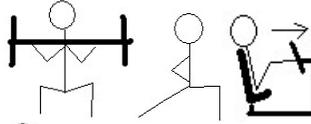
- ❖ Use proper warm-up and stretching activities before the workout.
- ❖ Begin with exercises that work the large muscle groups before going to the smaller individual muscles.
- ❖ One example workout can alternate exercises requiring a “push” motion with those requiring a “pull” motion.
- ❖ Lift all weight resting on the floor with the legs rather than the lower back. When possible, keep the weight close to your body during the lift for good stability.
- ❖ Breathe normally and do not hold your breath or grunt. Exhale on the effort.

- ❖ Work the joint through the full range of motion to build strength and increase flexibility.
- ❖ Take your time. Work the muscle slowly and gradually.
- ❖ Work out with a partner, especially when you are doing high intensity workouts with free weights.
- ❖ Drink plenty of water before and during your exercise session, particularly when in a hot or humid environment.
- ❖ Allow at least one day of rest in between strength sessions.

Getting started with weights:

Focus on these large muscle group exercises to get the most out of your workout while burning up the most calories. These exercises can be accomplished in a 15-20 minute workout.

LEGS: Leg press (squats, lunges, step ups, knee bends, machine)



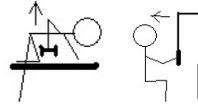
Leg extension (machine)



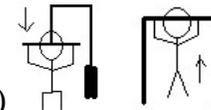
Leg curl (machine)



BACK: Back Row (dumbbell row, machine)



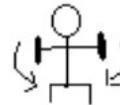
Lat pull-down (pull-ups, assisted pull-ups, machine)



CHEST: Chest Press (Bench press, dumbbell press, machine)



Flys (supine position with dumbbell, machine)



Smaller muscle group exercises: Biceps curls, Triceps ext, shoulder press, calf extensions, abs

How often? 2-3 times a week, 2-3 sets of each exercise.

How much weight? Look to do about 8-12 repetitions. Go to muscle fatigue and if you can do more than 12 repetitions raise the weight, less than 8 repetitions lower the weight.

Setting Personal Goals:

(from National Strength and Conditioning Association)

Basic Goal	Definition	Training Method	Other training goals
Muscular Endurance	The ability of a muscle or muscle group to perform repeated contractions against light load for an extended period of time.	Use lighter weights; complete 2-3 sets of 12-15 repetitions; take a shortened rest period of 30-60 seconds between sets; train to moderate fatigue.	A well accepted training method for beginners, promotes muscle tone; aids in injury prevention and rehabilitation; promotes good posture; promotes healthy body composition.
Muscular Hypertrophy	Increase in muscle size/ muscle mass.	Use moderate to heavy weight; complete 2-4 sets of 6-8 repetitions; rest 30-90 seconds between sets.	Increase muscle mass; increase general strength; promote sport performance; promote healthy body composition.
Muscular Strength	The maximal force a muscle or muscle group can generate in one maximal effort.	Use heavy weight; complete 3-6+ sets of 1-6 repetitions; rest 2+ minutes between sets.	May aid in injury prevention; promotes good posture; improves sport performance; promotes healthy body composition; increase general strength.

Section 6

Flexibility

Flexibility is the ability to move a joint fluidly through its complete range of motion. Flexibility is a very important, but many times a forgotten part of fitness. It can improve range of motion and reduce injury by allowing for greater movement and reduce the tightness of the muscles and tendons. There are two types of stretches: dynamic and static. Dynamic stretching relates to slow stretching with movement that can warm up the cardiovascular and musculoskeletal system. Static stretching should be held for at least 10-20 seconds. This is the ultimate form of improving one's flexibility and range of motion around a joint. All stretches should be performed slowly and with full control. *Never* stretch to the point of pain and don't bounce while the muscle is fully stretched. Bouncing can cause injury. Proper breathing is also important. Inhale before the stretch and exhale during the active phase of the stretch. Stretches prior to a workout and after a warm up should begin with gradual mobility exercises of all the joints to be used. Simply rolling the shoulders and bending your arms will allow the body's natural lubrication (synovial fluid) to protect the surface of your bones at these joints.

Stretching points:

1. After exercising, cool down your body to avoid blood pooling within your muscles, which can lead to muscle cramps and dizzy spells.
2. Never bounce while stretching.
3. Hold stretch until you feel the muscle loosen off, then repeat for another 15 sec.
4. While stretching you should feel slight discomfort.
5. Stop immediately if you feel any severe pain.
6. Breathe regularly and rhythmically; do not hold your breath.
7. Start with your legs and work up the body.

Appendix 1 contains sample stretching exercises.

Section 7

Body Composition

Body Composition is the relative proportion of lean body tissue (muscle, bone, organs, and water) and fat in the body. Various methods of assessing an individual's body composition are available. Examples are the AF tape measurement, skin fold, bioelectrical impedance, and hydrostatic weighing. Each form of assessment has a different specificity and sensitivity, so that no one assessment is 100% accurate. However, the "gold" standard, is the hydrostatic weighing with a 2-3% error in measurement.

The AF assesses body composition by measuring the abdominal circumference, a horizontal measurement taken on bare skin on the upper hipbone and top of the right iliac crest. Studies have found that the abdominal circumference is a better predictor of mortality than Body Mass Index. The measurement is highly reproducible and unrelated to height or ethnicity. There is less chance of error because it is easier to administer and members can easily track their progress by assessing fat content before and during fat loss.

Section 8

Nutrition

Basic nutrition guidelines

- Small frequent meals
 - Cornerstone for improving performance and helping with weight loss
- Eating every 3-4 hours (3 meals per day minimum) is ideal
- Eating as soon as possible after exercise is paramount for maximal recovery!
- Consuming a variety of foods (especially fruits and veggies, for their antioxidant content) will ensure maximal nutrient density of the diet

Biggest mistake folks make is not eating frequently through day... this can...

- 1) slow metabolism
- 2) allow the member to get so hungry that they overeat when they finally do get around to eating
- 3) hurt performance (run time and number of push-ups & sit-ups)

It is important to maintain a variety of foods in the diet especially fruits and vegetables because these are the richest sources of Vitamin C, Tocopherols (vit E), and Carotenoids (Vit A)...these antioxidants have lots of research supporting their consistent consumption.

If You Are:	Male	Female
Trying to lose weight	1500-1800	1200-1500
Trying to maintain weight	1800-2000	1500-1800
Active: add 200 –300 calories to the above category that applies to you		

** Active: a minimum of 3 days per week of 30 – 60 minutes of aerobic activity

Members may ask you “how many calories should I consume a day?” Here is a guide and they can also use the web sites listed in your workbook that calculate estimated calorie levels. Understand these calorie levels are just simple starting points and can be adjusted/modified as a situation warrants. These calorie levels also represent safe calorie ranges and give you a guide to know what members should not be going below, in order to lose weight effectively and most importantly, safely.

The nutrition professional in the HAWC is the best person to provide an individualized calorie level.

Extreme Calorie Restrictions

For Women < 1000-1200

For Men < 1200-1500

- With calorie levels lower than these the risk for malnutrition and nutrient deficiencies goes up.
- The member will likely feel miserable (in general) and even worse during physical activity.
- Basal Metabolic Rate will likely decrease

–Weight loss tends to be more from muscle than from fat

Do not allow members to take extreme measure with calories. Frustrations with “no progress” might tempt them to try an extremely low calorie diet. In the short and long term, this will only be detrimental.

Members must control portion sizes to have any chance of success.

•Portion Control guidance:

–Palm of hand

–Deck of cards

–Fist size

•Aim for 3-4 “portions” per meal and 1-2 per snack

The simple recommendation of 3-4 portions per meal (3 meals per day) and 1-2 portions per snack will get folks very close to the 1200-1800 kcal ball park.

Hydration

•Achieving adequate hydration is very important for performance and maximizing weight loss

•Drink 10 to 12 cups throughout the day at a minimum

•30-60 minutes before exercising drink 1-2 cups of fluid, as tolerated

•Immediately following exercise replace fluid (16 oz for every pound of body weight lost)

Being adequately hydrated is an often overlooked component of health and fitness. Dehydration can:

1) Impair performance

2) Lead to constipation

3) Impair body’s ability to burn body fat

4)Make sure you stress hydration while leading PT, immediate weight loss during exercise is only water weight loss and will be regained immediately after water is consumed, so drink while exercising to prolong your ability to exercise and burn calories.

FAD Diets

•Promote quick & easy weight loss

•Limit types of food selections

•Rely on testimonials

•Promoted as cure-all

•Often need supplements/special foods

•No attempts to change long-term eating habits and lifestyles

•Often have contempt for the scientific & medical community

•Don’t waste your time!

There are so many fad diets out there... however, they all share these common characteristics.

There is no benefit that members will achieve that would even remotely make it worth trying a fad diet.

•Initial weight loss nothing but fluid/glycogen

•Lost weight will typically return after resuming normal diet

•Difficult to maintain diet over long-term

•Will negatively effect performance, especially the run time, the largest component of the fitness test

•Diet is low in antioxidants (potentially detrimental to exercise recovery and immune system)

- Don't waste your time!!!!!!

The Atkins diet receives tremendous press, and everyone knows someone who has tried it and lost weight.

However, did they keep the weight off? Highly doubtful.

For all the reasons listed, encourage members to avoid the temptation of the Atkins diet

Unrealistic/Unsafe Behaviors

- Daily weighing

–Due to normal daily fluctuations it is pointless to weigh every day. Focus on behavior change and weight loss will come. Stick to weekly weighing at most.

- Diuretics, Laxatives, and Saunas

–Increases risk for dehydration, electrolyte disturbances, and heat related illness

- Body wraps

–Although otherwise safe, any reductions in abdominal circumference will be very short lived

- Extremely low calorie diets

–As discussed...a bad idea

Again, encourage members to stick with the basics. There are no shortcuts, pills, potions, techniques, or “magic” that will speed up their progress or allow them to avoid good daily portion control and consistent exercise

Section 9

Safety

Health Risk Factors

An individual's lifestyle choices can affect his or her health and risk factors for disease. Smoking, obesity, sedentary lifestyle, high blood pressure, high cholesterol, diabetes, age, gender and family history of premature heart disease are risk factors for cardiovascular disease. In order to reduce the incidence of heart disease, an individual should make every attempt to eat healthy, exercise, and reduce stress.

Pre-participation Screening

Generally, exercise programs are safe for most people. However, if you have risk factors for heart disease or certain symptoms/medical conditions it may be necessary to complete a pre-participation screening questionnaire. The AF requires screening prior to testing to determine which type of cardiovascular test an individual will take, 1.5 mile run or cycle ergometry assessment for members exempted from running. The screening should occur within 30 days of the test and if positive answers are annotated on the questionnaire, a visit to the medical provider may be necessary.

Special Populations/Considerations

Arthritis: Arthritis patients need to exercise lightly and regularly to maintain range of motion (ROM). Stretching is important. It is often a good idea when arthritis is flared up that one should rest for 1-2 days, in order to let the condition calm down. After this rest period, it is good to restart exercise but with very light resistance, few repetitions, and but more frequent exercise sessions. Once the exacerbated period is over then heavier weights, more repetitions, and less frequent sessions are appropriate. Water exercises are excellent for people with arthritis.

Back Pain: Most individuals with back pain can do some type of aerobic, flexibility, or strengthening exercise. If the back is in an acute flared up state then a brief few days of rest is in order. Otherwise, some form of lower impact aerobic exercise, mild stretching or slow progressive strengthening exercises can be performed. Water exercises are also good here.

Knees/shoulder: There are many alternative types of exercises people can do without aggravating existing knee or shoulder pain. In fact, a ROM or strengthening exercise done in a pain free range can even reduce or alleviate the pain. The key is to distinguish between an injury and a hurt. Injuries get worse with too much exercise but hurts can get better.

Hypertension: Proper aerobic exercise can actually reduce hypertension or high blood pressure. If taking medication for hypertension check with your physician for your exercise heart rate

range or have explained perceived exertion guidelines. Some medications can alter your heart rate. This is why perceived exertion is used to determine acceptable intensity levels. Hypertensive patients can do strength training but should be careful to avoid heavy weights and the Valsalva maneuver.

Asthma: Individuals with asthma should be reminded to keep their inhaler close by while exercising and be aware of the environmental conditions. It is a good idea to use an inhaler 20-30 minutes before exercise and watch environmental conditions closely. Lower intensity should be encouraged with a longer warm-up and cool-down.

Pregnancy: During pregnancy, women can continue to exercise and derive health benefits even from mild to moderate exercise routines. They should be aware of the decreased oxygen available for aerobic exercise during pregnancy and be encouraged to modify their intensity. According to the American College of Obstetricians and Gynecologist's guidelines in 1994 stated, "There is no data in humans to indicate that pregnant women should limit exercise intensity and lower target heart rates because of potential adverse effects." The new guidelines recommend the perceived exertion scale be used to determine acceptable intensity levels. However, pregnant women should avoid lying supine for more than 5 minutes after the fourth month of pregnancy, due to the possibility of an adverse effect on cardiac output.

Environmental Concerns

There are several risks posed by temperature that we may have to deal with during exercise. Performance can be affected and more importantly our personal safety may be at risk.

COLD:

Exercising in cold weather can be a concern for the main reason that we can lose too much body heat, otherwise known as hypothermia. We can limit the possibilities of this happening by ensuring we wear layers of clothing. As your body begins to warm up and the cold is kept at bay by the layers, you can shed an outer layer to maintain your comfort. If you still are too warm, shed another layer so you are able to maintain your body heat, but not at an extreme level that makes you uncomfortable.

The type of clothing worn is a factor as well. Cotton t-shirts should be avoided for the main reason that they tend to get wet from perspiration and stay wet, trapping a layer of wet material next to your skin. This in turn causes your temperature to drop due to excessive heat loss. Special fabrics are available that help wick the moisture away from your body and ensure a layer of dry air is maintained next to your skin which helps keep your body warm.

Hats are an important item for those exercising in the cold. It is true what your mother told you when you were young; a large amount of heat *is* lost through the head. Keeping a hat on can definitely help maintain your body heat. Keeping your extremities warm is important, too. As you get colder, blood is shunted away from your fingers, toes, hands, and feet to help keep your body core warm. This is the reason extremities are often the first part of your body to turn cold. It is therefore important to keep these parts warm by wearing properly insulated gloves and appropriate footwear. Maintaining dry clothing is again an important factor.

HEAT:

Heat poses an entirely different set of risk to our safety. Typically our bodies do a great job of keeping cool through the sweating process. But add to our intense exercise high air temperature and then high amounts of humidity and we are at risk of a variety of heat related illnesses.

Knowing how to keep cool is our first line of defense when it comes to combating the heat. Clothing again plays an important role. Light, loose fitting clothing is again the best choice, including cotton fabrics that absorb water. Wearing a shirt in the sunshine is probably a good idea instead of going without one (guys). But keep in mind the reflective affects of some lighter colors as opposed to dark colors that absorb the heat. Additionally, try to avoid exercising during the hottest part of the day. Utilize early mornings or cooler evening times to keep heat injuries from taking a toll.

Proper hydration is a must! Hydrate long before exercise, during exercise and after exercise. Keep fluids coming into your body and ensure proper hydration by checking the color of your urine. It should be clear. Any other color and you probably are not hydrated as well as you should be. If you are thirsty then you are already behind in fluid intake. (Refer to hydration section of Nutrition.)

Another way to help combat the heat is by getting yourself acclimated by constant exposure to the heat in as short a time as 7 – 14 days. This process will help regulate body temperature more effectively. During this acclimatization phase is again important to stay well hydrated. This is a time you may need to decrease the intensity of the exercise too, because the higher the intensity, the greater the heat production.

Three specific heat illness need to be addressed so the warning signs are apparent before the problem gets out of control. **Heat cramps** are often the first symptoms we may experience, telling us we were headed for trouble. These can result from excessive fluid loss and should be considered a sign telling us to slow it down and get some fluid into our bodies. Typically these cramps will subside if the activity will subside.

The next level of heat illness or injury is **heat exhaustion**. This will happen when the body's temperature increases significantly and severe muscle fatigue occurs, thirst can be present, dizziness, and headache. Stopping the activity is a must and getting to a cool environment to rest and begin re-hydrating is the next step.

The third level of illness is **heat stroke**. This is when the body can lose the ability to cool itself. Severe dehydration has occurred, and the skin is usually very hot to the touch, and dry. Extreme symptoms are nausea and vomiting, disorientation, and possibly even unconsciousness. If heat related illness progress to this point it becomes a dire emergency. Medical attention is necessary at this point and a rapid cooling of the body's core temperature is needed to occur.

For personal safety during the heat, the simplest thing to do may be to take a day off. Rest!

Traffic Safety

Use sidewalks and trails whenever possible. When running in traffic, run against the traffic and when cycling in traffic, cycle with the traffic. Use reflectors when exercising, especially during early morning and evening hours when daylight is compromised. Identify local areas that have been designated as approved running courses and define local policies.

Spacing

Common sense prevails, but you should have enough space between individuals in all four planes so that the individual can freely perform standing and lying exercises. General rule of thumb is arms extended plus one foot on each side and front and back.

Clothing

Select clothing that fits comfortably and allow for free movement. Ensure that you are geared for appropriate weather conditions—wear layers of clothing in the cold season and water resistant clothing in the warmer climates. Do not wear rubber or plastic suits and to induce “sweating off the pounds”. Avoid nylon or tight clothes that interfere with the cooling mechanism of the body or obstruct normal blood flow

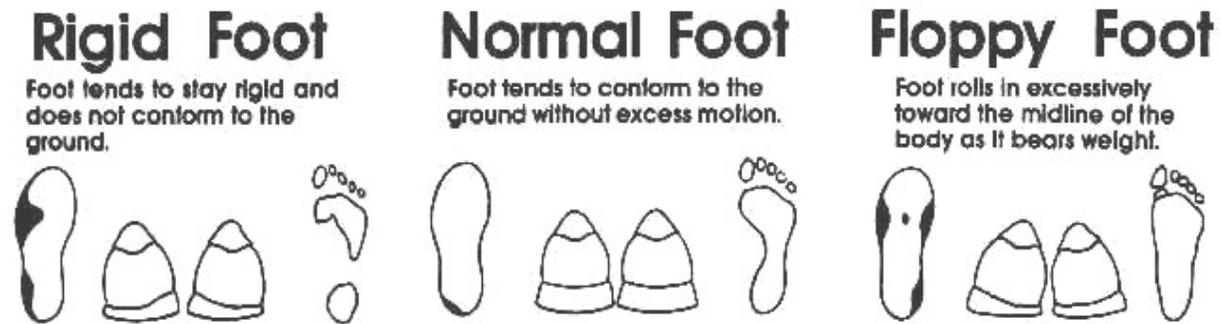
Medical Emergencies

Cardio-Pulmonary Resuscitation (CPR)/Automated External Defibrillators (AEDs)/ Medical Support Procedures - the chain of survival for members who experience cardiac arrest includes a series of actions that significantly decrease the likelihood of mortality. These include: 1) early recognition of cardiopulmonary arrest, 2) early application of CPR, 3) early defibrillation when indicated, and 4) early advanced cardiac life support. As the squadron commander, you are responsible for ensuring appropriate members of your unit are trained in CPR procedures. Prior to implementing a unit physical training program, you should also establish and communicate procedures on obtaining early medical support. You should be aware of the location of any AEDs that have been installed at your duty station. You may want to consider having a First Aid kit available and a cellular phone for emergency calls.

Running Concerns

How to Determine Foot Shape

The shape of your foot determines the type of shoe you purchase. The proper shoe can help to alleviate injuries. The following wet foot test is an easy way to determine foot shape. First get your foot wet and then stand on a surface that will leave a visible imprint like a brown paper bag or concrete. Below you can see the footprint and the type of foot you have.



The rigid foot has a high arch, under pronates and is a poor shock absorber. The best shoe for the rigid foot is one that supplies cushion.

The normal foot has both a normal arch and pronation and requires a stability shoe.

The floppy foot has a low arch and overpronation (excessive inward rolling of the foot). A motion control shoe is the best selection for this type of foot.

Although it will be more expensive to purchase shoes at a specific running shoe store, these types of stores have the best selection and expertise. Shoes are categorized by type (cushion, stability or motion control) and a variety of prices and brands are available. And remember, running shoes should only be used for running and not used for other activities, remember specificity; it even applies to your shoes.

Shoe Buying Tips

The best time to purchase shoes is at the end of the day since your feet swell during the day. Allow for a thumbs width difference between the end of your big toe and your shoe. Be sure to wear the same type of socks you will be running in when trying on shoes. If you have prescription orthotics or even over the counter inserts, be sure to bring them along. Shoes should feel comfortable, go for feel not style! And because shoes break down, plan on replacing them every 300-500 miles.

Running Surfaces

The surface you run on is almost as important as the type of running shoe. And in some instances you will have no choice on the type of surface you use. There are advantages and disadvantages to every surface and some people tolerate any surface without any problems but here are a few things to think about if you have a choice.

Concrete is the hardest and most unforgiving surface but it is usually very level and stable. Asphalt is usually flat and does offer some shock absorption but can have a crowned edge, which causes an awkward gait. Cinder tracks offer more shock absorption but the loose gravel can create problems. While trail running offers a nice change of pace, the variable surfaces require you to be extremely alert to the trail to avoid traumatic injuries. Grass is the softest surface of all but also has the highest incidence of injuries. Rubberized tracks are found in many places and offer the best of all conditions, shock absorption and a level surface.

Injury Prevention

In the event that you do “over do it”, use the RICE method for treating minor injuries:

R: Complete rest (no activity or very minimal) for at least 48-72 hours after initial injury (severity of injury will determine if REST period should be extended).

I: Ice 20-30 minutes at least 2-3 times per day (more is better) for at least the first 72 hours, but up to 7 days + if needed. Ice helps decrease pain and control edema/inflammation (swelling).

C: Apply elastic wrap as much as possible first 72 hours to help minimize inflammation.

E: Elevate affected part as much as possible during initial 72 hour period (higher than the heart if possible). Elevation is essential for healing in that it limits fluid pooling and encourages venous return, which helps decrease overall tissue damage (smaller area to be repaired).

Increasing volume of activity may include changing the mode of exercise to a moderate or non-weight bearing exercise (stationary cycling; swimming; pool running) until back to full function/ROM

Slow Progression: Adding too much mileage or time is one of the key culprits of overuse injuries. The body needs adaptation time! Interval training programs are key to help individuals adapt to increased mileage.

Running Shoes: Tailor to the foot, not the fashion! What type of arch support is needed-- high, medium or low arches?

Cross Training: Varying the activity gives the body time to recuperate from a run session. The fitness program should include exercise sessions that incorporate stationary cycling, walking, elliptical (or similar) trainer, swimming (if individual chooses), etc.

Rest: A must! The rest time is when the muscle tissue repairs itself from the damage done during exercise. Also necessary to help decrease the potential for injury. Over-training increases risk for injury by about 28%.

Section 10

Motivation and Group Leader Techniques

Challenges you may face...

Multiple physical concerns- Health issues need to be handled by a medical provider in a TIMELY manner. Listen to the person attentively. Acknowledge what the person has said and how the person feels about the situation. A person can be excused from exercise for medical reasons but a medical provider should document this. Repeated “not feeling wells” is not acceptable.

Self-conscious participants: This can look a variety of ways from clowning around and being disruptive to hanging back and not participating fully. They may not be very athletic or they may be embarrassed at their shape. Discretely try to find out what might be the real reason beyond the avoidance behavior and see if you can advise the person in a straightforward manner. If this approach does not work and the behavior becomes a distraction to the class, inform his/her supervisor.

Apathy and no-shows: First, assess the intentions of the individual. Second, determine the barriers that may prevent full participation. Provide positive reinforcement. Seek solutions through talking with the individual. Set realistic goals. Find what's important to the person and draw on those things. Last resort is consultation with supervision/CC.

Over-exerters: Communicate to the person the potential risks of his/her behavior. When you witness the behavior stop it at once as health and safety is the NUMBER 1 priority. Encourage the individual wear a heart rate monitor to provide immediate feedback on their actions and set limits as to how high the heart rate is allowed to go. Use positive reinforcement when the person is exercising correctly. Last resort contact supervision/CC.

Poorly informed but vocal: There is a lot of bad fitness information out there. If you have someone who is vocal with the group about unsafe practices to improve fitness discuss your concern with this person in private and then provide the correct information to the group. This is a circumstance where it might be helpful to say “I am not sure if that is accurate. Let me find out from ...the Exercise Physiologist, HAWC, Nutritional Medicine, Behavior Health, etc.. and get back to the group with the answer.

Too busy syndrome: It is likely that many individuals will feel that the demands of their work and lives take precedence over exercise. It is important to make it clear that fitness is a part of their work responsibilities. Try to problem solve with the participant but don't hesitate to also involve unit leadership to reinforce fitness as a duty expectation.

Drill sergeants: People do not usually respond to pushy insistence to GO FASTER/HARDER. If you have a drill sergeant in the group, talk with them privately about more constructive ways to encourage group members.

Overcoming barriers: Identify potential barriers to allow for alternate program plans; is the time and location convenient?

Goal Setting: Short-term achievable goals are an excellent means to gauge program success. Keep in mind the needs of all participants and not only those elite individuals.

Feedback: Continue to improve program design by seeking feedback from unit, acknowledge participants who improve, allow for change, be flexible.

Incentives are an excellent tool to motivate individuals, however make sure that everyone has an opportunity to be successful.

Section 11

Assessment Techniques and Training

The components of the fitness assessment are body composition (abdominal circumference), aerobic assessment (1.5 mile run or cycle ergometry), and muscular fitness assessment (push ups and crunches). The assessments should be completed on the same duty day, if possible; however all components must be completed within 5 duty days.

The fitness assessment is worth 100 points, each of the components are broken down:

- Cardio = 50 possible points
- Body Comp = 30 possible points
- Pushups = 10 possible points
- Crunches = 10 possible points

Individuals will be placed into assessment categories based on how they scored overall.

- 0-69.9 pts = Poor category
- 70-74.9 pts = Marginal category
- 75-89.9 pts = Good category
- 90 pts = Excellent

Testing Sequence

1. Fitness Screening Questionnaire completed within 30 days of testing
2. Height, weight measured but not used in fitness score calculation (BMI less than 19 referred to physician)
Abdominal circumference (AC) measured (height, weight and AC taken prior to other tests by CSS in private area)
Push-ups (1 min test) – followed by at least 3 min rest
Crunches (1 min test) – followed by at least 3 min rest
6. Aerobic Assessment – 1.5-mile run followed by cool down

*Exception - if ergometry test is used it must be completed prior to push-ups and crunches due to HR effects

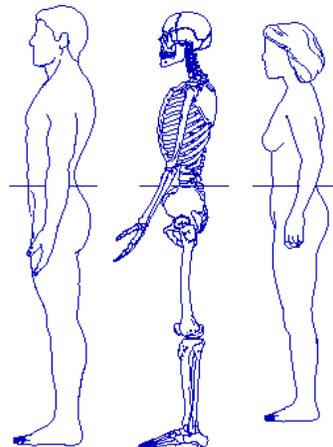
Abdominal Circumference Taping

A high abdominal girth is associated with a greater risk of; Type 2 diabetes, high blood pressure, high cholesterol and heart disease.

- All members will receive an Abdominal Circumference (AC) measurement, and have their height and weight taken by CSS Staff within 5 duty days (or same day) as their physical assessment.
- Tapers must be certified by the FPM.
- The AC will be taken in a private room/partitioned area by the same gender.
- Lycra, spandex, and pantyhose cannot be worn.

How to perform an Abdominal Circumference Measurement

1. Member stands looking straight ahead, arms down to sides. Examiner is of same gender as the member being taped and is positioned at right side of the member.
2. Measurement is taken on bare skin; examiner feels to locate the upper hipbone and top of the right iliac crest.
3. A horizontal landmark is located just above the uppermost border of the right iliac crest.
4. The tape is placed in a horizontal plane around the abdomen at the level of this landmark.
5. Examiner ensures that the plane of the tape is parallel to the floor and that the tape is snug, but does not compress the skin. Measurement is taken at the end of a normal respiration.
6. Round the measurement down to the nearest $\frac{1}{2}$ inch.
7. Take the circumference measure three times and record the measurement to the nearest $\frac{1}{2}$ inch. If any of the measures differ by more than one inch from the other two, take an additional measurement. Add the three closest measurements, divide by 3, and round to the nearest $\frac{1}{2}$ inch. Record this value as the abdominal circumference measure.



Push-Up Instructions:

- Your hands will be placed on the floor, slightly wider than shoulder width apart, with your fingers pointing forward.
- Start in the **up** position with your elbows fully extended, feet no more than 12 inches apart, and your weight supported by your arms and toes.
- You must keep your back straight at all times and lower your upper body until your upper arm is at least parallel to the floor (elbows bent at 90 degrees), then return to the **up** position (arms fully extended). This is one repetition.
- If you do not come down that far the push-up will not count.
- I will count the **correct** number of push-ups out loud. **Incorrect** push-ups **will not** be counted.
- I will repeat the number of the last correct push-up and tell you what you're doing wrong.
- Your score will be the total number of correct push-ups completed in one minute.
- Any resting must be done in the **UP** position.
- Your breathing should be as normal as possible; **DO NOT** hold your breath.
- It is recommended that you exhale every time you come up and inhale when you come down.

Ready? Begin.

Crunch Verbal Instructions:

- Please lay on your back.
- **Heels** flat on the floor.
- **Knees** bent at 90° angles.
- **Arms** crossed in front so that your fingers touch your collarbone.
- Anchor your feet to the ground by hooking your feet/toes under the bar or have someone hold your ankles.
- Your heels may not leave the ground during the assessment.
- Bring your upper body off the ground until you touch your elbows to your knees or upper thigh, and return down until your shoulder blades touch the floor. This will count as one crunch.
- I will count the **correct** number of crunches out loud. **Incorrect** crunches **will not** be counted.
- I will repeat the number of the last correct crunch and tell you what you're doing wrong.
- Your score will be the total number of correct crunches completed in one minute.
- Your hands may not lose contact with your shoulders/chest at any time.
- Your shoulder blades **must** touch the floor between each repetition.
- Your heels and hips must remain on the floor at all times.
- Your breathing should be as normal as possible; **DO NOT** hold your breath.
- It is recommended that you exhale every time you come up and inhale when you come down.
 - *Any resting must be done in the UP position.*

Ready? Begin.

1.5 MILE RUN TESTING PROCEDURES

Prior to the 1.5 mile timed run test:

- Member's height, weight and abdominal circumference will be measured at the CSS within 5 duty days prior to the run test.
- Member must complete the Fitness Screening Questionnaire within 30 duty days prior to their scheduled fitness test
- PT Leaders ensure availability of fitness test equipment (e.g., stop watch, pen/pencil, notepad, optional exercise mat that is no more than 1 inch thick, standard template score cards, bibs).
- PT Leaders ensure a scorecard is available for each member.
- Members must wear proper fitness attire/shoes for testing and must warm-up/stretch prior to completing the test.
- Members are instructed to stop at any time if feeling chest pain, shortness of breath, or dizzy.
- If testing a large number of members, the PT Leader may consider using identifying numbers (i.e., running bibs)

Course Requirements for 1.5 mile timed run (2640 yards).

- Establish course of accurate distance
- Large oval track of determined distance such as 440 yards times six (6) laps; or 6 laps on a 400-meter track plus an additional 46 feet. Indoor track may be utilized during inclement weather; treadmill testing is not authorized.
- Pre-marked road course that is relatively even, with slope not exceeding three degrees and has limited exposure to traffic.
- Clearly mark the start and finish lines (and half-way point for road courses)
- Consult with HAWC staff to determine maximum number of individuals that should be tested at one time for safety of runners and to obtain accurate score.
- Trained personnel will be present to monitor participants (keeping all members in constant view), to count laps if required, and to record run times
- The Wing Commander must approve the 1.5-mile run testing course with input from the FPM.

Score Calculation

The composite score is calculated by combining all raw scores resulting a 0-100 point score. Members exempt from components will still receive a composite score. Pregnancy is the only condition requiring a complete waiver from assessments.

Education Intervention Programs

- **Healthy Living Workshop (HLW)**
- **Body Composition Improvement Program (BCIP)**
- **Fitness Improvement Program (FIP)**
- **Monthly follow-ups for BCIP and FIP**

Healthy Living Workshop (HLW)

- Required for all members receiving composite fitness score <75 (Marginal and Poor category)
- Must attend within 10 duty days of finding
- Consists of 3 educational components
 - Behavior Modification
 - Nutrition
 - Exercise

Fitness Improvement Program

- Required for all members receiving composite fitness score <70 (Poor category)
- Must attend within 10 days following HLW
- Recommend member schedule monthly follow-up session with FPM until member achieves score >70; cannot test for first 45 days
- Members on FIP will exercise 4-5 days/week
- FIP participants required monitoring heart rate during exercise sessions
- Members must document exercise participation on AF form 1975

Body Composition Improvement Program

- Individuals who score <70 and have abdominal circumference >40 inches (male) or >35 inches (female)
- Attend within 10 days following HLW
- Program will include:
 - Nutrition education/counseling
 - Behavior modification
 - Self-monitoring techniques
 - Weight loss maintenance
- Monthly follow-up until member achieves composite score >70

Section 12

Class Formats

Starting a unit running program

Methods:

- 1) Map a course 2-3 miles long. Try and pick a non-concrete surface. Firm trails, grass, dirt are recommended over dirt to prevent injuries. Encourage people to complete the distance by doing a combination of jogging and walking when they feel fatigued. Have each person set a weekly goal to improve his or her time each week. After the majority of people feel comfortable with running the course use different trails and distances. Track individual finishing times to promote increased fitness.

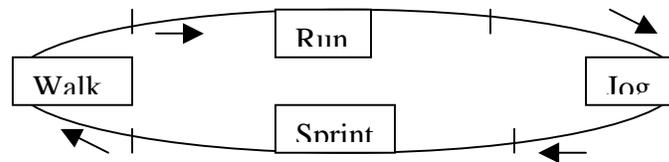
Ex: Course 1 (2.5 miles)

Name	12 Aug	20 Aug	30 Aug	10 Sep
Ann Smith	21:00	20:45	20:18	19:55
Maj Doe	22:00	21:30	21:05	20:30

- 2) Start with a short distance, about ½ mile long. Encourage people to jog the set distance and after they've achieved this distance encourage them to keep going with either a walk or a jog for a set time, around 30 minutes. Each week, increase the distance and keep the same set time. Example below:

Week 1	2	3	4	5
½ mile	¾ mile	1 mile	1 ¼ mile	1 ½ mile

- 3) Set up points along a set course. Instruct people to walk, jog, or sprint between each point. Vary the distance between each point each week, though individual fitness will determine the pace at which people accomplish between the points.



- 4) Last man running: Line everyone up in a single file line to begin run. Last person in line will run to the front and set the pace for the rest of the group until overtaken by the next person.

Precautions and ensuring an effective program:

- 1) Each participant should read and sign a Physical Screening Questionnaire before beginning a running program.

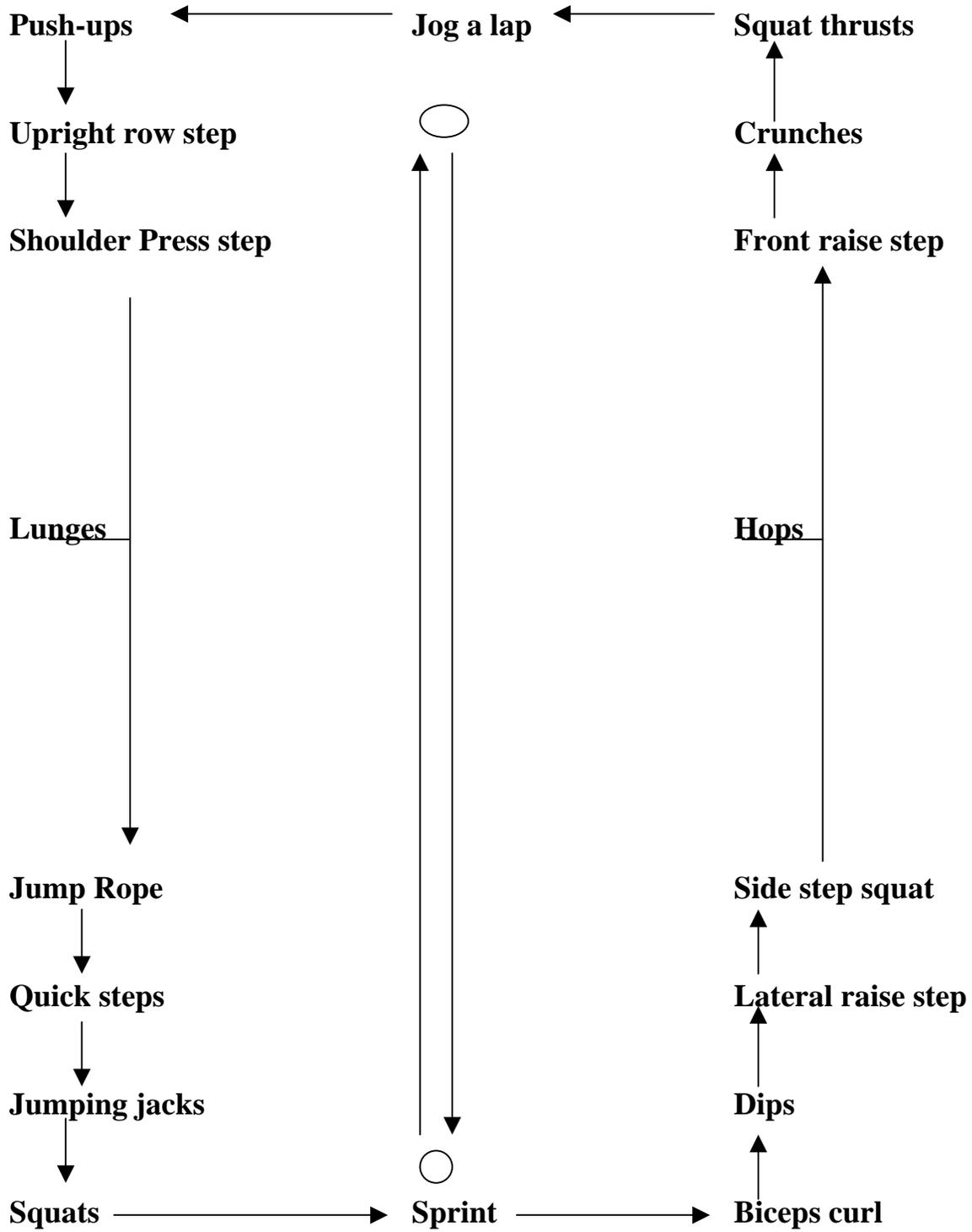
- 2) Choose safe routes. Be sure vehicle traffic will not interfere with course. Check ground for hidden dangers such as holes or slippery areas.
- 3) Proper clothing and shoes for running should be enforced. Environmental issues, such as rain, heat, cold, and snow, may determine type of clothing. Shoes should fit correctly, have arch support, and cushion the heel.

Designated fitness monitors need to watch over running participants. They should vary the running workout using different types of each method above.

Indoor Circuit Template

- 1) Circuit training allows for a total body workout through a variety of exercises. Circuit training should emphasize large muscle groups and provides both cardiovascular and muscular benefits.
- 2) A warm up of 5-10 minutes must be completed before stretching. Actual time spent doing circuit exercises can vary from 20-40 minutes. Time for post exercise stretching should be allowed.
- 3) Time at each circuit station can vary from 30-60 seconds. If there is a great distance between stations, a brief time can be allowed for participants to get to each station.
- 4) Exercises can be performed by individuals at each station, a small group of people at each station, or the whole group being directed through each exercise by the fitness monitor.
- 5) Fitness monitors should be watching over entire group. Large groups may need more fitness monitors. The fitness monitor needs to have a stopwatch and a whistle.
- 6) The equipment needed will be determined by which exercises are chosen. An effective circuit can be run with little to no equipment. Be sure there is enough room for all participants to engage in each exercise. Fitness attire must be enforced.
- 7) A sheet with an exercise written on it can be placed at each station.

Circuit Stations: Lunges, knee bends, step-ups, squats with light weight, squat jumps, jump rope, push-ups, crunches, dips, bicep curls, overhead shoulder press, upright rows, quick feet, side steps, sprints, jog, calf extensions, running obstacle course and jumping jacks. Fitness monitors can choose a variety of their own exercises as well as long as the exercises are safe and effective exercises.



Outdoor Circuit Training Templates

There are many ways of setting up outdoor circuit training; your set up may depend on the number of people, available resources, and environmental conditions. The group can be led together through the same exercises at the same time or stations can be set up where each person tackles them individually. A variety of setups and stations should be used, but if it gets too complicated too much time will be wasted explaining to the participants where they need to go during the workout.

After an initial 5-10 minute warm-up of either light jogging or calisthenics, some group stretching should be done. Take the time during the stretches to start explaining how the circuit is laid out. If there are any new participants or new exercises, be sure to explain the correct way to complete the exercises. You may want to pair yourself or another experienced person up with any new people.

Example exercises:

Push-ups: wide, narrow, bent knee, with a step.

Crunches/sit-ups: various styles

Squats: with/without weight or a bar.

Side step squats:

Step-ups:

Lunge: standing, walking

Jump rope:

Burpies:

High knee drills

Heel flicks:

Fast feet:

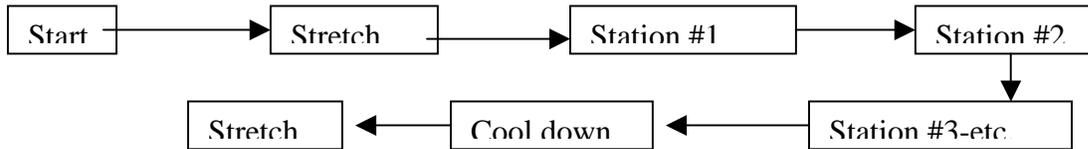
Sprints:

Templates:

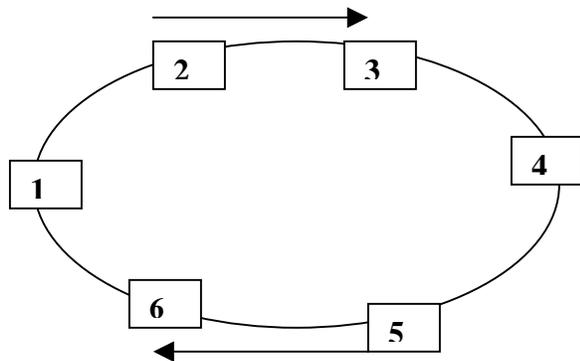
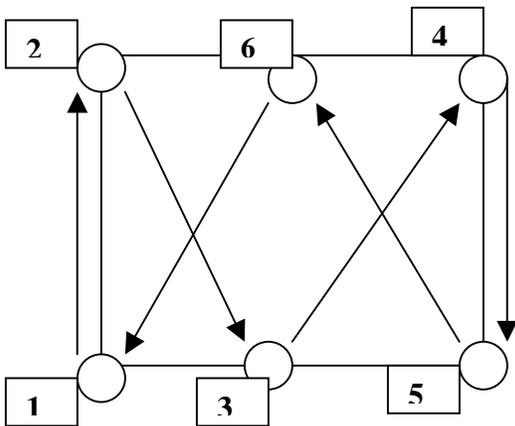
1. Over a distance you can have people stop at certain spots along a running course and perform the exercises. Distance should be kept less than 200 meters so you don't lose the slower folks along the way.
2. Using a playing field (i.e. football fields) or large open space, the circuit can be set up several ways using varying distances between the exercise stations.
 - a. A set time can be used for folks to cover the distance between the stations and then set up.
 - b. Groups can be led back and forth across the playing field and do the exercises together. An occasional lap around the entire playing field can be used to step up endurance.
3. The time between switching stations can be determined by the amount of time it takes one person or group to cover a distance. For example, set up one station with two cones 30 meters apart and have the participants go back and forth twice. Once they have completed the second time around, the whistle blows and everyone moves to the next station.

Some basic patterns for setting up an outdoor circuit:

Map out a running course and after every 100-200 meters, bring folks to an exercise station. Lead them through an exercise then off again to the next station.



Pick an exercise for each of the 6 stations and have people either a jog, sprint or lunge from one station to the next.



DEDICATION

STRENGTH

ENDURANCE

COMMITMENT



F

OCUSED

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FIT

R

ESISTANCE

TO

C

IRCUIT

FIGHT

E

XERCISE

F.O.R.C.E.

FOCUSED ON RESISTANCE CIRCUIT EXERCISE

The FORCE program is designed to allow a large number of individuals to train simultaneously using circuit type training. Circuit training has been around for years and has continually shown participants outstanding increases in both aerobic and anaerobic fitness levels, in addition to weight loss. The goal of FORCE is to offer a fun and challenging environment where participants can help ensure they are increasing their aerobic fitness capacity, and muscle strength/endurance capabilities (push-up and crunch assessments).

This program is geared at helping individuals ensure their workouts are as effective and safe as possible. Initial classes will last 30 minutes, with an end goal of going 60 minutes per workout session. The number of participants determines the number of exercise stations incorporated in each class. The time spent at each station can vary from 30 and 60 seconds at which time participants will rotate to a new exercise station. Class format will include a warm-up, aerobic/anaerobic circuit training workout, and a cool-down to include stretching.



EQUIPMENT NEEDED:

The materials needed to offer this class are very limited: A Whistle, stop watch (optional), hand weights, benches from the aerobic step class, elastic exercise bands, and a jump rope. In addition, some upbeat music is motivational.

EXERCISE SESSION:

This circuit training program is designed to have individuals switch from station-to-station every 30 seconds. A designated timer (who may also be a participant) will tell the class when to change stations. Cardio stations are repeated and last at least 1 minute. For instance a cardio station designated as jogging may be conducted for the entire time another group of individuals switches between paired stations

The class is broken into circuit sets that consist of 6 stations segments. Initially you can chose a "6 Min Circuit" and repeat this 2 or more times. The final goal is to progress to a class which lasts between 40 and 60 minutes.

Classify by fitness level:

Unfit (6 Min + walking remainder of time) ALL NON-PLYO movements

Low Fit (12 Min + walk/Jog remainder of time) ALL NON-PLYO movements

Fit (18 Min + jogging remainder of time) 1 PLYO Movements

High Fit (24 Min + jogging remainder of time) 2 or more PLYO Movements

Participants can expect to work all aspects of their body, with the general class design being; Total Body (TB), Core i.e. abdominal/lower back (CORE), Upper Body (U), Lower Body (L), and Cardio stations (CARDIO). The total body exercises are geared towards aerobic activity, i.e. an activity that uses ones larger muscles in a rhythmic manner. These exercises might include movements like bench stepping with shoulder presses or anterior arm raises. Lower (L) and upper (U) body exercises are more anaerobic in nature, i.e. high intensity and specific muscles. For example, an arm curl, chest press, lunges or squats would all be isolated type movements.

Within this design there are many possible combinations, however, the general layout of TB, Core, U, L, and Cardio should stay the same. To help remove the boredom factor exercise stations should stay the same but actual exercises should be modified. Furthermore, running and or sprinting may be incorporated to add greater variety. You can also make each station a "Pod" design and have participants' workout in groups of 2 – 10. Another way to increase the workout intensity is to make the cardio workouts and/or TB stations more frequent and/or longer.



"3 circuit layouts"

WARM-UP:

This program is to be implemented before each circuit class begins.

- 1) At a medium cadence, jog for approximately 2 to 3 minutes (jogging in place is fine).
- 2) Next being walking very slowly. While moving, pull one knee snugly into your chest, hold for approximately 1 second, release and step down. Take three steps and then pull opposite knee into your chest. Repeat 5 times on each side.
- 3) While still walking, place your hands behind your neck and perform high knee lifts, touching your opposite knee and elbow together: 15 times each side.
- 4) Stop walking. Place your feet slightly wider than shoulder width apart, with toes pointing slightly outwards (normal). Keeping your chest up and out and head and eyes facing straight ahead. Squat down like you are going to sit on a chair. Go down between 45 to 90 degrees, depending on your level of fitness and conditioning of your knees. Repeat 10 times.
- 5) Side Bends: While standing up, with knees relaxed (not locked out), push one palm towards the sky and the opposite palm towards the ground (pushing downwards with palm). Hold for 10 seconds on each side. Repeat twice for each side.
- 6) Torso Rotations: While standing, with knees relaxed (not locked out), place your hands on your waist and rotate your upper torso around your waist. Repeat by going 5 times in each direction.
- 7) Slight hyperextensions: With your hands on your waist and knees relaxed, bend backwards at your waist, as if you were trying to stretch out your abdominal area. Hold position for 10 - 15 seconds. Repeat twice.
- 8) Push-up: Perform 6-20 repetitions depending on level of conditioning.
- 9) Lean against tree, wall or back-to-back with partner: Pull one knee to chest and hold for 10- 15 seconds. Switch legs and hold again for 10 - 15 seconds.
- 10) While walking perform a lung type movement while simultaneously dropping your elbow towards the ground. For example, with your right knee forward, drop your right elbow along the inside of your right ankle towards the ground. Pause for 1

second and step forward so you can do the same thing on the left side. Repeat 5 times on each side.

PROGRAM GUIDELINES:

Before proceeding with an exercise program please complete a Par-Q Readiness questionnaire, which are available at the HAWC. If you answer yes to any of the questions please contact the HAWC for assistance.

How to Begin the workout!

You should start all types of physical activity by doing between 5 and 10 minutes of very light aerobic activity. For example, if you are going to run, start out walking slowly, then every couple minutes increase your intensity until by approximately 7 to 10 minutes you are running at your goal pace. If you are going to ride a bike, do the same, start out slowly and by approximately minute 7 you should be at your exercise intensity. Besides walking/jogging, you can also do light calisthenics, for example jumping jacks to initiate your warm-up. See the Warm-up section outlined above for additional information.

In order to initiate a safe and effective exercise program you should try to adhere as closely as possible to what is called the **PFITT** principal. Everyone from cardiac rehabilitation patients to Olympic level athletics uses these exercise program guidelines.

Progression when applied correctly can leads to years of enjoyable health.

Frequency: Start out by going 3 times a week. If your goal is health/prevention, continue going 3 times a week. To enhanced your fitness level try 3 - 4 times a week. If your goal is weight loss, gradually work up to 4, or if necessary 5 times a week. To continue to enhance your results, avoid taking more than 2 days off between exercise sessions. How to increase your frequency:

Weeks 1—6 = 3 times a week

Weeks 7—12 = 4 times a week

Weeks 13+ = 5 times a week

Intensity:

How Hard Should You Workout? Calculating your Target Heart Rate.

The most widely recommended way to help ensure your workout intensity is sufficient to enhance your cardiovascular fitness is to measure your Heart Rate (HR) while exercising. First you will need to sit for approximately 15 minutes, then take your Resting HR (RHR) for one minute. Once you've calculated your RHR, plug this and your age into the equation below. The 65% to 75% levels are for beginners whereas the 75% to 85% zone is for those who have an exercise base of at least 6 weeks. Contact the HAWC for addition information or if you are taking medications that might alter your HR response to exercise.

$$220 - \text{Your Age} - \text{RHR} = T$$

$$T \times .65 + \text{RHR} = 65\% \text{ Zone}$$

$$T \times .75 + \text{RHR} = 75\% \text{ Zone}$$

$$\mathbf{T \times .85 + RHR = 85\% \text{ Zone}}$$

Time: Is the duration of which you can maintain your workout within your target heart rate zone. Most people should start going as little as 10-15 minutes and depending on your goals, gradually progress up to as long as 60 minutes. Reduce your risk for injury by increasing your duration by no more than 10% each week. For instance if you walked 30 minutes this week, walk 33 next week. If your goal is general health/prevention work up to 20—30 minutes, to enhanced your fitness level try progressing up to 30 to 45 minutes, and if your goal is weight loss or higher levels of fitness, gradually work up to 45 to 60 minutes.

Type: Aerobic in nature or activities that require large muscles to be used in a rhythmic manner for a prolonged period of time, while keeping your HR in the target zone. Walking, cycling, swimming, or the cross-trainer are all good examples.

BOOTCAMP (with straps)

Equipment: None

Location: Outside (grassy area)/ soccer fields or in doors on gym floor

What is boot camp: A style of training that will increase agility activity and work muscles from a variety of joint angles improving overall mobility.

How to do it:

- The FL should lead the group as one unit or for very large groups 2 or more fitness leaders may break unit into groups.
- The FL should perform each boot camp exercise for a total of 1 to 2 minutes.
- Perform the following exercise sequence / movement patterns:
 - (a) Run /jog/walk backwards
 - (b) Side shuffles
 - (c) Sprints
 - (d) Push-ups
 - (e) Ski jumps (side to side movements)
 - (f) Hanging leg raises using soccer goal post (if available).

Steps to follow:

- Warm-up 5 to 8 minutes.
- Perform low level static stretching
- Start boot camp
- Cool-down for 5 to 8 minutes
- Dismiss unit and brief next day workout

BOOTCAMP (EQUIPMENT)

Equipment: Resistance tubing/ bands

Location: Outside (grassy area/soccer fields or in doors on gym floor)

What is boot camp: A style of training that will help strengthen major muscle groups and increase aerobic endurance.

How to do it:

- The FL should lead the group as one unit or for very large groups 2 or more FL's may break unit into groups.
- The FL should perform each boot camp strengthening exercise for 1 set of 12 to 16 repetitions.
- Perform the following resistance exercise sequence:
 - (a) Resistance tubing leg squats
 - (b) Crunches
 - (c) Resistance tubing seated back rows
 - (d) Push ups
 - (e) Resistance tubing arm curls
 - (f) Low level ankle hops (plyometric jumps)
 - (g) Resistance tubing arm kick backs
 - (h) Running in place as group
 - (i) Resistance tubing shoulder presses

Steps to follow:

- Warm-up 5 minutes
- Stretch
- Start Boot camp using resistance tubing
- Cool-down by slowly walking back to building
- Dismiss unit and brief next day workout

CARDIOMOTTOS WITH STRENGTH STATIONS (NO EQUIPMENT)

Equipment: Cones are needed (small cones)

Location: Outside or inside on gym floor

What is CardioMotto: this form of training will increase both aerobic endurance and help tone the musculature of the upper body and legs.

How to do it:

- The FL should lead the group as one unit or for very large groups 2 or more FL's may break unit into several groups.
- The FL should perform intermittent and continuous agility type training using cones spread apart approximately 25 yards for a total training time of 30 minutes.
- Perform the following exercise movement patterns using cones:
 - (a) Hop over cones
 - (b) Group performs crunches as unit
 - (c) Sprint between cones
 - (d) Group performs push-ups as unit
 - (e) Run backwards between cones
 - (f) Ski movement patterns between cones
 - (g) Side steps between cones
 - (h) Group performs jumping jacks
 - (i) Karaoke between cones
 - (j) Group performs several crunch variations

Steps to follow:

- Warm-up 5 minutes
- Perform low level static stretching
- Start Cardio Mottos
- Cool-down 5 to 8 minutes
- Dismiss unit and brief next day workout

CONTINUOUS AEROBIC JOGGING AND CALSITHENICS

Equipment: Human body

Location: Outdoors or indoor track

What is continuous aerobic jogging: A basic long (low level) run lasting an estimated 45 to 60 minutes.

How to do it:

- Perform a 10 –minute low impact warm-up.
- Static stretch lower extremities.
- Possession FL’s in front, mid, and back of running group to ensure subject safety and proper motivation.
- Choose 1 of 3 running courses (see attached handout) in Area B.
- Every 5 –minutes FL’s positioned in front, middle, and back of large group should come to a slow stop and immediately perform jumping jacks, low level polymeric ankle hops for 1 set or 8 to 10 reps only. Be sure that surface is somewhat level when performing ankle hops and do not perform to exhaustion.
- Continue run/jog for chosen time and gradually slow down and walk at fast, then moderate, then slow pace until your heart rate stabilizes and you cool-down.
- Immediately perform static stretches for lower extremities.
- Mix and match course runs each week but start slow and avoid hilly terrain when starting.
- Once you adapt appropriately and jogging becomes easier mix and match course runs and start including more hills.

INTERMITTENT/CONTINUOUS RUN WITH BANDS

Equipment: Resistance tubing for each participant

Location: Outdoors (may choose running trail or indoor track)

What is continuous running with resistance bands: a basic slow paced jog mixed in with strength training. For example, subjects would jog for 10 minutes holding their resistance tubes in hands and then stop to perform one set of 12 to 16 arm curls etc, and then begin jogging for another 10-minutes. This program should take 45 minutes to do.

How to do it:

- Perform a low level jog for 5 minutes to warm-up
- Static stretch upper and lower body muscles
- Choose a running course where subjects may stop to perform the strength exercises when needed
- Jog for 10-minutes and then stop and have group perform 12 to 16 reps of any of the listed exercises below:

Exercises:

- Standing chest press
- Standing shoulder press
- Standing lat rows
- Standing arm curls
- Standing triceps extensions
- Standing lateral shoulder raises
- Pushups
- Crunches

INTERVAL RUNS WITH RESISTANCE TUBING

Equipment: Resistance tubing

Location: outdoors in grassy field or indoor gym floor/track

What is interval training with resistance tubing: Interval training with resistance tubing is a form of training that will enhance both anaerobic and aerobic energy systems.

How to do it:

- Perform a 5 to 8 minute warm up by jogging
- Spend some extra time static stretching the lower and upper body musculature
- Arrange group based on estimated fitness status of each subject (i.e., fit people in first sprint group, moderately fit people in second sprint group, unfit people in last sprint group.
- Obtain 4 small cones. Place two cones approximately 440 yards away. Now, first group sprint to cones 440 yards away and is allowed a 1-2 minutes recovery—while they are recovering each subject should perform at least 12 to 16 reps of any chosen strength exercise using their resistance tubing, while the second group is sprinting 440 yards. After a 1-2 minute recovery have the first group sprint back another 440 yards to the start line. Shuffle each group using the same strategy outlines above.
- Perform 5 to 6 440-yard sprints mixed in with a variety of resistance training exercises and then dismiss group.
- Ensure that each member stretches upper and lower body musculature after performing this training program.

Squadron PT

3-2-1 Circuit Training Manuel

Equipment Needed

1. Stopwatch
2. Whistle
3. Large, spacious area
4. Jump ropes
5. Tubes
6. Dumbbells
7. Medicine balls
8. Exercise mats
9. Sign in book
10. Stereo
11. Music
12. Cones

Program Guidelines

Before proceeding with any exercise program, please complete a Par-Q Readiness questionnaire. Par-Q's are available at the HAWC. If you answer yes to any of the questions, please contact the HAWC for assistance.

Warm-up

A general warm-up increases heart rate, blood flow, deep muscle temperature, respiration rate, viscosity of joint fluids, and perspiration. It incorporates 8 to 12 minutes of dynamic movement and stretching.

Example:

Light jog or walk for >5 minutes

Stretch all major muscle groups, including calf, hamstring, quadriceps, obliques, lower and upper back, chest, and arms. Each stretch should be held for >15 seconds.

How to Begin Workout

NOTE! Each participant must have a pair of hand carried shoes upon entering the facility. NO ONE is allowed on the floor wearing shoes from outside!

In this book there are multiple layouts to choose from. Each layout was developed for ease of instruction, and participant ability. Any questions or concerns of the class format can be answered by the Health and Wellness Center.

Class format is group exercise lead by one instructor. Movements will be preformed in synchronization following the instructor's lead. All moves can be modified in intensity, therefore left to the participant's ability and fit level.

All movement should be performed at full range of motion (ROM), and in good form. Some class formats are built at a higher intensity level. Be sure participants are aware of this, and to modify the moves accordingly to different fitness levels.

Location of this class will be held on the basketball court or the aerobic room. Be sure to “check in” at the front desk each class day to remind SVS of the scheduled class, and to make sure what area class will be held that day. Please be sure to put all equipment back where it belongs after class.

Explanation and Safety of the 3-2-1 Class

3-2-1 is a great way to get in shape. It is performed in a group format, which increases likeness of exercise adherence. The class is also designed to work both anaerobic and aerobic systems via dynamic movement. 3-2-1 will also increase muscular endurance through various muscular conditioning exercises.

The class is performed in a cyclical fashion, meaning, there is a constant rotation of 3 minutes cardiovascular conditioning, 2 minutes muscular endurance conditioning, 1 minute anaerobic conditioning. This process repeats itself over and over for a minimum of 30 minutes. Of course, there will be a proper pre-class warm up and post-class cool down.

3-2-1 Class Format #1

3-2-1 is performed as 3 minutes aerobic conditioning, followed by 2 minutes upper body/lower body muscular endurance conditioning, followed by 1 minute intense anaerobic conditioning. This format is cyclical, lasting 30 minutes. An appropriate warm-up and cool-down, and stretching phase is also to be implemented, as well as sit-ups at class end.

3 Minutes: Aerobic Conditioning

1. March narrow 8x
2. March wide 8x
3. Side step side to side 16x
4. Side step back 4x
5. Jumping jacks 8x
6. Side step forward 4x
7. Jumping jacks 8x
8. Campfires (simulate hoping side to side over a camp fire) 8x

Repeat these moves over until 3 minutes has gone by.

2 Minutes: Muscular endurance Conditioning

1. Squat 8x
2. Pulse squat 16x
3. Squat 8x
4. Pulse squat 16x
5. Lateral split squat (squatting side to side) 16x
6. Backward lunging 16x

Repeat these moves over until 2 minutes has gone by.

1 Minute: Anaerobic Conditioning

1. Jump Rope

3-2-1 Class Format #2

3-2-1 is performed as 3 minutes aerobic conditioning, followed by 2 minutes upper body/lower body muscular endurance conditioning, followed by 1 minute intense anaerobic conditioning. This format is cyclical, lasting 30 minutes. An appropriate warm-up and cool-down, and stretching phase is also to be implemented, as well as sit-ups at class end.

3 Minutes: Aerobic Conditioning

1. March narrow 8x
2. March wide 8x
3. Side steps 16x
4. Knees up 16 x
5. Football shuffles narrow 30 sec
6. Football shuffles wide 30 sec
7. Knees up 16x
8. Jog 30 sec

Repeat these moves over until 3 minutes has gone by.

2 Minutes: Muscular endurance Conditioning

1. Walking lunges

1 Minute: Anaerobic Conditioning

1. Jumping jacks

3-2-1 Class Format #3

3-2-1 is performed as 3 minutes aerobic conditioning, followed by 2 minutes upper body/lower body muscular endurance conditioning, followed by 1 minute intense anaerobic conditioning. This format is cyclical, lasting 30 minutes. An appropriate warm-up and cool-down, and stretching phase is also to be implemented, as well as sit-ups at class end.

3 Minutes: Aerobic Conditioning

Scissors (karaoke's) across gym floor

Alternating skip hops back across gym floor

Jog backwards across gym floor

Jog forwards back across gym floor

2 Minutes: Muscular endurance Conditioning

Split squats to right 8x

Split squats to left 8x

Lunges 16x

1 Minute: Anaerobic Conditioning

Squat hops

Circuit Training Manual for squadron PT or for individuals

Equipment needed

1. One set of 5-10 lb dumbbells. If done as a group, you might want to pull a few sets of 5-10 lb dumbbells.
2. Stop watch and whistle (if done with a group).
3. Track, cardio equipment around the track: Cross-trainer, bike, versa climber, Nordic Trac, rowing machine.
4. Exercise mat

Program Guidelines

Before proceeding with an exercise program please complete a Par-Q Readiness questionnaire, which are available at the HAWC. If you answer yes to any of the questions please contact the HAWC for assistance.

Warm-up

A warm-up consisting of exercises performed immediately before an activity to increase circulation and heart rate is essential in priming your body for the exercise at hand. Warm-up exercises provide you time to adjust from rest to exercise.

Example:

You should run or walk 5-6 laps around the track or for at least 5 minutes to ensure core temperature is elevated.

During bouts of physical activity muscles and tendons are stretched through a large range of motion. However, at rest or while performing low-level activity, muscles and tendons tend to shorten and “stiffen,” much like a rubber band.

How to Begin the workout

In this book there are four layouts to choose from so you will have different and exciting choices when it comes to your workout. Each layout will give you similar benefits. This manual contains descriptions and pictures to help you through your Circuit. If you have any questions that cannot be answered please contact the Health and Wellness Center.

All strength-training exercises should be performed in a smooth manner and through the full range of motion. On the cardio portions, I would suggest varying the intensity levels. Some stations might be moderately easy vs. other stations you might push yourself comfortably hard pace.

Remember to put the weights back once you have completed the circuit.

Explanation and Safety of the Circuit class

Circuit Training is an exciting way to get in shape. This class offers a fun and challenging environment where participants can help ensure they are increasing their aerobic fitness capacity, and muscle strength/endurance capabilities. To improve an energy system it must be OVERLOADED. The layout of each class provides just that.

Safety is always important in any exercise program.

YOU MUST:

- WORK AT YOUR OWN PACE
- STOP IF YOU FEEL SICK, DIZZINESS OR EXPERIENCE CHEST PAINS
- STOP IF YOU EXPERIENCE ANY SERIOUS MUSCLE PAINS
- STOP IF YOU SHOW SYMPTOMS OF EXHAUSTION (PROFUSE SWEATING, PALE COMPLEXION, HYPERVENTILATION)

Proper Attire

All members participating in the circuit class should come in appropriate fitness attire. Preferably, members should come to the class in shorts and a t-shirt. Sweat suits and weight loss suits will not be allowed. Ideally, members should wear cross-trainers or aerobic shoes if possible. At the very least, members should be wearing some sort of fitness shoes.

Cool-down/Stretch

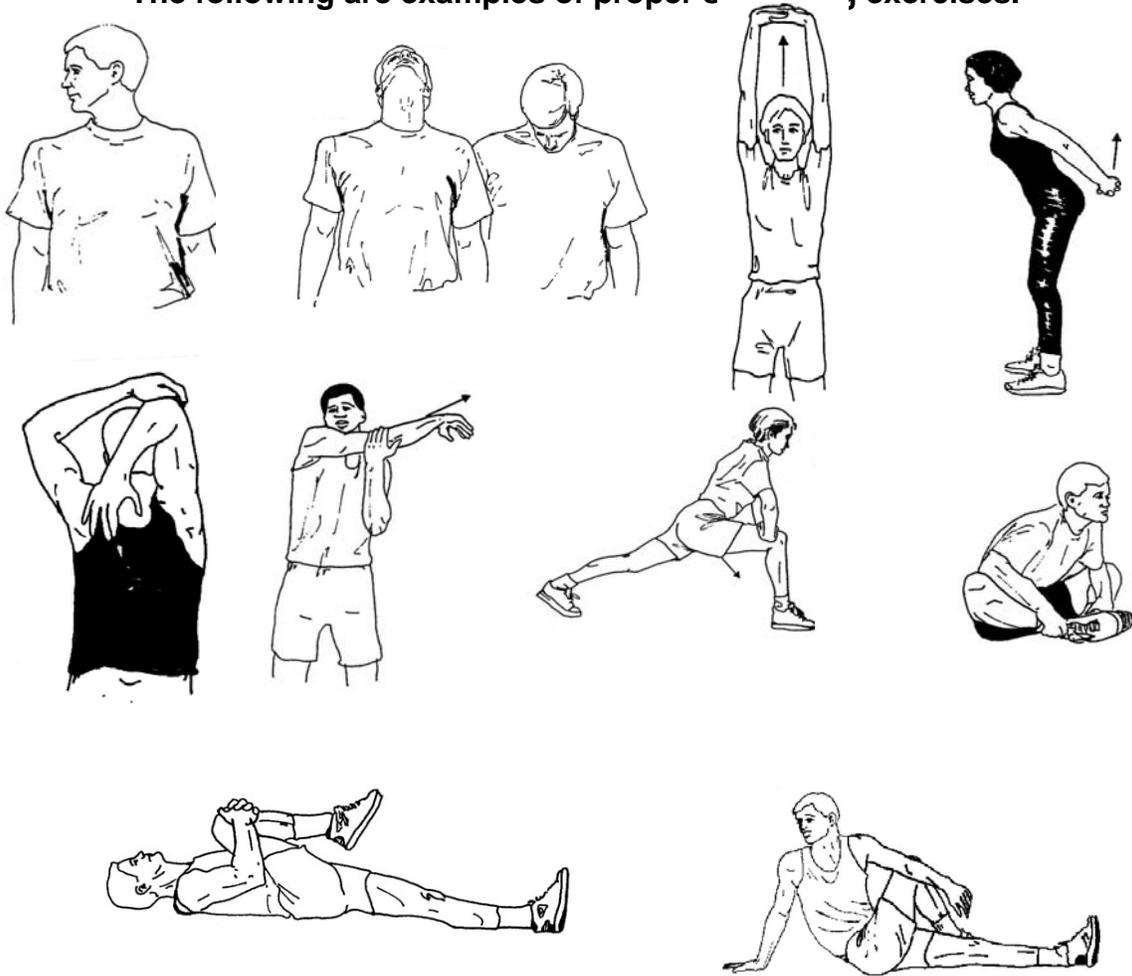
Upon completion of your exercise session it is important to incorporate a cool-down period to allow your heart rate to come back down to safe levels. At rest your blood flow is slow in contrast to when you are exercising. During exercise your blood flow is increased 3-4 fold to meet the demands of your body. Stopping abruptly following an endurance exercise bout causes blood to pool in your legs and can result in dizziness and fainting.

STRETCHING

Flexibility is developed when connective tissues and muscles are elongated through regular, proper stretching. In contrast, flexibility diminishes over time when these tissues are not stretched or exercised. Some of the many benefits of stretching are as follows:

1. **Stretching can optimize an athlete's learning, practice and performance of many types of skilled movements. For example, a high jumper using the straddle technique requires additional flexibility in the adductors, groin and hamstrings.**
2. **Stretching can increase an athlete's mental and physical relaxation.**
3. **Stretching can reduce the risk of joint and muscle strain.**
4. **Stretching can reduce the risk of back problems.**
5. **Stretching can reduce the risk of muscle soreness/tension.**

The following are examples of proper stretching exercises.



CIRCUIT LAYOUT #1

YOU WILL NEED 5-10 LB WEIGHTS FOR THIS CIRCUIT

5 MINUTES CARDIO (TRACK) WARM-UP
STRETCHING FOR 5 MINUTES (SEE ATTACHMENT ON STRETCHING)
5 MINUTES CARDIO (ROWING MACHINE)

30 SECONDS OF EACH EXERCISE

PUSH-UPS
TRICEP EXTENSIONS
PUSH-UPS
CRUNCHES
REVERSE CRUNCH

5 MINUTES CARDIO (CROSS-TRAINER) HARD INTENSITY

30 SECONDS OF EACH EXERCISE

SQUAT
SINGLE LEG HOP
WALKING LUNGE
TWIST CRUNCH

5 MINUTES CARDIO (TRACK RUNNING) MEDIUM INTENSITY

30 SECONDS OF EACH EXERCISE

REACH-SKIP (WALK CURVES-ONE LAP)
CARIOCA (WALK CURVES-ONE LAP)
JUMPING JACKS (30 SECONDS)
SHUFFLE (WALK CURVES- ONE LAP)

5 MINUTES OF EACH
BIKE (HARD INTENSITY)
RUNNING ON TRACK (MEDIUM INTENSITY)
CROSS-TRAINER (HARD INTENSITY)

30 SECONDS OF EACH EXERCISE

WALK (1 LAP)
WALL SQUATS
BICEP CURLS
SHOULDER PRESS

COOL-DOWN FOR 5 MINUTES: WALKING
STRETCH FOR 5-10 MINUTES

CIRCUIT LAYOUT #2

5 MINUTES OF EACH OF THE FOLLOWING AEROBIC EXERCISES (15 MINUTES TOTAL)

WARM-UP ON THE TRACK WALKING
CROSS-TRAINER, HARD INTENSITY
BIKE- HARD INTENSITY

30-45 SECONDS OF EACH OF THE FOLLOWING EXERCISES

CARIOCA (WALK CORNERS, 1 LAP)
SQUAT
LUNGE
MOUNTAIN CLIMBER
DONKEY KICK
CRUNCHES
SUPERMAN
WALL PUSH-UP
HIGH KNEES (1/2 TRACK)
BUTT KICKS (1/2 TRACK)

5 MINUTES OF THE FOLLOWING AEROBIC EXERCISES (15 MINUTES TOTAL)

BIKE, LOW INTENSITY
ROWING MACHINE, HARD INTENSITY
TRACK, ALTERNATE LAPS, JOG, SPRINT

30-45 SECONDS OF EACH OF THE FOLLOWING EXERCISES

REACH-SKIP (1 LAP)
WALL SIT
LUNGE
POWER SQUAT
TWIST CRUNCH
CRUNCHES
PUSH-UPS
DUMBBELL TRICEP EXTENSION
PUSH-UPS
JUMPING JACKS

5 MINUTES OF WALKING TO COOL-DOWN STRETCH

CIRCUIT LAYOUT #3

CARDIO

5 MINUTES OF EACH
TOTAL OF 25 MINUTES

RUN ON TRACK
BIKE
CROSS-TRAINER
ROW MACHINE
NORDIC TRAC

MUSCULAR ENDURANCE

30-45 SECONDS EACH

PUSH-UP
TRICEP EXTENSION
PUSH-UP
CRUNCHES
CRUNCHES
LUNGE
SQUAT
JUMPING JACK
WALL SIT
CRUNCH

½ LAP OF EACH

REACH-SKIP
CARIOCA
HIGH KNEE
BUTT KICKS

CARDIO

5 MINUTES OF EACH
15 MINUTES TOTAL

ROW
CROSS-TRAINER
WALK TRACK
(COOLDOWN)

CIRCUIT LAYOUT #4

CARDIO

WARM-UP 5 MINUTES

STRETCH

10 MINUTES CROSS-TRAINER

5 MINUTES TRACK

30 SECONDS OF EACH OF THE FOLLOWING EXERCISES

SQUAT

LUNGE

JUMPING JACKS

BICEP CURL

SHOULDER PRESS

LATERAL RAISE

CRUNCH

TWIST CRUNCH

JUMPING JACKS

WALL SQUAT

LUNGE

PUSH-UP

TRICEP EXTENSION

PUSH-UP

CARDIO

5 MINUTES OF EACH OF THE FOLLOWING ACTIVITIES

BIKE

VERSA CLIMBER

TRACK

5 MINUTES COOL-DOWN ON THE TRACK

STRETCH

CORE EXERCISE



CRUNCH

Rectus Abdominous, Transverse

Lay flat on the floor with bent knees. Hold neck like you could fit a tennis ball between chin and collarbone. Pull belly button to spine and lift shoulders of the floor. Lower shoulders to floor.



TWIST CRUNCH

External and Internal Obloquies, Rectus Abdominous, Transverse

Lay flat on the floor with bent knees. Hold neck like you could fit a tennis ball between chin and collarbone. Pull belly button to spine and lift shoulder of the floor, twist from the stomach, looking towards your elbow closest to the floor. Return to center; roll back to a start position. Repeat turning



DONKEY KICK

Lower Back

Start on your hands and knees. Lift opposite knee and arm to equal heights, hold for 5-10 count. Lower to start position. Repeat with other arm and leg.



BACK EXTENSION

Low Back

Lie flat on your stomach, make a diamond with your hands and place your forehead on this diamond. Tighten muscles in low back to pull yourself up. Support your body with your hands. Hold for 5-10 seconds.



SUPERMAN

Low Back

Lay flat on your stomach. Tighten low back muscles and abdominals. Lift opposite arm and leg keeping arm and leg straight. Hold for 5-10 seconds. Return to start position. Repeat with other arm and leg.



REVERSE CRUNCH

Lie flat on your back with knees bent and feet in the air. Straighten legs as you lift your butt off the floor. Hold. Slowly lower butt to the floor and return legs to bent position.

CARDIO EXERCISES-MACHINES



SKIER

Stand up tall, Keep stomach in. Move opposite arm with opposite leg. Use large sliding steps.



CLIMBER

Move same arm with same leg. Using large steps. Do not lock knee.



CROSS-TRAINER

Use large fluid motions. Place arms on poles. Move opposite arm and leg together. Do not lock your knees.



ROW MACHINE

Start as show in picture. Push backwards with legs, pull stomach in to support back. Pull arms into chest, elbow out, squeezing shoulder blades. Return to start position.



BICYCLE

Seat height: Place your heel on the pedal, when your foot is in 6 o'clock your knee should be straight but not locked.



Upright Rows

Grasp weights using a closed grip. Rest arms with arms fully extended, weights in front of thighs. Flex knees, keep torso erect as you pull weights upward along abdomen and chest. Keep weights closed to body. Keep elbows higher than wrists. Follow the same past as you lower the weights down to thigh level.



Shoulder Press

Grasp weights with closed grip. Keep your back straight, look straightforward and keep your knees relaxed. Hold weights at shoulder level. Push weights upward so the weights are directly above the shoulders, arms extended (elbows should not be locked). Lower weights slowly back to start position.



Triceps Extension

Grasp weights with closed grip. Keep back straight, knees flexed and look straightforward. Single arm should be extended but elbow should not be locked. Lower weight behind your head until weight touches shoulder. Return to start position by straightening elbow. Repeat 10 times. Switch arms and repeat on other side.



Lateral Shoulder Raises

Grasp weights with closed grip. Relax arms by your sides, weights should be touching outer thigh. Keeping a slight bend in your elbows, lift the weights outwards to shoulder level by squeezing your shoulder blades together. Pause and slowly lower the weights down to your outer thighs.



Bicep Curls

Grasp the weights using a closed grip. Keep your back straight, knees relaxed, look straightforward. Relax arms, keep elbow slightly bent and raise arms by flexing elbows. Keep upper body and upper arm stationary. Lower weights slowly until elbows are extended.



1



2

FRONTAL RAISES

Grasp weights with closed grip. Arms in front of your body, weights resting on your upper thighs. Raise weights to shoulder level, keeping your arms slightly bent. Lower weights slowly until elbows are extended.



1



2

BENCH DIPS

Place hands on the edge of a chair and heels in contact with the floor. Bend elbows until upper arm is parallel to the floor. Return to the start position by straightening arm.



MODIFIED PUSH-UPS

Place hands and knees on the floor with your back straight and head up. Lower body until upper arms are parallel to the floor slowly push back up until arms are extended.



PUSH-UPS

Keep back flat as you bend your elbows and lower body down to the floor. When upper arm is parallel to the floor push back up until arms are fully extended.



WALL PUSH-UPS

Stand facing the wall. Place both hands on the wall with elbows extended. Bend elbows until the upper arm is parallel to the wall. Push back until elbows are extended.

LOWER BODY EXERCISES



MT. CLIMBER

Arms, Core, Legs

Start on hands and toes, back flat. Bend knee, bring thigh into stomach, return to original position. Repeat with opposite leg. Quickly!



LUNGE (WALKING OR STANDING)

Quadriceps, Hamstrings, Gluteals

Stand with both feet together, take a large step forward bring knee close to the ground. Bend the front knee to close to 90 degrees, front knee over the ankle. Do not let your knee come over your toe. Keep your back straight while looking straight ahead.



POWER SQUAT

Stand with feet hips width apart. Lower yourself down like you are sitting in a chair. Knees should stay behind your toes with your back straight. From the squat position, pause and JUMP straight up, fully extending your body. On your landing return immediately to a squat position.

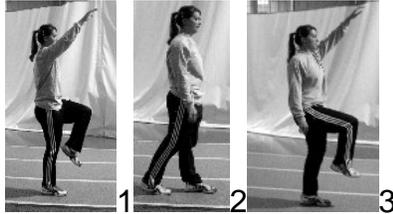


WALL SIT

Quadriceps

Rest your back against a wall; lower yourself until knees are at 90 degrees, directly over the ankles. Keep bell-button pulled into spine, keep back pressed against the wall. Hold in isometric contraction, breathing normally.

CALIENSTENICS



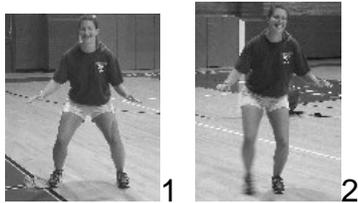
SKIP-REACH

As you take a step lift your opposite arm and bent leg to their full height. Place foot on ground and repeat with other arm and leg.



CARIOCA

Start with feet shoulder width apart. Cross your right leg behind your left leg. With your left leg step back into start position. Cross your right leg in front of your left leg



SHUFFLE

Feet shoulder width apart. Lower your self down to a half-squat position. Bring your left foot into your right and then step out quickly with your right foot. Repeat several times. Repeat with other leg leading.



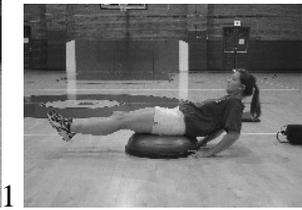
BUTT KICKS

As you jog bring your heel to your butt.



HIGH-KNEES

As you jog bring your up so the bottom of your foot is parallel to the floor.



BOSU SIT-UPS *Abdominals*
 Sit on middle of bosu ball with hands on the floor behind the bosu ball. With knees tucked into body, extend legs and bend elbows slightly. Return to start position.



MEDICINE BALL OBLIQUES *Obliques*
 Sit with knees bent and back straight. Place medicine ball on the left side of your body. Using your waist turn and pick up ball. Bring ball to right side and set it down. Repeat.

LOWER BODY EXERCISES



STEP-UPS *Gluteus, Hamstrings & Quadriceps*
 Facing lowest bench, start with right leg and step up onto bench. Bring left leg up to bench (makes sure the whole foot is on the bench). Step back down with right leg then left. Continue with right leg 10-15 times then switch to start with left leg.



BALL SQUATS *Gluteus, Calves, Hamstrings & Quadriceps*
 Place the ball between your lower back and the wall. Lean against the ball while keeping your back straight. Lift up left foot. Bend standing leg and lower body down. Hold for 10-15 seconds. Switch to other side.



ANKLE STABILIZERS *Gastrocnemios, Soleus, Tendon Calcaneus*
 Place foot in the middle of the Bosu Ball. Lift other foot. Try to maintain balance for 10-15 seconds. Switch to other foot.



LEG CURLS

Hamstring

Tie dynaband into a circle. Step right foot onto dynaband and place left foot inside circle. Flex knee, bringing foot towards thigh. Pause and then relax. Repeat 10-15 times then switch legs.



BALL LUNGES Gluteus, Calves, Hamstrings & Quadriceps

Follow same guidelines for the lunge. As you step out, pass the ball under your thigh.



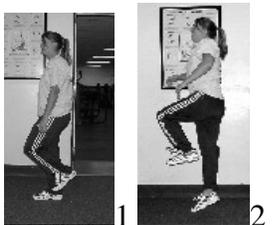
HOPSCOTCH

On the ladder, place both feet inside a square then jump to the next square with both feet on the outside of the square. Continue to the end. Turn around and repeat.



LADDER SKIING

Jump from inside the box to the left side of the next box. Jump back inside the following box then jump to the right side of the next box. Continue to the end. Turn around and repeat.



SINGLE LEG HOPS

Gluteus, Calves, Hamstrings & Quadriceps

Standing on the right leg, squat down and pause. Jump. As you jump pull the left leg into your chest. Repeat for 10-15 jumps then switch legs.



MODIFIED PUSH-UPS

Upper Back, Triceps, Pectorals

Place your hands and knees on the floor with your back straight. Lower your body until your upper arms are parallel to the floor. Slowly push up until arms are extended.



PUSH-UPS

Upper Back, Triceps, Pectorals

Keep back flat as you bend your elbows and lower your body down to the floor. When upper arms are parallel to the floor (elbows at 90 degrees) pause and then push up until arms are fully extended.



WALL PUSH-UPS

Upper Back, Triceps, Pectorals

Stand facing the wall. Place both hands on the wall with elbows extended. Bend elbows until the upper arm is parallel to the wall (elbows at 90 degrees). Push back until elbows are extended.



1



2

BICEP CURLS

Biceps, Brachii & Brachialis

Hold Dynaband handles. Place one (less resistance) or both (more resistance) feet on middle section of dynaband. Fully extend arms (Do not cock the wrist). Stand up tall. As you bend elbows, bring hands to shoulders. Return slowly to start position.



1



2

TRICEP DIPS

Triceps

Place hands on the edge of the bench. Extend legs straight with heels in contact with floor. Lower body down by bending your elbows



1



2

VERTICAL BALL TOSS Pectorals Major, Triceps

Lay on your back with your knees bent. Hold the ball in front of your chest, elbows bent. Push the ball into the air, catch it and return to start position.



BOSU PUSH-UP

Upper Back, Triceps, Pectorals

Place hands on the edges of the Bosu Ball. See Push-up Description.



Dynaband Lateral Raises

Deltoid, Trapezius

Stand on one handle, hold the other handle in your hand and let your arm hang at your side. Elevate arm laterally to shoulder height, keeping elbows bent. Lower arm back to the side of your body. Repeat with other arm.



TRICEP EXTENSIONS

Triceps

Place the right hand inside the handle. Hold the rest of the dynaband in the left hand. Stand up tall. Elbow should be bent so hand is almost touching shoulder. Dynaband should be lax. Extend the elbow until arm is straight above head. Return to start position. Repeat 10-15 times. Switch to other side.



STANDING ROWS

Deltoid, Lats, Rhomboids & Trapezius

Wrap the dynaband around an object about shoulder height. Grasp handles, standing up tall with arms extended. Lead with your elbows as you pull the dynaband into your chest. Return to start position.



DYNABAND CHEST ROWS

Rhomboids, Lats, Trapezius

Wrap middle of dynaband around your feet. Gripping handles, extend arms fully. Lead with the elbows as you pull the dynaband into your chest. Return to start position.



FRONTAL RAISES

Deltoid

Grasp handles of dynaband while standing on middle section of dynaband. Let arms relax in front of your body, hands on thighs. Raise weights to shoulder level, keeping elbows relaxed. Slowly lower arms to start position.



UPRIGHT ROWS

Deltoids, Lats & Trapezius

Stand on middle section of dynaband with hands in the handles. Stand up tall. Rest hands on thighs, arms extended. Pull weights upward along abdomen and chest. Keep weights close to the body. Keep elbows higher than wrists. Follow same path back to start position.



SHOULDER PRESS

Deltoid, Trapezius

Grasp handles of dynaband and place one foot in middle of dynaband. Hold hands next to shoulders, elbows bent. Push handles upward so the weights are directly above the shoulders, arms extended (do not lock elbows). Lower handles back down to start position.

Ideas for games at the end of class:

SIT-UPS

1. Have everyone grab a partner and a mat
2. Alternate partners conducting the sit-ups
3. Alternate order/length from class to class, below is an example.
 - Alternate partners with 2-3 sets of 30 seconds each
 - 3 Sets of: 1 at 30 seconds, 1 at 60 seconds, 1 back at 30 seconds

PUSH-UPS

1. Alternate order/length from class to class

RUNNING

Example #1

- Have the class finish up with 5-10 laps of easy running

Example #2

- Running 5-10 laps, have class run the length of the gym and on the end lines have them shuffle across.

Example #3

- Divide class into 2 groups: Team 1 and Team 2
Split up the group on either end of the gym. Each individual will run 1 length of the gym slapping the partner's hand on the other end. Continue until both teams are at the opposite end. You can continue this by having them run 2 lengths and then 3 lengths.
- You can add exercises within the running. Example: Member will run the length of the gym. Once they reach the end of the gym, the member will drop and do 10 push-ups. When completed, the member will run backwards to the start slapping the next person's hand.

CALISTHENICS EXERCISES

1. Depending on the size of the class, split the group into a minimum of 2 lines. Each exercise will be performed one-length of the gym unless otherwise noted.
 - Walking Lunges
 - Reach Skip
 - Shuffle
 - Carioca
 - Butt Kicks

Basic Exercise Formats

The following examples outline four exercise formats:

- Basic Exercise Format
- Continuous Rhythmical Exercise Format
- Basic Aerobic Circuit Format
- Basic Circuit Template

Each format can be altered to meet the needs of the group regarding duration and intensity of exercise session. This is a very simple overview of options; more in depth information is available in the manual.

Basic Exercise Workout

Component

Time

Warm Up

- Walking 1-2 minutes
- Slow overall body movements 1-2 minutes
- Light calisthenics 1-2 minutes
- Static stretching 2-3 minutes

Cardiovascular

- Cardio-warm up (participate in initial activities at a lower intensity) 2-3 minutes
- Continuous Rhythmical Exercises (see next page) 30 minutes
- Cardio-cool down (walking or low level activity) 2-3 minutes

Strength

- Exercises for specific muscle groups 10-15 minutes

Final Cool Down

- Static stretches 2-3 minutes
- Relaxation techniques (optional) 2-3 minutes

CONTINUOUS RHYTHMICAL EXERCISES

A program of continuous rhythmical exercises includes calisthenics, jogging, and other slow, steady movements. The heart rate is elevated during the entire exercise program by performing stationary exercises alternated with traveling movements in a large circle. During the stationary exercise, participants face toward the middle of the circle and when they finish with the exercises, they jog in place until every one is finished. It is recommended to use a mat or towel with some of the stationary exercises performed on the floor. A continuous rhythmical exercise program can be designed for basic, intermediate or high fitness levels. A sample basic fitness program follows.

Sample Program: Continuous Rhythmical Exercises

<i>Exercise</i>	<i>Length of Time or Number of Repetitions</i>
<i>Travel</i>	Walk for warm up 3 minutes
<i>Travel</i>	Walk briskly in a large circle 1 minute
<i>Travel</i>	Jog slowly 1 minute
<i>Stationary</i>	Side benders 10 reps, alternate sides
<i>Travel</i>	Side stepping (face toward center) 30 seconds
	Side stepping (face toward outside) 30 seconds
<i>Stationary</i>	Standing toe touches (bring right foot, then left foot to touch alternate hand) 20 reps, alternate sides
<i>Travel</i>	Skip 1 minute
<i>Stationary</i>	Trunk twists 20 reps, alternate sides
<i>Travel</i>	Marches (bring knees high) 1 minute
<i>Stationary</i>	Abdominal curls 10 reps
<i>Travel</i>	Jog slowly 1 minute
<i>Stationary</i>	Side lying leg lifts 10 reps to each side

<i>Travel</i>	Long giant stride steps Reaching with arms	1 minute
<i>Stationary</i>	The plank (maintain “push up” position with elbows on the floor)	5 seconds, rest, 8 seconds, rest, 10 seconds
<i>Travel</i>	Retro walking in a circle (walking backwards)	1 minute
<i>Stationary</i>	Squats	10 reps with both legs, 5 reps with each leg
<i>Travel</i>	Jog in a circle	1 minute
<i>Travel</i>	Walk in a circle	3 minutes

Note: Dr T.K. Cureton pioneered this type of exercise program.

AEROBIC CIRCUIT

Design of the circuit:

The outdoor area should include a circular track of grassy field for the Walk Station. The jump rope can be done inside the circular track. Nearby stairs can be used for the stepping portion, or if available, commercial exercise steps from the fitness center can be placed in the middle of the track as well. Divide the group into approximately equal thirds and assign a starting station. Rotate clockwise after ten minutes.

Station One: Stair Climbing or Stepping

At this station, the participants are to climb one or more flights of stairs (going up on one side and down the other). Climbing patterns can be varied by taking two steps at a time, increasing the pace, or carrying weights (3 to 5 pounds) as fitness levels improve. If exercise steps are used, vary step patterns including the basic up-up-down-down, repeaters (step and lift a knee several times then alternate), up and over, plyometric lifts and hops and using hand weights to name a few. Stay at this station for 10 minutes.

Station Two: Rope Jumping

For rope jumping, it is recommended that you obtain ropes that are fitted for the participants' height. To determine this, take the center of the rope and have the person place it under his or her feet. The ends of the rope should come all the way up and meet under the arms. If no ropes are available, the stimulate jumping and include jumping jacks as well.

Once an appropriate rope size is determined, tell participants to move into the starting position. Instruct: "Take the rope ends in hand, begin turning the rope, jump over the rope to allow rope center to go under and behind feet then over the head. Continue the jumping pattern. Jumping patterns include: jumping with two feet, with one foot then the other, alternating right and left feet, speed work, and traveling while turning the rope. Attempt to barely clear the rope with your feet. As you progress, speed up the rate of jumping". Stay at this station for 10 minutes.

Station Three: Walk or Walk/Jog

Walk around a circular track or field. Consider using variations such as faster walking on the straight portions and slow around the curves, walk/jogging, side stepping, retro-walking (walking backwards to use different muscles) to add variety and use different groups. Continue for 10 minutes until it is time to change to the next station.

Circuit Class Example

45 min class – 24 person capacity

BICEP CURLS

**TWISTING
SIT-UPS**

**STEP-UPS
(bleachers)**

**HEEL
RAISES**

A. Warm-up: Walk briskly around area 2-3 minutes.

B. Divide group so someone is at each station (max 2-4 people at each station).

C. Perform each station for 30 seconds.

D. After each station, jog 1 minute around perimeter.

E. Perform C&D two times.

F. Cool down: Walk 2-3 minutes and stretch.

**FRONT &
SIDE ARM
RAISES**

**OVERHEAD
PRESS**

**ELEVATED
SIT-UPS**

**WALKING
LUNGES**

**TRICEP
DIPS
(bleachers)**

SIT-UPS

PUSH-UPS

SQUATS

Bleachers

EQUIPMENT: You will need hand weights or elastic tubing to perform front and side raises and overhead press. Hand weights may also be used for lunges, squats, and bicep curls. Boxes/steps may be used for step ups/tricep dips

Group Circuit Training Aerobic and Calisthenics



Warm-up

1. Standing Shoulder rotations 1 Set of 1 Minute
2. Standing crossover toe touches 1 Set of 1 Minute
3. Standing crossover knee to elbow lifts 1 Set of 1 Minute
4. Circle run 1 Set of 1 Minute

Calisthenics Circuit

1. Push-ups: 1 Set of 1 Minute
2. Bench Dips: 1 Set of 1 Minute
3. Bent Knee Sit-ups: 1 Set of 1 Minute
4. Crunches: 1 Set of 1 Minute
5. Leg Lifts: (Crossover or single Leg) 1 Set of 1 Minute
6. Knee Bends: 1 Set of 1 Minute
7. Toe Raises (Two feet or one foot): 1 Set of 1 Minute
8. Squat Thrusts: 1 Set of 1 Minute

Running Circuit:

1. Shuttle run: 1 Minute
Run from one side to other, pick up block, run back to start
2. Skip Crawl: 1 Minute
Skip or jump rope length of gym, Duck walk back to start
3. Backward Forward Run: 1 Minute
Run length of gym Backwards then Sprint back forward
4. Side Shuffle: 1 Minute
Shuffle from one side to other side while facing forward entire movement
5. 20-Yard Station Sprints: (5 stations) 2 Sets
Stations are 20-yards apart. Spend 30-sec at station run to next station.
Stations are Push-ups - squat thrusts - knee bends – mountain climbers – sit-ups

Cool-Down

Jumping Jacks:

1 Set of 1 Minute

Circle Run:

1 Set of 1 Minute

Stretches

Standing Cross-over Toe Touches:

1 Set of 20 sec

Standing Front Thigh Stretch:

1 Set of 20 sec

Seated V-Leg Stretch:

1 Set of 20 sec

Seated Single Leg Stretch:

1 Set of 20 sec

Calve Step Stretch:

1 Set of 20 sec

Calve Stretch:

1 Set of 20 sec

Notes:

Go through each stage using as much energy as you can while maintaining good form.

On warm-up toe touches keep hands on hips and touch opposite foot.

Group Circuit Training With Jump Rope



Warm-up

- | | | |
|----|----------------------------------------|-------------------|
| 1. | Standing Shoulder rotations | 1 Set of 1 Minute |
| 2. | Standing crossover toe touches | 1 Set of 1 Minute |
| 3. | Standing crossover knee to elbow lifts | 1 Set of 1 Minute |
| 4. | Circle run | 1 Set of 1 Minute |

Circuit

- | | | |
|-----|--------------------------------------|-------------------|
| 1. | Jump Rope: | 1 Set of 4 Minute |
| 2. | Push-ups: | 1 Set of 1 Minute |
| 3. | Jump Rope: | 1 Set of 2 Minute |
| 4. | Bench Dips: | 1 Set of 1 Minute |
| 5. | Jump Rope: | 1 Set of 2 Minute |
| 6. | Bent Knee Sit-ups: | 1 Set of 1 Minute |
| 7. | Jump Rope: | 1 Set of 2 Minute |
| 8. | Crunches: | 1 Set of 1 Minute |
| 9. | Jump Rope: | 1 Set of 2 Minute |
| 10. | Leg Lifts: (Crossover or single Leg) | 1 Set of 1 Minute |
| 11. | Jump Rope: | 1 Set of 2 Minute |
| 12. | Knee Bends: | 1 Set of 1 Minute |
| 13. | Jump Rope: | 1 Set of 2 Minute |
| 14. | Toe Raises (Two feet or one foot): | 1 Set of 1 Minute |
| 15. | Jump Rope: | 1 Set of 4 Minute |

Cool-Down

Jumping Jacks:	1 Set of 1 Minute
Circle Run:	1 Set of 1 Minute

Stretches

Standing Cross-over Toe Touches:	1 Set of 20 sec
Standing Front Thigh Stretch:	1 Set of 20 sec
Seated V-Leg Stretch:	1 Set of 20 sec
Seated Single Leg Stretch:	1 Set of 20 sec
Calve Step Stretch:	1 Set of 20 sec
Calve Stretch:	1 Set of 20 sec

Notes:

Go through each stage using as much energy as you can while maintaining good form.

For people who cannot jump rope have them spin the rope next to them while jumping to develop coordination with jumping and spinning the rope together. After several times with this they can attempt to jump through the rope.

To find the proper size jump rope:

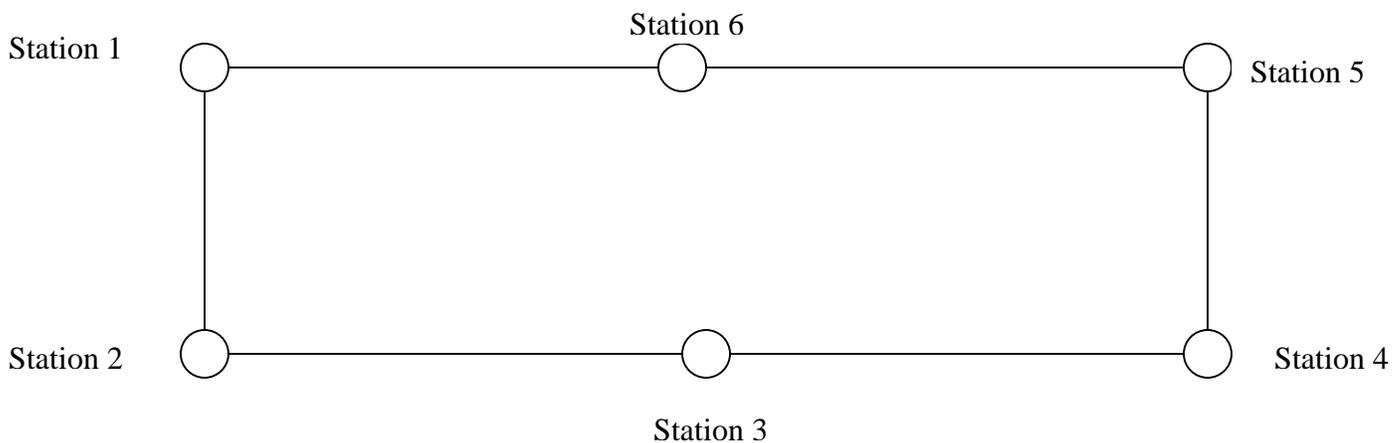
Place both feet together and stand on the middle of the jump rope. Next pull the rope up tight by the handles until it is at chest height with elbows sticking out to sides. A proper fit will have both hands level just above the center sternum of the chest.

Virtual Obstacle Course # 1
Rectangular Formation

WARMUP (Preparation) – 5 minutes

Shoulder rolls (forward) - 15 repetitions
Forward rows - 15 repetitions
Shoulder rolls (backward) - 15 repetitions
Half-jacks - 15 repetitions
Elbow to knee - 15 repetitions
Side bender II - 15 repetitions
Knee bender - 15 repetitions

EXERCISE PORTION (Movement) – 30 minutes



Station 1
(Low intensity) – Knee lifters
(High intensity) – Run in place

Movement 1
(Low intensity) – Walk
(High intensity) – Run

Station 2
(Low intensity) – Half-jacks
(High intensity) – Jumping jacks

Movement 2
(Low intensity)- Side step
(High intensity) – Slide

Station 3

(Low intensity) – Knee Bender

(High intensity) – Knee Bender with a hop

Movement 3

(Low intensity) – Cross over step (walk)

(High intensity) – Cross over step (trot)

Station 4

(Low intensity) – Hip drops

(High intensity) – Squat-jacks

Movement 4

(Low intensity) – Backwards walk

(High intensity) – Retro-running

Station 5

(Low intensity) – Bent knee push-ups

(High intensity) – Regular push-ups

Movement 5

(Low intensity) – Knee lifts

(High intensity) – Lunges

Station 6

(Low intensity) – Knee drops

(High intensity) – Knee drop with hop

Movement 6

(Low intensity) – Forward crawl

(High intensity) – Backward crawl

COOLDOWN

Sam exercises used for warm-up can be used for cool down.

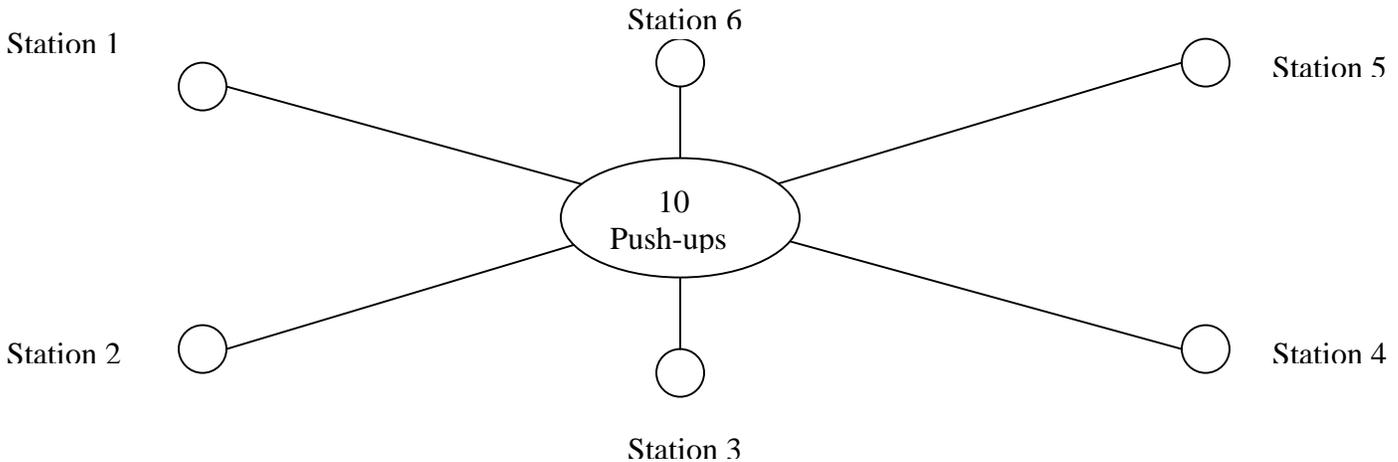
Virtual Obstacle Course # 2
Star Formation

WARMUP (Preparation) – 5 minutes

- Shoulder rolls (forward) - 15 repetitions
- Standing flys - 15 repetitions
- Shoulder rolls (backward) - 15 repetitions
- Ankle movement - 15 repetitions
- Hip drops - 15 repetitions
- Side lunge I - 15 repetitions
- Side lunge II - 15 repetitions

EXERCISE PORTION – 30 minutes

In the star formation the movement performed going to a station is the same movement performed when going back to the center of the formation.



Station 1

- (Low intensity) – Knee Bender
- (High intensity) – Knee Bender with a hop

Movement 1

- (Low intensity) – Cross over step (walk)
- (High intensity) – Cross over step (trot)

Station 2

- (Low intensity) – Half-jacks
- (High intensity) – Jumping jacks

Movement 2

- (Low intensity)- Side step
- (High intensity) – Slide

Station 3

(Low intensity) – Knee lifters
(High intensity) – Run in place

Movement 3

(Low intensity) – Walk
(High intensity) – Run

Station 4

(Low intensity) – Knee drops
(High intensity) – Knee drop with hop

Movement 4

(Low intensity) – Forward crawl
(High intensity) – Backward crawl

Station 5

(Low intensity) – Bent knee push-ups
(High intensity) – Regular push-ups

Movement 5

(Low intensity) – Knee lifts
(High intensity) – Lunges

Station 6

(Low intensity) – Hip drops
(High intensity) – Squat-jacks

Movement 6

(Low intensity) – Backwards walk
(High intensity) – Retro-running

COOLDOWN

Same exercises used in the WARMUP phase can be used for cooldown.

Appendices

Appendix 1 Sample Flexibility Exercises

Here are a few sample flexibility exercises for the main areas of the body:

Neck

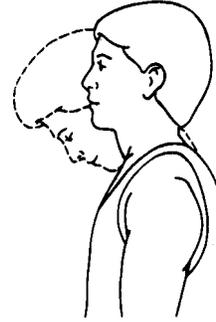
Slowly tilt head toward one shoulder. Hold 10-30 seconds. Repeat toward other shoulder.



Repeat 3-4 times.
Do 1 sessions per day.

Neck

Bend head forward. Hold 10-30 seconds. Return to starting position.



Repeat 3-4 times.
Do 1 sessions per day.

Neck

Turn head slowly to look over one shoulder. Hold 10-30 seconds. Repeat toward other shoulder.



Repeat 3-4 times.
Do 1 sessions per day.

Shoulder

Pull arm across chest until stretch is felt. Turn head away from pull. Hold 10-30 seconds. Repeat with other arm.



Repeat 3-4 times.
Do 1 sessions per day.

Arms

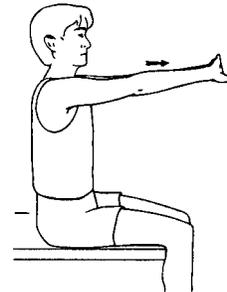
Pull elbow behind head until stretch is felt. Repeat with other elbow. Hold 10-30 seconds.



Repeat 3-4 times.
Do 1 sessions per day.

Shoulder

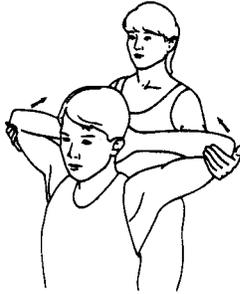
With fingers interlaced and palms out, straighten arms in front of you until stretch is felt. Hold 10-30 seconds.



Repeat 3-4 times.
Do 1 sessions per day.

Chest

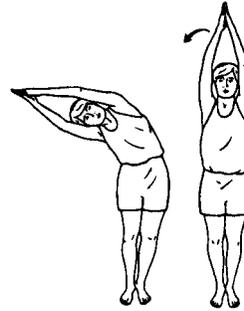
Clasp hands behind head.
Have partner pull arms
back until stretch is felt.
Hold 10-30 seconds.



Repeat 3-4 times.
Do 1 sessions per day.

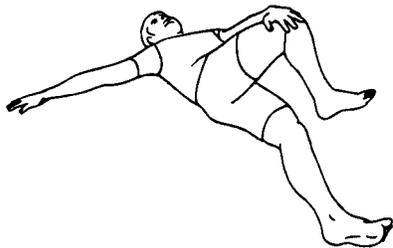
Lats

From starting position,
bend the body to the
side as far as possible
until stretch is felt.
Hold 10-30 seconds.
Repeat to other side.



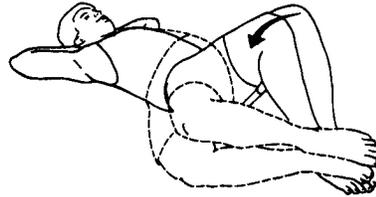
Repeat 3-4 times.
Do 1 sessions per day.

Low Back



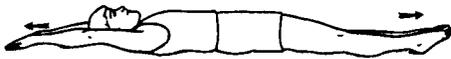
Keeping shoulders flat on floor, pull leg toward floor until
stretch is felt. Hold 10-30 seconds. Repeat with other leg.
Repeat 3-4 times. Do 1 sessions per day.

Low Back



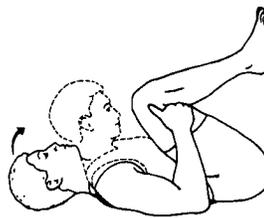
Keeping back flat and feet together, rotate knees to one side.
Hold 10-30 seconds. Repeat to other side.
Repeat 3-4 times. Do 1 sessions per day.

Back



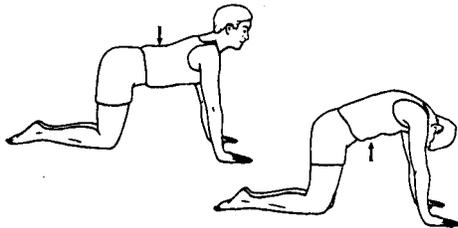
From lying position, extend both hands and feet until stretch
is felt. Hold 10-30 seconds.
Repeat 3-4 times. Do 1 sessions per day.

Back



Bring both knees to chest and hold. For more stretch, bring
head to knees and hold. Hold 10-30 seconds.
Repeat 3-4 times. Do 1 sessions per day.

Back



From starting position, tuck chin and tighten stomach while arching back. Hold 10-30 seconds.

Repeat 3-4 times. Do 1 sessions per day.

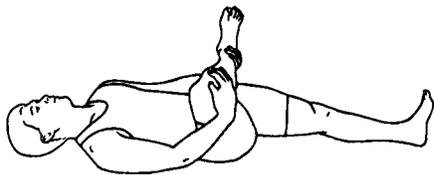
Hamstring



With hands on ankle, pull head toward knee and hold 10-30 seconds. Repeat with other leg.

Repeat 3-4 times. Do 1 sessions per day.

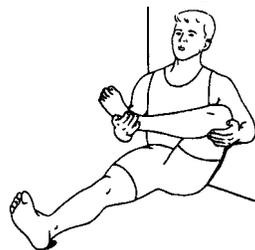
Hamstring



Gently pull foot and knee toward shoulder, rotating at hip. Hold 10-30 seconds. Repeat with other leg.

Repeat 3-4 times. Do 1 sessions per day.

Hamstring



With back against wall, gently pull leg toward chest until stretch is felt. Hold 10-30 seconds. Repeat with other leg.

Repeat 3-4 times. Do 1 sessions per day.

Outer Thigh

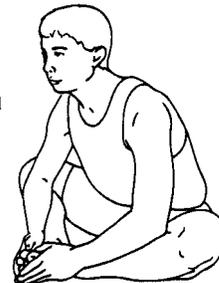


With left leg over right, bring right arm over left leg. Push left leg across body until stretch is felt. Turn head over left shoulder. Hold 10-30 seconds. Repeat with other side.

Repeat 3-4 times. Do 1 sessions per day.

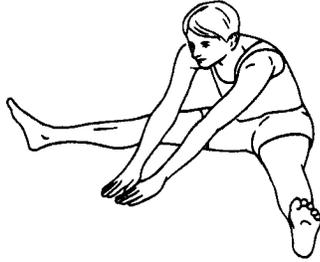
Groin

Grasping feet with hands and bending from hips, gently pull forward until stretch is felt. Hold 10-30 seconds.



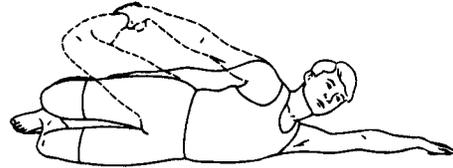
Repeat 3-4 times.
Do 1 sessions per day.

Straddle Sit



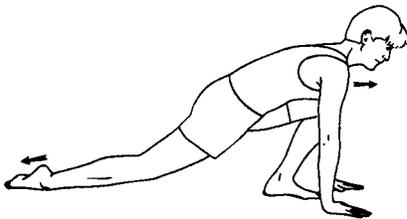
With legs apart, slide hands forward until stretch is felt. Hold 10-30 seconds.
Repeat 3-4 times. Do 1 sessions per day.

Quad



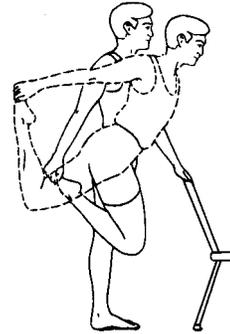
Holding one foot with same-side hand, raise leg until stretch is felt. Hold 10-30 seconds. Repeat with other side.
Repeat 3-4 times. Do 1 sessions per day.

Modified Runner's Stretch



From position shown, slide foot back and move trunk forward until stretch is felt. Hold 10-30 seconds. Repeat with other foot.
Repeat 3-4 times. Do 1 sessions per day.

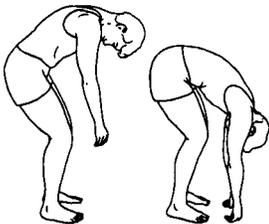
Quad



From starting position, raise leg until stretch is felt. Hold 10-30 seconds. Repeat with other leg.

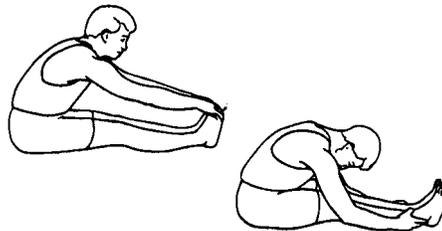
Repeat 3-4 times.
Do 1 sessions per day.

Standing Hamstrings



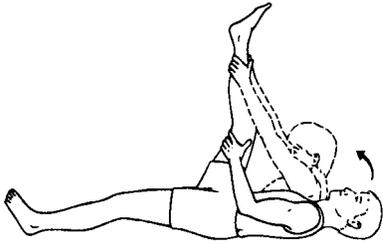
With feet shoulder-width apart and pointing straight forward, and with knees bent, lower hands toward floor until stretch is felt. Hold 10-30 seconds. Bend knees further to return to standing position.
Repeat 3-4 times. Do 1 sessions per day.

Long Sit Hamstrings



With hands on toes, pull torso forward and bend head toward knees until stretch is felt. Hold 10-30 seconds. For more stretch, put hands on ankles.
Repeat 3-4 times. Do 1 sessions per day.

Hamstring

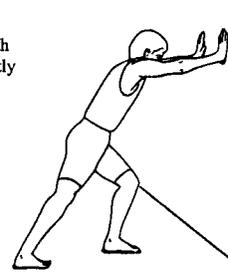


With hand behind knee, pull leg forward until stretch is felt. Hold 10-30 seconds. For more stretch, move hands up the leg toward ankle. Repeat with other leg.

Repeat 3-4 times. Do 1 sessions per day.

Calf / Achilles Tendon

Keeping back leg straight, with heel on floor and turned slightly outward, lean into wall until a stretch is felt in calf. Hold 10-30 seconds. Repeat with other leg.



Repeat 3-4 times.

Do 1 sessions per day.

Calf / Achilles Tendon

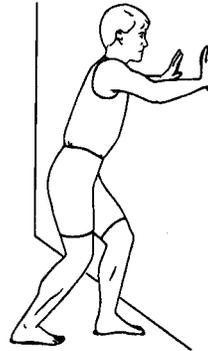


With toes even with knee, and heel 1" off floor, gently lean forward and lower heel toward floor until stretch is felt. Do not let heel touch floor. Hold 10-30 seconds. Repeat with other heel.

Repeat 3-4 times. Do 1 sessions per day.

Soleus

Keep back leg slightly bent, with heel on floor. Lean into wall until a stretch is felt in calf. Hold 10-30 seconds. Repeat with other leg.

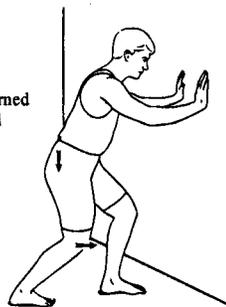


Repeat 3-4 times.

Do 1 sessions per day.

Achilles Tendon

With back foot flat and toes turned slightly inward, lower hips and bend knees until stretch is felt. Hold 10-30 seconds. Repeat with other leg.



Repeat 3-4 times.

Do 1 sessions per day.

ENVIRONMENTS OF OPPORTUNITY

During unit physical training, the exercise leader's assessment of the exercise potential in an environment will enhance and lend variety to the workout.

The exercise leader performs a visual inventory of the surroundings and plugs in knowledge of the Physical Training Leader training to adapt to the location. For example, a bare field or an empty room converts to a gymnasium when you impose geometry on it.

Each environment affords unique opportunities. The following is a list of some common environments of opportunity such as a random duty station work environment, a football or soccer field, a gym, random field house grounds, a health club, hotel, home or loading dock, your automobile, a parking lot or roadway, a volleyball court, softball or baseball field, stairs, ramps or a ladder, tennis courts, tracks and woods.

Duty station work environment

Make use of staircases or the perimeter of the building for cardiovascular endurance, and use furniture as props for your calisthenics.

Football or soccer field

A football field or soccer field may have a track around it, which may have benches, bleachers, and fences for many exercise options. Goal posts or soccer goals serve as great resistance for stretch cords.

Gym

In a gym make use of the lines on the court, the bleachers, benches, free weight and weight machines

Gymnasium grounds

This mixed environment is the ultimate exercise area for exercising solo, with a flight mate or in unit PT. It combines a track, football field, benches, goal posts, bleachers, tower with ladders, open field, woods, sand volleyball court, tennis courts and a baseball field with dugouts.

Transition from one area to the other by moving and incorporating calisthenics and basic tool work in accordance with circuit principles.

Health Club

A health club provides aerobic machines, steps, free weight, benches and weight machines

Hotel

The ordinary chair is the cornerstone of an indoor fitness program. See if the hotel has a fitness facility or exercise room. Look for a flight of stair. Check the ballroom, banquet hall and meeting rooms to see if any would serve as an exercise venue. Parking garages are especially suitable for training especially on weekends because they provide a training environment like hills and also have stairs and railings. Look out your hotel window for a nearby safe field, a covered patio or other place for training outdoors.

Home

A stationary bicycle, a chair and hand weights or a stretch cord comprise a full home exercise system.

Loading Dock

Here is a veritable gym with ramps, railings and stairs to create stations galore.

(Auto)Mobile Gym

Your car can serve as a “rolling gym.” If you store various kinds of jump ropes in the trunk, along with a medicine ball, basketball or soccerball for the movement part of your work-out.

Parking lot

The lines in a parking lot guide hops, knee drops and hops side-side. The curbs may be used for step-ups and push-ups. Just be cautious when you exercise between cars since car drivers may not see you.

Road

Roadwork will include walking or running. You should stop periodically to tuck calisthenics or basic tool exercises into the workout. Among their many other positive effects, calisthenics strengthen your entire body and reduce any boredom of walking. The exercises may be

integrated at designated distances along the way as when you come to a telephone pole, a bus stop bench or wall. You may also determine distances by your breathing pattern.

Sand volleyball court

The sand is made for crawling and other body support exercises. Combine these body-support movements and calisthenics with movement around the perimeter.

Softball field

Use the diamond shape of the field to your advantage. You may run or “slide” around the bases clockwise and/or counterclockwise. You can also do movements, such as lunges, between the pitcher’s mound and home plate or use the pitcher’s mound as the center point of a “star” configuration with explorations toward the bases and plate. The foul lines are built for step-over squats and calisthenics near the foul poles before you crawl and bound in the outfield grass. Dugout benches and the bleachers help to make a ball field one of the “funnest” exercise environments.

Stairs, ramps and ladders

You can climb these obstacles and perform calisthenics or basic tool work at the bottom or top.

Tennis courts

The inner dimension of a tennis court is consistent from Texas to Thailand, adding consistency to your training environment. Furthermore the court surface usually provides good footing and absorbs shock better than a road. The turn-over benches for players are great training aides and the net supports provide the resistance for stretch cords.

Track

On the track you can retro-run, crawl on the infield, use the benches and bleachers for many activities.

Woods

Nature is the best gym and the variety of training in the woods rivals most indoor environments. Do dips on logs and step-overs.

Resources

<http://www-benning.army.mil/usapfs/Training/ShoeSelection.htm>

<http://www-benning.army.mil/usapfs/Training/RightDoseRunning.htm>

<http://www-benning.army.mil/usapfs/Training/RunningForm.htm>

<http://www-benning.army.mil/usapfs/Training/TrainingInjuries.htm>

<http://www.cs.amedd.army.mil/aegis/Runningshoes/ShoeMain.htm>

<http://www.cs.amedd.army.mil/aegis/Runningshoes/ShoeMain.htm>

<http://www.cs.amedd.army.mil/aegis/Runningshoes/ShoeMain.htm>

<http://www.cs.amedd.army.mil/aegis/Runningshoes/ShoeMain.htm>

<http://www.cs.amedd.army.mil/aegis/Runningshoes/ShoeMain.htm>

http://carlisle-www.army.mil/apfri/Section_7.htm

http://www.acsm.org/pdf/CC_mar2002.pdf

<http://www.acsm.org/pdf/STRESSFR.pdf>

<http://www.acsm.org/pdf/0180FS53.pdf>

<http://www.acsm.org/pdf/fitsc102.pdf>

<http://www.acsm.org/pdf/SICKLE.pdf>