

USCGA Health and Physical Education

Fitness Preparation Guidelines

MUSCULAR STRENGTH

Muscular strength and endurance can be improved by systematically increasing the load (resistance) that you are using. Any overload will result in improvement, but higher intensity and effort will result in greater improvements. Start at a level that is easy for you perform and complete, then add resistance gradually. Apply these general weight training principles when beginning a strength program.

- **Activity:** Examples include weight resistance training, dynamic variable resistance training (thera bands, tubing), and weight bearing calisthenics/CORE exercises (push-ups, sit-ups, balance exercises). Balance a program by choosing exercises from all major muscle groups.
- **Intensity:** Challenge your muscles. Use moderate to high resistance. Allow 8-12 repetitions of each activity. Start with one set for each activity and gradually work your way up to 3 sets.
- **Frequency:** At least 2 times per week.
- **Duration:** 40-60 minutes a workout.

AEROBIC OR CARDIOVASCULAR FITNESS

Aerobic exercises are those that strengthen your heart and improve circulation.

- **Activities:** Examples include any continuous exercise that increases your heart rate and breathing over a prolonged period, such as jogging, running, swimming, biking, various cardio gym equipment, jump roping, and active sports.
- **Intensity:** Begin at an easy to moderate level (you can talk easily to another person while working out). Check your heart rate and stay within your target heart rate zone.

Target Heart Rate Zone should be in the 120-170 beats per minute range

- **Frequency:** At least 3 times per week. Work toward daily aerobic activity. Alternate easy with more vigorous exercise days.
- **Duration:** At least 20-30 minutes a day. Work up to 30-60 minutes a day.
- **Progression:** When starting out keep your intensity moderate. As your body adapts to the positive changes in aerobic capacity, you can gradually increase to a more vigorous level.

FLEXIBILITY

Muscles and joints become stiff and lose their range of motion with inactivity or activity overload. To maintain good joint mobility, reduce injury risk, improve the ability of your muscles to adapt to physical stresses, and enhance overall muscle performance, choose stretching exercises for the major areas of the body, such as lower back, hips, hamstrings, quadriceps, shoulders, etc. Stretch once the muscles are warmed up (5 minutes of light cardiovascular activity to get the blood flowing through the muscles), as well as after a vigorous workout session. Do a static stretch by holding each stretch 10-20 seconds. Don't over-stretch to the point of pain and avoid bouncing movements.

RECOVERY

You should plan on building recovery into your exercise program. In the suggested program below, one day a week is set aside to allow your body to recover and adapt to exercise. Failure to allow for recovery may lead to increased risk of injury.

SAMPLE WORK OUT

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Week 1	Cardio – 20 min.	Strength Training 30 min.	Cardio – 25 min.	Strength Training 30 min.	Cardio 25 min.	Calisthenics /CORE – 20 min.	OFF
			Calisthenics /CORE – 15 min.			Cardio – 20 min.	
WEEK 2	Cardio – 25 min.	Strength Training 30 min.	Calisthenics /CORE – 20 min.	Strength Training 30 min.	Cardio 30 min.	Cardio – 25 min.	OFF
			Cardio – 25 min.			Calisthenics /CORE – 20 min.	

Upon arrival at the Coast Guard Academy for AIM Summer you will be completing a Physical Fitness Exam (PFE). This exam will be given in the first week of training as well as at the end. Following the summer training period, cadets take the PFE two times a year. The PFE consists of push-ups (2 minutes), sit-ups (2 minutes) and a 1.5 mile run. The first two items measure the muscular strength and endurance of the upper body and the abdominals. The 1.5 mile run is a measure of your cardio-respiratory fitness.

Below are some guidelines to help you be successful in all test areas of the PFE as well as some sample workouts that can be incorporated into your fitness program to help you maximize your potential on the test.

General Suggestions:

- 1) In order for your body to perform you have to give it the proper fuel and not carry around a lot of excess weight. Good eating habits are fundamental to your health. These are the simple guidelines: Eat a balanced diet with lots of fruits, vegetables, and whole grains; drink plenty of water; and consume a minimal amount of desserts, soda and fried food. Do not eliminate any one food group from your diet. 50-60 % carbohydrates; 20-30 % protein; 10-20 % healthy fat (unsaturated).
- 2) Get regular exercise every day. Set a goal and stick to it. Incorporate a variety of exercises into your regimen in order to keep your muscles fresh.
- 3) A healthy weight can give you more energy and help you perform better. Implement a program that combines strength training, cardiovascular training, and balanced nutrition.
- 4) Incorporate exercises that target specific muscle groups and specific activities that will transfer over to increased performance on the PFE.
- 5) Swimming is an important and necessary skill of a Coast Guard Officer. The summer Survival at Sea course requires a great amount of physical endurance and skill in the pool. Incorporate regular swim workouts into your cardiovascular training. (Suggestion for SWAB Summer)
- 6) If you are not familiar with some of the exercises below, a physical education teacher or coach should be able to assist you.

Push-Up Exercises:

The push-up test is designed to test muscular strength and endurance. Adding various forms of push-ups to your strength training regimen will help develop upper body muscular endurance and strength as well as increase your stabilization muscles to help decrease injury.

To improve your muscular strength and endurance, here is sample push-up workout routine:

Workout 1: Complete a two-minute cadence push-up test. The cadence is “up” on the first second, “down” on two seconds, “up” on three seconds, “down” on four seconds and so on. Continue for two minutes or until you can no longer keep up the cadence. Record how many you were able to properly perform.

Workout 2: Following your regular workout, add two or three sets of 8-15 barbell push-ups. Get in the regular push-up position with your hands on a barbell. Using your upper body, as well as your core stabilizers, perform the push-ups.

Workout 3: Following your regular workout, complete two or three sets of 8-15 plyometric push-ups. Get in the regular push-up position with your hands on a padded mat or towel. Push hard enough on the “up” that your hands jump off the floor. When your hands return to the floor, immediately lower yourself to the next repetition.

Workout 4: Incorporate weighted resistance push-ups into your regular routine. Get into the regular push-up position. Have a spotter place a weight plate centered on your back (start with a 5-10 pound plate and gradually increase as you get stronger). Complete three sets of 8-15 push-ups with the weight plate on your back for resistance. Remove weighted plate and complete one more set of 8-15 push-ups with no added resistance.

Workout 5: Following your regular workout, complete two or three sets of 8-15 repetitions of decline push-ups. Using a bench, a physio-ball, or any object that is elevated, put yourself in the regular push-up position with your feet (anchor) on the elevated object. Complete three sets of 8-15 push-ups. When choosing the object to place your feet on, take in account the height of the object as well as its mobility. An object that is higher will be more difficult. An object that has mobility (physio-ball) will be more difficult as you will incorporate more stabilizer muscles to correctly complete the exercise.

Workout 6: Following your regular workout, focus on muscular endurance. Complete three sets of regular push-ups with a work to rest ratio of 30 seconds of activity to 30 seconds of rest. As your muscular endurance improves, increase your work time interval and decrease your rest interval (example 40 seconds of push-ups to 20 seconds of rest).

Workout 7: Same as Workout 1. Re-test yourself to see if you have made improvements.

Tips for success:

- Work in one or two days of rest.
- Gradually increase resistance to develop muscular strength.
- Use correct form to avoid injury.
- If exercises are too difficult, perform a modified push-up with the anchor at your knees instead of at your toes.
- Stay consistent. Make your upper body strength a priority. Each workout can take as little as 10 minutes a day or 10 minutes added on to your daily fitness routine.

Sit-Up Exercises:

To improve, add resistance or increase the number of sets.

- 1) Use a decline bench. Adjust the bench to the max decline and perform three sets of 20 sit-ups with one minute rest. If you are able to perform all three sets, hold a 25 pound plate on your chest and then increase weight as necessary.
- 2) Practice the test and then add sets afterwards. Perform a max effort set for two minutes, rest for two minutes, perform a max effort set for one minute, rest for one minute, and perform a max effort set for 30 seconds.

1.5 Mile Run:

If you are really struggling with this event, the best way to improve is to do numerous practice runs. Set a goal each time, figure out your splits and stay on pace. Maintaining a steady pace is crucial. For example, to run the event in 10:13 minutes, you have to run approximately 1 minute and 42 second/laps (6 laps). After a practice run, continue to jog the rest of the workout session.

A good workout for people who have reached a plateau is an interval run. Run eight laps, jog four - 1 time; Run four laps, jog two - 2 times; Run two laps, jog one lap - 4 times. The running laps should be at your target pace.

CARDIOVASCULAR AND MUSCULAR STRENGTH (CORE)

Circuit performed at each exercise (station): 45 seconds on the exercise, 15 seconds rest. Do this 3x for each station, then rotate to next activity:

1. Push-Ups – Use partner for resistance to get a better workout
2. Wall-sits
3. Abdominal (full curl-ups are still the best for including your entire core, however do not use a partner to hold down your feet)
4. Squat Jumps – incorporate explosive power into your workouts
5. Pull-Ups – close grip, reverse grip, wide grip, single arm
6. Skiers – alternate lunges with a jump in-between
7. Triceps Dips
8. Explosive Push-Ups – push-up to squat jump
9. Walking Push-Ups – with each push-up take a step forward with your hands
10. Mountain Climbers

After completing exercise 3x (done this way to produce muscle fatigue) move to next station and start circuit again within 15-30 seconds. Your heart rate should be elevated throughout the entire circuit.