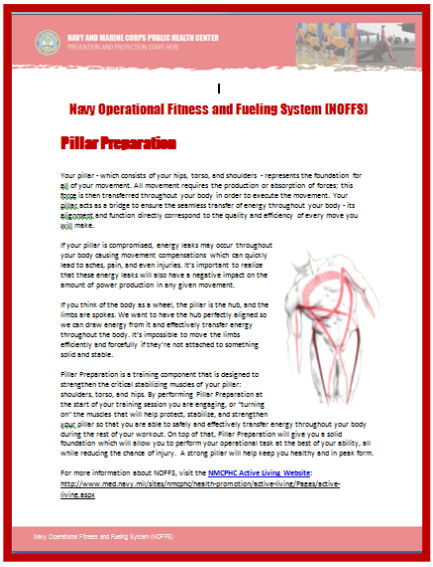
NOFFS

8 ½ x 11 Fact Sheets



Navy Operational Fitness and Fueling System (NOFFS)

Pillar Preparation

Your pillar - which consists of your hips, torso, and shoulders - represents the foundation for all of your movement. All movement requires the production or absorption of forces; this force is then transferred throughout your body in order to execute the movement. Your pillar acts as a bridge to ensure the seamless transfer of energy throughout your body - its alignment and function directly correspond to the quality and efficiency of every move you will make.

If your pillar is compromised, energy leaks may occur throughout your body causing movement compensations which can quickly lead to aches, pain, and even injuries. It's important to realize that these energy leaks will also have a negative impact on the amount of power production in any given movement.

If you think of the body as a wheel, the pillar is the hub, and the limbs are spokes. We want to have the hub perfectly aligned so we can draw energy from it and effectively transfer energy throughout the body. It's impossible to move the limbs efficiently and forcefully if they're not attached to something solid and stable.

Pillar Preparation is a training component that is designed to strengthen the critical stabilizing muscles of your pillar: shoulders, torso, and hips. By performing Pillar Preparation at the start of your training session you are engaging, or "turning on" the muscles that will help protect, stabilize, and strengthen your pillar so that you are able to safely and effectively transfer energy throughout your body during the rest of your workout. On top of that, Pillar Preparation will give you a solid foundation which will allow you to perform your operational task at the best of your ability, all while reducing the chance of injury. A strong pillar will help keep you healthy and in peak form.

For more information about NOFFS, visit the NMCPHC Active Living Website:
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[Pillar Preparation]

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Movement Preparation

Traditionally when people prepare to train they enter into a routine that primarily consists of a mixture of stretching, as well ass form of general activity to warm up tissue before engaging in activity. Stretching is an important part of any warm up or cool-down. It is vital for injury prevention, muscle recovery, optimizing muscle gains, and increasing flexibility. However, there are different types of stretching, and each affects your body in different ways. That being said, it is important to understand how, and when to use different types of stretching.

Static stretching, holding a stretch for a long duration of time, works by sending a message to the muscle saying, "shut this tightness off" ultimately forcing the muscle to release and relax. Whether you are preparing to train or begin work on your operational platform, movement requires dynamic, fluid action. By holding long static stretches right before a bout of activity, you are effectively shutting off the muscles when you need them the most, making the upcoming physical demands harder on the body.

It's not that static stretching is a bad idea; it can be a great tool when done correctly and at the appropriate time. Static stretching is best used post-workout or at the end of the day to elongate the muscle and connective tissue, while turning off the nervous system (your brain and the nerves running to and from your muscles). It is also effective on recovery emphasis days, as long static holds help to produce long term changes in the fascia (the band of elastic tissue that envelops the body, beneath the skin), ultimately improving muscle balance and flexibility.

Activities that are done to "warm up," or increase your body's temperature are often done without a specific purpose in mind, except of course to "warm up," or sweat. You may see people ride a stationary bike, or go for a light jog for 5 minutes. There is nothing wrong with riding a stationary bike, or going for a light run, as long as there is a purpose for it. You need to ask yourself this question, is a light ride on a stationary bike appropriate for a Sailor who is warming up for multidirectional movements?

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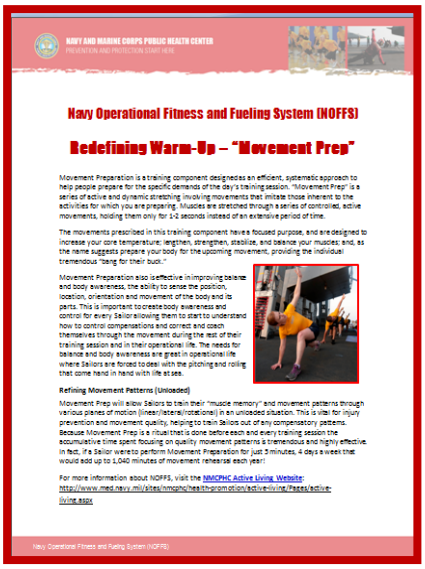
[Movement Preparation]



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Redefining Warm-Up – "Movement Prep"

Movement Preparation is a training component designed as an efficient, systematic approach to help people prepare for the specific demands of the day's training session. "Movement Prep" is a series of active and dynamic stretching involving movements that imitate those inherent to the activities for which you are preparing. Muscles are stretched through a series of controlled, active movements, holding them only for 1-2 seconds instead of an extensive period of time.

The movements prescribed in this training component have a focused purpose, and are designed to increase your core temperature; lengthen, strengthen, stabilize, and balance your muscles; and, as the name suggests prepare your body for the upcoming movement, providing the individual tremendous "bang for their buck."

Movement Preparation also is effective in improving balance and body awareness, the ability to sense the position, location, orientation and movement of the body and its parts. This is important to create body awareness and control for every Sailor allowing them to start to understand how to control compensations and correct and coach themselves through the movement during the rest of their training session and in their operational life. The needs for balance and body awareness are great in operational life where Sailors are forced to deal with the pitching and rolling that come hand in hand with life at sea.

Refining Movement Patterns (Unloaded)

Movement Prep will allow Sailors to train their "muscle memory" and movement patterns through various planes of motion (linear/lateral/rotational) in an unloaded situation. This is vital for injury prevention and movement quality, helping to train Sailors out of any compensatory patterns. Because Movement Prep is a ritual that is done before each and every training session the accumulative time spent focusing on quality movement patterns is tremendous and highly effective. In fact, if a Sailor were to perform Movement Preparation for just 3 minutes, 4 days a week that would add up to 1,040 minutes of movement rehearsal each year!

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[Redefining Warm-Up]

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STRENGTH

Traditionally, strength programs are designed with specific body parts in mind; they use single joint movements, and work through a single plane of motion. We have tried to break from this traditional approach in our program design and focus instead on training movement patterns, using multi joint movements that work through multiple planes of motion.

The reason we train body movements instead of parts is because everything about the body's engineering is connected. What happens to the big toe affects the knees, the hips, and ultimately the shoulders. The muscular system is both complex and simple, a series of muscular and fascial bands (connective tissue) that work seamlessly to produce efficient movement. Many workout programs do more damage than good by producing muscle imbalances and inefficient movement patterns that sabotage this highly coordinated operating system.

The movement patterns we focus on involve the following:

Upper Pushing | Upper Pulling | Lower Pushing | Lower Pulling | Rotational

The realities of operational life require every Sailor to be prepared to deal with these movement demands. Whether they are working in confined spaces, on a crowded deck, loading cargo, or assisting in the mooring of a ship. We strongly believe that the ultimate goal of the strength training component is to provide the appropriate characteristic of strength to each movement pattern to help ensure every Sailor reaches their performance potential.

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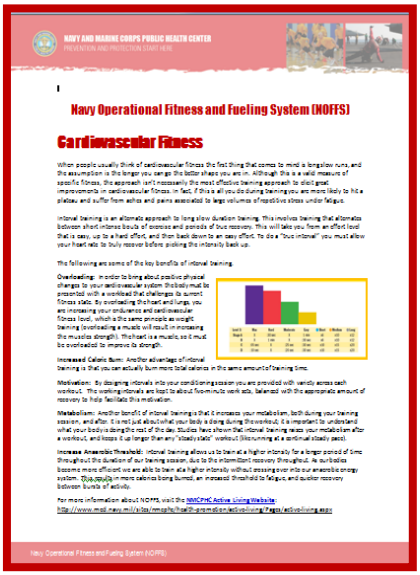
[Strength Fitness]



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Cardiovascular Fitness

When people usually think of cardiovascular fitness the first thing that comes to mind is long slow runs, and the assumption is the longer you can go the better shape you are in. Although this is a valid measure of specific fitness, the approach isn't necessarily the most effective training approach to elicit great improvements in cardiovascular fitness. In fact, if this is all you do during training you are more likely to hit a plateau and suffer from aches and pains associated to large volumes of repetitive stress under fatigue.

Interval training is an alternate approach to long slow duration training. This involves training that alternates between short intense bouts of exercise and periods of full recovery. This will take you from an effort level that is easy, up to a hard effort, and then back down to an easy effort. To do a "true interval" you must allow your heart rate to fully recover before picking the intensity back up.

The following are some of the key benefits of interval training.

Overloading: In order to bring about positive physical changes to your cardiovascular system the body must be presented with a workload that challenges its current fitness state. By overloading the heart and lungs, you are increasing your stamina and cardiovascular fitness level, which is the same principle as weight training (overloading a muscle will result in increasing the muscles strength). The heart is a muscle, so it must be overloaded to improve its strength.

Increased Calorie Burn: Another advantage of interval training is that you can actually burn more total calories in the same amount of training time.

Motivation: By designing intervals into your conditioning session you are provided with variety across each workout. The working intervals are kept to about 1 to 2 minute work sets, balanced with the appropriate amount of recovery to help facilitate this motivation.

Metabolism: Another benefit of interval training is that it increases your metabolism, both during your training session, and after. It is not just about what your body is doing during the workout, it is important to understand what your body is doing the rest of the day. Studies have shown that interval training raises your metabolism after a workout, and lasts it up longer than any "steady state" workout (like running at a continual steady pace).

Increase Anaerobic Threshold: Interval Training allows us to train at a higher intensity for a longer period of time throughout the duration of our training session, due to the intermittent recovery throughout. As our bodies become more efficient we are able to train at a higher intensity without crossing over into our anaerobic energy system, meaning more calories being burned, an increased threshold to fatigue, and quicker recovery between bursts of activity.

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[Cardiovascular Fitness]

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Recovery

Operational life is very demanding, both physically and mentally. The repetitive mechanics and constant pounding your body endures day in and day out can take its toll. If you do not allow your body to properly recover, you increase your injury potential and eventually you could find yourself with nagging aches and pains that eventually lead to injury. Fortunately there are strategies you can implement to help your body recover, a process we refer to as regeneration.

It's important to realize that the things you do at rest are just as important as the work you perform. If you focus on having high quality rest and regeneration, you'll be able to get more return on investment from every step of your training. Recovery activities will relieve your body of aches and pains, decrease inflammation, and improve tissue quality. Within the Recovery training component we will focus on: increasing your flexibility, ensuring your body is rehydrated, and isolating and relieving built up tension within your muscles.

Flexibility

Instead of passive static stretching the movements prescribed in regeneration will use Active-Isolated Stretching (AIS) to reprogram your muscles to contract and relax through new ranges of motion, working to increase your flexibility. This type of flexibility work can be done using an 8 to 10 foot length of rope, or no equipment at all.

The movements that you perform will allow you to isolate the muscle to be stretched. You won't hold stretches 10 to 30 seconds, as in traditional stretching; instead you'll use the rope to gently assist the muscle's range of motion about 10 to 20 percent farther than your body would ordinarily allow and only hold 1-2 seconds. As you stretch the muscle you will exhale, releasing tension and getting a deeper stretch, actively moving your body through its full range of motion – then giving gentle assistance.

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[Recovery]