SELECTED!

Be prepared for the U.S. Army Special Forces Selection & Assessment Course

"Learn to use your mind as a weapon"

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Introduction.

Welcome to "Selected!". In this program we will be helping you to achieve the standards required to enable you to pass the U.S. Army Selection and Assessment course.

"Selected!" consists of a DVD pack and a supporting E-book. The DVDs and book contain exercises, workouts, training runs, training marches, workout schedules and educational material to better prepare you for the challenges of the Selection and Assessment course.

There are two distinct reasons that applicants might be unsuccessful at the Selection and Assessment course. First, they may be physically unprepared for the challenges of the course. Second, they suffer injuries – many of which could have been which could have been avoided – that prevent them from completing the course successfully.

How to use this course.

A very successful Olympic running coach once said that the better prepared athlete would always beat the faster athlete. We think he's right. In the US Army Special Forces selection and assessment course you may be competing for selection against faster or stronger servicemen. But, if you have completed this course, done the workouts and absorbed the educational material – and put into practice what you have learned – you will be one of the best prepared applicants and more likely to succeed.

Is this course designed to make you a super-soldier? No, we have plenty of time for that later. It is specifically designed to fully prepare you to meet the physical challenges you will face at the US Army Special Forces selection and assessment course, and to avoid or overcome some of the challenges that have defeated some of those who have gone before you.

This course is twelve weeks long. Think of it as a series of coached workouts peaking you for a major event. Although you may be tempted to think that more is better, but it is not. Do only the assigned workouts, and, in order. If you do more, you will harm the positive adaptation, or changes in your body that the workouts are designed to bring about. It is an unfortunate scientific fact that your body only adapts from exercise when it is resting, not when it is doing. So don't hurt your chances by trying to add more workouts to those we have prescribed.

<u>Your coaches.</u>

Anthony C. "Woofie" Humpage.

Coach Woofie has completed ultramarathons at 50 kilometer, 50-mile and 100-mile distances, iron-

distance triathlons (swim 2.4 miles, cycle 112 miles and run 26.2 miles) and orienteering events up to 24 hours in duration. He helps athletes train injury-free, stay that way, and successfully compete in extreme ultra-distance and multi-day events. A veteran of the Badwater ultramarathon medical team, Coach Woofie is an expert in performing in hostile environments and hydration and electrolyte management. He is a Certified Strength and Conditioning Specialist and a USA Triathlon Certified Coach.

Josh Henkin

Josh Henkin is a graduate of Arizona State University where he received his degree in

Exercise Science. For the past fifteen years Josh has worked in the Strength & Conditioning field where he has worked with professional athletes as well as Navy Seals, S.W.A.T. units, and fire departments. He has extensive experience working with low back injuries, hip replacements, and shoulder surgeries.

For the past seven years Josh has been owner of Innovative Fitness Solutions, LLC in Scottsdale, Arizona. Besides running his exclusive training center, Josh developed Sandbag Fitness Systems and the Ultimate Sandbag. Sandbag Fitness Systems is the first system to implement a systemized method of implementing sandbag training to the Strength & Conditioning field. His Ultimate Sandbag has quickly gained worldwide notice as the best sandbag on the market and one of the hottest training tools.

His work with Sandbag Fitness Systems and the Ultimate Sandbag has made Josh one of the most sought out Strength Coaches in the field. Josh has lectured worldwide on his system of training and his educational programs have become a gold standard in the industry :

> *"As a Sports Performance Coach and US ARMY Veteran I am very particular when I make an investment in my fitness and training equipment. One thing that I can say is first and foremost is that nothing comes close to the Ultimate Sandbag and YES that even means the military issue duffel bags. The stitching on the bags far exceeds military standards and there was a lot of thought and planning in the design, function, and durability of this bag. I ordered the "Advanced Package Sandbag and I am enjoying the quality of instruction of the "High Octane DVD" and the easy to understand format. Within minutes you can take a novice and get them results and have them seeing the benefits of*

sandbag training. I train mainly women in my "NO BS NYC Boot Camps" and I must say they are very happy and get a strong sense of self confidence when they do the same type of workouts that pro MMA fighters or other athletes are doing. If you didn't get the point of the mini biography I just wrote basically I am saying the Ultimate Sandbag and High Octane DVD package are the best resources to have in your fat loss or performance training tool kit. Thanks Josh for putting out a quality product. I will be getting another in a few short weeks. Can you believe my mom wanted the Ultimate Sandbag as a Mother's Day present...crazy huh?"
Nii Wilson

The Selected Fitness Program

Working with tactical athletes is both an honor and privilege. Coaching men and women that put themselves on the line for us every day is something that should be taken with the utmost focus and attention to detail ourselves.

Over the past fifteen years I have worked with all types of tactical athletes; SWAT units, firefighters, Special Forces personnel, and many more. It seemed that many were drawn to the idea of functional fitness that I have always preached. More important than just performing functional fitness was truly identifying their needs and providing training that truly addressed their needs.

What is Functional Fitness?

Functional training is a term that has been thrown around as many common "buzz" words. Some may simply define functional fitness as improving fitness for everyday life. While this simplistic definition may be appropriate in some cases we want to be more specific. Functional fitness is the development of many fitness qualities such as; maximal strength, strength-endurance, mobility, flexibility, power, speed, and agility to allow for enhanced performance for specific demands. In the end, functional fitness for the tactical athlete means training that improves their performance in the field.

This means having the ability to exhibit high levels of strength in light of fatigue and compromised situations (i.e. lack of sleep, having heavy equipment on, etc.). This also means being able to move efficiently and quickly to deal with a great variety of situations and oppositions. Lastly, functional fitness for the tactical athlete requires them to be resilient to injury under all the varying circumstances they may encounter in the field.

The demands on the tactical athlete may be the most unique to anyone performing physical training because the situations where their physical fitness may be tested can often be highly unpredictable and room for error is very low.

How to Create Functional Fitness

The tactical athlete faces the challenge of being well rounded in all aspects of fitness. Not only do tactical athletes have to be complete, they must be able to demonstrate much of their fitness in comprised situations. That is why the "Selected" program was developed.

There are many forms of fitness training and selecting the right methods and tools are vital to the success of any program. Analyzing both the needs and tests that special forces applicants would require, it was determined that two training implements would be at the foundation of our program. These two tools would be the TRX suspension system and "The Ultimate Sandbag".

These two training tools each offer some unique advantages for the tactical athlete. The TRX offers an ability to add both complexity and load to traditional bodyweight movements that are very familiar in most forms of military training and testing. By being able to load the body without too much weight on the spine we can build strength without risking greater injury. In addition, we can make standard bodyweight exercises that many can perform high repetitions on into maximal strength drills that will challenge the strongest of athletes.

Adding complexity also teaches the tactical athlete how to move more efficiently to develop not just strength, but dynamic flexibility as well which is vital for performance. We will be using the TRX not to just build strength in the common bodyweight movements, but also to strengthen weak links that typically get injured during tactical training.

The "Ultimate Sandbag" was designed with hardcore training in mind. For years, tactical athletes have utilized duffel bags as training devices. However, this homemade sandbag lacks great versatility and strength. With multiple handle attachments and an easy loading and unloading system, the "Ultimate Sandbag" is designed for over 300 different exercises that challenge the body as a unit and develops great strength and endurance.

What makes the sandbag training so special for tactical athletes is the unstable nature of the sandbag. Utilizing unstable implements requires the use of more muscles and this quickly leads to greater strength gains and more resiliency to injury. Training with sandbags has long been a preferred method of strength training by wrestlers and martial artists alike.

These great athletes realized that sandbags allowed them to train in specific patterns and motions that were closely related to their sports. The shifting of the sandbags gave them a chance to train to the closest thing to a live opponent. This is the very same reason they are such a necessary training tool for the tactical athlete.

The TRX and "Ultimate Sandbag" are two perfect tools because they also work within the challenges of tactical preparation programs. In many situations the tactical athlete may be in the field or lack the perfect training environment. These two tools are highly adaptable to any situation that the tactical athlete may find themselves in. In addition, these tools are perfect for team or unit training in groups. They are easy to modify and adjust for varying fitness levels or orthopedic limitations.

Common Mistakes in Tactical Athlete Training

The tactical athlete should and needs to be trained like any other athlete. The problem with many programs set forth by different organizations is they don't separate the special needs and considerations that the tactical athlete possesses. Below is a discussion of some of the most common mistakes that occur in tactical athlete preparation.

Evaluate: Not just the needs of the position, but the current state of the individual. The fitness and orthopedic health of the individual can vary greatly! A new cadet versus a veteran can be very different and assessing their current fitness and health are essential starting points. Since fitness testing may only occur during the entrance period of an organization, fitness may be greatly different for those that have spent considerable time in the field. There is also a need to develop testing protocols that are relevant to the needs of the job and can be measurable in both large group and individual settings.

In addition, we must separate the ideals of training for long-term longevity in the military and training for testing. Just as with any athlete these two sometimes conflicting concepts can be blended if proper analysis of both situations are made.

Common Injuires: Many of these athletes have common injuries just like any other athlete. Low back injuries, cardiac problems, overuse injuries are areas that need to be addressed by the fitness program. Sometimes the best way to increase performance is to decrease injuries.

A Balanced Fitness Program: Although there are many fitness programs that state they demonstrate balance in their programs, they often overemphasize a single component. Most often this is endurance aspect of training and other attributes are missed because of the mindset of having to "beat up" the tactical athlete. Developing movement skills, flexibility, and strength in extreme ranges of motion are all important considerations of the fitness program. Yes, I am sorry there will also be a need for both aerobic and anaerobic training.

Analyzing Strength: To say someone is "strong" is about as vague of term as one can use. Strength has be relevant to the demands of the sport or job. Many tactical athletes completely ignore vital aspects of strength such as isometric strength that is so important in the proper performance of their job. More time developing certain types of strength can be more advantageous for the tactical athlete both because of the combative side of the job as well as the time spent in specific postures.

Recovery: The most challenging part of working with tactical athletes is the extreme demands they are placed under by long work hours and often times of very little sleep. Making recovery a priority will help many of the "overexertion" problems that often victimize the tactical athlete. Time away from work may be best spent on specific recovery techniques rather than performing intensive training.

How is "Selected" Different?

"Selected" was designed to address all the issues that face the tactical athlete and their preparation for Special Forces. We have blended modern science and experience working with hundreds of different tactical athletes to create a program that will not only enhance performance during testing, but in the field as well. This program is also specially designed to prevent the

common injuries that are unique to tactical athletes and hinders their ability to reach their potential.

A program designed for Special Forces applicants would not be complete if we didn't address all aspects of preparation. This includes, foot care, hydration, hiking/running programs, and fitness programs.

This section is specifically addressing the fitness needs of tactical athletes and the programs are included later in this manual.

Reading the "Selected Fitness Programs"

The "Selected" Program is designed to be an easy to follow, comprehensive program to address the specific needs of the Special Forces applicants. There are twelve weeks involved in this program where every workout is different. This is not random assignment of exercises or training variables. Every workout builds upon the other and should be performed in the order they are written.

The letters by each exercise refers to the order in which the exercises are to be performed and groups specific exercises together. For example, if A1. Shoulder Squats and A2. Chin-ups are listed together it means these two movements should be performed in an alternated manner. Meaning, one set of Shoulder Squat and then rest the prescribed interval and then one set of Chin-ups.

Sets & Reps

There are times that sets and repetitions schemes are listed in a range. For example, 3-4 sets, or 8-12 repetitions. This is done for several reasons. The first being a way for the tactical athlete to gage their readiness to train. Because of the unpredictable nature of being a tactical athlete there may be time where there is sleep deprivation or extreme stress that may negatively impact the nervous system.

This is a self-regulating system of recovery. On days that the athlete feels strong and energetic they can perform the higher end of the range. During times where fatigue and other stresses may wear out the athlete the lower range can be used. This allows for consistent and effective training to always occur without the risk of overtraining.

These training ranges also work very well with our training tools. It is impossible to simply increase microloading with the TRX and Ultimate Sandbag (increase weight by very small increments), we can create other measures of very small progress by changing the repetitions or sets, even the rest intervals can be manipulated to result in another version of microloading. This can by means of altering leverage, hand position, or placement of the load.

Rest Intervals

Rest intervals are the lost component to many fitness programs. In our “Selected” program they are key for building the fitness foundation that is going to be very important in progress and variation. In general, the rest intervals are quite short (45-60 seconds), this is to help build tolerance to anaerobic training that will be challenged in many of the standard fitness tests. The shorter rest intervals are helpful because fatigue can be specific, many situations the athlete will perform an upper body dominant drills supersetted with a lower body drill. This helps manage fatigue, build conditioning, and creates an efficient training program.

It is not recommended to go below the prescribed rest intervals as they will impede strength increases and prevent the proper recovery. Instead we advise challenging the load of the exercise, or the perform the higher end of repetitions.

Where to Start?

Choosing the right starting point is critical in getting the most out of the “Selected” training program. Since fitness levels can even vary greatly among tactical athletes, not every athlete will begin at the same point in the twelve weeks.

We recommend everyone start with “Day 1” as to evaluate their current level of fitness. If during any of the workouts an exercise may seem too easy certain adjustments may be made.

TRX Adjustments: The TRX can be made more challenging simply by move the leverage a higher level. For example, during the body row the closer to the unit one moves the more difficult the movement becomes.

Another simple modification to a TRX exercise is to move to a more difficult version. For example, if suspended with two feet is too easy then moving to one foot suspended, or another version of the push-up is an acceptable modification. (See table in push-up section for information on push-up variations).

Ultimate Sandbag Adjustments: Making adjustments to the Ultimate Sandbag is very easy, there are three different strategies.

1. Handle Options: The Ultimate Sandbag offers three options, parallel handles, rolled side flaps, and grabbing onto the sandbag itself.
2. Loading: The great advantage of the Ultimate Sandbag over homemade versions is that one can quickly load and unload the sandbags through the use of the interior filler bags. There different sizes can create incremental loading or more significant loads.
3. Holding Position: Reviewing the patterns of holding certain holding positions change the leverage so that they may feel more challenging even if the load has not been altered.

Push-up Training

Achieving success in the push-up is far more than having a strong chest or arms. Learning how to integrate the entire body into the movement will result in superior performance in this drill. Several cues can benefit the tactical athlete in both their training for and what they achieve from the push-up

Push-up Mistakes

Having the push-up become an effective exercise requires understanding of what not to do, as much as what to do correctly in its performance.

Common Training Errors
Leading With The Head
Hands Not Placed Under The Shoulders
Elbows Flare Away From The Body
Allowing The Hips To Drop During The Movement
Relaxed Lower Body

Picture to the left demonstrates some of the common faults of the push-up especially as fatigue accumulates.

Performing the Perfect Push-up

A well performed push-up trains the entire body, especially the trunk. Being aware of the influence of the other parts of the body in the push-up is crucial in decreasing injury, improving performance, and progressing.

The Perfect Push-up
Hands Underneath the Shoulders
The Head Should Remain In Alignment WIth Upper and Lower Back
Squeeze The Glutes
Pull The Shoulders Back and Keep The Elbows No Further Than 45 Degrees Away From The Body
Push Through Underarm and Keep Even Pressure On The Hands
Maintain Alignment Of The Entire Body

Push-up Progressions

Most tactical athletes make the mistake of only trying to progress only by performing more repetitions. While this philosophy has a place, used exclusively it can cause injury and stagnation. Other methods of progression will be used throughout this program to improve results faster and minimize injury.

Decreasing Rest Intervals: Performing quality repetitions with minimal rest between sets can increase strength endurance faster than trying to complete the same volume in one set.

Rest-Pause Method: Improving specific aspects of the lift can increase one of the main parts that most fail in, isometric strength. Most great lifters will use this method to blast through training plateaus and this same method can be used for bodyweight movements.

Interval Sets: Performing timed sets allows the tactical athlete to focus on pace rather than repetitions. Often this helps the athlete find the most efficient path to performing the most number of repetitions.

Ladders: Utilizing ladders of descending or ascending repetitions help build endurance without compromising the quality of the repetition. Such an example would include performing the clean and press exercise with 1 repetition, then 1 breathe, then 2 repetitions, then 2 breathes, and so until the ladder is completed. We can minimize the resting portion by alternating two exercises and rest is not taken until the complete ladder is finished.

Manipulating Leverage: Varying the leverage position of the body can replicate the same effect of adding load while still stimulating the most vital muscles in the trunk.

Overhead Lifting: It may seem odd that performing another lift would help the training of the push-up, but overhead lifting helps range of motion of the shoulder joint as well strengthens the trunk and the hips in a synergistic manner.

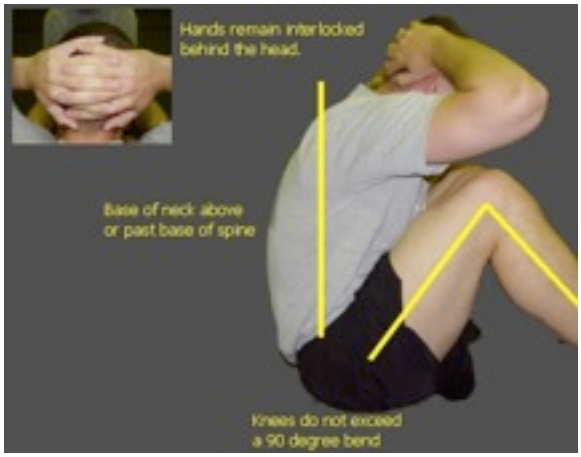
Push-up Progressions
Standard Push-up
Push-up One Foot Elevated
Spider Push-up
Push-up One Leg Suspended
Push-up Two Legs Suspended
Push-up to Knee Tuck
Push-up to Pike
Rotational Push-up
Push-up with One Arm Suspended
Push-up with One Arm Suspended Moving into Extension

Push-up Progressions
Push-up with One Arm Suspended Moving into Flye Position
Incline Push-up One Foot Suspended
Incline Push-up Two Feet Suspended

Advanced push-up variations are possible with the TRX, all the principles of the perfect push-up will always apply.

Sit-ups

Sit-ups have a long history of being a test of abdominal strength, however, it has been a much maligned exercise because many low back injuries have resulted from its use as both a main abdominal drill and test. To remedy this situation we are going to take a new approach to the sit-up to re-establish the sit-up as a useful training drill and optimizing assistance exercises to aid in injury prevention.



Common Sit-up Mistakes

There are many common errors performed during the sit-up both indirectly cheating the movement and trying to improve sit-up numbers. Avoiding these mistakes will definitely decrease any likelihood of suffering low back injuries.

Sit-up Errors
Do Not Pull On The Head
Relaxed Lower Body
No Deliberate Breathing Pattern
Letting The Legs Come Off The Ground

Performing The Perfect Sit-up
Begin by digging into the heels, this will activate hamstrings that will relax the hip flexors that often are overactive.
Think of rolling rather than sitting up, this will activate your abdominals more than the hips.
Match the breathing to the points of tension

Assistance Exercises

Strength training research has shown that stability of the trunk is much more of an issue of back health and core strength than flexion exercises such as sit-ups. Using these drills can greatly reduce the chance of low back injuries, but they must be performed in a progressional manner and careful attention to technique. Abdominal endurance is a better indicator of trunk health than

trying to lift a lot of weight. The following drills will enhance stability of the abdominals as well as the strength of the surrounding muscles that help stabilize the spine and pelvis.

Side Bridging

Side bridging is an important torso exercise because all three layers of the abdominals are activated. In addition, the smaller muscle groups of the trunk such as the quadratus lumborum are trained to make an all-round trunk strength and stability drill.

Side Bridge Performance
Keep the elbow underneath the shoulder
Push through the three points of contact: lower body, hips, and elbow to elevate to the top position
Maintain proper posture by keeping the chest outwards and not allowing flexing of any part of the body

Side Bridge Progressions
Knees bent to 45 degrees and keep them on the ground
Legs straight, both feet on the ground
Legs straight, one leg on top of the other
Legs straight, one foot suspended
Legs straight, both feet suspended

Plank

The plank is a very popular and effective exercise for improving both abdominal and low back strength-endurance. Done correctly, the plank also teaches the lifter the important concept of bracing the abdominal wall.

Plank Performance
Place the elbows on the ground so they align under the shoulders.
Push through the toes and keep the spine in alignment with the back of the head and glutes.
Do not let the hips drop downwards or rise upwards

Plank Progressions
Standard Plank both legs on the ground

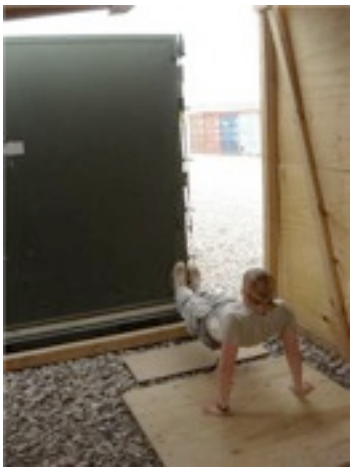
Plank Progressions
Standard Plank one leg slightly elevated
Standard Plank one leg suspended
Standard Plank both legs suspended
Push-up Position Hold
Push-up Arms Extended Forward
Push-up Position One Leg Elevated
Push-up Position One Leg Suspended
Push-up Position Both Legs Suspended
Suspended Rocker

Hip Bridge

The hip bridge acts as the perfect means in to teach proper recruitment in sequence of the hamstrings, glutes, and low back. Proper performance of this drill will result in a great deal of contraction in this area and minimal activation of the calves or quadriceps. Such activation is important in taking stress off the low back and deactivating the commonly overactive hip flexors.

Proper Hip Bridge Performance
Lie on back with heels suspended directly under TRX
The knees should be bent approximately 90 degrees
The TRX should be set-up slightly below knee height

Proper Hip Bridge Performance
Press through the heels and glutes to slowly raise the hips off the ground
Do not let the back extend and maintain alignment of the pelvis and low back
Point the toes towards the body to reduce the use of the calves



Hip Bridge Progressions
Two feet suspended
Two feet suspended feet pointing slightly inwards
Two feet suspended leg curl
One leg suspended hip bridge
One leg suspended leg curl

Hip Bridge Progressions
One leg suspended explosive leg curl

Pull-ups

Few exercises are associated with tactical fitness like the pull-up. Yet, many still struggle in posting high numbers with this upper body drill. Again, a major challenge facing the tactical athlete is not increasing their numbers simply by performing pull-ups. This will definitely cause overtraining and possibly injury.

Identifying the appropriate starting exercise will be vital in increasing performance numbers in the pull-up. Spending too much time on an inappropriate level will result in stagnation in performance. There are four primary variations of the pull-up.

Pull-up Progressions
Eccentric Pull-ups
Chin-ups
Mixed Grip Chin-up
Pull-ups

Advanced Variations

Pull-up training can be enhanced for the advanced trainee rather easily. The first step can be adding external load. Backpacks and other simple apparatus can be used for those that are limited with the equipment available. The Ultimate Sandbag can also be used to loop around the feet for added resistance. Because of the lever arm this creates, it results in a much heavier load perceived by the body than standard backpacks or weight vests.

Rope climbing can be used as well for advanced pull-up progressions. Climbing rope is an important training drill for the tactical athlete and can be substituted at appropriate times if the athlete can perform a minimum of 15 pull-ups.

Advanced Progressions
External Resistance Added
Climbing Rope with Legs
Climbing Rope without Legs
Climbing Rope with External Resistance
Dual Rope Climbs

Body Rowing, Better Pull-ups

Typically the tactical athlete will focus on exclusively performing pull-up variations to improve their pull-up total. While this method has some ability to produce appreciable results, it may also lead to injury or overtraining.

The Body Row is a foundational exercise in the "Selected" program because it achieves many of our overall training goals.

1.Integrates the overall body.
2.Help correct muscle imbalances.
3.Leads to greater performance.
4.A lot of variety allowing for progression and motivation.

The Body Row can be made more challenging by three simple alterations.

1.Moving closer to the TRX unit.
2.Changing hand position.
3.Adding a pause at the top of the pulling position.

Progressions of the Body Row
Move closer to the TRX, see picture next to see final progression

Progressions of the Body Row
Semi-supinated hand position
Supinated hand position
Pronated hand position
One-arm Body Row

Flexibility Training

Maintaining range of motion and good tissue health is critical in both performance and injury prevention. However, there are many questions and controversies surrounding how to accomplish these two goals.

How Often: Specific types of flexibility training can be used depending upon the goal and timing of its use. For example, standard static stretching (holding a stretch in a certain position for 15 to 60 seconds) can be used not just to improve flexibility of a muscle, but recovery from workout or training. However, dynamic or contract-relax methods of flexibility are more ideally used just prior to training for specific preparation of movement.

What Types: There are numerous stretching and flexibility programs, however, we are going to deal with the most easy to implement and effective methods.

Contract-Relax: The idea of this method is to turn off the body's natural brakes that inhibit movement. The concept is to activate the muscle being stretched by moving it against and immovable object and then relaxing into a greater range of motion. For example, lying down and performing a standard straight leg hamstring stretch. Holding the stretched leg with a towel, or band push downwards against the towel with approximately 50% of your strength. After six seconds of pressing, relax, exhale, and pull the leg upwards. Then repeat till greater range can not be achieved.

Static Stretching: This type of stretching is the most familiar to most. A variety of positions can be used to static stretch and often this can relax the nervous system. However, going into pain or severe discomfort can cause worse results, therefore, moving into a stretch should never exceed slight discomfort. Holding these stretches should be a minimum of 15 seconds.

Dynamic: This form of stretching is most commonly used just prior to training. Moving in a variety of patterns helps warm and prepare the body for the more active movements the body

will perform. Some examples will be lunging forward with arms overhead in the TRX. Having the feedback of something like the TRX can actually help gain greater range of motion.

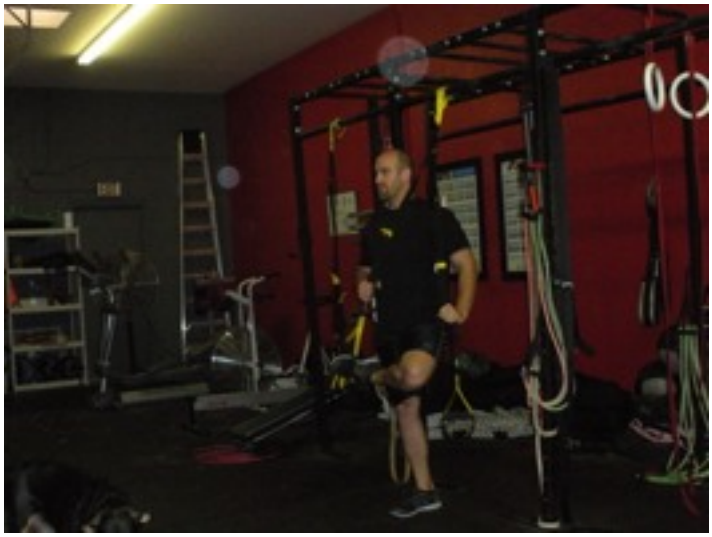
Pre-Training Flexibility Program

TRX Lunge with Arm Extension

Take a long lunge step and have the arms open in a V-position. Make sure the front heel stays planted and push the hips forward.

Push gently with the hands into the handles and then take an exhalation and push the hips additionally forward. Always make sure to push the chest outwards and squeeze the shoulders back.

TRX Glute Contract-Relax Stretch



Place stretching leg's foot into strap. Cross the leg over the opposing and squat back and down to feel a stretch in the glute.

Pull the opposing strap higher to create a larger stretch on the hip.

TRX Lateral Stretch

Keep the chest upwards take a long lead step to one side. Maintain both feet flat, sit back and down on one hip keeping the outside leg straight. Try to synchronize breathing with the descent to one side.

TRX Cross Lunge Stretch

With the chest leading upwards step back and across the hips. It is important not to have the hips rotate, try to maintain the hips square forward. The stretch should be felt in the glute and hip stepping back and across.

TRX Single Leg Hamstring Stretch

Place the stretching leg straight out, press through the heel as an active the contraction portion of the stretch. After pressing for about 5 seconds take a deep breathe, on the exhalation pull on the opposing strap and raise the leg.

Sandbag Holding Positions

The Ultimate Sandbag is going to be one of the most powerful training tools in the tactical athlete's program. Sandbag training has the richest history in all of strength training dating back to ancient Egyptian times as well as being traced to some of the old time strongmen that possessed strength, endurance, and flexbility.

The tactical athlete must possess power, overall body strength, and endurance. The Ultimate Sandbag is the best tool to help build all these fitness components.

Ultimate Sandbag Holding Positions
Bear Hug
Zercher
Shoulder
Overhead
Back for Complexes Only

Bear Hug Position

Zercher Position

Shouldering Position

Overhead

Becoming Powerful!

For many decades Olympic lifting and their variations have been a core component of sports performance programs. These lifts have been integral in building explosive power of athletes as Olympic lifters have demonstrated the best power production of any Olympic athlete. However, the challenge has always been the in successfully teaching these lifts as they can often be highly technical and proper equipment can be limiting.

The key in the Olympic lifts is the triple extension that occurs during the clean and snatch exercise. Triple extension refers to the extension of the ankle, knee, and hip that occur during in a specific pattern during explosive movements. This triple extension is absolutely vital in getting the most out of power movements and can be found in all natural patterns of human movement such as sprinting, jumping, and kicking.

The Ultimate Sandbag is the ideal tool for teaching this powerful triple extension and solves the elusive problems of standard Olympic lifting. Flexibility issues are removed because the receiving positions of the Ultimate Sandbag involve postures that are easy for almost anyone to achieve.

The technique of explosive movements with the Ultimate Sandbag are much easier to learn leading to more time training and less time trying to teach the movements. The structure of an odd object such as a sandbag has all the weight fighting away from the lifter causing them to focus harder on extending the body to raise the weight to the appropriate position.

The Ultimate Sandbag's unique construction allows not only traditional Olympic lifting type movements to be performed, but FIVE different variations to be used depending upon the gripping and placement of the sandbag. These will be used throughout the various workouts.

Ultimate Strength

Most question whether or not sandbag training can create the same level of strength that is often found with bodyweight, barbell, dumbbell, or even kettlebell training. John Jesse in his landmark book, *"The Encyclopedia of Wrestling Conditioning",* tells of the history of sandbags...

"Sandbags, heavy stones, and war clubs were used for the development of strength by wrestlers of many nations for several hundred years, long before the invention of the iron barbell."

Sandbags were the perfect training tool for wrestlers and martial artists because of their versatility and unstable nature. It was one of the few ways that these athletes could train against a resistance that was similar to a person. However, these were not the only athletes that were fond of sandbag training.

Early 1900's strongmen were big proponents of sandbag training because an awkward, non-cooperative training implement made any other strength training tool seem almost easy. John Jesse recites the use of sandbags by these strongmen...

"Sandbags over 100 pounds are awkward to handle and provide a true test of all-around strength, particularly in lifting them overhead or bringing them to the shoulder with one hand. Some of the old-time strongman wrestlers would shoulder a 180 to 220-pound sack of grains to the shoulder with one hand and then walk several hundred yards with the bag on their shoulder. A few were capable of pressing the same bag overhead with one hand after bringing it to the shoulder."

Such strength and endurance that was demonstrated by these old time strongmen would be very hard for even the best athletes of today to match.

Sandbags did not gain mainstream popularity because athletes would have to construct their own versions of sandbags. Such homemade sandbags were both messy and lacked a great deal of versatility. The Ultimate Sandbag has resolved many of the issues that coaches and athletes had with sandbag training and this has caused sandbags to grow in great popularity in many mainstream sports such as American Football. Listen to what Football Strength Coach, Steven Morris has to say about sandbag training for his athletes...

"Building weight room strength is essential if your football training is going to be successful. However, if all you build is strength in the weight room, you're in trouble! There seems to be a disconnect between what goes on in the gym and what happens in the field. Sure, a stronger player will always win, all things being equal. But all things are rarely equal.

Guys who excel, especially at power positions like the line, linebackers, and running backs, seem to be guys who can take what they've built in the weight room and transfer it to the field. They tend to possess strength at odd angles and from weird positions. If you've ever blocked another

human or tried to tackle them, you know that you aren't always in the perfect position. You need to find ways to train both standard strength and strength in odd positions to prevent strength leakage.

Sandbags are the answer. Way back in the olden days of the 1990s, dinosaur training came along and introduced us to odd object lifting, the kind you see in World's Strongest Man competitions. Dino training taught us about rock, stone, sandbag, and barrel lifting, all of which are great for building that odd strength. But the problem with rocks, stones, and barrels is that if dropped, they can become a real safety issue. If you drop a rock on your foot, you're screwed. If you drop a sandbag, you'll just look like a big dummy.

Because they change shape and are hard as hell to get a handle on, sandbags provide an excellent path to transfer strength. Josh Henkin's sandbag training information and sandbags are top of the line. Get one, load it up, and lift it. Squats, carries, overhead work—it's all good. Add sandbags to your football training, and I guarantee you'll notice a huge difference within weeks."

Injury Prevention

Most coaches and athletes tend to think of performance and injury prevention as two distinct training methods. The beauty of sandbag training it can accomplish both goals within the training system. Strength Coach, Allan Hedrick of the Air Force Academy has written extensively about how awkward objects can prevent common sports injuries:

"But, applying the concept of specificity, it makes sense that training with a fluid resistance is a more sport-specific method of training as compared to lifting exclusively with a static resistance, because in most situations, athletes encounter a dynamic resistance (in the form of an opponent) as compared to the static resistance. Further, because the active fluid resistance enhances the need for stability and control, this type of training may reduce the opportunity for injury because of improved joint stability." (NSCA Journal, Vol.25 Number 4)

Coach Hedrick is speaking of the use of kegs, however, it is easy to infer the same about sandbags. In fact, sandbags are far more versatile and safe than kegs.

Increasing stabilizer strength is one way that sandbags can prevent injury. If the smaller stabilizers are stronger, the joint integrity is better and the bigger muscles can provide more force.

In the famous book, Dinasour Training, Brooks Kubik states, *"You feel sore as you do because the bags (sandbags) worked your body in ways you could not approach with a barbell alone. You got into the muscle areas you normally don't work. You worked the "heck" out of the stabilizers." (Kubik, p. 115)"*

Powerful Core Training

The Ultimate Sandbag increases trunk and hip strength that helps stabilize the spine and can greatly decrease the risk of low back injury. The various holding positions of the Ultimate Sandbag challenge the endurance and stability of the trunk by maintaining postures with load pulling the body in different directions. The trunk resisting movement improves the stability by also teaching the important skill of bracing the trunk that increases intra-abdominal pressure (your body's own weight belt).

The explosive pulling drills activate the hamstrings, glutes, and low back (the posterior chain) in a synchronized manner which teaches the body to move in a more efficient pattern and reduces the long-term stress to the low back.

Sandbag training can be used outside of the typical strength training exercises that are familiar to most athletes. The unique rotational drills make sandbag training a must for any athlete that wants elite performance and to be injury free. These drills teach efficient movement, how to absorb and retransmit force, as well as train the core in a complete range of motion. Not too many fitness tools can come close to the versatility of sandbag training.

So Much Lunging

Many athletes will validate their strength by how much they can squat. There is no arguement that squatting is a valid an important strength training exercise. However, there is an arguement that single leg exercises may have more of an impact on performance and injury prevention than squatting.

Research has shown that the recruitment patterns of the lower body muscles is different with single leg exercises versus standard bi-lateral exercises such as squatting. Single leg exercises train the stabilizers of the hips that can help reduce back injuries and improve the body's ability to run faster and jump higher. Another benefit of single leg exercises is there is more training of the lower leg which can help prevent the common injuries from trail running and other such training.

Single leg drills such as lunges should be at the foundation of most training programs because of the dynamic flexibility that is created in the hip joint. Keeping the hip mobile and flexible goes a long way to reduce low back pain and creating a faster and stronger athlete.

Adding the Ultimate Sandbag in a variety of positions not only adds load, but instability as well. unlike many current "functional" training methods, the Ultimate Sandbag allows for strength and stability to be trained at the same time. In exercises such as a shouldering reverse lunge, the body has to not only stabilize in a backward step, but side to side as well. This lack of lateral stability is a big reason so many athletes get hurt!

Never Stop Endurance

“Getting in shape” is one of the most vague statements people make in regards to fitness. This is especially true for the tactical athlete as there are so many fitness qualities that need to be developed.

The truth is that most people are referring to the ability to perform long distance activities and tolerate the anaerobic endurance that can limit many in performance. The Ultimate Sandbag can do a great job of improving the anaerobic endurance so that the tactical athlete can keep performing high intensity efforts even though they may be suffering from a lot of fatigue.

The combination of the specific “Selected” workouts and a tool that is impossible to “groove” makes every repetition a challenge. In many other training tools “grooving” a lift makes the exercise easier over time, this reduces the effectiveness of training. However, because the Ultimate Sandbag keeps shifting it makes it absolutely impossible to “groove” sandbag lifts. This is far more effective for building anaerobic endurance.

U.S. Army Special Forces Selection and Assessment (SA) Course.

FOOTCARE

When we were asked to help prepare a course that would maximize the chances that you will pass selection, the FIRST problem in the (fairly short) list of things that cause candidates to fail was foot problems. Therefore, if you wish to give yourself the best chance of passing SF selection, you are advised to pay attention to this section of the program.

Footwear.

Do your **boots and shoes** fit properly? While this may seem to be an obvious question, you must ask it of yourself and carefully consider your answer. You will be spending more time on your feet, and in different types of work environments during your SA course than you may be used to. Wear the footwear you expect to wear at SA during your training and evaluate it. Are they a bit too tight? Or are they too big? Do your feet move around too much? Either situation can cause problems with blisters or damage to toenails. Consider what socks you will be wearing during the SA course at this time too. The day you arrive for your SA course is not the time to be trying new socks or footwear. Make sure what you plan to use works for you well before the course.

Foot Preparation.

Conventional wisdom has it that you should toughen or harden your feet before your SA course. Actually the reverse is true. You should baby them. Some successful ultra-endurance athletes who cover hundreds of miles on their feet visit the nail salon for pedicures as part of their foot prep strategy. But don't worry. You don't need to paint your toenails to get your feet through selection. But, you are going to be very, very nice to your feet for the next few weeks. The sooner you start working on your feet, the happier they will be with you.

Calluses and hard, dry skin are important things for you to deal with. Blisters can easily form under these areas. If they do, they are very hard to deal with, so, we are going to get rid of them. The

tools you will need are a simple foot file, which you can purchase inexpensively from just about any drug store, and a bottle of lotion. If you have any problems with fungal diseases of the foot, such as athlete's foot, you should take care of that problem first, before you deal with your foot prep.

Your foot file will probably have a coarse or rough side and less rough side. Until you get used to working on your feet, it's a good idea to start out using the less rough side. Gently start to file the hard skin and calluses off your feet. Plan on removing a small amount of skin each time, don't try and get the job done in one sitting. Don't neglect any calluses or rough spots that may have built up on the tips of your toes either.

After you have finished your filing work, massage some **lotion** into your feet paying particular attention to the calloused areas you just filed, your heels and the areas between your toes. In the weeks running up to your SA course, if you take a few minutes to do this every day, you will improve the quality and health of the skin on your feet. While at first glance you may think that you are making your feet softer, you are actually making them much more resilient and resistant to blistering. The self foot massage that you perform while rubbing lotion into your feet (it's OK to dig in some with your thumbs and fingers) will also improve the general resilience of your feet.

Apart from work to reduce the likelihood of blisters, the other parts of your feet that you should work on during your foot prep in the weeks leading up to your SA course are your **toenails**.

The best time to work on your toenails is after a bath or a shower, when they are soft. First, run your hands over your toenails. You will quickly notice those that are long or present higher on the toe than they should. You have two goals in servicing your toenails:

1. Trim them to the proper length
2. Filing down any that are projecting up too high from the toe.
3. IF your prep work is insufficient and blood does build up under a toenail, you may notch the nail to allow fluid to drain. Alternatively, a heated needle may be used to burn through the nail to allow fluid to drain.

You will need a standard nail clipper and some emery boards for these tasks.

When you trim your toenails, cut them straight across, parallel to the front of the foot. You need your toenails to be short enough so that they do not impact the front of your boot or shoe when you are walking or running downhill. If this happens they will become extremely painful, they may bleed or form bloody blisters under the toenail, and will eventually drop off. On the other hand, do not be overly aggressive in trimming your toenails. You do not want to cut then too short.

After you have trimmed your toenails, run your hands over them again looking for any sharp edges or toenails that are too thick, or stand proud of their bed (this may be the case if you have previously lost or damaged a toenail). If you find any, do the best job you can with the emery boards

you have purchased to remove them. You do not want anything that can snag or pull on your socks. This can also cause bloody, painful toenails and it is a situation that you can and should avoid.

You should carry out this equipment check and maintenance drill on your feet at least once a week. You should probably self-massage and rub lotion into your feet every day. REMEMBER: Get rid of any fungal issues such as athlete's foot FIRST.

I've done all that and I still get blisters or hot spots. What next?

If after all that hard work you still get blisters or hot spots in the same place on your foot then you may just have to tape the troublesome section of your foot. Believe it or not, books have been written about foot taping but we are going to keep it simple.

Depending on the size of the area you wish to tape, you will need some one, two or three inch surgical tape such as Elastikon™. You will also need some adherent or glue as the tape WILL NOT stick to your foot during the rigors of a selection course. The best stuff to use is a liquid called Tincture of Benzoin. You may be able to scrounge some, and the tape too, from your Company medic if you ask them nicely. Otherwise, you can purchase them from you local pharmacy. You may have to ask at the counter for the Tincture of Benzoin.

Make sure your feet are clean and dry. Apply a thin coating of Benzoin to the area you wish to tape. Let it air dry, like contact cement. (NOTE: Do not spill the Benzoin on anything you do not wish to be brown forever.). Cut the surgical tape to length, stretch it slightly, and apply it carefully to the area you want to cover. Make sure there are no folds, creases or ridges as these may cause blisters under the tape. A little talc will stop any Benzoin sticking to your socks.

Properly applied tape on Benzoin base will stay on for at least 24 hours in rigorous conditions including water crossings. You can remove the tape carefully and slowly in the shower or bath once you are done.

You should only tape sections of your feet that you know are going to give you problems.

In closing out this section, we know that some people like to wear a pair of very thin undersocks in addition to their regular socks. This is actually a good idea, as that way, the socks rub, not your feet and skin. At a pinch you can use a pair of womens' knee-high hose. If you do chose the undersock route though, you absolutely have to use socks that have no seams – or only very flat ones. That's sometimes easier said than done, as sometimes such socks are hard to find. If the only undersocks you can find have seams – don't bother. They'll be part of the problem, not part of the solution.

In the Field.

Lubes and powders will also help you avoid blister problems in the field. Whether you use a lube or a powder will depend largely on the sorts of conditions you think you will encounter. If the conditions are likely to be dry, with a lot of sand or loose dirt, then you are better off using powders as lubes may cause dirt to stick to your feet and cause blisters. If the conditions are wet, then lubes will probably serve you best.

A simple talc like Zeesorb™ can usually be purchased at the local pharmacy. BlisterShield™ powder can be purchased at your local running store; it works really well. BlisterShield™ is also available as a roll-one liquid-based lube. Other good lubes include BodyGlide™, or if it's really going to be wet, Aquaphor™. Plain petroleum jelly does not generally work well as it is too sticky.

If you are using a powder, rub some onto your feet and between your toes, and then sprinkle some into your boots and shoes before you put them on. If using a lube, apply it to friction points – heel, balls of the feet, toes, etc. Often with lubes, more is not better. Just apply enough to lubricate the area you want to protect.

Whatever you decide to use, make sure to make room in your pack so that you can take some along with you into the field on selection. You will need to re-apply the powder or lube, most likely.

It's also really important that you continue to take care of your feet during the selection and assessment course. Take a small cloth or towel with you and at least one pair of spare socks. Every chance you get, take off your boots, empty out any debris, take off your socks, shake them out if dry, change them if they are wet. Wipe your feet dry and clean, don't miss between the toes. Reapply powder or lube as appropriate.

And finally, if you feel a hot spot developing or a toe nail snagging – FIX IT! That is, as soon as you can. If it's a hot spot, lube it up. You may want to consider taping the area that night if a blister hasn't already formed. If a toenail is snagging or getting butted by your boot, file or trim it as soon as you can. DON'T LET A MINOR PROBLEM BECOME A MAJOR ONE.

Proper maintenance of your electrolytes can help you avoid blisters too. We'll cover that in the section on hydration and electrolyte management.

Side note on lubes and powders: There's another good reason to carry some extra powder or lube in your rucksack: chafing. You may well be taking part in a SA course in weather that is hotter than you are used to. So, you'll sweat. Equipment and clothes rub, heat rashes form too. They can be sufficiently painful and distracting to prevent you from performing at your best. Prompt application of some powder or lube can stop a minor irritation from becoming a painful problem.

Other footcare resources: If you have previously encountered a lot of foot-related problems and are worried that your feet might still let you down, then you may want to check out this website: Fixing Your Feet. There are several free articles that can help you deal with or prevent just about any foot-related problem you might encounter at the SA course.

PREPARATION FOR RUNNING TESTS AND RUCKSACK MARCHES

The requirements you have to meet during the US Army Selection & Assessment course (SA) are:

Physical Fitness: Run 2 miles. Should be able to run under 14:00 (7:00/mile) but closer to 12:00 (6:00/mile) is preferred.
Run: 4 and 6-mile runs. Should be able to maintain an 8:00/mile pace.
Rucksack marches: 6, 10 and 15 miles carrying ~45lb rucksack *without* food or water. Estimated average weight 60-65lbs once food and water added. SA candidates should be able to maintain a 15:00/mile pace (4 mph).

The prerequisites -- the *minimum* level of performance you should be able to achieve *before* starting this 12-week training program are:

Run: 3 miles in no longer than 24:00
Rucksack march: 10 miles carrying a 50lb load in no longer than 2:45:00

If you cannot achieve these minimum standards relatively comfortably you may wish to consider if you should work on increasing your capabilities before entering the training program.

Course Summary

This 12-week course, if you complete all the practices, will prepare you to meet or exceed the requirements for running and rucksack marches that you will encounter in the SA course. In some of the training workouts for the 2, 4 and 6 mile runs your training goal is to slightly exceed the required pace of the SA course. This is so you will have a margin of "comfort" during the actual test. However while it is to your advantage to train that fast if you are able, it is not strictly required that you meet these enhanced pace times in training.

You will obtain the most benefit and physical adaptation from your training sessions if you refuel appropriately *as quickly as possible* after your running and hiking workouts. There are many commercial

“post workout” drink mixes or food bars available, however, you will not go far wrong if you down a non-fat chocolate milk after your workout.

DO NOT run or march/march further than the prescribed workouts. More is not better.

2-mile runs.

These are relatively short runs. You should not be concerned about hydration or fueling during these runs. However you should make sure that you do not start the workout dehydrated.

Your training runs should ideally be done on a relatively flat asphalt or dirt trail. In addition to the training run workout itself you should allow for, and do, a 5-minute warm-up and cool down at a moderate pace before and after the run workout.

If your duty station or assignment does not allow you to safely train for the 2-mile run outdoors, then you may complete the run workouts on a treadmill. This is not the best solution, but if it is what you must do to complete the training, so be it. Set the treadmill to a 2-degree incline to simulate road conditions. As most treadmills measure speed in miles per hour, here are the settings for the workouts listed:

Workout	Min/mile	MPH
2mi/15 minutes	0:07:30	8.0
2mi/14 minutes	0:07:00	8.6
2mi/13 minutes	0:06:30	9.2
2mi/12 minutes	0:06:00	10.0

DO NOT use the treadmill unless you have no alternative.

As will be the case in all your runs, even pacing is important. Be patient. Do not go out too fast. Try to hold an even pace through the whole run, or, go out a tad slow until you have settled down, then, speed up towards the end of the run.

4 x 400 Meter runs.

The 4 x 400 meter runs will help you to develop the speed you need for the 2, 4 and 6-mile runs. Ideally, if there is an athletic field with a running track at your duty station, you should use that. Often, if there is no track there, a local high school or college will have one that you can use. 400 meters is the distance of the inside lane without using the offsets.

You will run these drills in shorter times per 400 as you progress and with shorter rests in between. Warm up for the workout by running a couple of laps at an easy pace. Once you have started the workout, don't stop running; just jog easy between the 400 meter sets for the prescribed recovery distance. Take a couple of laps of easy running cool-down once you are done. You should not be concerned about hydration or fueling during these runs. However, you should make sure that you do not start the workout dehydrated.

What if you don't have a track to run on? Well, you will have to improvise. For example, the distance of one end zone and the length of the playing surface of a football field are very close to 100 meters. Two out and backs would be your run, but you should add 3-4 seconds to account for the turn-arounds. If there is no other option, you may also use a treadmill set to 2 degrees incline. 400 meters is approximately ¼ mile, so use that for your running distance. If you have to use a treadmill, this is the pace chart:

400M in (secs):	MPH
100	8.9
95	9.4
90	9.9
85	10.5

3, 4, 5 and 6-mile runs.

These workouts are to prepare you for the 4 and 6-mile runs you will encounter at the SA course. Like the 2-mile run workouts, your training runs should ideally be done on a relatively flat asphalt or dirt trail. In addition to the training run workout itself you should allow for, and do, a 5-minute warm-up and cool down at a moderate pace before and after the run workout. Like the 2-mile workouts, you should ensure that you do not start the workout dehydrated. Now, however, you may wish to take some water or sports drink (e.g., Gatorade) with you on these runs.

The key to running these workouts well is even pacing. Aim to achieve a steady sustainable pace and learn what the target pace you will run at the SA course feels like.

The treadmill pace chart for these runs is:

Min/mile	MPH
0:08:30	7.1
0:08:00	7.5
0:07:45	7.7

You should only use a treadmill if you have no other choice. Do not forget to set the incline to 2 degrees.

6, 10, 12 and 15-mile Rucksack marches with load.

These are extremely important workouts. You shouldn't short-change them. In addition to preparing and conditioning you to meet the standard required at the SA course, these marches are your opportunity to find out generally what works for you and what does not.

You'll remember we discussed various options for foot care: powders, lubes and so on. Try out your choices during these long marches. It is better to find out that something doesn't work for you during your workouts than at the SA course.

While we will discuss this in greater detail in the section on heat acclimatization, hydration and electrolyte management, the long rucksack march workouts are the opportunity to work out how much you need to drink to maintain your performance and hydration.

Also plan on carrying the same food and water as you will at the SA course during these marches.

Think of these long rucksack marches not only as an essential conditioning drill, but also as your own personal laboratory to test anything that you plan on using during the SA course.

During the SA course may be marching on sandy, muddy or rocky and uneven terrain. Therefore you should attempt to include these in your training workouts. If you are not used to it, marching on uneven terrain will help you to strengthen your feet and ankles and help prevent sprains and other injuries. In the section of this guide on foot care, we referred you to a foot care website. If you have a history of ankle sprains, even if they were several years ago, we encourage you to include an ankle strengthening routine in your preparation for the SA course.

You will notice that in the final weeks of training the rucksack marches are scaled back in distance. This is what athletes call a "taper". It helps to ensure you are fully charged when you go to the SA course, without any residual tiredness from preparing to go to the course. DO NOT go further than the prescribed workouts.

There will be no substitute for doing these marches outside. You should *only* use a treadmill for these workouts if your duty station or duty assignments absolutely prevent you from training outside. If you must use a treadmill, the pace chart is included at the end of this paragraph. Also, in this case, if using a treadmill we suggest setting the treadmill to automatically vary the incline between 2 and 8 degrees of incline. If the treadmill has no automatic "hill" routine you should randomly change the levels of incline

yourself throughout the workout. However, remembering that the long rucksack marches are your lab as well as a workout, do the best you can to march outside.

Min/mile	MPH
0:17:00	3.5
0:16:00	3.8
0:15:30	3.9
0:15:00	4.0
0:14:00	4.3
0:13:00	4.6

1-Hour rucksack marches with load

These marches will help your body adapt to marching as quickly as possible while carrying a load, but without the strain of a long march. No pace is specified. Just march as quickly as you can without running, on as many different surfaces and inclines as you can find. Variation is good.

RUN AND MARCH WORKOUT SCHEDULE

The workout plan of runs and marches to prepare you for the SA course is twelve weeks long. Each week is broken out to seven different days including two days without any running or marching workouts being assigned. Remember, you should be able to run 3 miles in less than 24 minutes and march 10 miles with a 50 pound load in less than 2 hours 45 minutes before starting this plan.

WEEK↓DAY→	1	2	3	4	5	6	7
1	RUN 3 MILES/ 8:30 min/mile pace	1-HR RUCKSACK MARCH WITH 50LB LOAD	4X400 Meters in 100 seconds, 400M easy between.	RUN 2 MILES in 15 minutes	DAY OFF	6-MILE RUCKSACK MARCH, 17MIN/MI 50LB LOAD	DAY OFF
2	RUN 3 MILES/ 8:00 min/mile pace	1-HR RUCKSACK MARCH WITH 50LB LOAD	4X400 Meters in 100 seconds, 400M easy between.	RUN 2 MILES in 15 minutes	DAY OFF	6-MILE RUCKSACK MARCH,16MIN/MI 60 LB LOAD	DAY OFF
3	RUN 3 MILES/ 7:45 min/mile pace	1-HR RUCKSACK MARCH WITH 50LB LOAD	4X400 Meters in 100 seconds, 200M easy between.	RUN 2 MILES in 15 minutes	DAY OFF	10-MILE RUCKSACK MARCH, 16MIN/MI 50LB LOAD	DAY OFF
4	RUN 4 MILES/ 8:30 min/mile pace	1-HR RUCKSACK MARCH WITH 55LB LOAD	4X400 Meters in 95 seconds, 400M easy between.	RUN 2 MILES in 14 minutes	DAY OFF	10-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
5	RUN 4 MILES/ 8:00 min/mile pace	1-HR RUCKSACK MARCH WITH 55LB LOAD	4X400 Meters in 95 seconds, 400M easy between.	RUN 2 MILES in 14 minutes	DAY OFF	12-MILE RUCKSACK MARCH, 17MIN/MI 50LB LOAD	DAY OFF

Continued…

WEEK↓DAY→	1	2	3	4	5	6	7
6	RUN 4 MILES/ 7:45 min/mile pace	1-HR RUCKSACK MARCH WITH 55LB LOAD	4X400 Meters in 95 seconds, 200M easy between.	RUN 2 MILES in 14 minutes	DAY OFF	12-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
7	RUN 5 MILES/ 8:30 min/mile pace	1-HR RUCKSACK MARCH WITH 60LB LOAD	4X400 Meters in 90 seconds, 400M easy between.	RUN 2 MILES in 13 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 17MIN/MI 50LB LOAD	DAY OFF
8	RUN 5 MILES/ 8:00 min/mile pace	1-HR RUCKSACK MARCH WITH 60LB LOAD	4X400 Meters in 90 seconds, 200M easy between.	RUN 2 MILES in 13 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
9	RUN 5 MILES/ 7:45 min/mile pace	1-HR RUCKSACK MARCH WITH 60LB LOAD	4X400 Meters in 90 seconds, 200M easy between.	RUN 2 MILES in 13 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
10	RUN 6 MILES/ 8:30 min/mile pace	1-HR RUCKSACK MARCH WITH 65LB LOAD	4X400 Meters in 85 seconds, 200M easy between.	RUN 2 MILES in 12 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 14MIN/MI 65 LB LOAD	DAY OFF
11	RUN 6 MILES/ 8:00 min/mile pace	1-HR RUCKSACK MARCH WITH 65LB LOAD	4X400 Meters in 85 seconds, 200M easy between.	RUN 2 MILES in 12 mins or your best pace if slower.	DAY OFF	10-MILE RUCKSACK MARCH, 14MIN/MI 65LB LOAD	DAY OFF
12	RUN 6 MILES/ 7:45 min/mile pace	1-HR RUCKSACK MARCH WITH 65LB LOAD	4X400 Meters in 85 seconds, 200M easy between.	RUN 2 MILES in 12 mins or your best pace if slower.	DAY OFF	6-MILE RUCKSACK MARCH, 13MIN/MI 65LB LOAD	DAY OFF

HEAT ACCLIMATIZATION, HYDRATION AND ELECTROLYTE MANAGEMENT

Introduction

Let's review the three things that, other than a failure to meet the required physical standards, typically cause candidates to fail the Selection & Assessment (SA) test: Foot problems, low back issues and heat problems. In this section we are going to deal with preparation to avoid heat problems, and the closely associated subjects of hydration and electrolyte management.

Heat Acclimatization

You should carefully consider what the temperature and humidity will be like at the location where your SA test will be held (Likely Fort Bragg, NC) compared to the temperature and humidity of your duty station. The nature of your duty assignment should also be considered. For example, are you typically indoors in an air-conditioned environment most of the time? If you are, even working in a desert location will not be much use to you.

You should not take heat acclimatization lightly. A failure to properly prepare for a location that is hotter and/or more humid than you are accustomed to can lead to common heat illnesses such as:

1. Heat Cramps
2. Heat Exhaustion (inc. headache, dizziness, fatigue, hyperirritability, tachycardia, hyperventilation, diarrhea, nausea and vomiting)
3. Heat Syncope (fainting)

Proper heat acclimatization can reduce the incidence and severity of all these heat illnesses. In addition to heat acclimatization, improper attention to hydration and electrolyte balance may make the symptoms of heat illness worse. More on that later.

Heat Acclimatization How-Tos

The good news is that you can obtain more than enough heat acclimatization in only 14 days. That will require you to spend some time in a hot or hot and humid environment. If you have access to a sauna and/or a steam room (hot rooms) the process will be fairly easy. Your local MWR can tell you if there are any on your base. We recommend that you plan on starting out in the hot rooms about a month before your SA course if you think you will need some heat acclimatization.

The first two weeks, spend approximately 30 minutes daily relaxing in the hot rooms. If you have access to both a sauna (dry heat) or a steam room (wet heat), alternate between the two every ten minutes. In the two weeks before your SA course try some *moderate* exercise in the hot rooms. Walking up and down or easy jogging on the spot would be sufficient. Adding a little activity in the heat, rather than just spending time in the hot environments will help better decrease your heart rate, improve fuel utilization and exercise economy (how much oxygen you need) when working in the heat. In the last two weeks before your SA course, if you can, it will be helpful to increase the time you spend heat training, but no more than 60 minutes is required.

Specifically, in the first 5 days of heat training your body will lower its heart rate, the nervous system will re-route blood supplies to working muscles and the skin, and your plasma (blood) volume will increase. This will generally reduce your perceived exertion when working in warmer temperatures. Earlier onset of sweating, and increased sweat volume generally peaks at between 5-8 days of heat training. This helps keep the body cooler. Incidentally, sweat production increases more if you train in wet heat than if you train in dry heat. At between 3-9 days of heat training the body will have reduced the amounts of salt lost in sweat and urine too. Reducing the amount of salt in your diet at this time will assist that adaptation too. These are all essential heat adaptations that will be a great help to you at the SA course.

If you do not have access to hot rooms like a sauna or steam room., just do the best you can. For example, runners training for the Badwater ultramarathon -- a 135 mile foot race run principally in Death Valley -- report dressing warmly and driving around in their cars with heaters full on to help their acclimatization before the race. The good news also, is that according to Dr. Lawrence Armstrong, a noted authority on performance in hot and humid environments, intense physical exercise also does well -- *although not as well as heat training* -- to prepare you for dealing with hotter or more humid environments. The runs in your running and marching program would count as intense physical exercise. While real heat training is the best option, these intense runs, perhaps performed a little overdressed in the two weeks before the SA course will be better than no action on your part.

Don't forget to hydrate appropriately while heat training.

Hydration management.

Proper hydration and electrolyte management on your part will be an essential component of your success at the SA course. However, because individual differences can be *considerable,* this will require a little work on your part to make sure that we get it right. And it is worth getting it right.

If you allow yourself to become dehydrated by even relatively small percentages of your bodyweight, your physical performance will decline dramatically. Dehydration also increases your risks of heat illnesses, some of which we reviewed previously. Dehydration was present in approximately 17% of all heat stroke hospitalizations in the U.S. Army over a 22-yr period. In a series of 82 cases of heat stroke in Israeli soldiers, dehydration was present in approximately 16% of the cases. Heat stroke is a potentially fatal heat illness.

A good place for us to start is the conclusion from the American College of Sports Medicine(ACSM) position stand on exercise and fluid replacement, which says that:

> "Physical exercise can elicit high sweat rates and substantial water and electrolyte losses, particularly in warm-hot weather. If sweat water and electrolyte losses are not replaced then the individual will dehydrate during physical activity. Excessive dehydration can degrade exercise performance and increase risk of exertional heat illness. Overdrinking can lead to symptomatic exercise associated hyponatremia (a potentially fatal condition).
>
> The goal of prehydrating is to start physical activity euhydrated (normally and fully hydrated) and with normal body electrolyte status. Prehydrating with beverages should be initiated at least several hours before exercise to enable fluid absorption and allow urine output to return to normal levels. The goal of drinking during exercise is to prevent excessive (>2% body weight loss from water deficit) dehydration and excessive changes in electrolyte balance from compromising performance and health. Because there is considerable variability in sweating rates and composition between individuals, ***individualized fluid replacement programs are recommended***. Measurement of pre- and postexercise body weight to determine sweat rates is a simple and valid approach to estimate sweat losses.

During exercise, consuming beverages containing electrolytes and carbohydrates can provide benefits over water along under certain circumstances. After exercise, the goal is to replace fluid and electrolyte deficits. The speed with which rehydration is needed and the magnitude of fluid/electrolyte deficits will determine if an aggressive replacement program is merited."

How much should I drink?

That's a good question. The only person that can really figure that out is you. And, sorry to say, that task isn't really optional if you want to do your best on the SA course. The ACSM says you should hydrate to prevent greater than 2% body weight losses from water losses, but how much is that? Well, the ACSM says that *most folk* (that means some sweat more, some less) sweat between 0.5 liters to 2 liters an hour. That's roughly from one to four of the old 32-ounce Army canteens an hour in sweat. If your goal is to replace your sweat losses as closely as possible, how can you figure out how much you are sweating? You performance will plummet if you don't drink enough, and it can be really dangerous to drink too much, so you do need to match your own sweat losses as best you can. You are going to have to start weighing yourself on a before and after basis during training and preparation.

One opportunity is when you are doing your heat acclimatization training in the weeks before the SA course. Another is before and after your long rucksack marches, when hydration is going to be a real issue. You could also weigh before and after a 6-mile run. The most applicable calculation will come from your long rucksack marches but you should understand it is still an approximation. In addition to what you sweat out you are also going to have take account of:

a) How much fluid you drank, and
b) How much urine you passed if any.

Weigh yourself before exercising or heat acclimatizing, and again after. If you are at the gym for heat acclimatization and there is a scale in the locker room, it's a good idea to weigh naked if you can. We suggest a minimum period of one hour for this test. To obtain your sweat rate, deduct finishing weight from starting weight, add ounces of fluid drunk and deduct ounces of urine passed (so you can

see it might be a good idea not to urinate during the test as, if you do, you will have to collect your urine and measure it. Or, at least, make a really good guess).

Starting weight		lbs
Less: Ending weight	( )	lbs
Weight lost		lbs
Multiply by 16 to obtain weight lost in ounces		ozs
Add: Liquid consumed		ozs
Less: Urine passed	( )	ozs
SWEAT RATE PER PERIOD		ozs

If you exercised for an hour, this is your hourly sweat rate. If you exercised for more than an hour, then correct the calculated weight in the last row to an hourly value. The rate you calculated is how much you should plan on drinking each and every hour during the SA course. For your reference, a standard Army canteen contains 32 ounces. The bladder in your Camelbak likely holds 100 ounces, however bladder size varies so check what you have.

The calculation you have made is a starting point, but it is still an approximation, so it will be best if you can test it during your long rucksack marches. You are strongly advised to read this article and use the attached table of fluid and electrolyte balance during your long rucksack marches to ensure that you hydrating appropriately.

Can't I use the color and volume of my urine as a guide to my hydration status?

In short, no. During exercise in warmer conditions, the body can push blood from the internal organs, which include your kidneys, to the muscles and skin. It does this to promote cooling. Because the kidneys are receiving less blood, as well as some other heat related factors, your rate of urine production may be significantly reduced. Therefore, how much urine you are passing, or its color, during physical activity may be a completely misleading indicator of how much you should drink. NOTE: If at any time during the SA course you pass urine that is dark like tea, Dr. Pepper or Coke, stop the course **immediately** and consult medical staff present.

This is also a good time to point out that you should not limit your fluid intake during the SA course in the hope of avoiding time lost to urinating. We guarantee that you will lose more time to the resulting dehydration than you ever will to urinating. Take advantage of all the opportunities you have to top up your personal water supplies during the SA course.

Don't show up dehydrated.

If you have to travel to the SA course from your duty station, do your best to make sure you don't show up on the first day dehydrated because of your travels. We all try to minimize rest stops while traveling, but in this case, make sure you don't do that at the expense of your hydration status.

Electrolyte management.

In very broad terms "electrolyte management" in this context means managing the salt you consume during the SA course. The principal electrolytes lost in sweat are sodium and chloride, the constituents of table salt. You also lose some smaller amount of potassium. Any other minerals lost in sweat are insignificant in the context of what you need to replace orally.

Why should I care about electrolytes?

If you fail to appropriately replace the electrolytes you lose to sweat during the SA course, many authorities suggest that your chance of experiencing potentially debilitating cramps will increase. If you drink only water, in excess of your sweat rate and with no electrolytes, you could be at risk of overdrinking, which could be potentially harmful. Additionally, poor electrolyte management can significantly increase your chances of foot problems and particularly blisters. This happens because as the body works to maintain your plasma sodium levels, it can cause water to buildup in the feet and hands which become puffy, leading to much easier blister and toenail problems. You can read a more detailed article here. The article was written for ultra-distance runners but it is appropriate for the SA course too. Also know that blistering can also lead to cellulitis, another debilitating problem. While you may think foot problems are no big deal, remember that they are actually one of the principal reasons folk drop out of the SA course.

What can I use to manage my electrolytes?

You will get some sodium from the food you will eat -- MREs -- during the course. You will also need to supplement the electrolyte content of the water you drink during the SA course. Your source for the supplemental electrolytes will be the Oral Rehydration Salt (ORS) packets that are given to you.

The ORS packets you use are identical to those used by the World Health Organization to treat dehydration in children with dysentery. ORS is a remarkably effective emergency rehydration aid when dissolved in one liter of water per packet. That is too strong for you to use as a regular drink during the SA course, so will be using the ORS packet a bit differently to supplement our electrolytes.

As an electrolyte supplement we suggest that you add 3/5ths of an ORS packet to a 100-ounce Camelbak bladder of plain water. To put that in context, were you to be using the old-style 32-ounce Army canteens, you would split one ORS packet across five canteens.

Remember this is a starting point for you. In exactly the same way that an individual's sweat rate can vary immensely, so can their sodium needs. You may have greater or lower sodium needs than the baseline starting point provides, so by testing what works for you on the long rucksack march workouts and by using the fluid and electrolyte balance table, which is also included at the end of this section, you can increase or decrease the amount of ORS powder you add to your water in training until it is just right for you. Putting a bit too much sodium into your drinks won't kill you, but it may make you feel uncomfortable, so add or deduct a bit at a time and test your change.

Remember: TEST EVERYTHING IN TRAINING, NOT AT THE SA COURSE!

Can I load up on salt ahead of time?

Not really. The body has remarkably efficient mechanisms to maintain the sodium level in your body. If you try to "salt load" in the days prior to the SA course, you will simply pass the extra salt from your body in your urine.

If, however, you were to start the SA course days with a relatively salty beverage such as tomato juice or V8™, chased by a glass of water, it wouldn't hurt.

End of day.

If you finish a day at the SA course thirsty, do not drink plain water to slake your thirst. Supplement those drinks with electrolytes too, which will optimize the rate at which your body rehydrates.

Hydration: LOW **Electrolytes HIGH** **Hypernatremia with dehydration** **Likelihood: moderate** Weight is down a few pounds or more Thirst is high, and salty foods taste bad. Mouth and skin are dry Food acceptance is poor Absence of urination **Causes:** no access to water or voluntary restriction of water intake, body electrolytes concentrated by loss of water **What to do:** Get access to water and drink. Restrict electrolytes until weight is near normal.	**Hydration: OK** **Electrolytes HIGH** **Hypernatremia** **Likelihood: rare, transitory if water available** Weight is normal Thirst is high, and salty foods taste bad. Mouth is not very dry **Causes:** no access to water, or voluntary restriction of water intake, body electrolytes concentrated by loss of water **What to do:** Drink to satisfy thirst, so that excess electrolytes are removed by sweating and urination. Restrict salt intake until excess is urinated and sweated out.	**Hydration: HIGH** **Electrolytes HIGH** **Hypernatremia with over-hydration** **Likelihood: very rare** Weight is up a few pounds or more Thirst is high, and salty foods taste bad. Possible mental confusion Hands may be puffy Shortness of breath, rapid heart rate Food acceptance is poor **Causes**: over-consumption of salt, probably from a combination of sources **What to do**: Stop electrolyte intake, drink only to wet mouth until weight is normal.
Hydration: LOW **Electrolytes OK** **Dehydration** **Likelihood: common** Weight is down a few pounds or more Thirst is high, and salty foods taste normal. Mouth is dry, food acceptance is poor Skin is dry and may tent if pinched May have dizziness on standing up May have cramping Mental performance may be affected **Causes:** insufficient fluid intake **What to do:** Drink sports drink with electrolytes, or water	**Hydration: OK** **Electrolytes OK** **Proper hydration and electrolyte balance** **Likelihood: common** Weight is stable or slightly down Stomach is fine, food acceptance is normal Mouth is moist (can spit) and skin is normal Cramps: none Urination is normal **Causes:** proper water and electrolyte intake **What to do:** Continue with hydration and electrolyte practice unless conditions change	**Hydration: HIGH** **Electrolytes OK** **Over-hydrated** **Likelihood: moderate** Weight is up a few pounds or more Wrists and hands are probably puffy Stomach is queasy Thirst is low, and salty foods taste normal. Mouth is moist – can spit. **Causes:** fluid intake in excess of needs **What to do:** Drink only to wet mouth until weight is near normal
Hydration: LOW **Electrolytes LOW** **Hyponatremia with dehydration** **Likelihood: very rare** Weight is down a few pounds or more Thirst is high, and salty foods taste good Mouth is dry, can't spit May have cramping Skin is dry and may tent if pinched May have dizziness on standing up **Causes:** insufficient drinking, no electrolyte intake **What to do:** Take electrolytes and drink sports drink or water **Copyright SUCCEED! Sportsdrink LLC, 2007**	**Hydration: OK** **Electrolytes LOW** **Hyponatremia** **Likelihood: mild form is common** Weight is normal Stomach is queasy, with poor food acceptance Wrists may be puffy Salty foods taste good Thirst is normal Mouth is moist – can spit May have cramping **Causes:** Insufficient electrolyte intake **What to do:** Increase electrolyte intake until stomach feels ok.	**Hydration: HIGH** **Electrolytes LOW** **Hyponatremia with over-hydration Dangerous!** **Likelihood: moderate** Weight is up a few pounds or more Wrists and hands are puffy. Nausea, stomach sloshing, possible vomiting. Thirst is low, and salty foods taste very good. Athlete may show mental confusion, odd behavior Mouth is moist – can spit Urination may be voluminous and crystal clear **Causes:** over-hydration, insufficient sodium intake **What to do:** Drink only to wet mouth until weight is normal, then correct any sodium deficit

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Exercises, Running and Marching: Putting it all together

When you look at the separate schedules for the strength exercises, running and marching, you may wonder how you should combine the two. The following table is a guide that shows the ideal time allocation that will maximize the benefits of the program as whole:

	US Army Special Forces Selection & Assessment Preparation Course -- Suggested Workout Structure						
	1	2	3	4	5	6	7
STRENGTH	**Day One Strength**		**Day Two Strength**		**Day Three Strength**		
RUNNING	**Day One Run**		**Day Three Run**	**Day Four Run**			
RUCKSACK MARCHING		**Day Two March**				**Day Six March**	
REST & RECOVERY							**Day Off**

What if your duty schedule means you cannot adhere to this suggested schedule? Well, at best try to combine your runs with your strength training days. Try to avoid doing strength and rucksack marches the same day. But, if you have to do what you have to do to complete the schedule in any given week it will not be the end of the World. Do try to take one full day a week off from training though, if you can.

Table Explaining the workouts

Exercise	Sets	Repetitions	Rest Interval
A1. Push-ups	3-4 sets	10-12	45 seconds
A2. Squats	3-4 sets	5-6	45 seconds

In this scenario, one would perform a set of push-ups, rest 45 seconds, followed by a set of squats. The tactical athlete would alternate between these two movement for 3-4 sets. The sets are determined by quality of the repetitions and if they are able to stay within the designated repetition range.

Once the tactical athlete is able to perform all sets at the high end of the recommend repetition range then we suggest moving up weight or moving to a more advanced variation of the exercise.

Density Training

After asking which exercises to do, the next most popular question is, how many times? A logical question but often a loaded one. Most of us have become slaves to repetitions.

It seems that everyone is an expert. Everyone knows, of course, that you perform repetitions in the 12-20 range to tone, repetitions of 8-12 to get big, and 1-5 repetitions to get strong. It seems so simple, but there is one major issue.

Such prescriptions lead people to believe that the idea of improving muscle, losing fat, and getting stronger are all mutually exclusive. While some people may say that they just want to lose fat, get bigger, and so forth, who would not want to achieve all three goals? Who would not like to be leaner, stronger, and have more functional muscle mass? We are guessing just about nobody! We're pretty sure that anyone interested in achieving one of the above goals would also be delighted to attain all three.

This is where density training comes into play. Density is often the forgotten component in program design. Most people will focus on training variables such as volume or intensity but often leave out density. Simply put, density is the amount of work performed in a given amount of time.

You can use this concept to optimize all of your fitness goals. It begins by having a standard repetition scheme such as five (in general, do not go fewer than three or more than five) and then perform as many sets of the exercise as possible. You will want to choose a weight that typically would be your ten repetition best effort.

This is known as Escalating Density Training popularized by Strength Coach, Charles

Staley. What you will notice is that your focus shifts from counting repetitions to an increased intensity on how fast you can perform the exercise. This causes some significant changes in your training:

1. Your power output increases, which burns more calories than slow-paced exercise.
2. The quality of your work increases, which decreases your chance for injury.
3. You will notice a cardiovascular effect that is similar to performing interval sprinting without the pounding on the knees and lower back.
4. You stimulate more functional muscle mass as your volume in “big bang” exercises increases.

Lastly, you will see exercises combined either by an antagonist method or upper vs. lower body. In either case, you will have one exercise that complements and provides rest to the other. This allows you to “rest” even while you are working. This also allows you to perform more work in our 15 and 10 minute intervals.

Ladders

Ladder training represents another opportunity to get away from the standardized three-sets-of-ten mentality and positively stimulate new results. Similar to density training, ladder training optimizes low-repetition work to develop strength, muscle, endurance, and fat-loss.

A ladder is a series of “mini-sets” alternated between two core movements. The ladder is a series of ascending or descending repetitions that are all performed in succession simply the only rest is when you are switching to the other exercise. The only rest becomes when all the “mini-sets” are accomplished and the rest is typically a minimum of two minutes.

What does a ladder look like? A standard ladder may look like the following:

Exercise	Reps	Sets
A1. Bear Hug Squats	1/2/3/4/5	2-3
A2. Push-ups	25/20/15/10/5	2-3

In the above scenario the tactical athlete will perform one bear hug squat, immediately followed by twenty-five push-ups, then immediately back to bear hug squats for two repetitions, etc. This back and forth ladder will continue until five bear hug squats and five push-ups are performed. At this point the tactical athlete will rest for 2 minutes.

The goal is to repeat this entire series two to three times. If the athlete can not get through the entire ladder the ladder sequence is stopped and the remaining parts of the workout are performed. This is a good sign when sufficient fatigue has been accumulated.

Power Circuit Training

Most people would like to be strong, agile, lean, and in shape, but many fail to achieve their goals because they become overwhelmed with the amount of time they must devote to their training. Power Circuit Training with is the simple solution.

Circuit training is nothing new but has been pretty much limited to high-repetition machine work. While this may improve some very basic general fitness in untrained individuals, it is far from ideal for those who want to get the body they have always fantasized about.

What is wrong with the old style of machine based circuit training? Such training does little to improve one's body composition and severely fails to develop the smaller stabilizer muscles to their fullest. This is potentially disastrous as individuals can develop severe muscle imbalances that can set them up for injury or, at the very least, not allow them to reach their ultimate fitness goals.

Additionally, a typical program that emphasizes maximal strength may require 3-5 minutes of rest in between sets. This may be good for someone looking to get into Powerlifting, Olympic lifting, or Strongman, but let's face it, most of us aren't. The majority of individuals we meet want to be well-rounded. While adhering to such protocols is important, it's not very reasonable for many of us who have time limitations on our training. Again, this is where Power Circuit Training can help tremendously.

In developing your Power Circuit Training program, you want to consider what we and Coach Keats Snideman call The Magnificent Eight Movements. The eight movements listed below should be at the core of your program. They hit the basic movement patterns of all people. If you were to follow just these, you would be in phenomenal shape! You could use deviations from each (e.g., lunges from squats, step-ups from deadlifts) but your focus should remain on these lifts.

1. Squat
2. Deadlift
3. Overhead Lifting (i.e. military press)
4. Horizontal Lifting (i.e. push-ups)
5. Vertical Pulling (i.e. chin-ups)
6. Horizontal Pulling (i.e. rows)
7. Trunk Flexion (i.e. sit-ups)
8. Rotation (i.e. Russian twists)

Obviously, you are not going to use all eight movements in your training routine, but the list does allow you a lot of variations. Below is an example based on three days of training:

Day 1:
Squat
Cleans
Vertical Press
Vertical Pulling
Carry

Day 2:
Snatch
Single Leg Deadlift Variation
Horizontal Press
Horizontal Pull

Day 3:
Deadlift
Single Leg Squat Variation
Throw Drill
Vertical Press
Vertical Pull

Our recommendation is to not exceed six movements for a particular routine. Performing for than that may end up sacrificing quality and that is something we never want to risk.
Remember, more is not always better!

We have discussed the exercises and now we should talk about the repetitions and sets. Our first rule with such programming is not to have set rules. Sure, there has been a lot written about what protocols work best, but we think it would be a pretty sterile world if we never challenged these principles.

What makes our Power Circuit Training unique is that we are emphasizing lower repetition work (1-5 reps). This is done for several purposes:

1. Such repetition ranges allows us to train maximal strength and speed qualities that are
heavily reliant upon the Central Nervous System (CNS). This is very important in increasing functional muscle mass.

2. We can train multiple movement patterns without a great deterioration of quality of work being performed on each exercise.

3. Strength-endurance can be improved even though we are training strength qualities that have notoriously been viewed as counterproductive. This greatly helps in losing body fat.

Exercise	Repetitions	Sets	Rest Interval	Notes
Week 1				
Day 1				
A1. Zercher Squat	6-8 each leg	3-4 sets	60 seconds	
A2. Zercher Lunge				
A3. Kelly Rows	10-12 with pause 3-4 sets		60 seconds	
A4. Seated Scapular Retraction				
B1. Hip Press	10 to 15	2-3 sets	45 seconds	
B2. Bicep Curl Press	8 to 8	2-3 sets	45 seconds	
C1. Side Plank	20 to 30 seconds	2-3 sets	30 seconds	
C2. Super Plank	10 to 20	2-3 sets	30 seconds	
C3. Mountain Climbers	30 seconds	2-3 sets	30 seconds	
Day 2				
A1. Shoulder Supported Lunge	3 PR Zone 15 minutes As much as needed			
A2. Pull-up to Pike	3 PR Zone 15 minutes As much as needed			
B1. Sandbag Get-up Left	3 PR Zone 10 minutes As much as needed			
B2. Sandbag Get-up Right	3 PR Zone 10 minutes As much as needed			
Day 3				
A1. Zercher Lateral Lunge	30 seconds after 5 sets		60 seconds	
A2. Shoulder Supported Pull-Press	30 seconds after 5 sets		60 seconds	
B1. Eccentric Pull-up	4-5 reps with 3-2 sec	2-3 sets	60 seconds	
B2. Super Plank	20-30 reps	2-3 sets	60 seconds	
Week 2				
Day 1				
A1. Zercher Squat	1/2/3/4/5	2-3 ladders	90-120 seconds after ladder	
A2. Pull-up Hold	5/10/15/20/25	2-3 sets	90-120 seconds after ladder	
B1. Single Leg Hip Thrust	8-10 each leg	2-3 sets	60 seconds	
B2. Reverse Flye	10 to 12	2-3 sets	60 seconds	
Day 2				
A1. Suspended Reverse Lunge	30 seconds ea 3-4 sets		60 seconds	
A2. Sandbag Push Press	30 seconds 3-4 sets		60 seconds	
B1. Hip Press	10 to 12 with 2-3 sec	2-3 sets	45 seconds	
B2. Bicep Curl	10 to 15	2-3 sets	45 seconds	
B3. Side Plank	10 to 20 with 2-3 sec	2-3 sets	45 seconds	
Day 3				
A1. Zercher Cossack Squat	3/6/9/12	Repeat 2-3 series	90-120 seconds after ladder	
A2. Chin-ups	1/2/3/4	Repeat 2-3 series	90-120 seconds after ladder	
B1. Straight Leg Sit-ups	10 to 12	2-3 sets	30 seconds	
B2. Bicep Curl Goblet Squat	12 to 15	2-3 sets	30 seconds	
B3. Suspended Tricep Extension	10 to 12	2-3 sets	30 seconds	
Week 3				
Day 1				
A1. Shoulder to Front Rack	8-10 each leg	3-4 sets	45 seconds	
A2. Pull-up	30 seconds	3-4 sets	45 seconds	
A3. Suspended Squat Thrust	10 to 20	3-4 sets	45 seconds	
B1. Fallacia Shoulder Shooting	8 to 10 with pos 2-3 sec		30 seconds	
B2. Hip Thrust	30 seconds	2-3 sets	30 seconds	
Day 2				
A1. Crossover Zercher Jackrabbit	30 seconds after 5 sets		30 seconds	
A2. Single Leg Shoulder Arch Bridge Supported	30 seconds	3-4 sets	30 seconds	
A3. Suspended Squat and Reach	30 seconds 3-4 sets		30 seconds	
A4. Suspended Rocker	20 seconds 3-4 sets		30 seconds	
Day 3				
A1. Bear Pulls	15-20	3-4 sets	60 seconds	
A2. Pull-up	20 to 25	3-4 sets	60 seconds	
B1. Suspended Lunge Left	10 to 12	2-3 sets	45 seconds	
B2. Suspended Lunge Right	10 to 12	2-3 sets	45 seconds	
B3. Sandbag Get-up	3 each side	2-3 sets	60 seconds	
Week 4 Back Off Week				
Day 1				
A1. Shoulder Pressing	3 each side	3 sets	45 seconds	
A2. Chin-ups	5 2 sets		45 seconds	
A3. Overhead Lunge	5 each side	2-3 sets	45 seconds	
A4. Fallacia	10 2 sets		45 seconds	
Day 2				
A1. Single Leg Deadlift	8-10 each leg	2 sets	45 seconds	
A2. Push-ups	25 2 sets		45 seconds	
B1. Zercher Squat	10-12 each leg	2 sets	45 seconds	
B2. Single Arm Bicep Curl	8-12 each side	2 sets	45 seconds	
Day 3				
C1. Rotational Deadlift	20-25	2 sets	45 seconds	
C2. Bent-knee Sit-ups	20 2 sets		45 seconds	
Day 4				
D1. Squat Thrust	20 2 sets		45 seconds	
D2. Overhead Squat around the World	20 each direct 2 sets		45 seconds	
Week 5				
Day 1				
B1. Hip Press	10 to 20	2 sets	45 seconds	
B2. Reverse Fly	10-15 reps	2 sets	45 seconds	
C1. Side Plank	60 second hold 2 sets		30 seconds	
C2. Overhead Chops	20-25	2 sets	30 seconds	
Week 6				
Day 1				
A1. Chest, Shoulder, Overhead Press	3/4/5/3/1	2-4 sets	90 seconds after ladder	
A2. Chest, Back, Grip Pull-ups	3/4/5/3/1	2-4 sets	90 seconds after ladder	
B1. Eccentric Pull-up	3 reps with 15-12 sec		60 seconds	
B2. Kettle Bell Pig Carry	1 minute carry	2 sets	60 seconds	
Day 2				
A1. Shoulder Supported Lunge	30 seconds Rig 3-4 sets		60 seconds	
A2. Shoulder Supported Lunge	30 seconds Left 3-4 sets		60 seconds	
A3. Suspended Squat with Push-up	30 seconds 3-4 sets		60 seconds	
A4. Suspended Squat with Shoulder Rotation	30 seconds 3-4 sets		60 seconds	
A5. Sandbag Rock Handle Supported	30 seconds 3-4 sets		60 seconds	
Day 3				
A1. Shouldering	8-10 each side 3 sets		45 seconds	
A2. Chin-ups	4 reps 3 sets		45 seconds	
B1. Single Leg Shouldering	10-12 each leg 3 sets		45 seconds	
B2. Suspended Pike	15-20	3 sets	45 seconds	
B3. Suspended Tricep Extension	12-15 reps	3 sets	45 seconds	
Week 7				
Day 1				
A1. Shoulder Rocker	3 reps each side	4	60 seconds	
A2. Suspended Pull-up	3 reps	4	60 seconds	
B1. Crossover Zercher Lunge	8-10 each leg	2-3 sets	45 seconds	
B2. Suspended Pike	10-15 reps	2-3 sets	45 seconds	
B3. Side Plank Suspended	15 each side	2-3 sets	45 seconds	
Day 2				
A1. Overhead Chops	20/10/10/5	2-3 ladders	90 seconds after ladder	
A2. Kettle Pull-up Bar Hang	20/10/10/5	2-3 sets	90 seconds after ladder	
B1. Sandbag Get-up Right	3 each side	3 sets	60 seconds	
B2. Sandbag Get-up Left	12 each side	3 sets	60 seconds	
B3. Shoulder Curls	30 seconds ea 3 sets		60 seconds	
Day 3				
A1. Complex Shoulder Press, Overhead Squat, Overhead Lunge, Squat	Perform 5 reps	5	90 seconds	
B1. Hip Press	10-20	3	45 seconds	
B2. Jackknife Sit-up	3 reps with 6 sec	3	45 seconds	
C1. Side Plank	10-15 reps	3	45 seconds	
C2. Suspended Wraps Curls				
D1. Jackknife Sit-up	3 reps	3	45 seconds	
D2. Shouldering	5 PR Zone 15 minutes as much as needed			
D3. Wheel Hold	5 each hand p3 PR Zone 15 minutes as much as needed			
Week 8				
Day 1				
A1. Sandbag Clean and Press	30 seconds ea 3 sets		45 seconds	
A2. Suspended Lunge-Hands Overhead Position with Rotation				
A3. Bent-knee Sit-up	30 seconds 3 sets		45 seconds	
A4. Zercher Sandbag Carry	30 seconds	3	45 seconds	
Day 2				
A1. Lateral Lunge	8-10 each leg	3-4 sets	60 seconds	
A2. Body Row	10-12 with pause 3 sec	3-4 sets	60 seconds	
A3. Suspended Overhead Shoulder Stretch	10 each side x3 3-4 sets		60 seconds	
A4. Push-up with one arm overhead pulling toward the floor, Tricep Twist with Jump	10 reps each ar 3-4 sets		60 seconds	
Day 3				
A1. Half Moon Snatch	30 seconds 3 sets		45 seconds	
A2. Squat to Stand	30 seconds 3 sets		45 seconds	
A3. Overhead Squat	30 seconds 3 sets		45 seconds	
A4. Suspended Lunge	30 seconds 3 sets		45 seconds	
A5. Suspended Alternating Reach Back	1 minute 3 sets		45 seconds	
A6. Fusion 1, Fusion 2, Wake Shell Supinemin				
Week 9				
Day 1				
A1. Sandbag Clean and Press	2 reps every 12-4 5 sets		90 seconds	
A2. Pull-ups	2 reps every 12-4 5 sets		90 seconds	
B1. Single Leg Deadlift with weight in opposite arm Left Side, Fast Back Extension, Suspended Deadlift	8-10 each leg 3 sets		45 seconds	
B2. Sandbag Carry	90 seconds 3 sets		45 seconds	
Day 2				
A1. Zercher Reverse Lunge	8-10 each leg 3-4 sets		60 seconds	
A2. Pull-ups	20-30 reps 3-4 sets		45 seconds	
B1. Eccentric Pull-up	12-15 reps 3 sets		45 seconds	
B2. Shouldering Alternating Left Side	10 each side 3 sets		45 seconds	
B3. Around the World	20 each direct 3 sets		45 seconds	
Day 3				
A1. Sit-up	5	5	60 seconds	
A2. Sit-up Hold	5	5	60 seconds	
B1. Suspended Leg Curls	10 taking 5 sec 2-3 sets		30 seconds	
B2. Suspended Lunge Left Side	12-15 reps 2-3 sets		30 seconds	
B3. Sandbag Carry	45 seconds 2-3 sets		30 seconds	
Week 10				
Day 1				
A1. Suspended Pushing Shoulder Stretch	10 reps each ar 3 sets		60 seconds	
A2. Power Clean Zercher	10 reps	3 sets	60 seconds	
B1. Bent-over Suspended Row	12-15 reps	3 sets	45 seconds	
B2. Half Moon Snatch	30 seconds	3 sets	45 seconds	
C1. Straight Leg Sit-ups Left Overhead	15 controlled 3 sets		45 seconds	
Day 2				
A1. Zercher Lateral Lunge Left Side	12 each lunge 2-3 sets		60 seconds	
A2. Pull-ups	8-10 reps	3-4 sets	60 seconds	
B1. Zercher Shouldering Left Side Suspended	10-15 reps	3 sets	45 seconds	
B2. Suspended Lunge	20 to 25	3 sets	45 seconds	
C1. Sandbag Get-up Right	3 reps	3	0	
C2. Bear Hug Sandbag	30 seconds	3	0	
C3. Sandbag Get-up Left	3 reps	3	120 seconds	
Day 3				
A1. Shoulder Supported Squat	30 seconds 3-4 sets		30 seconds	
A2. Body Row Arch Bent-knee Sit-up	30 seconds 3-4 sets		30 seconds	
A3. Split Chest Supported Rotation Knee Tucks Sandbag Get-up Sandbag Spine Twist 12	30 seconds after 3-4 sets		30 seconds	
A4. Overhead Lunge	1 minute 3-4 sets		30 seconds	
Week 11				
Day 1				
A1. Overhead Squat Hold	10 to 12 each k2-3 sets		45 seconds	
A2. Pull-ups	20 to 30	2-3 sets	45 seconds	
B1. Hip Press with Leg Curl	10-20	2-3 sets	45 seconds	
B2. Reverse High Fly	10 to 20	2-3 sets	45 seconds	
C1. Suspended Hip Pack Left	30 seconds	2-3 sets	30 seconds	
C2. Suspended Hip Pack Right	30 seconds	2-3 sets	30 seconds	
C3. Suspended Hip Pack Left	30 seconds	2-3 sets	30 seconds	
Day 2				
A1. Suspended Double Row	20-25	2-3 sets	45 seconds	
A2. Shoulder Supported	10 to 20	2-3 sets	45 seconds	
B1. Overhead Chops	30 seconds	2-3 sets	45 seconds	
B2. Suspended Shoulder Extensions	10 to 15	2-3 sets	45 seconds	
C1. Bent-knee Sit-ups	20 to 25	2-3 sets	45 seconds	
C2. Overhead Chops	30 seconds	2-3 sets	45 seconds	
Week 12				
Day 1				
A1. Shoulder Supported	3 reps	15 min PR Zone	as much as needed	
A2. Shoulder Get-up Left	3 reps	15 min PR Zone	as much as needed	
B1. Zercher Squats	3 reps	15 min PR Zone	as much as needed	
Week 13				
Day 1				
A1. Shouldering Right Side	45 seconds 4-5 sets		30 seconds	
A2. Shouldering Left Side	45 seconds 4-5 sets		30 seconds	
A3. Shouldering Left Side	45 seconds 4-5 sets		30 seconds	
A4. Single Arm Bicep Curl Right Arm Left Arm TRX Row Left Arm	45 seconds 4-5 sets		30 seconds	
Day 2				
A1. Single Leg Bat Wave	5-8 each side	3-4 sets	45 seconds	
A2. Full Suspended Pull-up/Chin-up Supinated	6 (4 each hand 3-4 sets		45 seconds	
B1. Single Leg Hip Press	10-12 each side 3-4 sets		45 seconds	
B2. Suspended Chest and Back Stretch	8-10 reps	3-4 sets	45 seconds	
C1. Bent-knee Sit-ups	20 to 25	2-3 sets	30 seconds	
C2. Zercher Sandbag Carry	60 seconds	2-3 sets	30 seconds	
Day 3				
A1. Half Moon Snatch	30 seconds	3-4 sets	30 seconds	
A2. Pull-ups	20 seconds	3-4 sets	30 seconds	
A3. Suspended Crossovers to Shoulder Stretch	30 seconds after 3-4 sets		30 seconds	
A4. Bent-over supinated Row	30 seconds	3-4 sets	30 seconds	
A5. Shoulder Supported Holding Position, opposing hand	60 seconds ea 3-4 sets		30 seconds	
Week 14				
Day 1				
A1. Shoulder Supported Bracket Press	30 reps	Perform as few reps as much as needed		
A2. Pull-ups	30 reps	Perform as few reps as much as needed		
B1. Single Hip	8-12 each leg	2-3 sets	30 seconds	
B2. Bent-over Suspended Row	10-12 with pause 2-3 sec	2-3 sets	30 seconds	
B3. Sandbag to Shoulder	30 seconds	2-3 sets	30 seconds	
B4. Suspended Squat Right	30 seconds	2-3 sets	30 seconds	
B5. Suspended Squat Left	30 seconds	2-3 sets	30 seconds	
Day 2				
A1. Split Squat	8-8 each leg	3-4 sets	45 seconds	
A2. Incline Pull-up with Supinated	10-15 reps	3-4 sets	45 seconds	
B1. Zercher Lateral Lunge	10-12 each leg	3-4 sets	45 seconds	
B2. Suspended Pronated	10-12 with two 3-4 sets		45 seconds	
C1. Rotational Chop	20 each direct 3-4 sets		45 seconds	
C2. Hanging Leg Raises	20 3-4 sets		45 seconds	
Day 3				
A1. Suspended Pull-up with Leg Lift	10-20	3-4 sets	30 seconds	
A2. Pull-up Hold Suspended Supinated	15 each side	3-4 sets	30 seconds	
B1. Half Moon Snatch	10 to 15 each x3 3 sets		45 seconds	
B2. Jackknife Sit-up	10 to 12	3 sets	45 seconds	
B3. Bear Hug Carry	120 seconds	3 sets	45 seconds	

US Army Special Forces Selection & Assessment Preparation Course -- Running and Marching.							
WEEK↓DAY→	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	RUN 3 MILES@ 8:30 min/mile pace	1-HR RUCKSACK HIKE WITH 50LB LOAD	4X400 Meters in 100 seconds, 400M easy between.	RUN 2 MILES in 15 minutes	DAY OFF	6-MILE RUCKSACK MARCH, 17MIN/MI 50LB LOAD	DAY OFF
2	RUN 3 MILES@ 8:00 min/mile pace	1-HR RUCKSACK HIKE WITH 50LB LOAD	4X400 Meters in 100 seconds, 400M easy between.	RUN 2 MILES in 15 minutes	DAY OFF	6-MILE RUCKSACK MARCH,16MIN/MI 60 LB LOAD	DAY OFF
3	RUN 3 MILES@ 7:45 min/mile pace	1-HR RUCKSACK HIKE WITH 50LB LOAD	4X400 Meters in 100 seconds, 200M easy between.	RUN 2 MILES in 15 minutes	DAY OFF	10-MILE RUCKSACK MARCH, 16MIN/MI 50LB LOAD	DAY OFF
4	RUN 4 MILES@ 8:30 min/mile pace	1-HR RUCKSACK HIKE WITH 55LB LOAD	4X400 Meters in 95 seconds, 400M easy between.	RUN 2 MILES in 14 minutes	DAY OFF	10-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
5	RUN 4 MILES@ 8:00 min/mile pace	1-HR RUCKSACK HIKE WITH 55LB LOAD	4X400 Meters in 95 seconds, 400M easy between.	RUN 2 MILES in 14 minutes	DAY OFF	12-MILE RUCKSACK MARCH, 17MIN/MI 50LB LOAD	DAY OFF
6	RUN 4 MILES@ 7:45 min/mile pace	1-HR RUCKSACK HIKE WITH 55LB LOAD	4X400 Meters in 95 seconds, 200M easy between.	RUN 2 MILES in 14 minutes	DAY OFF	12-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
7	RUN 5 MILES@ 8:30 min/mile pace	1-HR RUCKSACK HIKE WITH 60LB LOAD	4X400 Meters in 90 seconds, 400M easy between.	RUN 2 MILES in 13 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 17MIN/MI 50LB LOAD	DAY OFF
8	RUN 5 MILES@ 8:00 min/mile pace	1-HR RUCKSACK HIKE WITH 60LB LOAD	4X400 Meters in 90 seconds, 200M easy between.	RUN 2 MILES in 13 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
9	RUN 5 MILES@ 7:45 min/mile pace	1-HR RUCKSACK HIKE WITH 60LB LOAD	4X400 Meters in 90 seconds, 200M easy between.	RUN 2 MILES in 13 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 15MIN/MI 60LB LOAD	DAY OFF
10	RUN 6 MILES@ 8:30 min/mile pace	1-HR RUCKSACK HIKE WITH 65LB LOAD	4X400 Meters in 85 seconds, 200M easy between.	RUN 2 MILES in 12 mins or your best pace if slower.	DAY OFF	15-MILE RUCKSACK MARCH, 14MIN/MI 65 LB LOAD	DAY OFF
11	RUN 6 MILES@ 8:00 min/mile pace	1-HR RUCKSACK HIKE WITH 65LB LOAD	4X400 Meters in 85 seconds, 200M easy between.	RUN 2 MILES in 12 mins or your best pace if slower.	DAY OFF	10-MILE RUCKSACK MARCH, 14MIN/MI 65LB LOAD	DAY OFF
12	RUN 6 MILES@ 7:45 min/mile pace	1-HR RUCKSACK HIKE WITH 65LB LOAD	4X400 Meters in 85 seconds, 200M easy between.	RUN 2 MILES in 12 mins or your best pace if slower.	DAY OFF	6-MILE RUCKSACK MARCH, 13MIN/MI 65LB LOAD	DAY OFF