WELCOME

Thanks for undertaking The Mill Gym Training Programs. All our programs have been designed by former Special Forces Operators using decades of hard-won experience, and the feedback from hundreds of clients and members over the past 12+ years at The Mill.

INTENT

The overall intent of all our services and programming is to ‘make you the biggest contributor in the room’. Whilst we design programs and provide services to assist you in your specific sport, trade or profession, ‘contribution’ in these areas is the key tenant to making you as effective as possible. To be able to contribute more, then you not only have to develop skills and technical competence, but you must also develop greater resilience, self-leadership, ‘followership’, and leadership skills.

Studies have shown that by developing your leadership skills, you in turn improve your levels of resilience. The fact that you have sought subject matter experts in physical training, and that you’re training and working towards your goals demonstrates that you have some self-leadership skills.

Our programs are designed according to tried, tested and scientifically proven training principles. The key point of difference for our programming is that we incorporate proven methodologies, which assist to develop greater overall resilience, not just strength and conditioning. This includes improving overall movement patterns, physical strength and conditioning as well as developing the mindset and mental attributes which increase the probability of your success. All the workouts have been individually tested and selected to complement each other to achieve your overall goal. The level of success of our programming and the true test of effectiveness is the successful achievement of your individual goals.

Since 2008 we have been committed to ensuring our members and clients become more resilient and effective people. We believe that everyone has the capacity to become an elite operator in any field. As Special Forces Soldiers ('Operators') we understand that being physically fit enables greater capacity for every other facet of life and greater levels of meaningful contribution in the aspects of our lives that we deem as most important. This includes everything from being able to maximise your contribution to your family or team; to having the capacity to solve complex problems in hostile conditions. We have incorporated these lessons-learned into all our programs, workshops, and camps.

JOURNAL

This program is designed as part of a training continuum. The continuum starts with programs for beginner athletes just starting out on the training journey to high-level athletes and Special Forces Operators. Your fitness test results, and your goals will dictate where in that continuum you will need to start the program.

We advise you to execute every facet of your program as diligently as possible. You must also treat this process as an opportunity to prepare your mind along with your physical preparation. Developing these 2-key areas in unison will assure maximum effective results for you as an elite-Operator in your life. Therefore, the preparation for both the physical and the mental starts right now. The better you know yourself and how you perform under certain conditions, the more you will increase your confidence and capacity especially under duress - when it is truly tested.

So, it’s important to take the time every day to log down as much detail as possible about your performance, both physically and mentally.

Some aspects that you may want to monitor in a logbook/diary are:

- Body weight
- Waking heart rate
- Mood
- Energy levels*
- Fatigue (physical fatigue and mental clarity etc.) *
- Muscle soreness*
- Nutrition
- Sleep quality and duration
- Willingness to train
- Time and duration of training
- Weights lifted in relation to what was scheduled in the program

*Subjective, perceived levels

Please take as many notes as possible on your progress, recovery, mood, and energy levels throughout the process. You can download our 'Training Journal' template from our website. This is an important report for our bespoke program athletes, but anyone may use it as a guide.

Be sure to also write down the date you completed your specific workouts on your program, so it correlates with your journal.

REPORTING

If you are undertaking our bespoke programming, your coach will ask you to submit your completed journal so that they can make the necessary adjustments to your program. This is because your bespoke program will be a 'live' document. This means that your coach will work with to update your program as you progress with it. This will ensure that the program is best suited to your needs as you progress, improve and increase your strength and conditioning levels.

Initially you will also be asked to provide a video of some of the basic training techniques. These are listed here:

https://themillgym.com/which-program

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MODALITIES

This program is fundamentally based on General Physical Preparedness ('GPP'). GPP is a general fitness program, which serves as foundation for specific or specialised physical capacities. From our experience GPP enables you to be more adaptable to your environment and the multitude of problems that you may encounter in that environment. It also gives you greater utility within any team, which is a vital factor in being reliable, useful, contributing and therefore a trusted member of any team. It doesn't matter what type of team, where you work, or what your trade, skill or craft is, a high-level of GPP has far reaching benefits in every aspect of life. So, regardless of whether you're a beginner or elite-athlete, for overall health and physical capacity, GPP must form the basis of any fitness program.

GPP is best expressed by competence across all physical fitness components. Therefore, this program includes training in the following components:

1. Cardiovascular / respiratory endurance – The ability of body systems to gather, process, and deliver oxygen.
2. Stamina – The ability of body systems to process, deliver, store, and utilise energy.
3. Strength – The ability of a muscular unit, or combination of muscular units, to apply force (ATP or a-lactic anaerobic systems training].
4. Flexibility/mobility – The ability to maximise the range of motion at a given joint.
5. Power – The ability of a muscular unit, or combination of muscular units, to apply maximum force in minimum time (lactic or glycolytic anaerobic systems training]
6. Speed – The ability to minimise the time cycle of a repeated movement.
7. Coordination – The ability to combine several distinct movement patterns into a singular distinct movement.
8. Agility – The ability to minimise transition time from one movement pattern to another.
9. Balance – The ability to control the placement of the body's centre of gravity in relation to its support base.
10. Accuracy – The ability to control movement in a given direction or at a given intensity.

The greater your levels in each area – the greater your capacity to contribute in any circumstance or situation.

For ease of programming we have grouped these into the following main categories:

- Mobility and technique-correction training
- Strength and power ('SP')
- Power-endurance ('PE')
- Muscular Endurance ('ME')
- Aerobic endurance <60mins ('E60')
- Aerobic endurance >90mins ('E90')
- Flexibility training

Each of these will be trained during the 4 to 6-week cycles. However, in some cases, priority will be given to developing only one of the above modalities every cycle. This is called the 'program bias'. This will ensure we maintain all modalities while focusing on improving in one specific area at a time.

Note that our programs are designed in 4, 6 or 12-week blocks. This will enable your body and central nervous system time to adjust and to adapt to the new training stimulus. This is in-order-to ('IOT') ensure sustained improvement across all modalities.

Also note that for those undertaking a personalised program, the bias may focus on a particular domain or even event/technique depending on your identified weaknesses relative to your goals or industry benchmarks.

TRAINING LEVELS

Please ensure that this program is the right one for you before starting this program. All our programs are designed for specific levels of athlete. These levels range from Level 1 (Beginners) to Level 6 (serious athletes or elite level soldiers). It is imperative that you choose the correct program for you because the volume, intensity and density are such that if the program is not right for you, then you will not see the progress you expect or increase your risk of injury and/or over-training.

If you have any questions on how to determine the correct program for your goals and your fitness level, go to:

https://themillgym.com/which-program

PRIMARY GOALS

It's important to build strength and resilience progressively over an average period of 3-months (E.g., 3 x 4 or 2 x 6-week cycles) at a time and to follow the following keys to building work-capacity:

1. Setting realistic expectations. As with any new undertaking it is important that you understand what is reasonably possible, where you want to go and what it will take to get there. Often, we find that new athletes have unrealistic expectations of what they want to look like or what they want to be capable of doing, within a limited timeframe. Therefore, it is up to us (coach and athlete) to establish realistic expectations to ensure that you remain consistent and motivated. If you don't do this prior to starting (and put them in writing), then you will possibly be setting yourself up for failure.

2. Establish good training habits early. Good habits include journaling, training mindfully; training consistently; instilling and reinforcing good habits; adequate nutrition pre and post session; adequate hydration pre, during and post session; adhering to timings for training; ensuring they have the correct training clothing and accessories prior to the session; and ensuring you complete a thorough warm-up and cool-down. All these actions help to ensure training is conducted at the correct load and intensity, and, as in the case of the warm-up and cool-down, help to prevent injury and improve recovery.

3. Develop mobility and skill over intensity and load. Ensure you understand what constitutes good movement, complete range-of-motion and good technique. Also train yourself to understand the breathing cycle for the movement; the correct posture and hip and shoulder position etc.; and suitable times/weights/goals for each movement relative to other key-movements. Strong foundation of knowledge and kinaesthetic awareness (internal awareness of the body) is imperative to longevity and maximal output.

4. Moderation in progressive overload. Be cognisant that recovery rates may be slow initially. E.g., For aerobic systems development. This means that an inexperienced athlete may not be able to complete 20-minutes of continuous aerobic training on the first try. This may be a combination of lack of skill, inefficient breathing cycles and overall lack of conditioning. Therefore, break it down to 3 x 5-minute intervals @65%-80% of maximum heart rate ('mHR') with a 2-minute rest between intervals. To use HR as your guide it may be worth investing in a good heart rate monitor with a chest-band. Access to a HR monitor will prove beneficial in the initial stages of the program. This will give you a metric to use to measure intensity and progress. It will also give you the ability to directly relate how you feel during the exercise with your heart rate. This is another important skill, and it will prove especially helpful as you progress to more complex, higher-intensity training regimes.

5. Develop the skill of 'pacing'. Pacing is an important skill. Especially when your job requires you to apply strength and power over extended periods of time. I.e Special Forces Operators. Understanding how your body should feel given a prescribed workload and duration will put you in good stead to ensure you can complete the task effectively and efficiently, whilst also being prepared for any changes or unexpected events. Always consider using 'negative-splits' for your longer workouts.

6. Allow for adequate recovery. Recovery is a key-element to any effective S&C program. Without it there's no progress. It is also a skill, which you must learn. By using your journal, you will be able to develop the skill of assessing your 'readiness to train' ('RTT'). RTT is the ability to assess how your body is recovering and whether it would be appropriate to increase, maintain or decrease your workload. This gives you and your coach a more realistic ability to design a program which is best suited to you.

7. Define how to reach your zone of optimal arousal level or your ideal performance state. Also known as: Optimal Zone of Natural Excellence (OZONE); Individual Zone of Optimal Performance (IZOP): or Individual Affect-Related Zone (IAPZ), these describe your state of arousal where you are in your 'zone'. This zone is an upward enhancing performance spiral, where you seem to be doing everything right and you are operating at the top of your game. It is important to start practicing at reaching this state on-demand. In life we often don't get to choose when or where problems arise, so practicing this skill will enable you to reach and sustain a level of sustainable readiness as well as the ability to up-regulate in times of need, then down-regulate when appropriate. We discuss this more below.

Over time you will find that your work output increases as all the key factors (outlined below) come into play. I.e., they may still be operating at average 65-85%mHR but their speeds, weights and distances increase while their required rest-periods decrease and their frequency of training session's increase. This indicates that you are making good progress and that your program is designed correctly for you.

SKILLS

To be functional, you must be physically and mentally competent in a number of key-areas, which directly contribute to survivability. Physically you must be able to run, traverse, swim, climb, carry and fight. Mentally, you must forge an indomitable spirit and mindset, and you must learn to manage your emotions and condition your mind to perform in the most adverse conditions possible and in the worst possible scenario. This is only possible by regularly and mindfully exposing yourself to situations, which realistically simulate the worst-case scenario. This will inoculate you against the mental barriers you may encounter, will condition your body

to the physical hardships you may face should the situation arrive and will improve your recovery ability and rate, post-event. Only then will you develop the competence, skills and confidence, which will greatly increase the likelihood of success.

Having a high level of GPP is to have a high level of physical utility especially in extreme situations when it is needed most. Regardless of your goals, IOT achieve a state of GPP, a number of general capabilities must also be maintained. These serve to make you a 'well-rounded athlete' and more useful human being. The general capabilities covered in this program are:

- Running (covering short to middle distances at pace)
- Load-carriage while traversing middle to long-distance. AKA: Pack marching or 'rucking'; and movement and running in webbing.
- Lifting and carrying [the ability to safely lift and carry conventional and unconventional loads proportionate to bodyweight)
- Swimming [the ability to traverse a large body of water safely)
- Climbing (the ability to pull our body weight up and scale a structure]

We also view these GPP skills as 'life-skills', i.e. they are imperative skills to have IOT function as a capable human being. To neglect any of these skills, or to carry a major weakness in any one area is to compromise your functional capacity as a human - not just as an athlete/soldier. Remember that GPP forms the foundation for more specialisation (if required) and so, we do not train the specialist - we train individuals to function at the highest possible level across all modalities and domains. Ensuring that we cover all of these human capabilities enables us to do this.

Military athletes are expected to be high performers in these domains. SF Operators are expected to be elite performers in these domains.

If you are a remote-coaching client, specific skills' technical training (i.e. general movement, running, swimming and climbing etc.) is not covered in detail, so we suggest finding a suitably qualified coach to assist. Skills training in these areas can significantly improve your efficiency and therefore your GPP capacity and increase your training/performance longevity.

MINDSET & MENTAL PREPARATION

"The mind is primary" – Bruce Lee

As with any undertaking-of-consequence, mindset and mental preparation can mean the difference between success and failure, and in Special Forces - life or death. Therefore, it is very important to learn and practice strategies and drills to instil high levels of arousal, mental clarity, problem solving and physical and mental toughness.

For Operators, this is the key difference between being selected to serve as a Special Forces Operator, and those who aren't. For us it also then means the difference between mission success or failure, and potentially losing your life or the life of one of your teammates. You cannot underestimate the importance of the right mindset and mental resilience, acuity, and clarity, especially under duress.

But mental resilience is also imperative to living a full life of contribution. It enables greater capacity, efficiency, efficacy, and recovery from inevitable setbacks. It is vital for happiness.

A key mental conditioning tool is undertaking progressively harder physical hardship. Therefore, hard physical work or training is critical. Subjecting yourself to hardship and navigating your way through completing difficult tasks is a form of self 'tough-love' and is a way of implementing 'delayed gratification'. These are 2-key tenants for developing resilience.

We believe that this is so important that we have developed a 10-step, 12-week Mindset & Mental Preparation Program, which helps you to improve mental acuity, increase mental resilience and achieve the mindset to dominate life. We have been working with hundreds of clients over the past 10-years and providing them with the skills and knowledge gained from decades of experience in Special Forces.

For more information on this tried, tested and proven program, please contact us.

RELATIVE STRENGTH

Key component: Power-To-Weight Ratio

As our programs are GPP strength-based program, therefore, prior to developing other fitness modalities the initial goal is to achieve foundational levels of:

- Relative strength. Functional power and strength proportionate to your bodyweight and as relative to key-strength techniques. E.g., ensuring that you back squat 1RM is relative and proportionate to your bench-press 1RM; and
- Absolute strength. We measure these levels as functional power and strength relative to the demands of your occupation, profession, sport, or craft. E.g., for

combat troops a metric for success is the ability to carry a 40kg back-pack for 15km within 2-hours regardless of bodyweight.

Developing work-capacity is another key objective but this will be achieved with consistent work/training as you improve strength.

Over the years we have developed several relative strength and conditioning standards which provide us with a good indication of what each of our clients need to achieve to give them a realistic chance of achieving their stated goals. For example, there are several benchmarks, which will give a candidate a realistic idea of whether or not they are physically strong enough to complete a Special Forces Selection course. We have also found that most candidates who have successfully completed the selection process exceed our minimum standards across all domains and modalities.

These standards are depicted in our Relative Strength Chart, which can outline any disparity with-regard-to (WRT) the ratios between key-lifts. The strength standards are (in most cases) relative to lean body-mass ('LBM'). All other standards are dictated by accepted industry standards (E.g. SFET standards). From experience, for maximum power-to-weight efficiency, you need to achieve the ratios outlined in the Relative Strength Chart and at the same time achieve a low % body-fat.

It is also important to achieve this relative strength because at the end of the day, it is important to be able to 'carry-the-engine'. I.e. for GPP purposes, there is no point being able to Deadlift 3 x bodyweight when you cannot continuously run 5km.

This means that regardless of whichever task you are undertaking you achieve maximum energy efficiency and energy expenditure. I.e. you are not carrying more body-weight than you need to and you are able to operate at maximum efficiency to achieve maximum performance.

In order to know where you sit on the Relative Strength Chart, and to successfully calculate the correct weights you need to follow our programs, you will need to test your 1 rep-maximum for the key lifts. These lifts are: Deadlift, back squat, bench-press, bent-over row, Cleans and overhead press. To test these, for example: Bench-press. Do 8-reps at a lightweight. Take 3 mins rest then follow the following rep scheme - 5, 3, 2, 1, 1, 1... until you hit your maximum weight (get a friend to spot you!). Record/journal that weight. Only increase weight by maximum 5% each time. Make sure you use correct form and you have a 3-minute rest between each set. Do this for all your key lifts (described in the program). Only test one 1RM per day (max. once per quarter).

All the % numbers prescribed below are a percentage of bodyweight (%BW).

	MALE STANDARDS						FEMALE STANDARDS				
		LEVELS						LEVELS			
	2	3	4	5	6		2	3	4	5	6
Deadlift	150%	180%	210%	240%	260%		135%	162%	189%	216%	234%
Back-squat	125%	150%	175%	200%	225%		113%	135%	158%	180%	203%
Bench-press	75%	100%	125%	150%	175%		68%	90%	113%	135%	158%
TGU	35%	40%	45%	50%	55%		32%	36%	41%	45%	50%
KB/DB Press	30%	35%	40%	45%	50%		27%	32%	36%	41%	45%

theMill Relative Strength Chart
% of lean body mass (LBM)

PROGRAM EXECUTION

The body adapts best once it can get into a consistent routine. This applies to mental preparation, physical training, nutrition, recovery, and rest. Therefore, it is important to develop a daily and weekly schedule then have the discipline to stick to it week-in week-out. This is where you will see the most progress and positive changes in your overall capacities. If you keep detailed notes then not only will you feel the positive effects of consistent training, you will also be able to quantify the progress.

Sometimes it can be hard to maintain the schedule based on what's going on in your world. Your commitment to your performance and health will dictate your ability to maintain your routine. Decide on what your priorities are. You must prioritise 'you' and your health and fitness. Remember that you cannot help anyone if you don't help yourself first. The stronger and more resilient you are – the more you can contribute to those around you.

Whilst working through your routine you should also be looking at ways to improve your mindset, sleep, nutrition, recovery, rest, and time management. All these factors greatly impact your ability to achieve and sustain a consistent training schedule and reach your goals. Through disciplined adherence to your training plan, you will ensure that you regularly take a relatively small amount of time to make yourself fitter, faster, stronger and sharper.

Remember: there is always a way to achieve a 1% improvement - these 'one-percenters' will add-up over time.

DAYS OFF OR MISSING A SESSION

If you miss a session, do not do a make-up session on the next day. Stick to your scheduled sessions.

If you miss a day due to fatigue, make a note of what you believe contributed to the fatigue. I.e., over-training, not enough rest/sleep, insufficient nutrition, etc. Provide this feedback to your trainer.

Before you decide to take the day-off due to perceived fatigue refer to ‘Readiness to Train’ (below) then go through a thorough warm-up. Sometimes perceived fatigue can be a product of your mood. Completing a thorough warm-up can increase your blood-flow and cause your body to kick into gear and get fired-up. If you find that you still feel too tired to train, then it's probably a good idea to rest. As you build up experience you will learn to interpret what your body is telling you.

Refer to Travel Workouts for suggested low-gear or no-gear workouts when travelling.

INTENSITY

The first steps to making sure that you exercise at the right intensity for each session is to ensure that you are adequately recovered and to conduct a thorough warm-up. A warm-up is critical in ‘priming’ your body and energy systems for the oncoming session.

Your reps and weights are specified for you in your program however you can also manage the intensity of your workout by timing your rest between sets. The shorter the rest the higher the intensity. If you're having a less than optimal day, increase the rest or decrease the weight (or both). Either way it's important that you continue to train consistently.

If you are finding that you are hitting the prescribed weights and times etc. then please include light running or skills work into your program on your active recovery days. This will greatly assist with recovery, skills development, and overall training density.

Do not lift more than is prescribed. If the program is getting too easy too quickly, then if you’re a bespoke program athlete, tell your coach, or maybe it’s time to download the next program in the continuum.

MOBILITY

Mobility is an important factor in effective training. Completing techniques using the correct movement principles and implementing full range-of-motion is important maximise the utility of each joint and assists to prevent injury and other problems down the track. IOT achieve maximum gains in mobility, regular stretching, triggering and mobility training must be incorporated into your daily regime. At the very least, a thorough warm-up and cool-down must be completed at every session.

Learn to use a foam roller and trigger-point therapy especially during your active recovery sessions. Also incorporate dynamic warm-ups into your routine. Examples are provided in the 'Warm-ups' section.

MOVEMENT FUNDAMENTALS

Fundamental to all training programs is the necessity to build *‘movement IQ’.* Movement IQ is knowing how to move in any given situation to maximise stability, strength, power, and endurance. This is something that is only built by perfect practice of the movement fundamentals then implementing the fundamentals over time. For elite level athletes, movement IQ is at such a level where is conducted autonomously (I.e., *unconscious competence*).

Therefore it’s critical that you develop your skills and knowledge in the Movement Fundamentals to ensure joint health, longevity of training and work, and maximum efficiency of movement.

The Movement Fundamentals are:

- ‘Organising your spine’
- Breathing, bracing and breath-control
- Shoulder setting, packing, and stacking
- Glute-engagement in hip-hinge extension and flexion
- Gait and foot placement, and knee alignment
- Activating and utilising posterior chain

If you are one of our remote clients, please seek professional guidance in applying the correct principles in these areas.

INJURIES

Please consult with an exercise-fitness professional if you have any questions regarding using the correct technique for any of the exercises prescribed in this program.

If you do develop any pain or impingement because of this program, please cease training, consult your health professional, and inform your trainer ASAP.

Please consult your medical team if you have any long-standing or chronic injuries prior to or at any time during the program. It is important that you work with your coach to make the necessary modifications to your program based on your capabilities without causing or aggravating any injuries.

ASSESSING READINESS TO TRAIN

Due to the nature, volume, and intensity of our training programs it is important to prevent over-training. Developing the ability to assess your readiness to train ('RTT') is a key skill for ensuring you are making the most of your program and giving your body the recovery time, it needs to make the necessary adaptions.

There are several different tests to undertake which will give you a good idea of your readiness to train. Most are not very effective in isolation. But if the results of several different tests are considered together, then this will give you a relatively reliable assessment.

Some tests which you may wish to consider are:

- Subjective assessment (mood, energy levels, fatigue and soreness levels). Sometimes this measure is enough for you to assess readiness however it can be misleading. Sometimes your subjective assessment will change after you've completed a thorough warm-up and have properly prepared the body for training. However, if you add these results to the following 3 tests outlined below, you may be able to make a reliable assessment before breakfast.
- Resting heart rate (rHR). Measure your heart rate as soon as you wake in the morning before you get out of bed. Use your results to compare against your average rate. If your rHR is the same as or lower than your normal score, then you are potentially ready to train. If it is elevated (> 5 bpm) then it may indicate that more rest is required.
- Bolt test. The Blood Oxygen Level Test ('Bolt') allows you to test your tolerance to CO2 in your bloodstream. When you conduct this test, you can compare your results against previous results to assess whether your tolerance levels are above or below your average score. A low score, first thing in the morning, can indicate that your body is still recovering from previous sessions and it may be a good idea to rest. Here is a good link to explain the Bolt test: http://oxygenadvantage.com/measure-bolt/
- Sit and reach test. This test is a measure of your ability to stretch your hamstrings and is a measure of your hamstring flexibility. A shorter than average score can also indicate that you may need to rest. To achieve consistency, undertake this test under the same conditions every time. A good time would be after waking in the morning while measuring your subjective, rHR and Bolt score.

We have provided a journal which is available to download from our website. Use this to record these metrics on a regular basis. It's important to compare your scores against your previous test results not against the accepted norms for your demographic. They provide you with results measured against your average scores recorded under the same testing conditions. Negative results across all 4 assessments can be a very good indication that you need more recovery time and may need to rest and adjust your program.

Another metric which can now be effectively measured using smart-watches is heart-rate variability (HRV). HRV is the speed at which your heart rate can adapt to the changes in work intensity. It is literally the variance in time between the beats of your heart. So, if your heart rate is 60 beats per minute, it's not actually beating once every second. Within that minute there may be 0.9 seconds between two beats, for example, and 1.15 seconds between two others. The greater this variability is, the more "ready" your body is to execute at a high level. Elevated heart rate indicates that the body is experiencing physical fatigue. Decreased HRV reflects a tired nervous system. HRV signals come from both the parasympathetic and the sympathetic nervous systems. These two competing branches simultaneously sending signals to your heart. If your nervous system is balanced, your heart is constantly being told to beat slower by your parasympathetic system and beat faster by your sympathetic system. This causes a fluctuation in your heart rate i.e., HRV.

WARM-UP

The warm-up and cool-down are integral parts of each workout. The main reasons for this are to: prime your body and mind for the oncoming workload; to prime your body and mind for recovery (post-exercise); increase blood-flow and prepare the body for training; and to prevent injury, which can severely hamper any physical and mental preparation program and can mean the difference between your success or failure.

While not always included in your weekly program, examples of warm-ups can be seen in our monthly GAC programs which are available for download. It is vital that you complete an extensive warm-up to prepare your body for the upcoming workout and to mobilise the muscles, which will be involved in the work.

During the warm-up make sure that you: do a mental check of how you are feeling and what your mindset is like; and conduct 'pre-hab' for your old injuries or known problem areas by targeting and triggering these areas to loosen the fascia tissue, increase the blood flow to the area and to warm the primary and supporting muscles and structures; and ensure that you warm-up gradually without inducing fatigue.

Consider also using mental conditioning tools to prime your mind for the session. Physical readiness is only truly effective if you are maintaining mental readiness. Elite performance is consistently achieved through the implementation of psychological tools which elevate your mental state to achieve your Optimal Zone of Natural Excellence ('OZONE'), 'flow' or just 'zone'. This is a state which all humans can achieve, where we perform at our absolute best.

The warm-up is the best place to start this process. There are many strategies which help you on this path and they are based on knowing how the body responds to stress and what happens to your blood flow, your muscles, joints and your judgement, memory, vision and hearing when under duress. By developing an understanding of these factors and how to use some of the common psychological tools, will help you to readily achieve a state of flow.

Common strategies which are worth researching are:

- Selective association. E.g., Training with people who bring the best out of you in training.
- Cue words. Using words which work best to cue you for optimal performance.
- Cue images. E.g., Imaging how you will faultlessly conduct the session/mission.
- Attentional focus. Specific focus on the session or mission at-hand.
- Self-efficacy statements. Using statements which you identify yourself with to reach optimal performance.
- Music. Listening to songs which get increase or arouse your mental state for the task at-hand.

A suggested typical warm-up for a lower-body biased workout may include the following:

- 600m run + row or air-bike
- 10 x lunge and twist
- 10 x wall-squat
- 10 x scorpions
- 10 x mountain-climber stretch
- 10 x dislocates

A suggested typical warm-up for an upper-body biased workout may include the following:

- 600m run + row or air-bike
- 2-minutes of skipping
- 10 x KBS
- 10 x KB Halos
- 10 x KB Windmills
- 10 x KB Snatch

You would then spend another 10 to 15 minutes focusing on: mobilising, activating, and strengthening specific problem areas or old injuries; to more specific practice of the techniques included in the workout at a lighter weight.

MAIN CONDITIONING BOUT (MCB)

The Main Conditioning Bout forms the main body of work you need to complete in that training session. It is important (as with all training) to be mindful of your technique, weights, rest and range-of-motion. These factors play a key role in the quality of your practice or training session and, once again, can be instrumental in preventing injury.

Tempo is also important. For example: for heavy-lifting or barbell (BB) strength MCB sessions, your techniques may be executed according to a 3:1:1:2 (Lower: Pause: Raise: Pause) ratio. E.g. during a Bench-press rep - lower the bar for a count of '3' then pause for '1' second. 'Explode' or press/push the bar upwards for a count of '1'. Then pause for a '2' count at the top. In this example the concentric phase ('Explode') of the movement must be executed as explosively as possible. This will assist to develop explosive power and train the fast-twitch muscle fibres. You may find that executing reps at this ratio will require you to decrease the weights on your barbell. This is a good thing – it will make you stronger quicker. The sooner we reach the required relative-strength thresholds on the barbell the sooner we can advance you through to the next program.

HIGH-REPS

For the callisthenic and/or lightweight barbell circuits etc. ensure that your first set for a particular exercise is well below your rep max for that exercise. I.e., if you can do a 20-rep max set of push-ups, then make sure that your first set of a 100-rep session is around 12 reps. You could break a workout like that into something like 12, 10, 10, 10, 10, 10, 10, 8, 8, 8, 4. Between each set, take a long 3x deep diaphragmatic-breath interval to recover. This way you do not 'gas out' on the first set and therefore make it harder for you to complete the workout in a realistic time. This is a form of 'pacing'.

INTERVALS

Unless otherwise stated, all interval workouts must be conducted as ‘negative-splits’. This means that as you progress through each interval your times or output must ‘meet or beat’ (improve) your previous interval, not deteriorate. This is called ‘pacing’. To ensure this you must understand how you feel (rate of perceived exertion, breathing rates, heart rate etc.) at a particular intensity for a particular activity over a given time. Understanding how you should be feeling given the workload ahead of you will enable you to maximise the workout and develop your energy systems.

The more mindful interval work you do the better you will get at pacing. Mindful practice will help to develop unconscious competence and imbed good pacing practices into your operating discipline. So that when it comes to the time of your event, then you will put yourself in the best position to get the best outcome.

MAS INTERVALS

Maximum Aerobic Speed (MAS) intervals are intervals designed to keep you on the threshold between your aerobic energy system and your anaerobic energy system. It is a process which helps you develop your VO2 Max aerobic capacity and your speed and power within this zone.

Our running programs include MAS running intervals. To complete these programs successfully, you’ll need to calculate your MAS score.

To calculate your MAS, complete the following:

- Perform a thorough warm-up for at least 20 minutes
- Time yourself running 1.5km. This is best done on a 400m track, or on a flat road. Ensure that you run at a perceived rate of 10/10 of maximal effort to ensure accuracy for testing and programming.
- Convert your time to total seconds and divide it by the length of the run to work out your MAS (m/sec), e.g., 4min 55sec = 295sec then 1500m/295secs = 5.08m/sec.

HOW TO USE M.A.S. IN THE WORKOUTS

The MAS workouts will look like any one of these:

1. 5 x 15 sec at 100% MAS with 15 sec active recovery
2. 5 x 15 sec at 110% MAS with 15 sec active recovery
3. 5 x 15 sec at 120% MAS with 15 sec active recovery
4. 10 x 15 sec at 100% MAS with 22 sec active recovery
5. 10 x 15 sec at 110% MAS with 22 sec active recovery
6. 10 x 15 sec at 120% MAS with 22 sec active recovery
7. 8 x 15 sec at 100% MAS with 15 sec active recovery
8. 8 x 15 sec at 110% MAS with 15 sec active recovery
9. 8 x 15 sec at 120% MAS with 15 sec active recovery

Rest periods will typically be either 1:1 or 1:1.5 (W:R).

Using the MAS score above (5.08m/sec), your MAS distances for the first 3 workout are:

1. 76m (15 x 5.08 x 100%)
2. 84m (15 x 5.08 x 110%)
3. 91m (15 x 5.08 x 120%)

You then set up your running track with each specified distance between markers for each workout. Using workout #1 as an example:

1. Place your markers 76m apart
2. Set your timer for 5 x 15:15 (seconds)
3. On the beep, run 76m in as close to 15 seconds as possible.
4. Rest for 15 seconds by walking
5. Repeat these intervals 5 times.

Before your start your program, ensure that you complete your MAS test and calculate your MAS distances and note these down for any of the given intensity levels. Have these scores handy so that you can refer to them when you see the workouts on your program.

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BREATHING

For all types of training breathing is high priority. If we don't breathe, we die. If we don't breathe effectively, we decrease our performance levels. Practice good deep diaphragmatic breathing during the entire training or practice session. Correct breathing greatly increases your work-capacity, helps to build a stronger 'core' and protects your spine. So, practice this at every opportunity you get!

When starting out on your training journey consider practicing 3-protocols of breath control during training. These basic protocols are a good way to start developing your energy systems and making them more efficient and effective. The protocols are:

- Protocol #1
    a. Stage 1: In and out-nose (‘nasal only’). Low intensity work. E.g., warm-up and cool-down. For all your warm-ups, make sure that you prime your respiratory system for the upcoming training session by restricting your breathing to nasal breathing only. If you find that you can’t maintain in-nose and out-nose breathing, then decrease the intensity of your warm-up until you can revert to nasal breathing. The more you practice this, the better your CO2 tolerance will get. At the end of your session when conducting your cool-down, focus on reverting to nasal breathing.
    b. Stage 2: In-nose/out mouth for higher intensity training. Depending on the type and intent of the workout it is usually best to try to maintain Stage 1.
    c. Stage 3: In and out mouth. High intensity where you cannot maintain Stage 2. This is usually used for maximum efforts but is as a last resort. There are many benefits to maintaining Stage 1 for all training intensities and practice at maintaining this level will benefit Stages 2 and 3 should you have to resort to these in competition or high-stress situations.
- Protocol #2: This is essentially for power generation. For this protocol you will need to breathe through your teeth while maintaining thoracic pressure. Normally used for dynamic, repetitive movements like the Kettlebell swing, Snatch. E.g., A short powerful breath-in at the start of the eccentric phase, then a short powerful breath-out during the concentric phase.
- Protocol #3: This is for the maintenance of thoracic pressure to protect the spine for all your major strength lifts it's important to: i) maximise the use of oxygen; and ii) to brace and protect the spine during the lift. Correct diaphragmatic breathing for lifting will assist with achieving both outcomes. The general prescription for breathing during exercise is inhalation prior to or during the eccentric portion of said exercise, and exhalation during or near-completion of the concentric phase. E.g., the heavy barbell Deadlift, pack-the-shoulder, inhale, and brace-the-core before lifting the bar and start to exhale prior to completing the lift.

Controlled breathing during a workout is essential for recovery between reps and sets. Whether it is running or weightlifting, practicing breathing techniques will greatly enhance your performance, recovery, and mindset. There are various techniques to use based on the exercise and the outcome you're aiming for. While lifting will require you to use your diaphragm to inhale and hold your breath during the exertion phase of the lift (as described above). Both techniques require diaphragmatic breathing. These specific techniques should be explored in more detail based on the outcomes you are aiming for.

BREATHING FOR RECOVERY

Pacing for all the prescribed training is key. During long high-repetition training sessions, try to maintain an even pace where your breathing is controlled throughout the workout, and you can increase intensity throughout the duration of the workout. During power-endurance or muscular endurance sessions if you find that you need to take a break between sets, try to limit your recovery to 3-diaphragmatic breaths before starting again.

If you need more than this then more conditioning work is required to make your cardiovascular system, more efficient. To do this, just focus on using the breathing protocol (described above) which is best suited for the type of training you are doing. Overtime you will become more efficient.

At the start and end of a session, breathing is equally important for down-regulation (i.e., initiating relaxation and recovery, managing stress, and clearing and calming the mind). Such techniques as Grossman's 4-Count Method (AKA ‘box-breathing’) are valuable techniques for relaxing and attaining clarity of mind post-event or during periods of high-stress.

David Grossman, a Lieutenant Colonel in the U.S. Army Rangers, wrote about this in his study of tactical breathing in his book, On Combat: The Psychology and Physiology of Deadly Conflict in War and Peace.

The 4-Count Method entails using deep diaphragmatic breathing in the following cycle: 4-count breathe-in; 4-count hold; 4-count breath-out; 4-count hold. You continue this cycle until you feel relaxed in body and mind and can reduce your heart rate and alleviate feelings of anxiety and stress. This is also a good technique to use during mindfulness, meditation and for preparing to sleep. This method is particularly effective for combat athletes during what is termed as a ‘battle pause’. This is where an individual under extreme stress takes the time to pause, control breathing and take stock of the situation. Once again, a very important skill not least of all for survival.

There are a literally hundreds of breathing drills to assist with all aspects of focusing, training, recovering, relaxation, performance improvement and overall quality of life. Some of these are mentioned later in this instruction, but please take the time to explore these and seek advice from recognised practitioners.

“Deep breathing activates the parasympathetic nervous system by stimulating baroreceptors when the diaphragm contracts and relaxes.”

Excerpt From: Dr. Michael J. Asken, Loren W. Christensen & Lt. Col. Dave Grossman. “Warrior Mindset.”

TECHNIQUE

Unless specified otherwise, all training techniques prescribed in this program are to be conducted as a strict, deliberate technique. Maintaining form with controlled movement is an important skill to create body awareness, prevent injury and maximise training efficacy.

It is important to develop a high-level of ‘unconscious-competence’. This is a state where you automatically perform key movements with a high-level of technical proficiency without thinking about the movement. This is critical especially when you must perform several tasks at once and need to free up some ‘mental-bandwidth’ for solving problems. Poor movement is one of the highest contributors to injury rates in the workplace. This is because the negative effects of poor-movement are compounded by a lack of conscious effort due to a stress induced by workplace demands, compressed timeframes of an austere environment or situation.

As you become more practiced at each technique you will find more efficient ways to conduct them. This is where you start to develop mastery.

COOL-DOWN

This conducted at the end of each training session. Ensure that your cool-down focuses on maintaining blood-flow and stretching, massaging, and triggering the muscles and body areas, which were involved in the workout. As for the warm-up, it is important that you take the time to complete an extensive cool-down. This will also assist to proof your body against injury and reduce the recovery period before your next training session.

A typical cool-down may include the following:

- 5 minutes of light cardio. Starting light then decreasing intensity. e.g., 200m walk while practicing breathing techniques
- Using a foam roller to massage the major muscle groups (Myo-fascial Release - ‘MFR’)
- Using a trigger-ball to focus on known problem areas where muscles may have knotted
- Going through a series of stretches and movements to improve mobility while the muscles are warm.

RECOVERY

There are obviously a number of factors, which affects your progress through this program. One key factor is your ability to recovery prior to the next session. Recovery is very much dependent on the individual athlete and the fact that different energy systems recover then replenish at different rates, this is influenced by the quality and quantity of your sleep, recovery techniques, nutrition and workload. It is important to maintain adequate nutrition and to monitor your fatigue, mood and mental clarity levels prior to each session. This is where your training journal can help.

Prior to each session, only you can determine if it is going to be beneficial to undertake the prescribed session or to rest. Make this assessment prior to each session and you will better learn to monitor your fatigue levels and ascertain whether it is momentary mood, which will improve after a warm-up; or if your fatigue level will mean that undertaking the session will be detrimental to achieving your training goals.

Active Recovery sessions have been scheduled in your program. During these days it's important to drink enough water, monitor your recovery and do an activity, which supports your recovery. This could be getting involved in one of your hobbies or interests or simply walking, riding, stretching, or swimming. Get involved in anything, which assists blood flow throughout the body to enable the recovery process.

An ideal recovery program may include the following:

- 7 to 8-hours sleep/night
- Minimum 2 litres of water per day
- Massage
- Self-massage (foam-roller & triggers)
- Ice-baths
- Sauna
- Active recovery training sessions (e.g., lightweight strength training, PNF stretching, easy cardio training)
- Afternoon naps
- Balanced nutrition and diet
- Pursuing other hobbies and interests
- Meditation and mindfulness training. Suggested techniques worth researching are:
    - Yoga

- Hypnosis or self-hypnosis
- Biofeedback
- Autogenic training
- Progressive Muscle Relaxation

Note that a high proficiency in these techniques (above) can translate to higher efficacy on the battlefield. This is because you can put most of them into practice ‘on-command’ at any time, no matter where you are.

While there is still some conjecture as to the effectiveness of some of the techniques listed above, it’s important that you develop a process which works best for you. It is up to you how you manage your recovery and what this entails but any effort put into refining your recovery system and skills will greatly enhance the quality of your training outcomes.

DELOAD WEEK

Your training program is designed around 4 to 6 weeks of progressive overload. About every 4 to 6 weeks (depending on the program) you will undergo a 'De-load Week'. This is where the intensity of the program is reduced for one whole week. This is to enable you to recovery before commencing the next cycle or phase.

Use this time to focus on sleep, mindfulness, mobility, injury-management, recovery, and nutrition. You should be mentally and physically ready to make the most of the next phase. If you don't feel adequately recovered due to the programmed workload have a rest.

RUNNING

Running technique is crucial. As with anything a fit military athlete will greatly enhance their performance and increase their durability by refining technique. Running is no exception. SF Selection courses are never short of strong and resilient individuals. The difference between those who can stay injury free and endure until the end of the process are those willing to look into the details of their physical and mental preparation.

The correct breathing technique can also dramatically change your running ability. Your running technique will also affect your rucking speed and ability. Where possible find a running coach, who can help you with your gait and technique. It will pay-off in the long run.

SWIMMING

At the Mill, the minimum goal is to swim continuously for 20 mins. Swimming is also an important tool for technical development, recovery and breathing management. Technique is priority so find a good swim coach before starting out.

Swimming is a life-skill. If you are not comfortable in the water, then you are seriously underprepared for life, let alone anything like Special Forces Selection.

MILITARY SPECIFIC TRAINING

PACK-MARCHING OR RUCKING

Pack marching (aka. stomping, *yomping* or rucking), is any kind of traverse movement with a loaded backpack. Pack marching is a key component of SF Selection where loads tend to vary from 8kg to 80kg depending on the task or phase. Prior to starting any pack training activity, it's important to ensure that you have a strong chassis (core and postural strength) and the correct gear and that it is set-up correctly.

Setting-up your pack then packing your pack will become an important skill to have in the military not the least because you will have to carry the equipment, but you will also have to survive and fight out of your pack. It is an art to identify exactly what you will and will-not need, then pack the essentials in a way which will suit the task or mission because it is important to have critical equipment placed where it is easily accessible yet secure. This will come with experience and trial-and-error.

One catch phrase you will need to live by is to 'test-and-adjust'. This is a continuous process, especially as your environment, roles and tasks change. It means that you must always cast a critical eye over your equipment; what it comprises of; its utility to you and the task; its weight and size; and its purpose and function. You must always be testing your equipment (and yourself, theories, processes, tactics and strategies), to see if it is still relevant, functional and viable within your environment. If not, then see if you can amend, modify, replace, or repair it. Once this review is completed, then you will need to re-test the equipment before being subject to a 'live' mission.

The test-and-adjust process starts now. Ensure that your backpack is fit-for-purpose. I.e., designed for military rucking and able to be modified or tailored to your body dimensions and task needs. The key components to be aware of are capacity (litres), comfort, functionality (e.g., pouch placement), weight, frame-size and waistband.

For training purposes, obviously you need to train with the equipment, which you will be using on Selection. You will need to research this depending on the course you are undertaking. This test is about pace, not weight, so the primary focus is on your pace.

Key things to consider:

- For carrying heavy loads, the waistband or hip-straps are a must. To protect your back, the weight of your pack must be distributed between your shoulder straps and your hips by the waistband. This will go a long way towards enabling you to carry heavier and for longer. If you are working with an Alice Pack then you can retrofit a waistband if it wasn't supplied with one, otherwise most new packs are fitted with a waist band.
- Ensure that your boots and your pack are worn-in or broken-in. Always ensure that you have 2-sets of your key items (i.e., '2 is 1; 1 is none') like packs and boots. It is better to have a spare of each which is already broken-in and ready for immediate use.
- Barefoot running. This will assist to toughen the skin on your feet and minimise the occurrence of blisters when on-task.
- Sand dune running is imperative. It helps to strengthen your feet and lower leg.
- Start light. Do not go too heavy or too far too early. Progressively increase the distance and weight according to your program. I know too many SF candidates who have ruined their career before they started due to chronic back injuries caused by heavy pack marching.
- Don't run before you walk! Once you've worked through your program and achieved the benchmark distance and weight, then start to increase the speed of your pacing to a shuffle - don't run. Not only is there a hazard of tripping on uneven surfaces but running increases the potential for injury due to the constant jolting impact on the spine as your pack bounces up-and-down.

WEBBING RUNS

Webbing runs are also a critical skill for SF Selection. The ability to manoeuvre under load is a must. This is how you'll be fighting. Most SF Selection processes include a timed run in battle-kit as part of the entry criteria. Therefore, it's important to be able to configure and carry your kit while running efficiently and effectively. This type of fitness is also very important because on operations you must be able to think clearly and shoot accurately under adverse conditions when you are physically exerted.

Key things to consider:

- Add routines that focus on developing postural strength. Midline strength is key to maintaining posture under load. Especially after extended periods. Supplement all your training by focusing on good posture and core strength.
- Ensure that your webbing and boots are worn-in or broken-in. Always ensure that you have 2-sets of your key items (i.e. '2 is 1; 1 is none') like webbing and boots. It is better to have a spare of each which is already broken-in and ready for immediate use.
- Like pack training you must practice by building up to the benchmark weight. You should, by-now, be able run the benchmark distance (without weight) well within the benchmark time. Adding webbing will greatly increase your run time and slightly change the dynamic of your running technique. So try to maintain the intensity of your run (i.e. pace) then slowly add more weight each time you complete the timed-run in training. This test is also about pace, not weight, so the primary focus is on your pace.

CLIMBING

Climbing whether it be indoor or outdoor climbing and bouldering is an important tool for developing grip-strength, emotional control, mindfulness and problem-solving. Whenever possible, especially during active recovery days, try to get yourself to a climbing gym and climb, climb, climb. If you're training with a partner of a team, it helps to build 'espirit-de-corps'. Start with the basics and as you get better, continue to challenge yourself.

FIGHT TRAINING

This is another tool you can use to round-out your physical and mental skills, including emotional control, 'espirit-de-corps', problem-solving, competitive spirit and combat mindset. Study a realistic Martial Art or, at the very least, include heavy, punching bag sessions into your active recovery days. These bag sessions also provide variety to your program.

HYDRATION

Hydration is critical for maintaining homeostasis, and more specifically increasing levels of performance, recovery, and brain function.

As a rule, if your urine is not clear, then you are experiencing a level of dehydration. To stay on top of this, we recommend drinking a glass of water as soon as you wake up in the morning and then a minimum total of 2 litres throughout the day. If you exercise intensely or live in a

warmer climate then we recommend more water. The easiest gauge to use to assess your hydration levels is the colour of your urine.

NUTRITION

Nutrition is one aspect of your training which will be integral IOT achieve your resilience goals. It is also a key factor in losing excess body-fat and ensuring you have a more effective power-to-weight ratio. We always recommend that you consult with a qualified sports dietician or nutritionist to ascertain the optimal amount of micro and macronutrients you need for recovery, and adaption.

At the very least:

1. Eat consistently
2. Eat mindfully
3. Eat 'clean'

- Eat from majority natural sources
- Minimise the intake of stimulants
- Minimise the intake of refined sugars
- Minimise packaged or processed foods
- Minimise alcohol consumption
- Eat a balanced diet in terms of macro-nutrient sources

TERMINOLOGY

The terminology used in this program is explained in the Acronyms and Abbreviations file which can be found at:

https://themillgym.com/programs

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Thanks again for downloading our programs.

Please send any questions to info@themillgym.com

Onwards - Good luck!!