

A military-themed poster for the SOA Pre-Selection Program. The background is a dark, grainy photograph of two soldiers in full combat gear, including helmets and night vision goggles. The soldier in the foreground is wearing a plaid shirt and is looking directly at the camera. The soldier in the background is slightly out of focus and appears to be looking down. The overall tone is serious and tactical.

SOA

PRE-SELECTION

PHYSICAL FITNESS TRAINING PROGRAM

JOINT TASK FORCE TWO SPECIAL OPERATIONS ASSAULTER

Pre-Selection Physical Fitness Training Program



4th EDITION
2016



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PRE-SELECTION PHYSICAL FITNESS TRAINING PROGRAM



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Authors

Dr. Howie Wenger
University of Victoria
Victoria, BC

Sue Jaenen M.Sc., CEP, CD
Mark Carlson M.Sc., CSCS, CEP
Canadian Forces Morale and Welfare Services
Ottawa, ON

The authors would like to acknowledge the following contributors:

Callum Winton, M.Sc. (c), CSCS
Vincent Meunier, BEP, CSCS
Canadian Forces Morale and Welfare Services

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PRE-SELECTION PHYSICAL FITNESS TRAINING PROGRAM



FOREWORD

The Special Operations Assaulter (SOA) Pre-Selection Physical Fitness Training Program has been developed by the Canadian Forces Morale and Welfare Services (CFMWS) in conjunction with the Canadian Special Operations Forces Command (CANSOFCOM). The purpose of this manual is to help candidates optimally prepare for the physical demands of the SOA Phase III selection process. Phase III is a structured assessment process that evaluates performance while placing candidates under intense physical and mental stress. Extremely high levels of personal physical fitness and motivation are critical to the successful completion of Phase III. This training program is designed to assist you in reaching the high level of physical fitness required to complete the SOA Phase III selection process.

This is an extremely strenuous training program. Prior to attempting this program, it is recommended that you are able to reach Level 1 in all of the Fitness Check exercises on pages 24-31. The SOA Pre-Selection Physical Fitness Training Program is an evidence-based training program that is reflective of the demands of Phase III selection as well as the SOA specialty.

Reaching Level 1 in all of the Fitness Check exercises will ensure that you have an adequate base level of fitness to undertake this program. Pursuing it with inadequate fitness will put you at risk of serious injuries. If you are unable to achieve these standards, please consult your local PSP fitness staff as well as DFIT.ca for supplemental programming.



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SOA

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INTRODUCTION

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PRE-SELECTION PHYSICAL FITNESS TRAINING PROGRAM



INTRODUCTION

SOA are personnel of the Canadian Armed Forces (CAF) Regular Force who are directly employed in the tactical aspects of Special Operations and other high value tasks. SOAs are responsible for conducting a wide variety of Special Operations and counter-terrorism tasks such as hostage rescue operations, Special Operations patrols, surveillance, offensive actions and close personal protection.

The physical demands of Special Operations require that personnel have elevated levels of physical fitness and an uncommonly high degree of determination to overcome physical and mental challenges. Physical fitness is a critical attribute required for the demanding job of an SOA. In view of the strenuous nature of SOA tasks and the element of public and soldier safety, it is essential that SOAs have the physical capabilities to meet the demands of the job. Therefore, the physical demands placed upon candidates during the Phase III selection and training processes reflect the actual job demands.

REQUIREMENTS

CAF personnel who have submitted a notice of intent and completed the CANSOFCOM recruiting and selection forms, and who have met the minimum medical category for service with Joint Task Force Two (JTF 2), must complete all components of the JTF 2 SOA Physical Fitness Selection Test and meet established fitness standards. This training program will help to prepare you for the selection test, but more importantly it will prepare you for the rigors of the Phase III selection process.

JTF 2 SOA Physical Fitness Selection Test protocols and standards may be obtained by contacting your local PSP fitness staff. Candidates who fail to meet the established JTF 2 SOA Physical Fitness Selection Standards will not be permitted to continue with the selection process.

PHYSICAL FITNESS COMPONENTS

The physical fitness components necessary for the successful completion of Phase III selection in order of importance are:

- **Aerobic Power (VO_{2peak}):** This is the maximum rate that your body uses oxygen to fuel the work that you are doing. It is also a critical component of your body's ability to recover during and following intense intermittent work, to endure repeated days of intense work, and to resist heat stress.
- **Aerobic Capacity:** This is your ability to work at a reasonably high rate for a prolonged period of time. It reflects your endurance over hours and days and is an important component of Phase III.
- **Anaerobic Capacity:** This is your ability to resist and tolerate the fatigue that occurs at very high rates of work extending from 1 min to over 5 min in duration.
- **Muscular Strength:** This is the ability of your muscles to exert force in specific movements and is very important in lifting, carrying, climbing, pushing, and combatives. It is also important in resisting injuries and providing the base for the development of power.
- **Muscular Endurance:** This is the ability of your muscles to perform repeated contractions against light loads. Although building strength will improve your muscular endurance, it is improved most effectively using low loads with high repetitions.
- **Power and Speed (Anaerobic Power):** Power is the ability of your muscles to provide acceleration while speed is the ability to maintain a high velocity. They are very important for success in sprinting and jumping activities.

PREPARATION

This is a strenuous training program designed to get you to an elite level of fitness, and allow you to perform at the highest possible level. You should therefore have successfully reached Level 1 in all of the Fitness Check exercises found on pages 24-31 of this manual, prior to commencing this program. Undertaking this program without the necessary prerequisite fitness levels will put you at risk of serious injuries.

When training at these intensities, frequencies and durations, it is important for you to properly rest, hydrate, eat and sleep. Rest, recovery and mobility days are built into this program in specific places to ensure that you are properly rested to optimize your training and minimize the risks of chronic fatigue. In addition you must ensure that during this training phase you are optimally hydrated (see page 6), fuelled and nourished (see page 7), and that you are getting at least 8 hours of sleep each night.

Training in the heat can be dangerous to your health and it can decrease the quality of training that you can do. Acclimating to the heat, re-hydrating sufficiently, and avoiding training during the hottest time of the day are important strategies to undertake. Advice for these strategies appears on page 6.

Following accepted safety practices will ensure that you minimize the risks of injuries and maximize both your enjoyment and the benefits of your training. See pages 4-6 for tips on this.

With the high volume of training prescribed in this program the risk of becoming overtained increases. Symptoms of overtraining and strategies to avoid this condition are noted on page 5.

INJURY PREVENTION AND SAFETY

Many strategies for avoiding injuries and training safely involve common sense, being able to read your environment, and how your body is responding. To assist you with this, the following section highlights some strategies for you to follow.

Have a health check-up: It is always wise to get medical clearance prior to starting any new exercise program. The Fitness for Occupational Requirements of CAF Employment Health Appraisal Questionnaire should be completed by all candidates (see page 14).

Warm up: Begin each training session with 8-12 minutes (min) of low intensity exercise that includes your large muscle groups (i.e. jogging) followed by 8-12 min of dynamic stretching (see page 35). This will increase your muscle temperature, core temperature and blood flow resulting in: faster muscular contractions, increased rates of force development, increased oxygen delivery to working muscles and enhanced metabolic reactions. Therefore, completing a warm up will prepare you mentally and physically for your workout and help you get the most out of each and every training session.

Cool down: End each training session with 10-15 min of low intensity exercise using your large muscle groups, and the muscles that you used in your workout. This will enhance your recovery by: maintaining the blood flow to previously exercised musculature, removing metabolic wastes and heat, as well as delivering fluids fuels and hormones.

Mobility: Incorrect movement patterns and body positions adopted throughout the day result in a stiffening and shortening of body tissues. This results in a loss of range of motion and reductions in the ability to generate force. The human body will compensate for poor mobility allowing for function, but at a physiological cost of additional wear and tear on tissues and joints. Mobility training can help to restore optimal functioning allowing for full physical capacities to be available at a moment's notice. Correct body positions and postures will: i) eliminate mechanical deficiencies reducing the risk of overuse injuries; ii) deal with poor mechanics longer with less physiological cost; and iii) increase the ability to generate forces and torques.

Mobility training should be completed for a minimum of 15-20 min each day after the evening workout, and should also be performed on active recovery days.

Train with a partner: This is especially important when doing resistance exercises with free weights so that you can spot for each other, and when training in the pool. However, it is also important in your other workouts for both motivation and support should any dangerous situations arise or should you get injured and need assistance.

Protect your back: Protect your back from undue stress during lifting, carrying and all your dynamic activities. Ensure that you maintain a neutral spine position when completing lifts, carries and dynamic activities. Avoid extreme positions, face the object when lifting and use your legs. Turn while carrying loads by moving your feet not by twisting your torso.

Use proper technique: During strength training make sure that you know the proper technique for each exercise. It is wise to use a light load while learning new exercises and to focus on technique when going to failure where technique often gets abandoned. Remember to breathe properly when exerting against a resistance. For more information on breathing techniques during strength training please consult your local PSP fitness staff.

Avoid overtraining: With high volume of training like those prescribed in this program the potential for becoming “overtrained” is increased. Symptoms of overtraining include: chronic fatigue, indifference to training, insomnia, inability to concentrate on tasks, loss of appetite, unexplained weight loss, prolonged muscle aches, increases in soft tissue injuries and infections, increased resting heart rate after waking, and an inability to maintain performance. The best ways to avoid these states are to:

- Adhere to the rest and recovery schedules in the program.
- Use the fitness check week to only do the tests as indicated. This will help you unload from the previous training weeks.
- Make sure you are being properly nourished and hydrated (see pages 6-10).
- Establish good bedtime habits to ensure 8 hours of sleep per night.

- Minimize other stressors in your life to allow you to devote your energy to training and building the training effect. Use the counselling services available to you if you need help in dealing with problems.
- Get minor injuries such as abrasions, bruises, strains and cuts treated immediately.

Take care of injuries: If you do sustain an injury, act quickly to minimize damage and speed healing. The RICE strategy outlined below will help to ensure that inflammation is reduced and recovery is initiated. It is always wise to seek medical help as soon as possible after an injury occurs, or if a minor injury persists.

- **R= Rest** the injured body part.
- **I = Ice** the injured area for 10 – 20 min every 2 – 3 hours.
- **C = Compress** the injured area with an elastic bandage or towel if swelling occurs.
- **E = Elevate** the injured area above the level of the heart.

STRATEGIES FOR EXERCISING IN THE HEAT AND RE-HYDRATION

Exercising in warm and/or humid environments can present performance and health problems. As your body temperature rises and you begin to sweat, you lose fluids which decreases your performance and your ability to work. This can place a strain on your heart and circulatory system. As well, if your body temperature rises too far above its normal range you may faint and in extreme cases you may do some damage to your internal organs.

Some symptoms of the onset of heat stress are dizziness, disorientation, headache, and chills (in spite of being overheated!). Therefore, it is important to replace your fluids (re-hydrate) and to prevent heat stress. Here are some strategies to help you prevent problems associated with exercise in the heat:

- Avoid exercise outdoors at the hottest times of the day. This is usually between 1100 -1500 hrs.

- Liberally apply water-proof 30+ SPF skin lotions to all exposed area.
- Do repeated short exposures to the heat over about a week to help with acclimatization.
- Use any artificial means of cooling available during heavy work in the heat such as a sprinkler, fan, cool towels, etc.
- Re-hydrate at a rate of 0.4 – 0.8 of a litre per hour during exercise. After exercise consume 1.5 litres of fluid for each kg of body weight lost during exercise.
- The best replacement fluids are electrolyte drinks with 5-10% sugar, cool to cold, and taken in volumes of about 200 mL every 15 min.
- The sensation of thirst lags behind de-hydration so begin to re-hydrate early in exercise (before you get thirsty) and immediately upon stopping.

As a bonus from your aerobic training, high levels of aerobic fitness will help you perform in and acclimate better to hot environments.

FUELLING YOUR TRAINING ENGINE

This two-a-day training program and Phase III of the selection process are very physically demanding. They require that you are especially careful about proper nutrition. To be successful and get the greatest return for your training investment, you must have the necessary energy to train and the right nutrients to build the training effect. Here are some guidelines to help:

- **Eat a balanced diet:** This may seem obvious, but it is the fundamental rule for a sound foundation to your performance and health. Take some time to read “Canada’s Food Guide to Healthy Eating” and the accompanying “Using the food Guide” (both publications are available through your PSP fitness staff). Then follow them!
- **Focus on carbohydrates for fuel:** For your aerobic, anaerobic, speed and strength workouts, the fuel which can limit your work capacity is carbohydrates. These are stored in muscle in limited amounts (as a compound called glycogen) and when they run out

you are unable to continue to perform or train. So it is important prior to training, during training, and following training to replace this vital fuel. Carbohydrates come in many food forms and include:

- **Grains:** In cereals, pastas, breads and rice. These are especially beneficial in the hours prior to exercise, but are also helpful after.
- **Fruits and juices:** Such as oranges, apples, peaches, pears, grapefruits, berries and bananas. These are good prior to, during, and after exercise.
- **Root vegetables:** Such as potatoes, sweet potatoes, and yams. When mashed, boiled, or baked these are especially good after exercise and most effective in the two hour window following your workout.
- **Sugared electrolyte drinks:** Such as Gatorade or Powerade, are great for re-hydrating during and following exercise and will help you to replace your carbohydrates. They lack other nutrients though so be sure to consume the other components of a balanced diet!
- **Eat protein:** It is an important part of your balanced diet. Good sources are fish, poultry, lean beef, shellfish, eggs and cheese. Protein provides the building blocks for new muscle and enzymes to provide energy.
- **Eat lots of fresh vegetables:** As part of your balanced diet as they provide vitamins, minerals, fuel and other nutrients for both health and high performance.
- **Keep alcohol intake to a minimum:** It is low in nutrients, high in calories, and impairs your mental performance. In addition, alcohol is very dehydrating and its detrimental effects can last for up to 48 hours.

JTF 2 does not recommend the use of dietary supplements during training and prohibits their use during Phase III of the selection process. In order to meet the additional caloric demands of the training program it is recommended that candidates adhere to a balanced diet by consuming additional nutrients and fluids.

For more information on nutritional wellness, and on nutrition to optimize physical and mental performance, it is recommended that you visit the Strengthening the Forces website at:

<http://www.forces.gc.ca/en/caf-community-health-services-wellness/index.page>.

You may also want to review the Top Fuel for Top Performance brochures available at your local PSP Health Promotion Office.



Fuel for Training and Recovery

BEFORE EXERCISE		DURING EXERCISE		AFTER EXERCISE
WHEN	2-4 hrs before	lasting < 1 hr	lasting > 2 hrs	lasting > 3hrs
GOAL	Provide energy and prevent dehydration and hunger during exercise	Stay hydrated	Stay hydrated and provide energy	Stay hydrated, provide energy and replace sodium
FLUIDS	<p>Drink about 300-600 mL (1-2½ cup)</p> <p>Drink about 150-350 mL (½-1½ cup)</p> <p>Tip: Urine amount and color is a good indication of hydration status. Aim for pale yellow!</p>	Drink water to thirst	Drink about 150 to 350 mL (½-1½ cup) every 15 or 20 minutes (0.5-1.5 L per hour of exercise)	Drink fluid as soon as possible
FOOD	<p>Eat a balanced meal rich in carbohydrate with some protein and low in fat</p> <p>Meal Suggestions</p> <ul style="list-style-type: none"> Rice, vegetables, lean meat and milk Pasta, tomato/lean meat sauce, apple sauce, milk Lean meat sandwich and juice Pancakes with fruit, yogurt and nuts <p>Snack Suggestions</p> <ul style="list-style-type: none"> Smoothie using fruit, milk, soy milk or yogurt Chocolate milk Pita with hummus and vegetable juice A slice of bread with peanut butter and milk Low-fat muffin and fruit yogurt 	Not needed	<p>If needed, easily digested foods high in carbohydrates</p> <p>Include sodium in food or fluid</p>	<p>Tip: Drink 1.5 L of fluid for every 1 kg weight loss during exercise</p> <ul style="list-style-type: none"> Eat a snack as soon as possible Eat a meal containing carbohydrate and protein
SUGGESTIONS	<p>Tip: The tolerance is individual and depends on the type/intensity of exercise (marching vs. running). Avoid trying new foods or drinks before or during competition or rucksack march.</p> <p>Snack Suggestions</p> <ul style="list-style-type: none"> Bagel and chocolate milk or yogurt Sandwich and juice Granola bar and juice or yogurt drink <p>Meal Suggestions</p> <ul style="list-style-type: none"> Pasta with tomato sauce, cheese and a salad Chicken and vegetable rice, fruit salad and milk Tuna sandwich, raw veggies and a glass of milk Chili, bread and milk 	<p>Sport drink (commercial or homemade):</p> <ul style="list-style-type: none"> Carb concentration of 4-8% (40-80 g carb per litre of fluid) Sodium intake of 0.5-0.7 g (¼ tsp salt) sodium per litre fluid <p>Water with carbohydrate foods:</p> <ul style="list-style-type: none"> Fruit (e.g. bananas, oranges, dates) Granola bars, cookies, candies, bagels Special sport gels, bars or candies 	<p>Snack Suggestions</p> <ul style="list-style-type: none"> Bagel and chocolate milk or yogurt Sandwich and juice Granola bar and juice or yogurt drink <p>Meal Suggestions</p> <ul style="list-style-type: none"> Pasta with tomato sauce, cheese and a salad Chicken and vegetable rice, fruit salad and milk Tuna sandwich, raw veggies and a glass of milk Chili, bread and milk 	

HINTS FOR LONG DISTANCE MARCHING

REPARING FOR A MARCH

- Trim toenails at least every two or three weeks.
- Cut toenails short and square, and straight across.
- Keep feet clean and dry, use foot powder.
- Wear clean, dry, good-fitting socks with seams and knots outside.
- A nylon sock liner can reduce friction and add protection.
- Carry an extra pair of socks on long marches.
- When breaking in a new pair of boots alternate with another older pair.

WARM UP

Follow the instructions on pages 35-42 to ensure a complete and thorough warm up prior to undertaking a march. A comprehensive warm up will make your march more comfortable and minimize the potential for injury.

AFTER A MARCH

- Wash and dry socks, and dry boots.
- Medicate blisters, abrasions, corns and calluses.
- Inspect painful feet for sprains and improper fitting socks and boots.
- Feet can develop red, swollen, tender skin along the sides from prolonged marching that can cause blisters. If this occurs your feet may require aeration, elevation, rest and you may need wider footwear.
- Prevent major foot problems by keeping your feet clean. Blisters and abrasions surrounded by dirt and perspiration can cause infection and serious injury.
- If possible, give your feet a daily footbath and dry your feet well.

BLISTERS

- Common causes of blisters and abrasions are improperly conditioned feet, ill-fitting footwear and socks, improperly maintained footwear, heat, and moisture. They are normally caused by friction or pressure, as opposed to impact.
- To clean a blister: Wash gently around it with soap and water, being careful not to break the skin. If unbroken, use a sterilized needle or knifepoint to prick the lower edge of the blister to remove fluid. (To sterilize a needle or knifepoint, hold it in a flame.) Do not remove the skin; cover the blister with an absorbent adhesive bandage or similar dressing, extending beyond the edge of the blister. After applying the dressing, lightly dust the outside of the dressing and entire foot with foot powder. Do not use too much foot powder since it can harden and become irritating. Foot powder lessens friction on the skin and prevents the raw edges of the adhesive plaster from adhering to socks. The adhesive plaster should be smooth so it can serve as a “second skin.” Check the blister periodically for proper drying. After the blister has dried, remove the adhesive plaster. Carefully inspect the foot for other problem areas that are red and tender that may need the protection of an adhesive plaster. Cover abrasions and cuts on the foot with absorbent adhesive bandages for rapid healing.

CARE FOR BOOTS AND SOCKS

Two important factors in fitting boots are:

- The space between the end of your big toe and the toe of the boot should be the width of the thumb.
- In the unlaced boot, there should be enough space under the lower edge of the tongue to insert an index finger.

Poorly fitted boots can cause blisters, abrasions, calluses, and corns:

- Boots that are too small cause pressure.
- Boots that are too large cause friction.
- If the tops of the toes are involved, the cap is too low or too stiff. If the ends of the toes are affected, the boot is too short or too loosely laced. If the sides of the big and little toes become irritated, the boot is too narrow. Boots that are too long, too loosely laced, or have too wide a heel space can cause irritation at the heel.

- Proper lacing of boots not only prevents blisters but also prevents improper blood flow in the foot. Laces can assume a seesaw action, which can produce a long blister across the instep. To prevent blistering, lacing over the instep should be avoided. If possible, broad laces should be used and an extra pair should be carried.
- To check the fit of socks, you should stand with your weight evenly distributed on both feet. If the socks fit correctly, no tightness or fullness should exist. The wool cushion-sole sock is best because it offers good foot protection.
- You should allow for 3/4 of an inch for shrinkage of new socks. Those that are too large wrinkle inside the shoe, rub the feet, and cause blisters and abrasions. Socks that are too small wear quickly and reduce blood flow in the foot. When wearing two pairs of socks, you should wear an outer pair at least a half size larger than usual. Socks must be changed daily - dirty socks are conductors of heat and allow warmth to escape. They should be washed in lukewarm water to preserve the fiber of the sock since hot water can cause them to shrink. Socks should be completely dry before wearing.

HEALTH APPRAISAL QUESTIONNAIRE

This questionnaire is a screening device to identify personnel for whom fitness evaluation and physical activity might be inappropriate at this time.	Yes	No
1. To the best of your knowledge, do you have a medical condition or Medical Employment Limitation (MEL) which restricts you from participating in a maximal fitness evaluation or a progressive training program?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there any other reason you would need to talk to a physician prior to your fitness evaluation or training program?	<input type="checkbox"/>	<input type="checkbox"/>
3. Do you have a valid Periodic Health Assessment (PHA)? If "No", proceed to Blood Pressure.	<input type="checkbox"/>	<input type="checkbox"/>
Blood Pressure		
Your pre-evaluation blood pressure is less than or equal to 150/100 mm Hg	<input type="checkbox"/>	<input type="checkbox"/>
<input style="width: 40px; height: 20px; border: 1px solid black;" type="checkbox"/>	Your pre-evaluation blood pressure lies between 141/91 mm Hg and 150/100 mm Hg and is considered to be slightly above the normal range. It is recommended that you consult your MO.	
Name (<i>print</i>)	Date (yy/mm/dd)	
Signature of CAF member		

If you answered "Yes" to one or both of questions 1 & 2 it is recommended that you see your medical provider prior to attempting this program. If you answered "No" to question 3 please proceed to have your blood pressure measured in accordance with the health appraisal form.



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PHYSICAL FITNESS TRAINING PROGRAM

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PRE-SELECTION PHYSICAL FITNESS TRAINING PROGRAM



PHYSICAL FITNESS TRAINING PROGRAM

If you have reached Level 1 on all of the Fitness Check exercises this 12-week training program should bring you to Level 2 as shown on the Fitness Check Table 3 (page 31) and lead you naturally into Phase III. If you have not reached Level 1 on all of the Fitness Check exercises then you should consult your local PSP fitness staff and DFIT.ca for supplemental programming. Once you are able to pass the standard, switch to the SOA Pre-Selection Physical Fitness Training Program. Table 1 provides an overview of this program. Full details of each training session are included in the Training Prescription Tables on pages 21-23.

TABLE 1 – THE TRAINING PROGRAM AT-A-GLANCE

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
WEEK 1	FC	FC	FC	RRM	FC	FC	RD
WEEKS 2 & 3	TD	TD	TD	RRM	TD	TD	RD
WEEKS 4 & 5	TD	TD	TD	RRM	TD	TD	RD
WEEK 6	FC	FC	FC	RRM	FC	FC	RD
WEEKS 7 & 8	TD	TD	TD	RRM	TD	TD	RD
WEEKS 9 & 10	TD	TD	TD	RRM	TD	TD	RD
WEEK 11	FC	FC	FC	RRM	FC	FC	RD
WEEK 12	TA	TA	TA	RRM	TA	TA	RD

FC = Fitness Check

TD = Training Day

RRM = Rest/Recovery/Mobility Day

RD = Rest/Recovery Day

TA = Taper Day

THE SET-UP

- The time allocated to progress from Entry to Level 3 is 12 weeks, including three Fitness Check weeks and a taper week just prior to the onset of Phase III. If you need to repeat certain weeks or you don't think that you will be able to reach Level 3 in all components by the end of Week 11, then your preparation time will be longer.
- Week 1 involves a Fitness Check. This is repeated twice, each time after four weeks of training. The Fitness Check items are described on pages 24-30.
- Each four-week training period is divided into two-week blocks. Training days are numbered 1 to 7, with Day 1 normally being Monday. However, Day 1 can be any day of the week that you decide to start the program.
- There are two rest and recovery days each week: Day 4 and Day 7. These days are crucial as they allow you to build your fitness, resist over-training, and ensure that the quality of training is maintained throughout the training week. Note: these days are not scheduled back to back (on the weekend, for example), since that will require you to train for five days straight. Too many days of training in a row without rest can lead to a buildup in fatigue, a reduced quality of training and increase your risk of sustaining an injury.
- The strength, speed, and power circuits employed here are due to their task specificity, availability of facilities and equipment, and most importantly, to prepare you properly for Phase III. You should be familiar with the terms used, such as repetition maximum (RM), load, repetition (reps), and sets. If not, please consult your local PSP Fitness staff.
- Week 12 is a special week and should immediately precede the start of Phase III. It is called a "taper" period and involves reducing the amount of training while keeping the intensity of the training sessions high. This will maintain the training effect but reduce your fatigue level and allow you to give your best performance during Phase III.

DOING IT

- Each training day includes AM (morning) and PM (late afternoon or early evening) sessions. This allows for the volume of training to be sufficient in order to help you reach target fitness levels. It also simulates the high volume of work that occurs during Phase III.
- The AM sessions are devoted to continuous runs to develop aerobic capacity (on Days 1, 3, and 6), interval runs for aerobic power and anaerobic capacity (on Days 2 and 5) and muscular intervals (on Day 2) for anaerobic capacity and muscular endurance. The distances/paces for these sessions are noted in **Table 2 - Training Prescription**.
- The PM sessions on Days 1, 3, and 6, are devoted to improving lifting technique, building strength, speed, and power. The circuits for these are shown on pages 21-23 in **Table 2 - Training Prescription**.
- Swimming workouts are done in the PM sessions on Days 2 and 5. These are designed to improve your swimming-specific aerobic power and capacity in preparation for Phase III. These sessions cover distances between 400 and 1000 meters (m) as well as treading water. On Day 5, treading water is interspersed between interval swims, and follows the swim on Day 2. These are low impact activities that challenge both aerobic fitness and leg strength.
- If you are having trouble finishing workouts, you miss workouts in any week, your fitness checks are not increasing, or you can't reach fitness check levels, you can repeat the previous training week and move on from there. If you are unsure how to proceed or require assistance contact your local PSP fitness staff.

The **Training Prescription Tables** with full details of the program appear on pages 21-23. This is followed by the Fitness Check details, the warm up/cool down/mobility routines, the strength training circuits (including core training), the technique circuit, the muscular intervals and the power and speed training.

TIPS TO INCREASE YOUR CHANCES OF SUCCESS

Research has shown that candidates who complete the full 12 weeks of this training program significantly enhance their chances of completing Phase III of selection. Candidates who follow the 12-week program are twice as likely to complete Phase III when compared to candidates who partially followed the program or followed another prescribed exercise program. Here are some strategies prior to starting the program that can increase your likelihood of completing the 12 weeks:

- **Talk to your supervisor.** Time is the number one reason why many candidates do not complete the full 12-week program. Talk to your supervisor and explain the program requirements. In many instances supervisors will allow candidates to complete one of the two prescribed sessions during work hours while the second session is completed on the candidate's time.
- **Train as a group.** If there are a number of candidates from your unit participating in the selection process talk to your local PSP fitness staff to assist in coordinating group workouts. In the past, PSP fitness staff in a number of locations have lead some of the prescribed fitness sessions which gives the candidate the added motivation of training as a group or team.
- **Talk to PSP fitness staff.** After reading the manual if you have questions or require assistance, do not hesitate to talk to your Base or Wing PSP fitness staff, he or she can assist you with the fitness checks or even help in tailoring the program to your individual strengths and weaknesses.

TABLE 2 – TRAINING PRESCRIPTION (1/3)

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
WEEK 1	Aerobic Fitness Check AM: 2400 m Run	Strength Check AM: Bench Press, Sit-Ups PM: Pull-Ups, Squats	Strength/Anaerobic Check AM: Push-Ups, 400 m Run PM: easy jog, mobility	Active Recovery (easy jog) and Mobility	Aerobic Fitness Check AM: 8 km Run PM: easy jog, mobility	Power Check AM: Vertical Jump PM: 40 m Sprint	REST
WEEKS 2&3	AM: AEROBIC CONTINUOUS 8 km run (times for km 1-8) 5:15, 5:00, 4:45, 4:30, 4:30, 4:30, 4:45, 5:00 PM: STRENGTH Circuit 1, 2 or 3 12 RM, 2 sets, reps: 11, 9	AM: AEROBIC / ANAEROBIC INTERVALS Run / easy x reps (pace) 30s/ 30s x 5 (150 m/30 s) 1 min / 1 min x 4 (275 m/2 min) 2 min / 2 min x 3 (550 m/2 min) 3 min / 3 min x 2 (800 m/3 min) PM: SWIMMING 800 m	AM: POWER/STRENGTH Plyometrics Circuit 1, 1 set 20 m x 6; 40 m x 4; 60 m x 1 Strength Circuit 1, 2 or 3 15 RM, 2 sets, reps: 14, 12 PM: RUCK MARCH Distance/time/weight (pace) 8 km / 1:30 / 24.5 kg (5.33 kmph)	Active Recovery (easy jog) and Mobility	AM: AEROBIC / ANAEROBIC INTERVALS Run / easy x reps (pace) 30s / 30s x 1 (175 m/30 s) 1 min / 1 min x 2 (300 m/min) 2 min / 2 min x 3 (575 m/2 min) 3 min / 3 min x 4 (800 m/3 min) PM: SWIMMING 800 m tread water for 5 x 3 min	AM: AEROBIC CONTINUOUS 10 km run 48 min PM: TECHNIQUE/ STRENGTH Technique Circuit 20.5 kg, 2 sets, reps: 15, 15 Strength Circuit 1, 2 or 3 10 RM, 2 sets, reps: 9, 7	AM: STRETCH PM: STRETCH
WEEKS 4&5	AM: STRENGTH Circuit 1, 2 or 3 10 RM, 3 sets, reps 7, 8, 8 PM: RUCK MARCH Distance/time/weight (pace) 8 km / 1:20 / 24.5 kg (6.0 kmph)	AM: AEROBIC / ANAEROBIC INTERVALS Run / easy x reps (pace) 30s/ 30s x 5 (175 m/30 s) 1 min / 1 min x 4 (300 m/min) 2 min / 2 min x 3 (575 m/2 min) 3 min / 3 min x 2 (825 m/3 min) PM: SWIMMING 900 m treadwater for 5 x 3min	AM: AEROBIC CONTINUOUS 9 km run (each 1.5 km) 5:30, 7:30, 7:15, 7:00, 6:45, 6:30 PM: POWER/STRENGTH Plyometrics Circuit 1, 3 sets Sprints 10 m x 2; 20 m x 2, 40 m x 2, 60 m x 2, 80 m x 2, 100 m x 2 Strength Circuit 1, 2 or 3 12 RM, 3 sets, reps: 11, 10, 10	Active Recovery (easy jog) and Mobility	AM: SWIMMING (Week 4) 200 m crawl, 200 m breast, 200 m side, 200 m back Tread water for 2 min between each Note: only 50 m of each in Week 5 PM: RUCK MARCH Distance/time/weight (pace) 10 km / 1:48 / 24.5 kg (5.5 kmph)	AM: AEROBIC CONTINUOUS 10 km run 48 min 6 km run 27 min (Week 5) PM: TECHNIQUE/ STRENGTH Technique Circuit 43.2 kg, 2 sets, reps: 15 & 15 Strength Circuit 1, 2 or 3 15 RM, 2 sets, reps: 14, 12	AM: STRETCH PM: STRETCH

TABLE 2 – TRAINING PRESCRIPTION (2/3)

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
WEEK 6	Aerobic Fitness Check AM: 2400 m Run	Strength Check AM: Bench Press, Sit-Ups PM: Pull-Ups, Squats	Strength/Anaerobic Check AM: push-ups, 400 m Run PM: easy jog, mobility	Active Recovery (easy jog) and Mobility	Aerobic Fitness Check AM: 8 km Run PM: easy jog, mobility	Power Check AM: Vertical Jump PM: 40 m Sprint	REST
WEEKS 7&8	AM: STRENGTH Circuit 1, 2 or 3 12 RM, 2 sets, reps: 11, 10 PM: RUCK MARCH Distance/time/weight (pace) 8 km / 1:20 / 20 kg (6.0 kmph)	AM: MUSCULAR INTERVALS 400 m x 2 (1:05 s) Lunges, 1- push-ups 20, 15 400 m x 2 (1:05 s) Squat jumps, mountain climber 20, 15 400 m x 2 (1:05 s) Squat thrusters, push-ups 20, 15 PM: SWIMMING 1000 m tread water for 3 x 5 min	M: AEROBIC CONTINUOUS 9 km run (each 1.5 km) 5:15, 7:00, 7:15, 7:00, 6:45, 6:30 PM: POWER/STRENGTH Plyometrics Circuit 1, 2 sets Sprints: 20 m x 6; 40 m x 4; 60 m x 2 Strength Circuit 1, 2 or 3 15 RM, 3 sets reps: 14, 12, 10	Active Recovery (easy jog) and Mobility	AM: AEROBIC / ANAEROBIC INTERVALS Run / easy x reps (pace) 30s / 30s x 1 (175 m/30 s) 1 min / 1 min x 2 (325 m/min) 2 min / 2 min x 3 (600 m/2 min) 3 min / 3 min x 4 (850 m/3 min) PM: SWIMMING 1000 m tread water for 1 min after each 200 m	AM: POWER/STRENGTH Plyometrics Circuit 1, 2 sets Sprints: 20 m x 2; 40 m x 4; 60 m x 6 Strength Circuit 1, 2 or 3 10 RM, 3 sets, reps: 9, 8, 8 PM: RUCK MARCH Distance/time/weight (pace) 10 km / 1:48 (30 kg (5.5 kmph))	AM: STRETCH PM: STRETCH
WEEKS 9&10	AM: STRENGTH Circuit 1, 2 or 3 12 RM, 2 sets, reps: 11, 10 PM: RUCK MARCH Distance/time/weight (pace) 8 km / 1:20 / 24.5 kg (6.0 kmph)	AM: MUSCULAR INTERVALS 400 m x 2 (1:5 s) Lunges, 1- push-ups 20, 18 400 m x 2 (1:5 s) Squat jumps, mountain climber 20, 18 400 m x 2 (1:5 s) Squat thrusters, push-ups 20, 18 PM: SWIMMING 1000 m	AM: AEROBIC CONTINUOUS 7.5 km run (each 1.5 km) 5:00, 7:20, 6:20, 7:20, 6:20 PM: POWER/STRENGTH Plyometrics Circuit 1, 3 sets Sprints: 20 m x 6; 40 m x 4; 60 m x 2 Strength Circuit 1, 2 or 3 15 RM, 3 sets, reps: 11, 12, 10	Active Recovery (easy jog) and Mobility	AM: SWIMMING 1000 m swim tread water for 1.5 min after each 200 m PM: RUCK MARCH Distance/time/weight (pace) 13 km / 2:18 / 24.5 kg (5.5 kmph) [Do an easy run from Weeks 2-3 in Week 10 only]	AM: AEROBIC CONTINUOUS 10 km run 44 min 6 km run 26 min (Week 10) PM: POWER/STRENGTH Plyometrics Circuit 1, 2 sets (Week 9 only) Sprints: 20 m x 6; 40 m x 4; 80 m x 2; 100 m x 1; 20 m x 2; 40 m x 2; 100 m x 1 (Week 10 only) Strength Circuit 1, 2 or 3 10 RM, 2 sets, reps: 8, 6	AM: STRETCH PM: STRETCH

TABLE 2 – TRAINING PRESCRIPTION (3/3)

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
WEEK 11	<p>Aerobic Fitness Check AM: 2400 m Run</p>	<p>Strength Check AM: Bench Press, Sit-Ups PM: Pull-Ups, Squats</p>	<p>Strength/Aerobic Check AM: Push-Ups, 400 m Run PM: easy jog, mobility</p>	<p>Active Recovery (easy jog) and Mobility</p>	<p>Aerobic Fitness Check AM: 8 km Run PM: easy jog, mobility</p>	<p>Power Check AM: Vertical Jump PM: 40 m Sprint</p>	<p>REST</p>
WEEK 12	<p>AM: AEROBIC CONTINUOUS 5 km run (times for km 1-5) 4:30, 4:15, 4:00, 4:00, 4:30</p> <p>PM: STRENGTH Circuit 1, 2 or 3 12 RM, 2 sets, reps: 11, 10</p>	<p>AM: AEROBIC /ANAEROBIC INTERVALS Run / easy x reps (pace) 1 min / 1 min x 2 (325 m / min) 2 min / 2 min x 3 (600 m / 2 min) 3 min / 3 min x 1 (850 m / 3 min) 4 min / 4 min x 1 (1125 m/4 min)</p> <p>PM: SWIMMING 400 m Tread water for 10 min after a 3 min rest</p>	<p>AM: AEROBIC CONTINUOUS 3 km run 10:30</p> <p>PM: POWER/STRENGTH Plyometrics Circuit 1, 1 set Sprints: 20 m x 3; 40 m x 2; 60 m x 1 Strength Circuit 1, 2 or 3 15 RM, 1 set, reps: 14</p>	<p>Active Recovery (easy jog) and Mobility</p>	<p>AM: SWIMMING 400 m swim Tread water for 10 min after a 3 min rest</p> <p>PM: RUCK MARCH Distance/time/weight (pace) 8 km / 1:20 / 24.5 kg (6.0 kmph)</p>	<p>AM: AEROBIC CONTINUOUS 2 km run 7 min</p> <p>PM: POWER/STRENGTH Sprints: 20 m x 3; 40 m x 2; 80 m x 1 Strength Circuit 1, 2 or 3 10 RM, 1 set, reps 10</p>	<p>Active Recovery (easy jog) and Mobility</p>

FITNESS CHECK WEEK

The Fitness Check Week is designed to help you evaluate the level you have obtained in each fitness component. It is also used throughout the program as an unloading week where the overall volume of work is lower than the volume of work during the training weeks.

The following fitness components are checked using the indicated tests. The schedules for the tests (date and time of session) are noted on **Table 2 - Training Prescription Tables** on pages 21-23.

Aerobic Power

2400 m run

Aerobic Capacity

8 km run

Anaerobic Capacity

400 m run

Upper Body Strength

Bench Press

Push-Ups

Pull-Ups

Sit-Ups

Lower Body Strength

Squats

Lower Body Power

Vertical Jump

Lower Body Speed

40 m Sprint

CHECKING YOUR AEROBIC FITNESS

Note: Use the Fitness Check Table 3 on page 31 to determine your level in each of the 10 fitness items. Record your level on the Tracking Progress (Table 4) on page 32 along with your score (time, reps, or distance) for each item. This should help you see your progress and where you need to improve to reach Level 2.

NOTE: Remember to do a complete warm up prior to and cool down (pages 35-49) following each of the Fitness Check sessions.

You should do these Fitness Checks with a partner who can act as both a safety “spotter” and a recorder.

AEROBIC POWER

2400 Meter Run

- This is six laps of a 400 m track. Pace yourself to give you the best average speed. Ensure that you complete the warm up prior to the run. In order to meet Level 3 standard, you should average 85 seconds (s) per lap.

AEROBIC CAPACITY

8 Kilometer Run

- This can be run over a flat measured course or 20 laps of a 400 m track. As with the 2400 m run, select a pace to give you the highest average speed. Complete the warm up prior to the run. In order to meet the Level 3 standard, you should average about 4:20 (min:s) per km or 1:45 (min:s) per lap.

CHECKING YOUR ANAEROBIC CAPACITY

400 m Run

- It is convenient to use a 400 m track but a measured distance on a flat running surface is also good.

Note: Be sure to complete the warm up prior to, and cool down following, the run.

CHECKING YOUR STRENGTH

UPPER BODY STRENGTH



Bench Press

- Lie on a bench with your feet flat on the floor, hips, shoulders and head in contact with the bench.
- Grasp the bar with an overhand grip slightly wider than shoulder width apart.
- Lift the load above the chest, approximately above the nipples with arms fully extended.
- Lower the bar to approximately 5 cm above the chest and pause momentarily.
- Push the bar back up to the starting position.



Note: Prior to the test do a warm up with a light load, and then start the test with a 65 kg load and work with a partner to ensure safety. If you can lift this comfortably, continue and do as many reps as possible. If you struggle to lift this load, drop down to 55 kg to do your Fitness Check. If you do more than 20 reps with 65 kg, use 75 kg for your next Fitness Check.



Push-Ups

- Take a position with hands flat on the floor, underneath the shoulders, fingers pointing forwards, back straight and head neutral.
- Lower the torso down towards the ground until arms reach a 90° angle, then push up back to the starting position.
- Engage the abdominals to maintain a straight back, and neutral head posture throughout the exercise.

Record the number of push-ups completed without stopping. Do not rush; perform the push-ups smoothly.



Pull-Ups

- Grasp the bar with an overhand grip slightly wider than shoulder width apart.
- Hang with arms fully extended, knees flexed and ankles crossed.
- Pull yourself up until your chin is above the bar.
- Lower down to the starting position in a slow controlled manner.
- Pause momentarily at the bottom to ensure that you do not swing or kip.

Record the number of pull-ups completed without stopping. Do not rush; perform the pull-ups smoothly.

LOWER BODY STRENGTH



Squats

- Stand with feet shoulder with apart, toes pointing forwards, back erect, and head in a neutral position.
- Squeeze the shoulder blades together and raise the shoulders to create a “shelf” for the bar.
- Rest the bar on the “shelf” and squat down until the thighs are parallel to the floor while maintaining a neutral head position, and knees aligned over the feet.
- Return to the starting position by pushing your heels into the floor, extending the hips and knees while maintaining the integrity of the upper body.



Note: Prior to the test, do a warm up using a light load (i.e. 5 or 6 reps at 50% of the prescribed load), then start the test with a load of 80 kg. Work with a partner to ensure safety. If you can lift this comfortably, continue to do as many reps as possible. If you struggle to lift this load, drop down to 70 kg to do your Fitness Check. If you do more than 20 reps, use 90 kg for your next Fitness Check.

ABDOMINAL STRENGTH



Sit-Ups

- Lie supine on the ground with the feet on the ground, knees bent to 90°, hands behind ears and elbows pointed forwards.
- Keep the elbows pointed forwards, feet in contact with the ground and hands touching the head, sit-up so that the elbows touch the top of the knees.
- Return to the starting position ensuring that the shoulder blades make contact with the ground.



Note: Complete the sit-ups at a rate of 25 per min. To meet the Level 2 (SOA standard) you must do this for five min (see Table 3).

CHECKING YOUR POWER AND SPEED

LEG POWER

Vertical Jump

- Place a vertical line on a wall extending from the floor to a height of 300 cm.
- Stand next to the line, raise your arm as high as possible while keeping your heels on the ground and note the height you reach with the tips of your fingers.
- Step slightly away from the wall, place your feet shoulder-width apart, and with a full arm swing and deep knee bend jump as high as possible and note where your fingers strike the line.
- Do this 3 times and record the highest height you achieve.
- Your actual score is the difference between your standing reach and the height achieved on your best jump.

Note: Follow the order on each Fitness Check item as listed on the program and remember to warm up and stretch prior to your jumping test.

LEG SPEED

40 m Sprint

- Mark off a course on a running track of 40 m.
- It would be ideal to use timing lights for this, but a stopwatch in experienced hands is good.
- Use the best score of two trials.
- Remember to use a high leg action and powerful arm swing to maximize acceleration and velocity.
- The lights will give you accuracy to 0.01 s while the stopwatch should be read to 0.1 s.

Be sure to complete the warm up prior to, and cool down following, the sprints.

If you have reached Level 3 on one or more Fitness Check exercises but still have to improve in others, you can reduce the number of training sessions per week to one on the attained items and substitute an additional session on the component(s) which still need improvement. The priority should be in the following order:

1. **Aerobic Power;**
2. **Aerobic Capacity;**
3. **Anaerobic Capacity;**
4. **Upper Body Strength;**
5. **Lower Body Strength; and**
6. **Power and Speed (Anaerobic Power).**

TABLE 3 - FITNESS CHECKS

FITNESS EXERCISES	LEVEL 1	LEVEL 2	LEVEL 3
AEROBIC			
2400 m Run (min:s)	8:30 - 8:16	8:15 - 8:00	← 8:00
8 km Run (min:s)	37:30 - 35:01	35:00 - 34:01	← 34:00
STRENGTH			
<u>Upper Body</u>			
Bench Press (reps)			
75 kg	13 - 14	15 - 16	17 +
65 kg	24 - 25	26 - 27	28 +
55 kg	33 - 34	35 - 36	37 +
45 kg	39 - 40	41 - 43	44 +
Push-Ups (reps)	50 - 52	53 - 54	55 +
Pull-Ups (reps)	9 - 11	12 - 13	14 +
<u>Lower Body</u>			
Squats (reps)			
90 kg	9 - 11	12 - 14	15 +
80 kg	16 - 18	19 - 21	22 +
70 kg	18 - 21	22 - 25	26 +
60 kg	21 - 24	25 - 28	29 +
<u>Abdominal Core</u>			
Sit-Ups (reps)	100 - 124	125 - 149	150 +
POWER AND SPEED			
Vertical Jump (cm)	50 - 54	55 - 59	60 +
40 m Sprint (s)	5.25 - 5.21	5.20 - 5.16	← 5.16
ANAEROBIC CAPACITY			
400 m Run (min:s)	1:15 - 1:11	1:10 - 1:06	← 1:05

TABLE 4 - TRACKING YOUR PROGRESS

FITNESS EXERCISES	LEVEL 1		LEVEL 2		LEVEL 3	
	SCORE	LEVEL	SCORE	LEVEL	SCORE	LEVEL
AEROBIC						
2400 m Run (min:s)						
8 km Run (min:s)						
STRENGTH						
<u>Upper Body</u>						
Bench Press (reps)						
75 kg						
65 kg						
55 kg						
45 kg						
Push-Ups (reps)						
Pull-Ups (reps)						
<u>Lower Body</u>						
Squats (reps)						
90 kg						
80 kg						
70 kg						
60 kg						
<u>Abdominal Core</u>						
Sit-Ups (reps)						
POWER AND SPEED						
Vertical Jump (cm)						
40 m Sprint (s)						
ANAEROBIC CAPACITY						
400 m Run (min:s)						

SOA

A soldier in full combat gear, including a helmet, goggles, and a rifle, is sitting on a snowmobile. The scene is set in a snowy, mountainous environment. The soldier is looking forward, and the snowmobile is positioned on a snow-covered slope. The overall tone is dark and tactical.

3

EXERCISE CIRCUITS AND ROUTINES

SOA
PRE-SELECTION PHYSICAL FITNESS TRAINING PROGRAM



WARM UP

Prior to completing the dynamic stretches ensure that you have warmed up by lightly jogging, skipping or spinning for 8-12 min to increase muscle temperature and blood flow. Measure out a 12 m area to complete the 3-Step stretches. Complete one rep of each stretch then lightly jog back to the starting point. For all other dynamic stretches complete one set of 10 reps for each exercise. NOTE: If you still have an area of your body that is tight after completing the dynamic stretches take a few moments to further stretch that area or any other areas you feel that you need to.

DYNAMIC STRETCHES



3-Step Hamstring Stretch

- Stand erect and shift weight to right (trail) leg.
- Extend the left (lead) leg in front of the body keeping it straight, touching the heel on the ground and toes pulled up towards the chest.
- Flex the torso (lean towards the ground) while maintaining the integrity of the left leg.
- Return to standing position.
- Take 3 steps in order to alternate legs and repeat on the opposite side.



3-Step Heel to Buttock

- Stand erect and shift weight to right (non-involved) leg.
- Flex the left (involved) knee and grasp the ankle just above the foot with the left hand.
- Gently pull the left heel to the buttock and return to an erect position with the body forming a straight line.
- Return to starting position.
- Take 3 steps in order to alternate legs and repeat on the opposite side.



3-Step Knee to Chest

- Stand erect and shift weight to right (non-involved) leg.
- Flex the left (involved) hip and knee, and grasp the shin just below the knee with both hands.
- Gently pull the left knee to the chest and return to an erect position with the head neutral and chest up and out.
- Return to starting position.
- Take 3 steps in order to alternate legs and repeat on the opposite side.





3-Step Knee to Side

- Stand erect and shift weight to right (non-involved) leg.
- Flex the left (involved) hip and knee, and grasp the shin just below the knee with the left hand.
- Gently pull the left knee to the side and return to an erect position with the head neutral and chest up and out.
- Return to standing position.
- Take 3 steps in order to alternate legs and repeat on the opposite side.



Plank to Lunge

- Assume a plank position with arms fully extended, back straight and head neutral.
- Engage the abdominals to maintain a straight line from head to ankles throughout the exercise.
- Flex the left knee and hip and bring the knee to the left shoulder placing the left foot by the left hand.
- Pause momentarily (1-2 s) to feel the stretch.
- Return to the starting position and repeat with the opposite side.
- One rep consists of stretching both left and right sides.





Dynamic Leg to Arm

- Lie supine on the floor with legs straight, feet shoulder width apart, arms out to the side and palm facing up.
- Lift the left (involved) leg off the ground, flex the left hip and rotate your hips to the right bringing the left foot to the right hand in a controlled manner.
- Return to the starting position and repeat on the opposite side.
- One rep consists of stretching both the left and right sides.



Scorpion

- Lie face down on the floor with legs straight, feet shoulder width apart, elbows away from the sides in line with the shoulders.
- Lift the right leg off of the floor, rotate your torso to the right, flex the right knee and keep the right shoulder on the ground.
- Bring the right foot as close to the left shoulder as possible maintaining a 90° bend at the knee.
- Return to the starting position and repeat on the opposite side.
- One rep consists of stretching both the left and right sides.



Supine Bridge

- Lie supine on the floor with feet flat on the floor, heels pulled up to the buttocks, arms resting on the floor by the sides, and head back in a neutral position.
- Engage the abdominals to maintain a straight back.
- Engage the glutes and raise the hips off of the floor.
- Hold for a count of one and then return to the starting position.



Quadrupedal Extension/Rotation

- Take a position on all fours on the floor with the hands directly underneath the shoulders and the knees directly underneath the hips.
- Place one hand on the back of the head with the thumb slightly above the ear, elbow relaxed at the side.
- Rotate the thoracic spine such that the shoulder and elbow move internally (towards the heart).
- Next rotate the thoracic spine in the opposite direction such that the shoulder and elbow reach towards the ceiling.
- Return to the starting position.



Adductor Dips

- Kneel on the floor with the torso erect and externally rotate one leg perpendicular to the body such that the knee is bent to approximately 90° and is pointing to the side.
- Engage the abdominals to maintain the correct posture.
- Slowly lunge to the side until there is a comfortable stretch and pause for a count of one.
- Return to the starting position.

Split Stance Adductor Mobilization



- Assume a quadruped position on a floor with the hands underneath the shoulders and the knees directly underneath the hips.
- Abduct one leg out to the side until there is a light stretch in the adductors (inner thigh).
- Engage the abdominals to maintain the correct posture.
- Slowly sit back onto the heel of the bent leg and return to the starting position.





Squat to Stand

- Stand erect with feet flat on the floor, shoulder width apart, head neutral, chest up and out and arms hanging by the sides.
- Engage the abdominals to maintain a flat back.
- Flex the torso and grasp the feet underneath the big toes.
- Flex the knees and hips such that a squatting position is achieved.
- Return to the starting position.



Arm Flings

- Stand erect with feet flat on the floor, shoulder width apart, arms hanging at the sides, head neutral and eyes focused straight ahead.
- Keeping the arms straight, raise them to a 90° angle with the torso, palms facing down.
- Swing the arms across the body with the right arm above the left, engage the abdominals to keep the body erect.
- Return to the starting position and repeat with the left arm above the right.
- One rep consists of each arm being above the other.

Linear Arm Swings



- Stand erect with feet flat on the floor, shoulder width apart, arms hanging at the sides, head neutral and eyes focused straight ahead.
- Keeping the arms straight, raise them above the head allowing for a slight bend in the elbows.
- Swing the arms down back as far as possible.
- Engage the abdominals to keep the body erect.
- Continue swinging the arms until the prescribed reps are complete.



COOL DOWN

Prior to completing the static stretches below, ensure that you have cooled down by lightly jogging or spinning for 8-12 min to remove metabolic waste and heat, and to deliver nutrients and hormones. For each exercise slowly stretch to the end of your range of motion and hold for 15-20 s. Stretch until you feel tightness, and if you feel a sharp pain you are stretching too far.

STATIC STRETCHES



Standing Gastrocnemius

- Stand erect and shift weight to right (non-involved) leg.
- Step forwards slightly with the right leg, flex the hip and knee with a slight forward lean of the torso.
- Extend the left leg backwards, keeping the leg straight and pressing the left heel into the floor.
- To increase the stretch further flex (bend) the right knee and hip while maintaining a straight left leg and left heel pressed into the floor.
- Return to the starting position and repeat for the opposite side.



Standing Soleus

- Stand erect and shift weight to right (non-involved) leg.
- Step forwards slightly with the right leg, flex the hip and knee with a slight forward lean of the torso.
- Extend the left leg backwards, keeping the leg straight and pressing the left heel into the floor.
- Once the heel is on the floor flex the leg (bend the left knee and feel the stretch in a different part of the calf).
- To increase the stretch further flex (bend) the right knee and hip while maintaining the correct posture of the left leg.
- Return to the starting position and repeat for the opposite side.



Seated Hamstring

- Sit on the floor with legs straight out in front, feet pulled up towards the face, body erect, shoulders back, head neutral, chest up and out, arms resting on the thighs.
- Engage the abdominals and upper back muscles to maintain the correct posture.
- Straighten the arms and reach as far forward as possible while maintaining a rigid upper body.



Modified Hurdler

- Sit on the floor with legs straight out in front, feet pulled up towards the face, body erect, shoulders back, head neutral, chest up and out, arms resting on the thighs.
- Bend and rotate the right leg such that the sole of the right foot rests against the inside of the left knee.
- Straighten the arms and reach as far forward as possible trying to grasp the left foot while maintaining a rigid upper body.



Seated Groin

- Sit on the floor with legs pulled in such that the soles of the feet are touching, body erect, head neutral, chest up and out, arms resting on the inside of the legs with hands gently grasping the ankles.
- Gently press on the inner thighs with the forearms pushing the knees outwards towards the ground, while maintaining an erect upper body.
- Note: This exercise can also be performed with forward flexion of the trunk, by simply leaning the trunk forwards towards the feet.



Lying Quadriceps

- Lie on the floor on the right side, with the legs straight, left arm resting on the side and right arm out supporting the head, the body should form a straight line from head to ankles.

- Grasp the left ankle with the left hand while simultaneously flexing the left knee.
- Gently pull the left heel to the left buttock, while maintaining a straight line from head to knee.
- Return to the starting position and repeat for the opposite side.



Kneeling Hip Flexor

- Kneel on the floor with the legs bent to a 90° angle, body erect, head neutral, chest up and out and arms hanging by the sides creating a straight line from the head to the knees.
- Flex the right hip bringing the right foot in front of the body contacting the ground with a 90° angle of the knee.
- Lean the torso back slightly pressing the left hip forwards to intensify the stretch.
- Return to the starting position and repeat with the opposite leg.



Lying Piriformis

- Lie on the floor with the left leg bent and the right hip and knee flexed and rotated outwards such that the right ankle is resting on the left knee, arms resting on the floor at the sides, head and shoulders resting on the floor.
- Grasp the left leg just above the knee with both hands gently pulling the knee as close to the chest as possible.
- Return to the starting position and repeat for the opposite side.



Seated Crossover Glute

- Sit on the floor with legs straight out in front, feet pulled up towards the face, body erect, shoulders back, head neutral, chest up and out, and arms resting on the thighs.
- Flex the right hip and knee, bringing the knee towards the chest maintaining a straight left leg and rigid upper body.
- Cross the right foot over the left leg and rest the sole of the foot on the ground against the left knee.
- Cross the arms over the right knee and pull the knee to the chest.
- Return to starting position and repeat for the opposite side.



Standing Iliotibial (IT) Band

- Stand erect feet shoulder width apart, head neutral, chest up and out and arms hanging by the sides.
- Shift weight to the right leg crossing the left leg in front of the right.
- Shift weight back to the left leg, leaning the torso to the left and pressing the right hip outwards keeping the right leg straight.
- Return to starting position and repeat for the opposite side.

Standing Straddle with Forward Flexion



- Stand erect with feet wider than shoulder width apart, head neutral, chest up and out and arms hanging by the sides.
- Flex the torso and reach the hands down towards the floor as far as possible.



Lat Stretch



- Take a position on all fours on the floor with the knees under the hips and the hands flat on the floor underneath the shoulders.
- Sit backwards such that the glutes are resting on the heels and simultaneously reach forwards with the hands.



Hands Behind Back

- Stand erect with feet flat on the floor, shoulder width apart, head neutral, chest up and out and arms hanging by the sides.
- Place the hands behind the back, fingers interlocked while maintaining an erect posture.
- Press the shoulders down, the chest further outwards and lift the hands as high as possible behind the back, while keeping the torso erect.



Shoulder Abduction

- Stand erect with feet flat on the floor, shoulder width apart, head neutral, chest up and out and arms hanging by the sides.
- Raise the hands above the head, interlock the fingers, straighten the arms and reach as high as possible towards the ceiling.



Standing Triceps

- Stand erect with feet flat on the floor, shoulder width apart, head neutral, chest up and out and arms hanging by the sides.
- Raise the arms above the head with the left arm resting on the upper back and the right hand resting on the left elbow.
- Gently press down on the left elbow with the right hand to intensify the stretch.

MOBILITY

Focus mobility sessions on resolving any issues with painful tissues or joints first then focus on areas that restrict movement. Spend a minimum of 2 min mobilizing tissues (on each side) to induce a therapeutic response, or continue until some improvement is achieved. Mobilize only 3 areas (i.e. shoulders, glutes and quads etc.) per session to achieve optimal results. Note: programming for mobility changes day to day depending on individual areas of restriction or pain.

You may experience some discomfort during mobility work as releasing restricted tissue can be rather uncomfortable. But there is a difference between discomfort and pain. If you experience any sharp, shooting, hot or burning pain at any time, or if your body is telling you that something is not right, stop mobility work on that area immediately.

Mobility techniques and information taken from *Becoming a Supple Leopard* by Dr. Kelly Starett and Glen Cordoza.

MOBILITY EXERCISES



Plantar Surface Smash

- Stand erect with feet flat on the floor, shoulder width apart, head neutral, chest up and out, arms hanging by the sides and one lacrosse type ball under the heel of one foot.
- Apply as much pressure on top of the ball that can be tolerated and slowly move the heel side to side, then forwards and backwards.
- Progressively move the contact position of the ball underneath the foot towards the toes in approximately 2 cm increments and repeat.

Calf Smash



- Sit on the floor with legs straight out in front, torso erect, and leaning back at approximately 45° with hands on the floor behind the torso.
- Position a foam roller underneath the heel cord (Achilles tendon) of one leg and cross the opposite leg over top.
- Apply pressure with the top leg and slowly move the bottom leg side to side, then forwards and backwards.
- Progressively move the contact position of the roller underneath the leg towards the knee in approximately 5 cm increments and repeat.

Lateral Anterior Compartment Smash



- Take a position on the floor on all fours with palms flat on the floor and shoulder width apart.
- Position one lacrosse type ball underneath the outside of one shin.
- Move your centre of mass forwards or backwards to adjust the pressure on the ball.
- Slowly work across the tissue by moving the leg over the ball forwards and backwards.
- Stop at any uncomfortable areas and move the foot in all directions until the discomfort has lessened, then continue.

Adductor Smash



- Lie face down on the floor on top of the forearms, elbows directly underneath the shoulders, with one leg extended and the other bent such that there is a 90° angle at the hip and knee joints.



- Position the foam roller underneath the knee of the bent leg and create pressure by driving the hip towards the floor.
- Slowly move the leg side to side and forwards and backwards along the length of the adductors.

Quad Smash and Move



- Lie face down on the floor on top of the forearms, with elbows directly underneath the shoulders, legs extended and a foam roller positioned underneath one quad (thigh muscle) directly above the knee, perpendicular to the body.



- Slowly roll side to side, then forwards and backwards.



- Stop at any uncomfortable areas and pull the heel towards the buttock and return to the starting position, and repeat until the discomfort has lessened, then continue.
- Progressively move the contact position of the roller underneath the quad towards the groin in approximately 5 cm increments and repeat.
- Repeat this process for the inner and outer parts of the quad.

Couch Mobilization



- Take a position on all fours with the feet backed up against a box (or wall).
- Slide one leg back driving the knee into the corner, engage the glutes to support the lower back and move the other leg such that the foot is flat on the floor and the knee is bent to 90°.
- Move the hip towards the floor and lift the torso into an upright position.
- If an upright position cannot be achieved position a box or chair in front for additional stability or keep the palms on the floor.

Hip External Rotation with Flexion



- Take a position on all fours on the floor, bring one leg forwards such that the shin is on the floor with the knee behind the wrist and foot behind the wrist of the opposite hand.
- Place the hands on the knee and foot, extend the back leg, and bend the knee.
- Engage the abdominals and with a flat back lower the chest towards the floor.
- To enhance the stretch slowly rotate to the right and left.

Hamstring Smash and Move



- Sit erect on a box with knees bent at approximately 90° with one lacrosse type ball positioned underneath one leg.
- Shift as much weight as possible on to the ball and move side to side then forwards and backwards.
- Stop at any uncomfortable areas and then repeatedly extend and flex the leg until the discomfort lessens, then continue.



IT Band Smash



- Lie on the floor on one side with the elbow directly underneath the shoulder, the bottom leg extended and top leg bent and crossed over top of the bottom leg with the foot flat on the floor.



- Position a foam roller underneath the hip.
- Apply pressure on the roller and slowly roll along the leg until the roller reaches just above the knee.
- Roll back to the starting position.

Glute Smash and Move



- Sit on the floor such that the torso is at a 45° angle, knees are bent to approximately 90° and the hands on the floor behind the torso.
- Position a lacrosse type ball under one hip and externally rotate the leg dropping the knee to the floor.
- Slowly move side to side, then forwards and backwards.
- Stop at any uncomfortable areas and repeatedly contract / relax the glutes until the discomfort lessens, then continue.

Oblique Side Smash



- Lie on the floor on one side with the elbow directly underneath the shoulder and the top leg bent.
- Position a foam roller underneath the oblique between the ribcage and hip.
- Slowly roll side to side and twist the torso over the roller.
- Progressively move the contact position of the ball underneath the side until all of the tissue has been worked.

Low Back Smash



- Lie supine on the floor with the lower legs on a box (or chair) such that the knee and hip joints are at approximately 90°.
- Position a lacrosse type ball under one side of the lower back just above the pelvis.
- Slowly move side to side.
- Re-adjust the position of the ball underneath the low back until all of the tissue has been worked.



Triceps Extension Smash and Move

- Stand erect in a squat rack with the bar height set such that the bar is between the nipples and the arm pit with one arm resting on the bar and the other hand holding the bar.
- Position the arm on the bar such that the head of the triceps (directly above the elbow joint) is on the bar with the arm extended.
- Slowly move the arm forwards and backwards along the bar.
- Stop at any uncomfortable areas and slowly bend and straighten the arm then move the arm side to side until the discomfort lessens, then continue.
- If a squat rack and bar is not available this exercise can be performed lying face down on the floor using a barbell or lacrosse type ball.



Anterior Compartment Smash



- Lie face down on the floor with legs extended, one arm behind the back and the other on the floor just above the head.
- Position one lacrosse type ball underneath the chest just below the shoulder of the arm that is behind the back.
- Slowly move side to side, then forwards and backwards.
- Stop at any uncomfortable areas and place the other arm behind the back until the discomfort lessens then continue.



Overhead Tissue Smash

- Lie on the floor on one side with the bottom arm extended overhead, the bottom leg extended and the top leg bent.
- Position one lacrosse type ball underneath the lower end of the arm pit.
- Slowly roll side to side and then oscillate around the area.

Shoulder Rotator Smash and Move



- Lie supine on the floor with the knees bent, one arm resting on the stomach and the other bent at 90° and elevated above the head.
- Position a lacrosse type ball underneath the shoulder just above the armpit of the elevated arm.
- Slowly internally rotate the hand such that the palm is touching the floor (if possible).
- Slowly return to the starting position.

T-Spine Smash Extension with Side to Side



- Lie supine on the floor with feet flat, knees bent at 90° and arms wrapped around the chest.
- Position a foam roller underneath the back at the base of the rib cage.
- Arch back over the roller creating an extension force.
- Progressively move the roller up the back towards the head in small increments.
- To increase spinal extension engage the glutes and elevate the hips.
- Stop at any particularly stiff areas and slowly roll side to side.

STRENGTH TRAINING CIRCUITS

There are six different training circuits included here:

- Three strength circuits including total, upper and lower body exercises;
- Two core training circuits, one static and one dynamic; and
- One technique lifting circuit.

Complete the circuits on the required days and time as set out in **Table 2 -Training Prescription** (pages 21-23). Here are a few reminders:

- The load (RM), number of sets and number of reps per set can be found in **Table 2 -Training Prescription**.
- If specific equipment or a weight you need isn't available, or it feels uncomfortable doing a particular exercise, you can substitute a similar exercise from any of the other circuits. For example substitute dumbbell (DB) bench press on a Swiss ball for bench press.
- When doing body-weight exercises do reps to failure or the RM prescribed, whichever comes first. (If you find the RM too easy for any of the body-weight exercises, you can complete a few more reps or slow down your tempo).
- Breathe comfortably when doing the exercises. Inhale and exhale on each rep. Make sure that you exhale during the exertion or effort phase of the exercise.
- Take short rest periods of 45-60 s between individual exercises. Take longer rest periods of 2-3 min between sets.
- Use the descriptions and pictures below for each exercise as a guide to make sure that you are using proper technique. For exercises done in a standing position, the feet should be shoulder-width apart for good balance.
- If you are having trouble mastering the proper technique for any exercise please consult your local PSP fitness staff for guidance and assistance.

- When using a barbell, hold the bar with the thumbs facing in towards one another unless noted otherwise. If the bar should be held differently it will be stated in the exercise description.
- Work with a partner. You can spot one another and provide technique guidance and encouragement. This is especially important for safety on complex movements like bench press and squats.
- Do not sacrifice proper technique in order to increase the training load!

STRENGTH CIRCUIT 1

Kettlebell Swings



- Grasp a kettlebell with both hands, feet shoulder width apart, head neutral and chest up and out.
- Squat down until your knees and torso are at a 45° angle, and swing the kettlebell backwards between your legs.
- Keep your arms straight and thrust your hips forward, and stand up, swinging the kettlebell to chest height.





Bench Press

- Lie on a bench with your feet flat on the floor, hips, shoulders and head in contact with the bench.
- Grasp the bar with an overhand grip slightly wider than shoulder width apart.
- Lift the load above the chest, approximately above the nipples with arms fully extended.
- Lower the bar to approximately 5 cm above the chest and pause momentarily.
- Push the bar back up to the starting position.



Squats

- Stand with feet shoulder width apart, toes pointing forwards, back erect, and head in a neutral position.
- Squeeze the shoulder blades together and raise the shoulders to create a “shelf” for the bar.
- Rest the bar on the “shelf” and squat down until the thighs are parallel to the floor while maintaining a neutral head position, and knees aligned over the feet.
- Return to the starting position by pushing your heels into the floor, extending the hips and knees while maintaining the integrity of the upper body.



Pull-Ups

- Grasp the bar with an overhand grip slightly wider than shoulder width apart.
- Hang with arms fully extended, knees flexed and ankles crossed.
- Pull yourself up until your chin is above the bar.
- Lower down to the starting position in a slow controlled manner.
- Pause momentarily at the bottom to ensure that you do not swing or kip.



Lunge

- Stand with feet shoulder width apart, arms hanging at your sides, head neutral, with chest up and out.
- Engage the abdominals to ensure a rigid upper body and upright posture.
- Take a step with the right leg in front of the body such that there is a 90° angle at both knees.
- Return to the starting position and repeat with the opposite side.
- One rep consists of completing the exercise with both legs.



Push-Ups

- Take a position with hands flat on the floor, underneath the shoulders, fingers pointing forwards, back straight and head neutral.
- Lower the torso down towards the ground until arms reach a 90° angle, then push up back to the starting position.
- Engage the abdominals to maintain a straight back, and neutral head posture throughout the exercise.



Farmers Walk 20 m

NOTE: FOR THIS EXERCISE COMPLETE ONE REP ONLY. VARY THE INTENSITY BY INCREASING THE LOAD CARRIED.

- Grasp one Kettlebell (or DB) in each hand with an overhand grip, arms hanging by the sides, palms facing each other, standing erect, head neutral, chest up and out, and feet hip width apart.
- Engage the abdominals to maintain an erect posture throughout the exercise.
- Walk 20 m carrying the Kettlebells at the sides with head neutral and chest up and out.
- At the 20 m mark turn around and walk back.



Bent Over Row

- Grasp the bar with an overhand grip slightly wider than shoulder width apart, with feet flat on the floor, approximately shoulder width apart and knees slightly flexed (bent), and torso flexed with a flat back.
- Allow the bar to hang with arms fully extended.
- Pull the bar up to the torso, keeping the torso rigid, back flat, and knees slightly bent.
- Lower the bar back to the starting position.

STRENGTH CIRCUIT 2



Thrusters

- Stand with feet shoulder with apart, hold the bar across the front of the shoulders and collar bone with an overhand grip, and lift the upper arms until they are parallel with the floor, head neutral, with chest up and out.
- Keep the knees aligned over the feet and heels on the floor and chest up and out, lower your body by flexing the knees and hips until your thighs are parallel to the floor.
- Return to the starting position by pushing your heels into the floor, extending the hips and knees while maintaining the integrity of the upper body (chest up and out, head neutral) until you are in standing position.
- Continue the exercise by pressing the bar up and over your head until the arms are fully extended, body is completely straight and the bar is slightly behind the head.
- Lower the bar back to the starting position and repeat.



Sumo Deadlift

- Stand with feet flat one and a half to two times shoulder width apart, toes pointed slightly outwards.
- Squat down with the hips, lower the shoulders and grasp the bar with an overhand grip with hands approximately 30 cm apart, back flat, chest up and out, shoulders slightly in front of the bar and a neutral head position.
- Contract your abdominals, holding the back in place and not allowing it to round.
- Lift the bar off the floor by extending knees and hips and lifting chest upwards until standing erect.
- Return to the starting position in a controlled manner.



Push-Ups Alternating Hand on Medicine Ball (MB)

- Take a position with one hand flat on the floor with the other hand on a MB, shoulder width apart, fingers pointing forwards, back straight and head neutral.
- Keep one hand on the MB and lower your body so that the upper arms are parallel to the floor.
- Push up to starting position while maintaining a straight back and a neutral head posture.
- Once at the starting position, roll the MB to the opposite hand and repeat.
- One rep consists of completing a push-up with each hand on the MB.



Inverted Row with Feet on a Swiss Ball

- Grasp the bar with an overhand grip, hands shoulder width apart, arms fully extended, feet on a Swiss ball and body completely straight.
- Squeeze the shoulder blades together, and pull with the arms until the torso touches the bar.
- Keep abdominals engaged to maintain a straight body.
- Slowly lower back to the starting position.



Bulgarian Split Squats

- Stand with feet shoulder width apart, hold the bar across your upper back with an overhand grip and lift the elbows to create a “shelf” for the bar, head in a neutral position, with chest up and out.
- Assume a staggered stance by placing the instep of your back foot on a box or bench keeping the majority of the weight on the front leg.
- Lower your body by flexing the hips and knees until the front leg is parallel to the ground while keeping the head neutral and chest up and out.
- Return to the starting position by pushing the heel of your front foot into the ground and extending the knees and hips, while maintaining the integrity of the torso (head neutral, chest up and out).



DB Push-Up to Row



- Take a position with hands on DB on the floor shoulder width apart, back straight and head neutral.
- Grasp the DB by the handles, and lower your body to the floor.
- Push yourself back up to starting position forcefully, while maintaining a flat back and a neutral head posture.
- Continue by lifting (row) the right DB up towards your right shoulder.
- Lower the DB back down and repeat the entire exercise for the left side.
- One rep consists of completing both left and right sides of the body.



Suit Case Carry 20 m

NOTE: FOR THIS EXERCISE COMPLETE ONE REP ONLY ON EACH SIDE. VARY THE INTENSITY BY INCREASING THE LOAD CARRIED.

- Grasp one kettlebell (or DB) in one hand with an overhand grip, arms hanging by the sides, palms facing each other, standing erect, head neutral, chest up and out, and feet hip width apart.
- Engage the abdominals to maintain an erect posture throughout the exercise
- Walk 20 m carrying the kettlebell at the side with head neutral and chest up and out.
- At the 20 m mark, turn around and walk back.
- Repeat on the opposite side.



Plyometric Push Up

- Take a position with hands flat on the floor, underneath the shoulders, fingers pointing forwards, back straight and head neutral.
- Lower the torso down towards the ground until arms reach a 90° angle, then explosively push up back past the starting position.
- Clap the hands together in front of the chest.
- Engage the abdominals to maintain a straight back, and neutral head posture throughout the exercise.

STRENGTH CIRCUIT 3



MB Slam

- Stand erect with feet shoulder width apart, grasp the MB with palms facing each other, arms fully extended overhead holding the MB slightly behind the head, head neutral, with chest up and out.
- Slam the MB into the floor by forcefully contracting the abdominals, lowering the torso and bending the knees.



DB Bench Press on a Swiss Ball

- Hold a pair of DB by the handles and lie on a Swiss ball with feet flat on the floor, arms fully extended, hips raised so that the body forms a straight line, upper back and shoulders in contact with Swiss ball.
- Lower the DB down to the sides of the chest with the palms facing the feet at approximately nipple level keeping the wrists stiff.
- Push the DB upward until the arms are fully extended, while keeping the feet flat on the floor, and hips, shoulders and upper back in contact with Swiss ball.



Front Squats

- Stand with feet shoulder width apart, holding the bar across the front of the shoulders and collar bone, with an overhand grip.
- Lift the upper arms until they are parallel with the floor, head neutral, with chest up and out.
- Keep the knees aligned over the feet and heels on the floor and chest up and out, lower your body by flexing the knees and hips until your thighs are parallel to the floor.
- Return to the starting position by pushing your heels into the floor, extending the hips and knees while maintaining the integrity of the upper body (chest up and out, head neutral).



Big Boy Pull-Ups

- Take a position with hands flat on the floor, underneath the shoulders, fingers pointing forwards, back straight and head neutral.
- Lower the torso down towards the ground until arms reach a 90° angle, then explosively push up back to past the starting position.
- Get up and immediately grasp the bar with an overhand grip slightly wider than shoulder width apart.
- Pull yourself up until your chin is above the bar.
- Lower down to the starting position in a slow controlled manner.



Step Up

- Stand with feet shoulder with apart and hold the bar across your upper back with an overhand grip, and lift the elbows to create a “shelf” for the bar, head neutral, with chest up and out.
- Place the entire foot of the lead (stepping) leg on the box.
- Shift the weight to the lead leg, press the heel of the lead leg into the box and forcefully extend the lead hip and knee to push up the body onto the box.
- Once standing fully erect on the box lower the body until the trail leg touches the floor and repeat.
- One set consists of completing the required number of reps with each leg.



DB T-Push-Up

- Take a position with hands on DB on the floor shoulder width apart, palms facing each other, back straight, and head neutral.
- Grasp the DB by the handles, and lower your body to the floor.
- Push yourself back up to starting position forcefully, while maintaining a flat back and a neutral head posture.
- Continue by rotating the right side of your body upward and pull the DB over your right shoulder.
- Lower the DB back down and repeat the entire exercise for the left side.
- One rep consists of completing movements on both left and right sides of the body.





Bottoms Up Walk 20 m

NOTE: FOR THIS EXERCISE COMPLETE ONE REP ONLY. VARY THE INTENSITY BY INCREASING THE LOAD CARRIED.



- Grasp a kettlebell in one hand so that the bottom of the kettlebell is facing the ceiling, other arm hanging by the side, standing erect, head neutral, chest up and out, and feet hip width apart.
- Engage the abdominals to maintain an erect posture throughout the exercise
- Walk 20 m carrying the kettlebell with the bottom up and with a head neutral and chest up and out.
- At the 20 m mark, turn around and walk back.
- Repeat on the opposite side.

DB Row on Bench



- Take a position with one hand on a DB and the other hand on a bench (or step), shoulder width apart, back straight and head neutral.
- Brace the core by engaging the abdominals and squeezing the glutes.
- Row the DB up towards your shoulder.
- Lower the DB back down.
- Repeat on the opposite side.

ABDOMINAL CORE CIRCUITS

Abdominal core circuits are to be completed in conjunction with the strength training circuits as prescribed in **Table 2 - Training Prescription** (pages 21-23). There are two different circuits one that contains static exercises and one that contains dynamic exercises. You may choose which circuit to complete following your strength training but you must make sure that you alternate core circuits throughout each training week.

CIRCUIT 1 – STATIC EXERCISES

- Complete all of the exercises by engaging the core muscles and holding the described position correctly for the entire duration.
- Start by holding each exercise for 45 s for one set. Repeat the entire sequence two more times for a total of 3 sets of 45 s holds. Rest 2-3 min between sets.
- Once you can complete 3 sets of 45 s comfortably, increase to 3 sets of 60 s, then 3 sets of 75 s, 3 sets of 90 s and finally to 3 sets of 120 s.



Plank

- Take a position with forearms on the floor, elbows directly underneath the shoulders, and with palms facing each other.
- Form a straight line with the body, shoulders back, chest slightly out and head neutral.
- Brace the core by engaging the abdominals and squeezing the glutes.



V-Sit

- Sit on the floor leaning back so that the torso is at a 45° angle with the ground.
- Knees are bent approximately 90°.
- Feet are held a few cm off the floor.
- Head is neutral.
- Elbows by the sides, arms crossed over the chest.



T-Stabilization

- Take a position with hands flat on the floor, shoulder width apart, fingers pointing forwards, back straight and head neutral.
- Engage the abdominals in order to keep the body rigid and shift the weight to the right arm.
- Rotate the torso up and to the left until one shoulder is over top of the other.



Side Plank

- Lie on the floor on the right side with legs straight, and feet stacked on top of each other.
- Prop the torso up on the right forearm with the elbow directly under the right shoulder.
- Ensure that the left shoulder is directly over top of the right.
- Engage the abdominals to keep the body rigid.
- Raise the hips off the floor creating a straight line from ankles to shoulders.
- One set consists of completing the exercise for both sides of the body.

CIRCUIT – 2 DYNAMIC EXERCISES

- Complete all of the exercises described below in a circuit format.
- Begin by completing 20 reps of each exercise for one set. Repeat the entire sequence two more times for a total of 3 sets of 20. Rest 2-3 min between sets.
- Once you can complete 3 sets of 20 comfortably, increase to 3 sets of 25, then 3 sets of 30, 3 sets of 35 and finally to 3 sets of 40.

Swiss Ball Knees to Chest



- Assume a push-up position with arms fully extended, placing the shins on a Swiss ball forming a straight line from the head to the ankles.
- Engage the abdominals to ensure that you maintain the correct posture.
- Roll the Swiss ball towards the chest by pulling it forward with the feet.
- Return to starting position.

Single Leg Supine Bridge



- Lie supine on the floor with one foot flat on the floor, heel pulled up to the buttock, and the other leg extended, arms resting on the floor by the sides, and head back in a neutral position.
- Lift the extended leg off the floor, while engaging the abdominals to maintain a flat back.
- Engage the glutes and raise the hips off of the floor.
- Hold for a count of one and then return to the starting position.



Chop

- Stand erect with feet slightly wider than shoulder width apart, both hands grasping the cable pulley handle located slightly above the shoulder.
- Keep the arms fixed and pull the handle down to the hip on an angle using the abdominal muscles.
- Complete the prescribed number of reps on both sides.



Bird Dog



- Take a position on the floor on all fours with palms flat on the floor and shoulder width apart.
- Engage the abdominals to ensure you maintain correct posture.
- Extend the right arm and left leg creating a straight diagonal line from wrist to ankle.
- Crunch the right elbow and the left knee so that they touch.
- Return to starting position and repeat with opposite arm and leg.



Stir the Pot

NOTE: IF THIS EXERCISE PRESENTS TOO MUCH OF A CHALLENGE AT FIRST THEN COMPLETE THE EXERCISE WITH KNEES ON THE FLOOR UNTIL YOU ARE ABLE TO COMPLETE IT WITH STRAIGHT LEGS

- Assume a plank position with elbows on a Swiss ball.
- Slowly make circles with your elbows while engaging the abdominals to maintain the plank position.
- Complete 5 circles clockwise followed by 5 counter clockwise circles.



Straight Leg Crunch

- Lie supine on the floor with arms down by the sides palms facing down.
- Keep the legs straight and raise them towards the chest such that there is a 90° angle of the hips, while simultaneously raising the arms so that the hands are reaching towards feet.
- Engage the abdominals to ensure that the legs stay static and reach the hands upward towards the feet lifting the shoulder blades off the ground.
- Lower back down ensuring that the shoulder blades touch the ground.

TECHNIQUE CIRCUIT

Technique lifts reinforce correct lifting technique in order to build the technical foundation for further more complex training. The load, sets and reps for the technique lifts can be found on **Table 2 - Training Prescription** (pages 21-23). Make sure that you focus on proper technique, and move in a smooth, continuous and controlled manner, throughout a full range of motion. Use the descriptions and pictures provided below for each exercise as a guide to make sure that you are using proper technique.



Squats

- Stand with feet shoulder with apart, toes pointing forwards, back erect, and head in a neutral position.
- Squeeze the shoulder blades together and raise the shoulders to create a “shelf” for the bar.
- Rest the bar on the “shelf” and squat down until the thighs are parallel to the floor while maintaining a neutral head position and knees aligned over the feet.
- Return to the starting position by pushing your heels into the floor, extending the hips and knees while maintaining the integrity of the upper body.





Deadlift

- Stand erect with feet flat on the floor between hip and shoulder width apart, toes pointed forwards.
- Squat down with the hips, lower the shoulders and grasp the bar with an overhand grip with hands slightly wider than shoulder width and outside the knees, back flat, chest up and out, shoulders slightly in front of the bar and a neutral head position.
- Contract the abdominals, holding the back in place and not allowing it to round.
- Forcefully lift the bar off the floor by extending knees and hips and lifting chest upwards until standing fully erect.
- Keep the bar as close to the shins / body as possible during the lift.
- Lower the bar by flexing knees and hips while maintaining the integrity of the torso (flat back, do not bent forwards).



Front Squats

- Stand with feet shoulder with apart, hold the bar across the front of the shoulders and collar bone with an overhand grip and lift the upper arms until they are parallel with the floor, head neutral, with chest up and out.
- Keep the knees aligned over the feet and heels on the floor and chest up and out, lower your body by flexing the knees and hips until your thighs are parallel to the floor.



- Return to the starting position by pushing your heels into the floor, extending the hips and knees while maintaining the integrity of the upper body (chest up and out, head neutral).



Overhead Squats

- Stand with feet shoulder width apart, and grasp the MB, with arms fully extended holding the MB slightly behind the head, head neutral, with chest up and out.
- Keep the knees aligned over the feet and heels on the floor and chest up and out, lower your body by flexing the knees and hips until your thighs are parallel to the floor.
- Engaging the abdominals to maintain the integrity of the upper body (chest up and out, head neutral).
- Return to the starting position by pushing your heels into the floor, extending the hips and knees while maintaining the integrity of the upper body.





Drop Squats

- Stand erect with feet shoulder width apart, hands grasping the bar with an overhand grip, shoulder width apart.
- Lower shoulders until the bar is above slightly bent knees.
- Forcefully extend the knees, push the hips forward, and lift the bar between waist and shoulder height.
- Dynamically drop underneath the bar in a low squat position with hips lower than 90°, head neutral, chest up and out, bar resting on shoulders and upper arms parallel to the ground.



High Pull

- Stand erect with feet flat on the floor between hip and shoulder width apart, toes pointed forwards.
 - Squat down with the hips, lower the shoulders and grasp the bar with an overhand grip with hands slightly wider than shoulder width and outside the knees, back flat, chest up and out, shoulders slightly in front of the bar and a neutral head position.
 - Contract the abdominals, holding the back in place and not allowing it to round.
 - Forcefully lift the bar off the floor by extending knees, hips and ankles, and lifting the chest upwards until standing fully erect.
- The lift needs to be forceful enough so that the bar continues upwards with the elbows pointing out towards the sides, until just under the chin.
 - Lower the bar in a controlled manner and repeat.

MUSCULAR INTERVALS

Muscular intervals consist of completing an interval run immediately followed by physical exercises. Ensure that you complete the warm up prior to completing the muscular intervals. The distance and pace for each interval run and the corresponding reps for each physical exercise can be found on **Table 2 - Training Prescription Tables** (pages 21-23). Use the descriptions and pictures provided below for each exercise as a guide to make sure that you are using proper technique.

Lunge



- Stand with feet shoulder width apart, arms hanging at your sides, head neutral, with chest up and out.
- Engage the abdominals to ensure a rigid upper body and upright posture.
- Take a step with the right leg in front of the body such that there is a 90° angle at both knees.
- Return to the starting position and repeat with the opposite side.
- One rep consists of completing the exercise with both legs.

T-Push-Up



- Take a position with hands flat on the floor, fingers pointed forwards, shoulder width apart, back straight and head neutral.
- Lower the torso down towards the ground until arms reach a 90° angle.
- Push the body back up to starting position forcefully, while maintaining a flat back and a neutral head posture.



- Continue by rotating the left side of the body upward and lift the left arm over the left shoulder.
- Lower the hand back down and repeat the entire exercise for the right side.
- One rep consists of completing both left and right sides of the body.



Squat Jumps

- Stand with feet shoulder width apart, arms hanging at your sides, head neutral, with chest up and out.
- Keep knees aligned over the feet and heels on the floor and chest up and out, lower your body by flexing the knees and hips while simultaneously moving the arms back along the spine.
- Forcefully push your heels into the floor, extend the hips, knees and ankles propelling the body up in the air while simultaneously bringing the arms up towards the ceiling.



Mountain Climber

- Assume a push-up position with arms fully extended forming a straight line from the head to the ankles.
- Engage the abdominals in order to keep the body rigid throughout the exercise.
- Raise the left foot off the floor and bring the knee as close to the chest as possible placing it back on the floor.
- Dynamically switch positions of the legs (i.e. left leg extended with right knee close to chest).
- One rep consists of both legs being brought up towards the chest.



Squat Thrusts

- Take a position with hands flat on the floor, underneath the shoulders, fingers pointed forwards, back straight and head neutral.
- In one smooth motion bring the knees as close to the chest as possible while maintaining the hands on the ground.
- Return to the starting position ensuring the correct posture.



Push-Ups

- Take a position with hands flat on the floor, underneath the shoulders, fingers pointing forwards, back straight and head neutral.
- Lower the torso down towards the ground until arms reach a 90° angle, then push up back to the starting position.
- Engage the abdominals to maintain a straight back, and a neutral head posture throughout the exercise.

POWER AND SPEED TRAINING

There are two training routines included here:

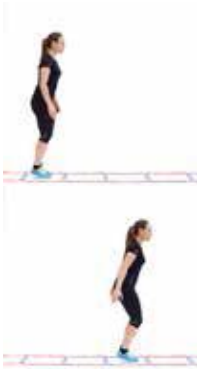
- A **plyometric** circuit and
- A **sprint** program.

Do the routines on the required days as set out in **Table 2 - Training Prescription** (pages 21-23). Here are a few pointers:

- Do a thorough warm up prior to completing the circuits. They are challenging and dynamic and you want to make sure that your body is ready for them.
- Use the descriptions and pictures below as a guide to make sure that you are using correct technique.

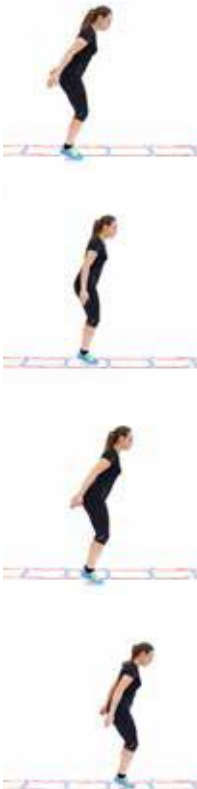
PLYOMETRIC CIRCUIT

- Layout a speed ladder on the ground for drills 1 through 5.
- Go through the circuit in sequence: Drill 1, jog back, Drill 2, etc., through to Drill 5 then for drill 6 complete 6 – 10 times.
- Repeat the circuit 2 times during Weeks 2 & 3 and then 3 times after that.
- If you do not have access to a speed ladder you can use a painted line on a gym floor or use duct tape to mark off a line on the ground.



Drill 1 - Double Leg Forward Hops

- Start behind the ladder, standing on both feet.
- Hop forwards with both feet into each “square” of the ladder so that only your toes touch the ground and no part of your feet touch the ladder.
- Complete as fast as possible without touching the ladder.



Drill 2 - Double Leg Side to Side Hops

- Start beside the ladder standing on both feet.
- Hop sideways with both feet into and out of each “square” of the ladder so that only your toes touch the ground and no part of your feet touch the ladder.
- Complete as fast as possible without touching the ladder.



Drill 3 - Single Leg Forward Hops

- Start behind the ladder standing on one foot.
- Hop forwards with one foot into each “square” of the ladder so that only your toes touch the ground and no part of your foot touches the ladder.
- Complete as fast as possible without touching the ladder.
- Repeat on the opposite side.



Drill 4 - Single Leg Side to Side Hops

- Start beside the ladder standing on one foot.
- Hop sideways with one foot into and out of each “square” of the ladder so that only your toes touch the ground and no part of your foot touches the ladder.
- Complete as fast as possible without touching the ladder.
- Repeat on the opposite side.



Drill 5 - Single Leg Sideways Hops

- Start behind the ladder standing on one foot facing sideways.
- Hop sideways with one foot into each “square” of the ladder so that only your toes touch the ground and no part of your foot touches the ladder.
- Complete as fast as possible without touching the ladder.
- Repeat on the opposite side.



Drill 6 - Plyometric Push Up

- Take a position with hands flat on the floor, underneath the shoulders, fingers pointing forwards, back straight and head neutral.
- Lower the torso down towards the ground until arms reach a 90° angle, and then explosively push up back past the starting position.
- Clap the hands together in front of the chest.
- Engage the abdominals to maintain a straight back, and neutral head posture throughout the exercise.

SPRINT PROGRAM

- Mark out the required distances on a grass field, running track or other firm surface.
- Do the combination of sets and repetitions noted for each specific training session. These can be found in **Table 2 - Training Prescription** (pages 21-23).
- Follow each set with three minutes recovery (easy walking, stretching) before starting the next set.
- Accelerate from the start to the “all out” speed you can reach in the distance run.

SET 1 Sprint 20 m then jog back

SET 2 Sprint 40 m then jog back

SET 3 Sprint 60 m then jog back

SET 4 Sprint 80 m then jog back





SOA

**PERSONAL
TRAINING LOGS**

4

SOA
PRE-SELECTION PHYSICAL FITNESS TRAINING PROGRAM



PERSONAL TRAINING LOG

Week ____ Day ____ Date _____

AM • AEROBIC / ANAEROBIC

As Prescribed or:

Distance(s) <i>km</i>								
Times(s)								

PM • STRENGTH

As Prescribed or:

# _____	Set 1		Set 2		Set 3		Set 4	
List Exercise:	L	R	L	R	L	R	L	R
Core # _____								
List Exercise:								

SWIM

As Prescribed or:

Distance(s) <i>km</i>								
Times(s)								

SPEED AND POWER

Plyometrics	Number of Reps <input type="checkbox"/>							
Sprints	Number of Sets <input type="checkbox"/>							
Distance(s) <i>m</i>								

SOA
PRE-SELECTION PHYSICAL FITNESS TRAINING PROGRAM

PERSONAL TRAINING LOG

Week ____ Day ____ Date _____

AM • AEROBIC / ANAEROBIC

As Prescribed or:

Distance(s) km								
Times(s)								

PM • STRENGTH

As Prescribed or:

# _____ List Exercise:	Set 1		Set 2		Set 3		Set 4	
	L	R	L	R	L	R	L	R
Core # _____ List Exercise:								

SWIM

As Prescribed or:

Distance(s) km								
Times(s)								

SPEED AND POWER

Plyometrics	Number of Reps <input type="checkbox"/>							
Sprints	Number of Sets <input type="checkbox"/>							
Distance(s) m								

Please direct any comments or suggestions
pertaining to this manual in writing to

**CANADIAN FORCES MORALE
AND WELFARE SERVICES**

Directorate of Fitness

4210 Labelle Street
Ottawa, Ontario
K1A 0K2



