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**Physical Training Playbook**

**(Insert Unit, Location)**

(Insert Version)

**Overview**

The intent of this document is to review recommendations from scientifically based literature for the purpose of enhancing physical training (PT) programs through “smarter”, structured programming, and conscious mitigation of injuries. Recommendations and considerations for PT program design will be presented, and templates for various PT program components are provided. The contents of this manual are intended as an overview, and provide guidance and clarity for developing your PT program. For a more extensive and specific program design seek the assistance of your local subject matter experts (SMEs) including: FFIs, FFITs, MCCS, SemperFit, HITT, SMIP, etc.

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**Evidence-based Recommendations and Considerations**

1. **Preventing Overtraining:**
2. **Reduce running mileage** - Given the very strong evidence showing higher running mileage as an injury risk factor, an obvious intervention is to reduce the amount of running performed by Marines. In an experiment among recruits in a 12-week Marine Corps boot camp, a 40 percent (22 mile) reduction in running distance was associated with a 54 percent reduction in stress fracture incidence with an insignificant change in final 3-mile run times.
3. **Reduce running duration and frequency** - There are physiologic thresholds above which increases in running duration and frequency do not result in a commensurate increase in fitness, but do result in higher injury rates (particularly for individuals with average and below average fitness levels). Injuries may be expected to increase disproportionately with little additional fitness improvements if running is performed more than 3-5 times per week or if the duration of time spent running in a single session is greater than 30 minutes.
4. **Exercise at the appropriate intensity** – Many studies suggests that cardiorespiratory fitness improvements require aerobic exercise at an intensity that produces heart rates between 55 to 90 percent of a person’s maximum heart rate. The lower end of this range is appropriate for initially low-fit individuals, those just returning to training, or during designated recovery training days/cycles. Marines that have been training consistently should progressively work up to or at the higher end.

1. **Avoid the combination of strenuous military activity and physical training** – Commanders at all levels actively avoid combination of military training and PT that exceeds physiological thresholds of overtraining and result in higher injury rates and no improvement of fitness. Commanders may monitor profile rates, fitness test pass rates, and run times to determine if their units are overtraining. Signs that a unit is overtraining include high or increasing lower body injury profile rates, decreased fitness test pass rates, and slower average run times.
2. **Exercise in a gradually progressive manner** – Military research demonstrates that the gradual introduction of running mileage reduces injury incidence. A program which systematically and progressively increases running mileage and intensity to a maintenance point reduces injury rates and fosters much improvement in physical fitness. This is particularly important for new recruits, those changing units, or those returning to PT after time off for an injury or leave.
3. **Run in groups based on level of ability (run times)** - Running in ability groups of similar fitness levels provides a more appropriate level of physiological stimulus to enhance fitness and minimize injury risk. Runs should be for a certain amount of time, not a certain distance -- meaning slower (less fit) individuals run shorter distances than the faster (most fit) individuals, thus accommodating low and high fitness groups simultaneously).
4. **Avoid the practice of giving extra PT session to the least fit members** - Two factors are important in this regard: more training causes more injuries; and the least fit Marines are two to three times more likely to be injured as their more fit counterparts. In order to reduce injuries and attrition rates while maximizing physical performance, the core of any PT program must be targeted directly at these Marines of average and below average fitness levels. Remedial PT programs that require the least fit Marines, especially recruits, to do more training than fit Marines may increase the risk of overtraining and injury with little or no fitness improvement.
5. **Refrain from using PT as a corrective tool** - The common practice of utilizing PT as a punitive, corrective, or motivational tool has the potential to cause excessive training overload and lead to overtraining due to its unpredictable frequency and volume, particularly when overstressing the lower body. Other methods to discipline Marines should be sought or the amount and type of physical demands placed on Marines should be limited and standardized (e.g. standard amount of time running per day, number of push-ups per day, etc.)
6. **Utilize interval training** - Interval training is an excellent way to train the cardiovascular energy systems of the body that may be required for performance of military duties while minimizing mileage wear and tear on the lower extremities. Military studies that have included interval training with reduced total running mileage have shown fitness improvements as great as or greater than those with long-slow sustained running. Interval running is performed with multiple bouts of all-out (high intensity) running interspersed with periods of recovery. Intervals are performed by adhering to a work-to-recovery ratio of 1:3 or 1:2.

Example 1: Work-to-Rest ratio of 1:3: all-out bout of 10 seconds followed by a rest period (e.g. walk or jog) of 30 seconds.

Example 2: Work-to-Rest ratio of 1:2: all-out bout of 10 seconds followed by a rest period of 20 seconds.

Precautions should be taken when implementing intervals through gradual progression. A program should begin by implementing interval training once per week, with no more than 5 repetitions per training session, and at a work-to-rest ratio of 1:3. As fitness improves interval training may gradually increase to no more than 3 days per week, increase to no more than 10 repetitions per session (adding 1 repetition every 2 weeks), and decreasing the work-to-rest ratio to 1:2.

1. **Allow adequate musculoskeletal recovery** - Soft tissue (muscles, tendons, cartilage, etc.) needs time in between exercise bouts to recover and build. It is during this recovery time that structures are strengthened. If recovery is not allowed, the rate of breakdown outpaces the body’s ability to build up and injuries are the likely result. Periodization training is the term used when looking at the larger issue of recovery for optimizing performance while minimizing injury in athletic performance. This type of training is a sound way to mitigate overtraining. Furthermore, delayed onset muscle soreness (DOMS) peaks around 48 hours after intense exercise bouts and makes exercise difficult. Commanders and individuals should balance the body’s needs for a physiological training overload with the need for recovery and rebuilding by coordinating military training and PT to:
	1. Avoid exhaustive military training or PT (e.g. obstacle courses, long road marches with heavy loads, long runs, maximal effort physical fitness test, etc.) on the same or successive days.
	2. Allow adequate recovery time between administrations of maximal effort physical fitness tests to prevent overtraining and increase the likelihood of improved physical performance. (Muscle soreness peaks at 48 hours therefore the minimum recovery time should be 3 days.)
	3. Alternate training days that emphasize lower body weight-bearing physical activity with training days focused on upper body physical training.
	4. Minimize the accumulated weight-bearing stress on the lower body from marching/hiking, movements to training sites, drill and ceremony, obstacle courses, running, etc., by limiting such activities on the same or successive days.
2. **Perform Multiaxial, Neuromuscular, Proprioceptive and Agility Training -** Given the strong evidence from research, multiaxial (many planes of motion), neuromuscular (coordinated muscular movement), proprioceptive (body position sense), and agility (non-linear movement) exercises should be included as a regular component of military PT programs. PT programs including these types of exercises have shown reductions of injury rates by 20 to 30 percent for reasons including:
	1. Incorporating these activities into a finite training period reduces the trainees’ excessive exposure to running activities, thereby reducing lower body injury risk.
	2. The musculoskeletal stresses of training are more evenly distributed across the body (and in different axes of motion) by these types of drills, thereby reducing injury risk (unlike running, which focuses stress narrowly in the lower body).
	3. Strength and stabilization exercises directed at the body’s core (trunk) represent many of the same movements required during more complex combat activities, and this may increase the likelihood of improved military occupational task performance and potentially reduce injuries.
3. **Protective Equipment:**
4. **Wear Mouthguards during High-Risk Activities -** Orofacial injuries are often caused by the same vigorous activities and exercises that can lead to musculoskeletal injuries. It is recommended that mouthguards should be provided for all Marines participating in activities with a high risk to mitigate orofacial injuries. Note mouthguards are not intended to prevent or mitigate the occurrence of concussions. Examples of potentially high-risk activities include:
5. Combatives
6. Obstacle and confidence course
7. Rifle/bayonet training
8. Contact sports (e.g. basketball, football, rugby, ultimate frisbee, etc.)
9. **Wear Semirigid Ankle Braces for High-Risk Activities -** Ankle braces have been consistently demonstrated to reduce ankle injuries during high-risk activities such as basketball, soccer, and parachute landing falls. It is strongly recommended that semirigid ankle braces be utilized during participation in high-risk physical activities, such as:
10. Airborne operations (e.g. parachuting)
11. Basketball, soccer, etc.
12. Other similar high-risk activities

Also, good evidence was found that semirigid ankle braces reduce reinjury among individuals with previous moderate or severe ankle sprains.

1. **Wear Synthetic (Polyester) Blend Socks to Prevent Blisters -** Blisters appear to be caused by friction between the skin and sock; that friction is exacerbated by moisture produced by sweating. Special hydrophobic (having little or no affinity for water) socks, designed to reduce foot moisture, appear to reduce the likelihood of foot blisters. It is recommended to wear a combination of a liner sock composed of polyester (thought to “wick” or draw away moisture from the skin) and the standard U.S. military wool/cotton sock, or combination of a polyester liner sock and very thick wool/polyester blend sock.
2. **Do Not Wear Back Braces, Harnesses, or Support Belts -** Back belts have been aggressively promoted as a preventive measure against back injuries in healthy individuals during lifting activities for several reasons: it is theorized that back belts increase intra-abdominal pressure, which is thought to decrease compressive forces on the lumbar spine, and also minimize movement of some lumbar segments. These theories have not been substantiated in scientific research. Current and relevant research has found at least moderate to strong evidence that back belts/supports are ineffective or that the potential harm outweigh the benefits. These findings support the DOD position that back support belts are not personal protective equipment, and use of these devices for the prevention of back injuries is not endorsed (DoDI 6055.1, para E6.1.3).
3. **Nutrition & Medication**
4. **Consume Nutrients to Restore Energy Balance within 1 Hour following High-Intensity Activity -** Research indicates that restoring muscle glycogen (carbohydrate stores in the muscle) decreases indicators of muscle damage due to physical activity. Sustained physical activity and intermittent high-intensity activity deplete the body’s glycogen stores and fatigue muscles, which reduce the muscle’s ability to protect joints during activity. It is recommended to consume 12 to 18 grams of protein and 50 to 75 grams of carbohydrate and a fluid replacement beverage within 1 hour following very strenuous, continuous physical activity (e.g. road marching/hiking lasting longer than 1 hour) and vigorous intensity interval training lasting 20 minutes or longer to minimize muscle damage and optimize recovery. Consuming this balance of nutrients within a 1-hour time frame restores energy balance and optimizes recovery from musculoskeletal breakdown caused by the activity. Additional benefits include: reduced risk of heat-related illness and enhanced physical performance can be expected.
5. **Do Not Take Anti-inflammatory Medication Prior to Exercise -** Contraction-induced muscle damage, especially from eccentric muscle contractions, is known to cause a substantial inflammatory response. This response itself can cause tissue damage beyond that originally sustained by the muscle. It is hypothesized that administration of a NSAID (e.g. ibuprofen) prior to an exercise would control that inflammatory response, thus diminishing tissue damage. The results in research are inconsistent with regard to NSAID use prior to activity, and many of the studies observed the markers for muscle damage as a surrogate for injury; none actually demonstrated a reduction in injury rates from the use of pre-exercise NSAIDs. Furthermore, there are harmful risks to taking NSAIDS that must be considered including stomach discomfort, gastrointestinal bleeding and ulcerations. Based on the inconsistent findings in research and the potentially harmful side-effects, consumption of anti-inflammatory medications prior to exercise for the prevention of injuries is not recommended.

**Essential Elements of a Successful PT Program**

1. **Educate military Marines, including all levels of military leadership, on injury prevention principles and strategies**
	1. The reduction of injuries is most likely to occur if all levels of leadership (command and cadre) understand the injury risk factors Marines’ face and which strategies are effective in preventing injuries.
	2. Education is the first step in identifying and disseminating evidence-based injury prevention procedures.
2. **Leadership enforcement of unit injury prevention policies and programs**
	1. Enforcement of policies and programs should be implemented at all levels, to include accountability down to the unit, for injury rates and fitness pass rates.
	2. Effective command emphasis on injury prevention includes accountability and must be consistent, lasting, and based on evidence-based strategies and common sense to reduce exposure to injury risk during combat, PT, and field training exercises.
3. **Use unit injury surveillance reports**
	1. Injury surveillance is critical:
		1. Data tracking on injury mechanisms facilitates the prioritization of resources, research, and the targeting of techniques to reduce injury rates as a matter of force health production,
		2. Assist in quantifying and qualifying effectiveness of injury prevention techniques, and
		3. Ensures injury prevention efforts does not adversely affect physical fitness scores and pass rates

***Sample Injury Log***:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **CID** | **Injury Date** | **Body Part Code** | **Side Code** | **Injury Category Code** | **Referred to** | **RUC** | **Disposition Code** | **Surface Code** | **Event Code** | **Training Day** |
| **1** |   |   |   |   |   |   |   |   |   |   |   |
| **2** |   |   |   |   |   |   |   |   |   |   |   |
| **3** |   |   |   |   |   |   |   |   |   |   |   |
| **4** |   |   |   |   |   |   |   |   |   |   |   |
| **5** |   |   |   |   |   |   |   |   |   |   |   |
| **6** |   |   |   |   |   |   |   |   |   |   |   |
| **7** |   |   |   |   |   |   |   |   |   |   |   |
| **8** |   |   |   |   |   |   |   |   |   |   |   |
| **9** |   |   |   |   |   |   |   |   |   |   |   |

\*This Injury Log contains dropdown menus for simple and accurate inclusion of necessary information. All injuries and data should be input to enhance the command and cadre’s understanding of the effects of the training schedule.

**Designing a Physical Training Program**

The Marine Corps Physical Fitness program recommends developing a structured and progressive program based on current and relevant methodology for maintenance and enhancement of health and physical fitness. Physical training program design begins with understanding the quality and status of personnel, and is focused by the intended end state or goals of the unit and mission. In addition to results from the PFT and CFT, BCP status, and injury data, utilizing the Functional Movement Assessment (FMA), and the Individual Performance Assessment (IPA), taught to the Force Fitness Instructor (FFI), may assist in determining the needs of unit members. These physical fitness measurements serve as the baseline for the unit, and collectively define the overall needs and form the foundation for developing goals.

**Functional Movement Assessment (FMA)**

The FMA is a group of seven exercises intended to assess the quality and capability of movement of Marines. Identifying and correcting faulting movement mechanics is essential to mitigating injury during physical activity, and enhancing longevity of all Marines. The Seven Foundational Movements are Push, Pull, Squat, Hinge, Lunge, Plank, and Rotation. Despite the load, implement, task, or location; the seven foundational movements are the basis of movement. The FMA should only be implemented by personnel with the appropriate training in movement assessment. Contact your local SME (e.g. FFI/FFIT, HITT Instructor) to perform the assessment.

**Individual Performance Assessment (IPA)**

The IPA is a collection of events to measure the physical fitness status of Marines beyond the PFT, and CFT. The purpose of the IPA is to develop a thorough understanding of the strengths and weakness of Marines, and assist in creating a detailed training schedule to address any identified areas of weakness for the unit and individuals. The events will test a Marine’s lower body power, lower body strength, upper body strength, agility, and anaerobic endurance.

**Scoring:**

* If the Marine is not able to perform the movement due to injury, undesired pain, or unknown dysfunction; they should be referred to a subject matter expert for further evaluation, and the event should be recorded as a fail.
* The Marine has two opportunities to perform the exercises. If there are left and right sided movement, two attempts are allotted for each side.
* All tests are scored.
1. **Bench Press**

Equipment: Bench, 45lb Barbell, Plates. Cues: Marine will be given ample opportunity to warm up in order to reach a one rep max in two attempts. The Marine will lay on the bench; eyes directly underneath the bar with the head, back, and hips in constant contact with the bench throughout the entire lift. Feet will be placed in a comfortable position on the ground and maintain contact throughout the entire lift. Marine will grasp the bar slightly outside of shoulder width. While maintaining an active core, the Marine will un-rack the bar, lower the weight in a controlled manner to the chest, and then execute a horizontal push until arms are fully locked out. A spotter is required, and may assist with un-racking and re-racking the weight, or when the Marine is unable to complete the horizontal push.

Passing criteria:

* The bar must lowered in a controlled manner to the chest.
* Arms must fully lock at the top position without assistance from the spotter.
* Head, back, hips, and feet must stay in constant contact throughout the entire lift.
* Record maximum weight completed.
1. **Broad Jump**

Equipment: Measuring Tape. Cues: Stand with feet shoulder width apart at the edge of the tape. Marine will jump as far forward as he/she can, two feet leaving the deck, and two feet landing.

Passing criteria:

* Stick landing without stuttering or hopping.
* Knee remains in line and does not cave in or out during landing.
* Land with full body control.
* Record distance to the nearest .5 inch at the heel.
1. **Hex Bar Deadlift**

Equipment: Hex Bar, Plates, Rubber Mats. Cues: Marine will be given ample opportunity to warm up in order to reach one rep max in two attempts. Marine will step into the bar with feet hip width apart. They will unlock the knees and hinge at the hips until max load can be felt in the hamstrings and glutes and then drop the hips down keeping the chest up until the Marine can grasp the bar with a neutral grip. The Marine will stand up with the bar keeping the shoulders, hips, and the bar ascending at the same time.

Passing criteria:

* Marine fully stands up with body moving in one line (shoulders, hips, knees, toes).
* Record maximum weight complete.
1. **Pro-Agility (5-10-5)**

Equipment: Agility Cones, Stopwatch. Marine will start exercise when they are ready (time will start on Marine’s first movement). Beginning at the center cone while facing the tester, Marine will cut and sprint to the far right cone, then changes directions by cutting and sprints forward to the far left cone, cuts again, and sprints forward thru the center/starting cone. Time stops once Marine passes the center/starting cone. Marine will perform drill twice to each side for a total of 4 sprints.

Passing criteria:

* Touch two end cones.
* Completely sprint through middle cone.
* Record best time for each direction.
1. **300 Yard Shuttle Run**

Equipment: Agility Cones, Stopwatch. Measure cones 25 yards apart. On tester’s “GO”, Marine sprints forward to the 2nd cone, cuts, and sprints back to the 1st cone. Without stopping, Marine repeats sprint for a total of 6 times (down and back). Upon completing the last shuttle, Marine will be given a two minute rest before performing the shuttle run a second time.

Passing criteria

* Touch cone on each pass.
* Record time for each set.

**Goal Setting**

Goals should be SMART (Specific, Measurable, Achievable, Relevant, Time-bound).

**Specific** goals are simplistically written and clearly define the what, why, and how of the physical fitness program. These qualities are answered by the mission and the assessment of individual unit members.

**Measurable** goals provide tangible evidence, such as improving performance during the IPA, PFT, and CFT, decreasing assignments to BCP, decreasing injury rate, and improving mission readiness.

**Achievable** goals are challenging, but are defined well enough that the goal may be reached. The intent is to use sound science and logic to define goals that do not defy human physiology, and account for Marines that require the greatest improvement.

**Relevant** goals focus on the needs of the unit and individuals, and do not stray from the mission. The bottom line is to keep the focus on the individuals being trained.

**Time-bound** goals define a time frame that creates a practical sense of urgency. They may be categorized into short-term and long-term goals to better structure outcomes. Short-term goals are the stepping stones to achieve long-term goals, or desired end state.

*Example Long-term Goal*: Improve the max pull-up for unit members by an average of 10% in 6 weeks.

*Example Short-term Goal*: Improve the max pull-up for unit members by an average of 5% in 4 weeks.

**Program Design Recommendations**

The following recommendations are based on current and relevant literature, and are intended for achieving and maintaining a good quality of health and physical fitness for adults age 18-65 years. The recommended frequency for each component may not improve all Marine’s current physical fitness condition, but are intended to develop healthful longevity and sustainable mission readiness. Therefore, it is vitally important to understand the needs of the unit and its individual members when developing a structured physical fitness program.

**Components and Frequency:**

1. **Cardiorespiratory Training**: The purpose of cardiorespiratory, or aerobic, training is to develop and maintain the functions of the cardiovascular and respiratory systems. Aerobic training generally consist of activities that maintain a constant pace, or intensity, for a specified duration. Literature recommends duration for aerobic training as ≥ 10 minutes bouts, but no more than 30 minutes per day for maintenance and development of the cardiorespiratory systems and mitigation of musculoskeletal injuries. Note the intensity of the training modifies the duration requirement.
	1. **Moderate-Intensity Aerobic Training**: Generally considered activities equivalent to very brisk walking (at 4 mph) that noticeably accelerates heart rate. Note that a Marine’s training status and innate physical capability may require alternative activities, pace, or intensity to achieve the intended training effect (i.e. train in ability groups).
	2. **Vigorous-Intensity Aerobic Training**: Exemplified by activities such as: jogging at 6 mph, running at 7 mph, and competitive sporting events, that substantially increase heart rate and produce rapid breathing. As previously noted, a Marine’s training status and innate physical capability may require alternative activities, pace, or intensity to achieve the intended training effect (i.e. train in ability groups).

|  |
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| **Key Points** |
| * **Moderate-Intensity** **Aerobic Training**:
* ≥ 5 days/week for ≥ 30 minutes/day
* Total ≥ 150 minutes/week
* **Vigorous-Intensity** **Aerobic Training**:
* ≥ 3 days/week for ≥ 20 minutes/day
* Total ≥ 75 minutes/week
* Or combination to achieve ≥ 100-120 minutes/week
 |

\*For an exhaustive list of activities categorized by intensity visit: http://prevention.sph.sc.edu/tools/compendium.htm

1. **Resistance Training**: The purpose of resistance training is to maintain and increase muscular strength and endurance of muscles and tendons, and stimulate an increase in bone formation in young adults and slow bone loss in middle age adults. It is recommended to perform a minimum of 8-10 exercises using major muscle groups on two or more nonconsecutive days each week. The weight, or intensity, used should result in substantial muscle fatigue after 8-12 repetitions for each exercise. Greater than or equal to 2 sets are effective in improving muscular strength, power, and endurance. Note these are general recommendations for achieving and maintaining a good quality of health and physical fitness. For further guidance seek assistance from local SMEs including: FFIs, MCCS, SemperFit, HITT, etc.

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| **Key Points** |
| * ≥ 2-3 days/week for each major muscle group
* 8-10 exercises using major muscle groups
* 8-12 repetitions for each exercise
* ≥ 2 sets for improving muscular strength, power, and endurance
 |

1. **Neuromotor Training**: The term neuromotor specifically pertains to the body’s nerves and muscles, and the development of nerve impulses to the muscles. The purpose of neuromotor exercise training is to maintain and enhance body control, and incorporates motor skill activities that develop balance, agility, coordination, gait, and proprioception, or awareness of the body in space. Current literature recommends training ≥ 2-3 days per week with exercise sessions of ≥ 20-30 minutes, or total of ≥ 60 mins per week. Typically, neuromotor training requirements may be achieved in combination with resistance training by manipulating the position from which exercises are performed (e.g. half-kneeling, kneeling, standing, split stance, single leg, etc.).

|  |
| --- |
| **Key Points** |
| * ≥ 2-3 days/week
* ≥ 20-30 minutes/session, or total of ≥ 60 minutes/week
* Typically performed in combination with Resistance Training
 |

1. **Flexibility and Mobility Training:** The purpose of flexibility training is to improve and maintain range of motion in muscle-tendon groups, and associated joints. Research has shown consistently that joint range of motion, or mobility, is improved briefly after flexibility exercises, and constantly following 3-4 weeks of regular stretching at least 2-3 times per week. Literature recommends holding a stretch for 10-30 seconds at the point of tightness or slight discomfort for a total of 60 seconds per flexibility exercise for each major muscle-tendon group. Various types of flexibility exercise can improve range of movement. Dynamic, or slow movement stretching, and Ballistic, or “bouncing” stretches, show the greatest benefit when used prior to activity to assist in preparing muscles for movement. Static stretching is best applied post-activity, or on recovery days and has been shown to elicit greater gains in joint range of motion.

|  |
| --- |
| **Key Points** |
| * **Dynamic Stretching**:
* Slow movement stretching involving gradual transition from one body position to another
* Repeated several times with gradual increase in reach and range of motion
* Greatest benefit pre-activity
* **Ballistic Stretching**:
* Bouncing stretches that use momentum of the moving body segment to produce stretch
* Greatest benefit pre-activity
* **Static Stretching:**
* ≥ 2-3 days/week
* 10-30 seconds/stretch for a total of 60 seconds/muscle-tendon group
* Greatest benefit post-activity/recovery
 |

1. **Recovery Training:** Recovery is an imperative component of physical training, but is commonly negated for various reasons. During development of a physical training program it is important to identify strenuous training days and plan recovery events for the following day(s). As stated previously, delayed onset muscle soreness (DOMS) peaks around 48 hours after strenuous events and makes exercise difficult. To facilitate recovery various techniques may be implemented, but the common theme is to reduce the training load, or intensity, to provide the body adequate time to repair and rebuild. The two most general classifications of recovery training are: Passive, and Active recovery.

Passive recovery is identified by periods that drastically limit or entirely restrict activity following strenuous events. Although this recovery style provides the necessary time for the body to repair and rebuild literature has shown consistently that Active recovery is more beneficial. Active recovery is defined by periods that reduce the intensity of training loads, and focus on creating a more ideal environment within the body for recovery to occur, but do not completely restrict activity. Flexibility and Mobility training, and Moderate-Intensity Aerobic training are optimal for active recovery days. These training events focus on the parts of the body affected by the previous day(s) strenuous events (e.g. stretching the sore muscle-tendon groups, and mobilizing stiff joints), but do not create excessive fatigue themselves. See the guidelines for Moderate-Intensity Aerobic training, and Flexibility and Mobility training for specifics, or seek guidance from your local SME.

1. **Structuring a PT Program:** When structuring a PT program it is imperative to consider the abilities of your unit members, and the strenuous physical events that reside in your schedule first. Then begin building in the necessary additional components of a PT program. The following samples are based on the presented guidelines and meant to be visual representation of a possible program structure and progression.

***Sample 1: Beginner to Intermediate***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** | **Sunday** |
| Resistance/ Neuromotor (60 mins)Vigorous Aerobic (20 mins) | Moderate Aerobic (30 mins)Flexibility/ Mobility (30 mins) | Resistance/ Neuromotor (60 mins)Vigorous Aerobic (20 mins) | x | Moderate Aerobic (30 mins)Flexibility/ Mobility (30 mins) | Moderate Aerobic (30-45 mins) | x |

***Sample 2: Intermediate***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** | **Sunday** |
| Moderate Aerobic (30-45 mins) | Resistance/ Neuromotor (60 mins)Vigorous Aerobic (20 mins) | Moderate Aerobic (30 mins)Flexibility/ Mobility (30 mins) | Resistance/ Neuromotor (60 mins)Vigorous Aerobic (20 mins) | Moderate Aerobic (30 mins)Flexibility/ Mobility (30 mins) | Moderate Aerobic (30-45 mins) | x |

***Sample 3: Intermediate to Advance***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** | **Sunday** |
| Resistance/ Neuromotor (60 mins)Vigorous Aerobic (20 mins) | Moderate Aerobic (30 mins)Flexibility/ Mobility (30 mins) | Resistance/ Neuromotor (60 mins)Vigorous Aerobic (20 mins) | Moderate Aerobic (30 mins)Flexibility/ Mobility (30 mins) | Resistance/ Neuromotor (60 mins)Vigorous Aerobic (20 mins) | Moderate Aerobic (30-45 mins) | Moderate Aerobic (20 mins)Flexibility/ Mobility (30 mins) |

**Nutrition**

Nutrition is an integral component of a successful physical training program. The ability of a Marine to perform physically demanding programs will be limited without proper nutrition. A conscious effort should be made to tie physical demands with scientifically proven performance nutrition concepts. Minimum considerations should include proper caloric intake and meal/snack timing. These considerations should be tied to a units training/PT schedules to ensure maximum training benefit. For further guidance seek assistance from local SMEs including: FFIs, MCCS, SemperFit, Dietician/ Nutritionist, HITT, etc.

**Program Refinement**

Injury surveillance is a critical component of a successful PT program. The recording of injuries, regardless of severity, can indicate potential complications and areas of enhancement in your units program. The attached injury tracking spreadsheet allows for periodic review of the types and potential causes of injuries that occur within your PT program, and may assist in identifying necessary modifications to mitigate injuries in the future. Capturing accurate and timely data allows for more precise evaluation of potential complications; such as overtraining, lower-extremity injuries, and degraded performance. It is recommended that all injuries should be recorded, not only injuries requiring additional attention from medical provider(s) or Corpsman.

**Conclusion**

The content of this document thus far has reviewed recommendations for enhancing and considerations when developing a PT program based on scientific literature. The following templates are intended to guide the development of your unit specific PT Playbook, and are necessary for future evaluation of PT programs utilized in the Marine Corps. Additional digital documents including the Injury Log, and sample PT Playbooks are included separately for further guidance.

**Commander’s Guidance**

**Mission Statement:**

(One or two sentence statement that provides overarching direction for the program.)

**Purpose:**

(Define the intent specific to the Unit.)

**Program Methodology:**

(Identify the specific exercise protocols (e.g. FFI, HITT, etc.) utilized to achieve the end state.)

**End State:**

(Brief statement of physical attributes developed and attained at the completion of the course.)

**Physical Training Calendar**

(Insert Event Code “#(s)” on the respective day)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WK** | **MON** | **TUES** | **WED** | **THURS** | **FRI** | **SAT** | **SUN** |
| **1** |  |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |  |
| **3** |  |  |  |  |  |  |  |
| **4** |  |  |  |  |  |  |  |
| **5** |  |  |  |  |  |  |  |
| **6** |  |  |  |  |  |  |  |
| **7** |  |  |  |  |  |  |  |
| **8** |  |  |  |  |  |  |  |
| **9** |  |  |  |  |  |  |  |
| **10** |  |  |  |  |  |  |  |
| **11** |  |  |  |  |  |  |  |
| **12** |  |  |  |  |  |  |  |

**Event Code** 1

**Intent:**

(Identify the short-term and long-term goals of the current event code.)

**Session:**

(List exercise(s) and/or event(s), including relevant sets/reps, distance, and time, for Warm-up, Workout, and Cooldown)

**Uniform:**

(Identify required uniform here.)

**Equipment:**

(Identity any equipment required for the event including safety protective devices, such as: mouthguards, rigid ankle braces, etc. If NONE, state “NONE”.)

**Coordination:**

(Identify any external coordination required, such as: facilities, corpsman, vehicles/transportation, etc. If NONE, state “NONE”.)

**Coaching Points:**

(Identify any clarifications, recommendations, cautions or concerns here. If NONE, state “NONE”.)

**Event Code** 2

**Intent:**

(Identify the short-term and long-term goals of the current event code.)

**Session:**

(List exercise(s) and/or event(s), including relevant sets/reps, distance, and time, for Warm-up, Workout, and Cooldown)

**Uniform:**

(Identify required uniform here.)

**Equipment:**

(Identity any equipment required for the event including safety protective devices, such as: mouthguards, rigid ankle braces, etc. If NONE, state “NONE”.)

**Coordination:**

(Identify any external coordination required, such as: facilities, corpsman, vehicles/transportation, etc. If NONE, state “NONE”.)

**Coaching Points:**

(Identify any clarifications, recommendations, cautions or concerns here. If NONE, state “NONE”.)

**Event Code** 3

**Intent:**

(Identify the short-term and long-term goals of the current event code.)

**Session:**

(List exercise(s) and/or event(s), including relevant sets/reps, distance, and time, for Warm-up, Workout, and Cooldown)

**Uniform:**

(Identify required uniform here.)

**Equipment:**

(Identity any equipment required for the event including safety protective devices, such as: mouthguards, rigid ankle braces, etc. If NONE, state “NONE”.)

**Coordination:**

(Identify any external coordination required, such as: facilities, corpsman, vehicles/transportation, etc. If NONE, state “NONE”.)

**Coaching Points:**

(Identify any clarifications, recommendations, cautions or concerns here. If NONE, state “NONE”.)