

Chapter 15

Running

“Each morning in Africa a gazelle wakes up. It knows it must move faster than the lion or it will not survive. Every morning a lion wakes up and knows it must move faster than the slowest gazelle or it will starve. It doesn’t matter if you are the lion or the gazelle, when the sun comes up, you better be moving.”

Anonymous

Critical soldier tasks require the ability to move quickly on foot. For example, running short distances at high speed is essential to moving under direct and indirect fire. Running for long distances at a constant speed also develops endurance but should not be over-emphasized in the physical readiness training (PRT) program.

SECTION I – RUNNING

15-1. The purpose of running is to improve the overall conditioning of the soldier by developing endurance. Endurance spans a continuum between aerobic and anaerobic systems. Aerobic endurance is developed by performing low to moderate intensity activities for a long duration. Anaerobic endurance is developed by performing high intensity activities for a short duration, resting, then repeating the sequence. Aerobic training alone does not fully prepare soldiers for the functional endurance and strength requirements of common soldier physical tasks. **The analysis of the physical demands needed to successfully accomplish critical soldier tasks demonstrates a more significant requirement for anaerobic endurance.** In order to train the complete spectrum of endurance, both speed running and sustained running must be performed. The running activities described in this chapter may be performed individually or collectively.

TRAINING AREA

15-2. Running will be conducted over a variety of terrain:

- hardball (improved and unimproved roads)
- grassy field
- track
- wooded area
- hills
- tank trails

UNIFORM

15-3. The commander specifies the appropriate uniform, based on the type of running activity to be performed. PRT uniforms appropriate for running are listed below:

- PFU
- BDUs and running shoes
- BDUs and boots
- fighting load

EQUIPMENT

15-4. Equipment IAW installation safety policy (flashlights, reflective vests/bands, etc.).

FORMATION

15-5. Formations used in unit running are platoon, company and battalion in column. Other types of running, such as terrain running or 30:60s will be conducted in one or more columns.

LEADERSHIP

INSTRUCTION AND EXECUTION

15-6. The PRT leader and AIs must be able to demonstrate and lead all types of running activities. They must also be familiar with formations, commands, cadence, and classification of soldiers into ability groups. Running may be performed individually or collectively. When conducting collective training, running is optimized when soldiers are grouped by near-equal ability. The best way to assign soldiers to ability groups is by their most recent APFT 2-mile-run times. The optimal time and range between each group is 60 seconds or less. When performing formation running, the PRT leader should be to one side of the column or group and toward the rear, in order to have a full view of all the soldiers. Speed running may be conducted individually, collectively in ability groups, or in mass on a track or designated running area. When conducting speed running in mass, the PRT leader will control running and recovery times from the center of the track or running area using a whistle and stopwatch. AIs may run with the soldiers providing positive motivation and running form corrections. When conducting speed running within ability groups, the ability group leader dictates the running/recovery times and/or the number of hill repeats to be performed.

PRECISION

15-7. Soldiers should be instructed on the running form guidelines in Section II. Running with optimal body mechanics allows greater efficiency with less chance of injury. Soldiers should strive to demonstrate and maintain proper running form during all running activities.

PROGRESSION

15-8. In the toughening phase, soldiers perform 30:60s, the 300-yard Shuttle Run, Hill Repeats, and formation running. Initially, soldiers will perform five repetitions of 30:60s and progress to ten repetitions by adding no more than one repetition every two weeks. The shuttle run is performed only one time when performed as an activity during a PRT session. Hill Repeats start with just a few repetitions and add no more than one repetition every two weeks. The PRT leader will designate the number of repetitions and signal the start of each group or individual. Formation running is conducted for no longer than 20 minutes in the toughening phase.

15-9. In the sustaining phase, soldiers perform 60:120s, the 300-yard Shuttle Run, Hill Repeats, formation running, and terrain running. Soldiers will start at four repetitions of 60:120s and progress to six repetitions by adding no more than one repetition every two weeks. Hill Repeats start with just a few repetitions and add no more than one repetition every two weeks. The PRT leader will designate the number of repetitions and signal the start of each group or individual. Formation running progresses to no longer than 30 minutes in the sustaining phase. Terrain running is only conducted in the sustaining phase. Distances should generally be 1 mile for densely wooded areas and up to 2 miles on tanks trails and open fields.

INTEGRATION

15-10. The variety of running activities conducted during PRT integrate anaerobic and aerobic training (30:60s, 60:120s, and AGR) as well as the development of soldier skills (300-yard Shuttle Run).

COMMANDS

15-11. Calling of cadence is the responsibility of the PRT leader or ability group leader. The command, "***Double Time, MARCH***" is used to begin formation running. The command, "***Quick Time, MARCH***" is used to terminate formation running (refer to FM 22-5). When conducting speed running in mass (30:60s or 60:120s), the PRT leader will control work (running) and recovery (walking) times from the center of the track or running area. After preparation and any previous PRT activities, the soldiers will jog for approximately $\frac{1}{4}$ mile before the first repetition is performed. The PRT leader will initiate the work (run) interval by signalling with one whistle blast. At the conclusion of the work (run) interval (30 or 60 seconds), the PRT leader will signal with two short whistle blasts. At the conclusion of the recovery (walk) interval (60 or 120 seconds), the PRT leader will again signal with one short whistle blast. This sequence is repeated until the desired number of repetitions are completed. Soldiers of varied abilities will be running for different numbers of repetitions. The soldiers who finish early will continue to walk until all soldiers have completed the activity. At the end of the activity the entire group will walk for 2-3 minutes prior to performing any subsequent activities or the Recovery Drills.

SECTION II – RUNNING FORM

15-12. Running form varies among soldiers and is largely a matter of what feels natural. Many individual variations may be successful. Attempts to force soldiers to conform to one standard may do more harm than good. However, there are some basic guidelines that may improve running efficiency without overhauling the natural stride. Generally, the form and technique for all types of running is fairly constant. The following information addresses optimal running form for the major body segments. Soldiers that use this information to change their running form must do so gradually, always starting with minor changes. Refer to Figure 15-1.



Figure 15-1. Running Form

HEAD

15-13. The head should be held high, with the chin neither pointing up nor down. Allowing the head to ride forward puts undue strain on the muscles of the upper back.

SHOULDERS

15-14. The shoulders should assume a neutral posture, neither rounded forward nor forcefully arched backward. Rounding the shoulders forward is the most common fault in everyday posture as well as with running. This is usually associated with tightness of the chest and shoulders. Another problem occurs when the shoulders start to rise with fatigue or increased effort. This position not only wastes energy, but can also adversely affect breathing.

ARMS

15-15. Throughout the arm swing, the elbows should stay at roughly a 90-degree bend. The wrists stay straight and the hands remain loosely cupped. The arm swing should be free of tension, but do not allow the hands to cross the midline of the body.

TRUNK AND PELVIS

15-16. The trunk should remain over its base of support, the pelvis. A common problem with fatigue is allowing the trunk to lean forward of the legs and pelvis. This forces the lower back muscles to expend too much energy resisting further trunk collapse to the front.

LEGS

15-17. For distance running, much of the power is generated from below the knee. Energy is wasted as the knees come higher and the large muscles of the hips and thighs are engaged. Practice getting a strong push-off from the ankle of the back leg. This helps to naturally lengthen the stride. Lengthening the stride by reaching forward with the front leg will be counterproductive.

FEET

15-18. The feet should be pointed directly forward while running. With fatigue and certain muscle imbalances, the legs and feet will start to rotate outward. This may hinder performance and create abnormal stresses that contribute to injury.

BREATHING

15-19. Breathing should be rhythmic in nature and coordinated with the running stride. For example, perform one breath (in and out) for every four steps; in on steps one and two; out on steps three and four. Jody calls and counting cadence during sustained runs promotes rhythmic breathing. When challenged with faster paced running, jody calls are not appropriate.

SECTION III- SPEED RUNNING

15-20. **Speed running** is based on the premise that a greater amount of intense work can be performed if the work is interspersed with periods of recovery. This has readiness implications, since improvements in physical readiness are affected to a greater extent by the intensity of training than by the frequency or duration of the training. During speed running, soldiers perform a work interval in a specified time for a specific number of repetitions. The work intervals are followed immediately by an active recovery interval. Multiple work intervals cause the onset of fatigue many times during a single training session. Speed running improves the resistance to fatigue of the active muscles by repeatedly exposing them to high intensity effort. As a result of their increased anaerobic and aerobic

endurance, soldiers will be able to sustain performance of physically demanding tasks at a higher intensity for a longer duration. The training stimulus associated with speed running occurs from the combination of work and recovery. A very short recovery period may not allow the body to recover sufficiently to perform the next work interval at the desired intensity. A very long recovery period may allow the body to recover too much and some of the training effect would be lost. Generally, duration of the recovery period depends on the intensity and duration of the work interval. An appropriate work to recovery ratio for improving soldier readiness is 1:2. Speed running has three variables: work duration, recovery duration, and the number of repetitions as described in the paragraphs that follow. The speed running activities appropriate for soldiers to improve physical readiness are intervals (30:60s in the toughening phase and 60:120s in the sustaining phase), the 300-yard Shuttle Run, and hill repeats.

INTERVALS

30:60S

15-21. Soldiers in the toughening phase will perform 30:60s, adhering to a work to recovery ratio of 1:2. During the work interval, soldiers will run at a perceived 80% effort for 30 seconds. During the recovery interval, soldiers will walk for 60 seconds. This is one repetition of 30:60s. Initially, soldiers will perform five repetitions. Soldiers will progress to ten repetitions by adding no more than one repetition every two weeks. Soldiers will be performing different numbers of repetitions during the same activity period, based on the number of weeks they have been performing 30:60s. The soldiers who finish early will continue to walk until all soldiers have completed 30:60s. The entire group will walk for two to three minutes prior to performing any subsequent activities or the Recovery Drills.

60:120S

15-22. Soldiers in the sustaining phase will perform 60:120s, adhering to a work to recovery ratio of 1:2. During the work interval, soldiers will run at 70-80% perceived effort for 60 seconds. During the recovery interval, soldiers will walk for 120 seconds. This is one repetition of 60:120s. Soldiers will start at four repetitions and progress to six repetitions by adding no more than one repetition every two weeks. Soldiers will be performing different numbers of repetitions during the same activity period, based on the number of weeks they have been performing 60:120s. The entire group will walk for two to three minutes prior to performing any subsequent activities or the Recovery Drills.

300-YD SHUTTLE RUN

15-23. The 300-yard Shuttle Run develops the ability to repeatedly sprint after changing direction. It is an indicator of the soldier's anaerobic endurance, speed, and mobility. The 300-Yard Shuttle Run is conducted from the extended rectangular formation (covered) as shown in Figure 15-2. On the command, "*Get Set*," one soldier in each column will move behind the starting line and assume the ready position of their choice. On the command,

“GO,” the soldier will run to a line 25-yards from the starting line. They must touch the line or beyond it with the left hand, then return to touch the starting/finish line with the right hand. This is considered one repetition. The soldier will perform six repetitions alternating touching the lines with opposite hands. On the last (sixth) repetition, the soldier will run past the starting/finish line without touching it. The PRT leader and AIs will ensure that soldiers run in their own lanes and run with their head up to watch for other soldiers who may be moving in an opposite direction. The shuttle run is performed only one time when performed as an activity during a tougening phase PRT session.

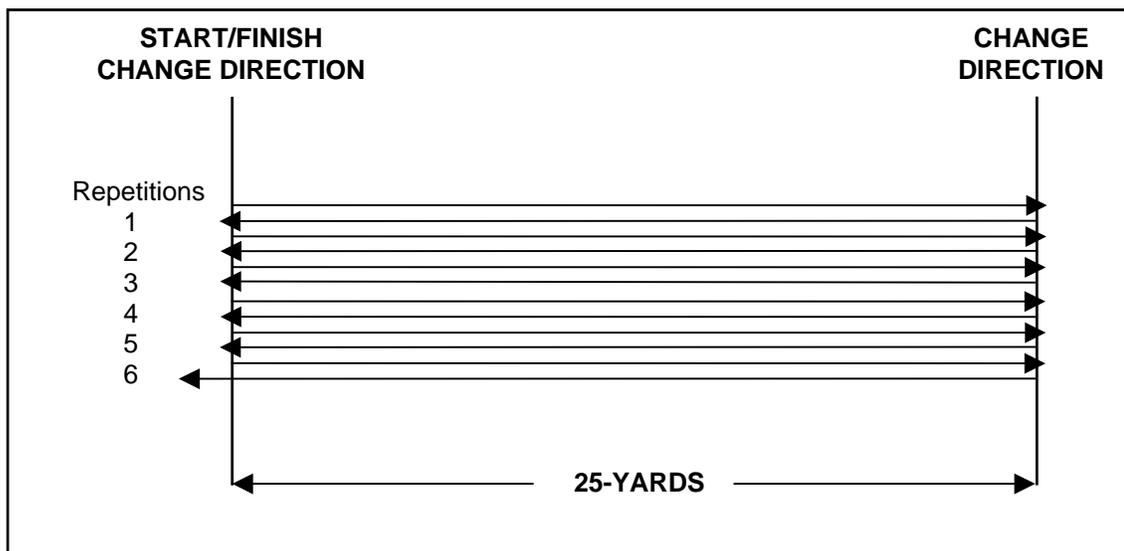


Figure 15-2. The 300-yard Shuttle Run

HILL REPEATS

15-24. Hill repeats are an effective means of developing explosive leg strength and anaerobic endurance. The intensity and duration of the repetitions will depend on the characteristics of the hill. A short steep hill is ideal for explosive efforts (15-20 seconds up and 30-60 seconds down for five to ten repetitions). Long, gentle slopes are best for sustained efforts of moderate intensity (45-60 seconds up and 90-120 seconds down for four to six repetitions). It is important to maintain good form during hill repeats. Lean slightly forward without bending at the waist. On steep hills, the knees will need to rise higher than normal to permit a full stride. As with other forms of speed running, start with just a few repetitions and add no more than one repetition every two weeks. The PRT leader will designate the number of repetitions and signal the start of each group or individual.

SECTION IV – SUSTAINED RUNNING

15-25. Sustained running develops aerobic endurance and the ability to maintain continuous running. Intensity (pace) and duration (time/distance) are factors that influence improvement in sustained running. The following sustained running activities may be conducted individually or collectively.

FORMATION RUNNING

15-26. Formation running may be conducted by unit or in ability groups. There are intangible rewards gained from running with a group (esprit de corps, team building, and discipline).

UNIT FORMATION RUNNING

15-27. **Unit formation running is based on a time and distance that can be achieved with unit integrity and a display of unit cohesion.** Unit formation runs are organized by platoon, company, battalion, etc.; **not by ability.** Keeping a large unit in step, with proper distance intervals, and correct running form offers intangible benefits that commanders desire. **Commanders should not use unit formation runs as the foundation of their PRT program. They should be performed no more than once per quarter due to the limited training effect offered for the entire unit.** The unit formation run begins with a gradual increase in intensity for the first three minutes or ¼ mile, continues at a prescribed target pace for a specified time and concludes with a gradual decrease in intensity for the last three minutes or ¼ mile. The gradual increase and gradual decrease quarter miles will be conducted at a pace two minutes slower than the target pace. **The unit commander is responsible for establishing a pace achievable by all soldiers in the unit.**

ABILITY GROUP RUNNING

15-28. **Ability groups are designed to challenge and improve each soldier appropriate to their ability. The optimal time and range between each group is 60 seconds or less.**

15-29. The run begins with a gradual increase in intensity for three minutes or the first ¼ mile, then continues at a prescribed target pace. This pace should challenge each member of the group, yet maintain group integrity. The run concludes with a gradual decrease in intensity for three minutes or the last ¼ mile. Ability group runs are conducted for no longer than 20 minutes in the toughening phase and no longer than 30 minutes in the sustaining phase. The gradual increase and gradual decrease in pace at the beginning and end of the run is conducted at a pace two minutes slower than the target pace.

TERRAIN RUNNING

15-30. Terrain running apply the “Train as You Fight” principle to PRT. Running through local training areas, over hills and around obstacles improves mobility, endurance, and the ability to stop, start, and change

direction. Terrain running is designed to be conducted with small unit integrity. This type of running is best performed by squads and sections. Terrain running is only conducted in the sustaining phase. Distances should generally be 1 mile for densely wooded areas and up to 2 miles on tanks trails and open fields. Intensity is relative to the terrain. PRT leaders will form the unit and maintain an interval suitable for the terrain and environmental conditions. Soldiers should perform terrain running in BDUs and well-fitting boots. Soldiers may progress to performing terrain running under fighting load.

SECTION IV- SUMMARY

15-31. The running activities in this chapter develop the endurance demanded of critical soldier tasks. A properly designed PRT running program strikes a balance between speed and sustained running to train the full spectrum of endurance. Chapters 4 and 5 provide the template for commanders and PRT leaders to implement running activities into their PRT programs.