CITADEL PHYSICAL READINESS TRAINING

NOT EFFECTIVE UNTIL 1 JULY 2015
FOR CALISTHENICS

For instructional Purposes, place the formation at ease, fist two ranks take a knee last 2 ranks stagger so that they can observe the instructions.

Demonstrator POST:

The next exercise that I will name, explain, and have demonstrated is the __________________________, observe my demonstrator.

The Start Position is _______________________________________________________.

On Count one, ____________________________________________________________.

Ready, One.

On Count two, ____________________________________________________________.

Ready, Two.

On Count Three, ___________________________________________________________.

Ready, Three.

On Count four, ____________________________________________________________.

Ready, Four.

Position of Attention, Move
At Ease

What are your questions concerning this exercise as you have just seen demonstrated by the numbers?

Demonstrator, Attention
The (Name of Exercise). The demonstrator will repeat the name of the exercise
Start Position, MOVE
In Cadence, Exercise: One, Two, Three – (ONE); Once, Two, Three – (TWO) - ONE, TWO, THREE – (BULLDOGS).

What are your questions concerning this exercise as you have just seen demonstrated at normal Cadence?

Have the Cadets fall back into formation – The (Name of the Exercise) – (s Repeat), By the Numbers, - Ready, One – Continue the same sequence as above.
The key to success in PRT execution is skillful leadership with trained assistant instructors (AIs) who employ command presence, command voice, and organized instruction in the extended rectangular formation. This chapter describes in detail the PRT commands, formations, positions, and counting cadence.

SECTION 1- COMMANDS

IMPORTANCE OF PROPER COMMANDS

The importance of proper commands when conducting PRT cannot be underestimated. Invariably, PRT performance will reflect the quality of its commands. Indifferent commands produce indifferent performance. When the command is given distinctly, concisely, with energy, and with proper regard to rhythm, Cadet performance will reflect it. Refer to TC 3-21.5, *Drill and Ceremony*, for detailed information of command voice, posture and presence.

PRT COMMANDS

There are two kinds of commands used in PRT: preparatory commands, and commands of execution. The preparatory command describes and specifies what is required. All preparatory commands are given with rising voice inflection. The command of execution calls into action what has been prescribed. The interval between the two commands should be long enough to permit the Cadet to understand the first one before the second one is given.

When a set of conditioning exercises is employed, Cadets assume the proper starting position of each exercise on the command, “Starting position, MOVE.” When conducting exercises, Cadets are commanded to return to the position of attention from the terminating position of the exercise before commanded to assume the staring position for the next exercise. PRT leaders use the command, “Position of attention, MOVE,” to command Cadets to the position of attention from an exercise terminating position.

COMMAND DELIVERY

When the PRT leader addresses the formation and is commanding movement or announcing the name of an exercise, he does so from the position of attention. Exceptions are exercises that change position without returning to the position of attention.
When exercises are performed, Cadets assume the proper starting position of each exercise on the command “Starting position, MOVE.” When conducting exercises, Cadets are commanded to return to the position of attention from the terminating position of the exercise before they are commanded to assume the starting position for the next exercise. PRT leaders use the command “Position of Attention, MOVE”, to bring Cadets to the position of attention from an exercise terminating position.

For example, this is how the PRT leader would conduct exercise 4, thigh stretch in the RD.

- From the position of attention, the PRT leader commands, “THE THIGH STRETCH.”
- Cadets respond, “THE THIGH STRETCH.”
- From the position of attention, the PRT leader commands, “Starting Position, MOVE.”

The PRT leader and Cadets assume the starting position for the thigh stretch.

- From the starting position, the PRT leader commands, “Ready, STRETCH.”
- To change position, the PRT leader first commands, “Starting Position, MOVE.”
- From the starting position, the PRT leader commands, “Change Position, Ready, STRETCH.”
- Upon termination of the exercise, the PRT leader commands, “Starting Position, MOVE.”
- The PRT leader assumes the position of attention and commands, “Position of Attention, MOVE.”

SECTION II- FORMATION

EXTENDED RECTANGULAR FORMATION

The Citadel’s traditional formation for PRT activities is the extended rectangular formation. It is best for platoon- to company-size formations because it is simple and easy to assume.

PLATOON ASSEMBLY

The PRT leader will position a platoon-size unit in a line formation so that the unit is centered and five paces away from the PRT platform after they have assumed the rectangular formation. Refer to Figure 1-1.

The PRT leader gives the following commands:

- “Extend to the left, MARCH.” Cadets in the right flank file stand fast with their left arm extended sideward with palm down, fingers and thumbs extended and joined. All other Cadets turn to the left and double-time forward. After taking the sufficient number of steps, all Cadets face the front and extend both arms sideward with palms down, fingers and thumbs extended and joined. The distance between fingertips is about 12 inches and dress is to the right.
- “Arms downward, MOVE.” The Cadets lower their arms smartly to their sides. Cadets in the right flank file lower their left arms to their sides.
- “Left, FACE.” Cadets execute the left face.
- “Extend to the left, MARCH.” Cadets in the right flank file stand fast with their left arms extended sideward with palm down, fingers and thumbs extended and joined. All other Cadets turn to the left and double-time forward. After taking the sufficient number of steps, all Cadets face the front and extend both arms sideward with palms down, fingers and thumbs
extended and joined. The distance between fingertips is about 12 inches and dress is to the right.

- **“Arms downward MOVE.”** Cadets lower their arms smartly to their sides. Cadets in the right flank file lower their left arms to their sides.
- **“Right, FACE.”** Cadets execute the right face.
- **“From front to rear, COUNT OFF.”** The front Cadet in each column turns his head to the right rear, and then calls off, “ONE,” and face the front. Successive Cadets in each column call off in turn “TWO,” “THREE,” “FOUR,” and so on. The last Cadet in each column will not turn his head and eyes to the right while sounding off.
- **“Even number to the left, UNCOVER.”** Even-numbered Cadets side step to the left squarely in the center of the interval, bringing their feet together. (See Figure 1-1.)

![Figure 1-1. Platoon rectangular formation](image)

**SECTION III- POSITIONS**

When a set of conditioning exercises is employed, Cadets assume the proper starting position of each exercise on the command “Starting Position, MOVE.” When conducting exercises, Cadets are commanded to return to the position of attention from the terminating position of the exercise, before commanded to assume the starting position for the next exercise.

**SQUAT POSITION**

To assume the squat position from the position of attention, lower the body by bending the knees and place the hands with palms down and fingers spread, shoulder width in front of the body, and in between the bent legs. Raise the heels, supporting the body weight on the balls of the feet and hands. Direct the head and the eyes to a point about three to four feet in front of the body (Figure 1-2).
SECTION IV — CADENCE

Counting cadence ensures that exercises are performed at the appropriate speed. The cadence count indicates termination of movement to each position. The cumulative count is a method of indicating the number of repetitions of an exercise on the fourth count of a 4-count exercise. The use of the cumulative count is required for the following reasons:

- It provides the PRT leader with an excellent method of counting the number of repetitions performed.
- It serves as motivation. Cadets like to know the number of repetitions they are expected to perform.
- It prescribes an exact amount of exercise for any group.

Cadence speed is described as SLOW or MODERATE. The speed of each cadence is listed below:

- SLOW – 50 counts per minute.
- MODERATE – 80 counts per minute.

Once Cadets have learned the exercises by the numbers, the PT leader merely needs to indicate the name of the exercise, command the Cadets to assume the starting position, and start them exercising to cadence. For example, this is how the PT leader begins Exercise 1 of Conditioning Drill 1, The Bend and Reach to cadence:

- The PT leaders states, “The Bend and Reach.”
- The Cadets respond, “The Bend and Reach.”
- The PT leader commands, “Starting Position, MOVE.” Cadets assume the starting position.
- The PT leader commands, “In Cadence,” (Cadets respond, “In Cadence”), “EXERCISE.”
- The command EXERCISE initiates movement to the position of count one.
**2-COUNT EXERCISE CADENCE**

2-count exercises are performed during CD2, CL1 and CL2. A 2-count exercise is counted as follows:

- The PRT leader counts, “UP, DOWN.”
- The Cadets respond, “ONE.”
- The PRT leader counts, “UP, DOWN.”
- The Cadets respond, “TWO.”
- The PRT leader counts, “UP, DOWN.”
- The Cadets respond, “THREE,” and so forth.

**4-COUNT EXERCISE CADENCE**

4-count exercise is counted as follows:

- The PRT leader counts, “ONE, TWO, THREE.”
- The Cadets respond, “ONE.”
- The PRT leader counts, “ONE, TWO, THREE.”
- The Cadets respond, “TWO.”
- The PRT leader counts, “ONE, TWO, THREE.”
- The Cadets respond, “THREE,” and so forth.

**8-COUNT EXERCISE CADENCE**

An 8-count exercise is counted as follows:

- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN.”
- The Cadets respond, “ONE.”
- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN.”
- The Cadets respond, “TWO.”
- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN.”
- The Cadets respond, “THREE,” and so forth.

**12-COUNT EXERCISE CADENCE**

A 12-count exercise is counted as follows:

- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE, TEN, ELEVEN.”
- The Cadets respond, “ONE.”
- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE, TEN, ELEVEN.”
- The Cadets respond, “TWO.”
- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE, TEN, ELEVEN.”
- The Cadets respond, “THREE,” and so forth.
To terminate an exercise, the PRT leader will raise the inflection of his voice while counting out the cadence of the last repetition. The Cadets and PRT leader respond with “HALT” upon returning to the starting position.

**TERMINATING A 2-COUNT EXERCISE**

A 2-count exercise is terminated as follows:

- The PRT leader counts, “UP, DOWN.”
- The Cadets respond, “FOUR.”
- The PRT leader counts “UP, DOWN.” (With voice inflection.)
- The Cadets and PRT leader respond, “HALT.”
- The PRT leader commands, “DISMOUNT.”
- The Cadets dismount the climbing bars.
- The PRT leader commands, “Position of attention, MOVE.”
- The Cadets assume the position of attention.

**TERMINATING A 4-COUNT EXERCISE**

A 4-count exercise is terminated as follows:

- The PRT leader counts, “ONE, TWO, THREE.”
- The Cadets respond, “NINE.”
- The PRT leader counts, “ONE, TWO, THREE.” (With voice inflection.)
- The Cadets and PRT leader respond, “HALT.”
- The PRT leader commands, “Position of attention, MOVE.”
- The Cadets assume the position of attention.

**TERMINATING AN 8-COUNT EXERCISE**

An 8-count exercise is terminated as follows:

- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN.”
- The Cadets respond, “FOUR.”
- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN.” (With voice inflection on counts five, six, and seven.)
- The Cadets and PRT leader respond, “HALT.”
- The PRT leader commands, “Position of attention, MOVE.”
- The Cadets assume the position of attention.

**TERMINATING A 12-COUNT EXERCISE**

A 12-count exercise is terminated as follows:

- The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE, TEN, ELEVEN.”
- The Cadets respond, “FOUR.”
• The PRT leader counts, “ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE, TEN, ELEVEN.” (With voice inflection on counts nine, ten, and eleven.)
• The Cadets and PRT leader respond, “HALT.”
• The PRT leader commands, “Position of attention, MOVE.”
• The Cadets assume the position of attention.

SECTION V — EXERCISE AND ACTIVITY COMMANDS

PREPARATION COMMANDS

Preparation consists of 10 4-count callisthenic exercises. Refer to Section IV again for the commands, counting, and cadence instructions used to conduct preparation.

STRENGTH AND MOBILITY ACTIVITY COMMANDS

THE GUERRILLA DRILL

The Guerrilla Drill consists of three exercises that are performed from the extended rectangular formation, covered. The commands listed below are followed when performing The Shoulder Roll, Lunge Walk, and Cadet Carry. The difference for the Cadet Carry is that Cadets change positions at the 25-yard mark and return to the start point. When performing The Guerrilla Drill, the PRT leader states, “THE SHOULDER ROLL.” The entire formation then repeats “THE SHOULDER ROLL.” After this, there is no need to say or repeat “THE SHOULDER ROLL” again. The first rank takes one step forward with the left foot, but remains at the position of attention. On the command “READY,” the first rank moves into the starting position. On the command “GO,” the first rank begins the movement. In a typical formation with four ranks, the PRT leader directs the front rank remaining in the formation to move forward. This is done immediately after the previous front rank starts the movement. The other ranks remain in place, waiting for further instructions. To accomplish this, the PRT Leader says, “Next rank, MOVE FORWARD.” Once the rank conducting the movement is approximately 12 yards into the exercise, the PRT leader says, “READY” and the rank moves into the starting position. Immediately after all Cadets are in the starting position, the command, “GO,” is given. This sequence of commands is repeated until all ranks have performed the Shoulder Roll. If there are less than four ranks, ensure that a 1:3 work-to-rest ratio is followed when performing The Guerrilla Drill.

CONDITIONING AND CALISTHENIC DRILLS

Conditioning and Calisthenics Drills consist of 4-count and 8-count exercises. Refer to Section III for the commands, counting, and cadence instructions used to conduct callisthenic Drills 1 and 2.

CLIMBING DRILLS

Climbing Drills consist of 2-count exercises. Refer to Section III for the commands, counting and cadence instructions used to conduct Climbing Drills.

DUMBBELL, BARBELL AND LOG DRILLS

Dumbbell, Barbell and Log Drills consist of 4-, 8- and 12-count exercises. Refer to Section III for the commands, counting and cadence instructions used to conduct Dumbbell, Barbell and Log Drills.
EDURANCE AND MOBILITY ACTIVITY COMMANDS

MILITARY MOVEMENT DRILLS

Military Movement Drills 1 and 2 each consist of three exercises that are performed from the extended rectangular formation, covered. The commands listed below will be followed when performing Verticals, Laterals, Power Skip, Crossovers and Crouch Run. During The Shuttle Sprint, Cadets will run the first two 25-yard intervals at the pace of the squad leader, then sprint the last 25-yard interval at their own pace. When performing movement drills, the PRT leader states, “VERTICLES” (and the entire formation repeats “verticles”). After this, there is no need to say or repeat “VERTICLES” again. The first rank takes one step forward with the left foot, but remains at the position of attention. On the command, “READY,” the first rank moves into the starting position. On the command “GO,” the first rank begins the movement. In a typical formation with four ranks, the PRT Leader will have the front rank remaining in the formation move forward. This is done immediately after the previous front rank starts the movement. The other ranks should remain in place, waiting for further instructions.

To accomplish this, the PRT Leader says, “NEXT RANK, MOVE FORWARD.” Once the rank conducting the movement is approximately 12 yards into the exercise, the PRT Leader says, “Ready,” and the rank moves into the starting position. Immediately after all Cadets are in the starting position, the command, “GO,” is given. This sequence of commands is repeated until all ranks have performed Verticals. If there are less than four ranks, ensure that a 1:3 work-to-rest ratio is followed when performing military movement drills.

COMMANDS FOR RUNNING ACTIVITIES

ABILITY GROUP AND TERRAIN RUN COMMANDS

Ability Group and Terrain Run Commands. Refer to FM 3-21.5 for specific commands.

SPEED RUNNING

Speed Running: 30:60s, 60:120s and 300-yard Shuttle Run (SR). When performing 30:60s or 60:120s, the PRT leader will use the running commands from FM 3-21.5 to begin the speed running activity with slow jogging for ¼ mile. The PRT leader will signal the start and stop of work and rest intervals by blowing a whistle. To signal the start of a work interval, the PRT leader will blow the whistle once. To signal the start of the rest interval, the PRT leader will blow two short blasts on the whistle. Upon completion of the scheduled number of repetitions of 30:60s or 60:120s, the PRT leader will command the formation to continue to walk for a minimum of three minutes prior to performing additional activities or recovery. Refer to FM 3-21.5 for marching commands. When conducting the 300-yard SR, the PRT leader will use the same commands specified for The Shuttle Sprint in MMD1. The only difference is that Cadets will perform six 50-yard repetitions to complete 300 yards.

SECTION VI — RECOVERY EXERCISE COMMANDS

RECOVERY EXERCISES

When performing recovery exercises, no verbal cadence is used. Cadets move in and out of the starting position and each exercise position on the PRT leader’s commands. Cadets hold each exercise position for
20 seconds during recovery. Do not count the seconds out loud. This is how the PRT leader conducts Recovery Exercise 1, The Overhead Arm Pull:

- The PT leader states, “THE OVERHEAD ARM PULL.” (The Cadets respond, “THE OVERHEAD ARM PULL.”)
- The PRT leader commands, “Starting position, MOVE.” (The Cadets move into the starting position, straddle stance with hands on hips).
- “The command to begin the stretch is “Ready, STRETCH.” Raise the left arm overhead and place the left hand behind the head. Grasp above the left elbow with the right hand and pull to the right, leaning the body to the right. Hold this position for 20 seconds.
- The PRT leader commands, “Starting position, MOVE.” (The Cadets move into the starting position.)
- “The command to stretch the other side of the body is “Change position, Ready, STRETCH.”

Raise the right arm overhead and place the right hand behind the head. Grasp above the right elbow with the left hand and pull to the left, leaning the body to the left. Hold this position for 20 seconds.
- The PRT leader commands, “Starting position, MOVE.” (The Cadets assume the starting position.)
- The PRT leader assumes the position of attention and commands, “Position of attention, MOVE.” (The Cadets assume the position of attention.)

MIRROR EFFECT

When leading exercise in front of the formation, the PRT leader begins the movements in count 1 to the right and continues to mirror the Cadet’s movements while facing them throughout the exercise.

SUMMARY

Successful execution of PRT is dependent upon the leadership of competent instructors and AIs. PRT leaders must not only possess the knowledge, skills, and ability to execute the PRT session, but must also present a positive image of physical fitness.

PART TWO: PREPARATION AND RECOVERY

This part discusses the conduct of PRT exercises, drills, and activities.

SECTION I- PREPARATION DRILLS

Table 8-1 lists the 10 callisthenic exercises that comprise the PD. These 10 exercises are always performed in the order and at the cadence shown.

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Repetitions, Cadence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bend and Reach</td>
<td>5-10 repetitions, slow</td>
</tr>
<tr>
<td>2. Rear Lunge</td>
<td>5-10 repetitions, slow</td>
</tr>
<tr>
<td>3. High Jumper</td>
<td>5-10 repetitions, moderate</td>
</tr>
<tr>
<td>4. Rower</td>
<td>5-10 repetitions, slow</td>
</tr>
</tbody>
</table>
PREPARATION DRILL

EXERCISE 1: BEND AND REACH

**Purpose:** This exercise develops the ability to squat and reach through the legs. It also serves to prepare the spine and extremities for more vigorous movements, moving the hips and spine through full flexion (Figure 8-1).

**Starting Position:** Straddle stance with arms overhead, palms facing inward, fingers and thumbs extended and joined.

**Cadence:** SLOW

**Count:**

1. Squat with the heels flat as the spine rounds forward to allow the straight arms to reach as far as possible between the legs.
2. Return to the starting position.
3. Repeat count one.
4. Return to the starting position.

![Figure 8-1. Bend and reach](image)

**Check Points:**

- From the starting position, ensure that Cadets have their hips set, their abdominals tight, and their arms fully extended overhead.
- The neck flexes to allow the gaze to the rear.
- This brings the head in line with the bend of the trunk.
The heels and feet remain flat on the ground. On counts 2 and 4, do not go past the starting position.

**Precautions:** This exercise is always performed at a slow cadence. To protect the back, move into the count one position in a slow, controlled manner. Do not bounce into or out of this position in a ballistic manner, as this may place an excessive load on the back.

**PREPARATION DRILL**

**EXERCISE 2: REAR LUNGE**

**Starting Position:** Straddle stance with hands on hips (Figure 8-2).

**Cadence:** SLOW

**Count:**

1. Take an exaggerated step backward with the left leg, touching down with the ball of the foot.
2. Return to starting position.
3. Repeat count one with the right leg.
4. Return to the starting position.

**Check points:**

- Maintain straightness of the back by keeping the abdominal muscles tight throughout the motion.
- After the foot touches down, allow the body to continue to lower. This promotes flexibility of the hip and trunk.
- On counts 1 and 3, step straight to the rear, keeping the feet directed forward.
- When viewed from the front, the feet maintain their distance apart both at the starting position and at the end of the counts 1 and 3. Keep the rear leg as straight as possible but not locked and the rear heel off the ground.

**Precautions:** This exercise is always performed at a slow cadence. On counts 1 and 3, move into position in a slow, controlled manner. If the cadence is too fast, it will be difficult to go through a full range of motion.
EXERCISE 3: HIGH JUMPER

**Purpose:** This exercise reinforces correct jumping and landing, stimulates balance and coordination, and develops explosive strength (Figure 8-3).

**Starting Position:** Forward leaning stance, palms facing inward, fingers and thumbs extended and joined.

**Cadence:** MODERATE

**Count:**

1. Swing arms forward and jump a few inches.
2. Swing arms backward and jump a few inches.
3. Swing arms forward and vigorously overhead while jumping forcefully.
4. Repeat count 2. On the last repetition, return to the starting position.

![Figure 8-3. High jumper](image)

**Check Points:**

- At the starting position, the shoulders, the knees, and the balls of the feet should form a straight vertical line.
- On count 1, the arms are parallel to the ground.
- On count 3, the arms should be extended fully overhead. The trunk and legs should also be aligned.
- The cadet is jumping on each count. On counts 1, 2, and 4, the jumps are only 4-6 inches off the ground. On count 3, the cadet jumps higher (6-10 inches) while maintaining the posture pictured in Figure 8-3.
- On each landing, the feet should be directed forward and maintained at shoulder distance apart. The landing should be “soft” and proceed from the balls of the feet to the heels.
- The vertical line from the shoulders through the knees to the balls of the feet should be demonstrated on each landing.
PREPARATION DRILL

EXERCISE 4: ROWER

Purpose: This exercise improves the ability to move in and out of the supine position to a seated posture. It coordinates the action of the trunk and extremities while challenging the abdominal muscles (Figure 8-4).

Starting Position: Supine position, arms overhead, feet together and pointing upward. The chin is tucked and the head is 1-2 inches above the ground. Arms are shoulder-width, palms facing inward with fingers and thumbs extended and joined.

Cadence: SLOW

Count:

1. Sit up while swinging arms forward and bending at the hip and knees. At the end of the motion, the arms will be parallel to the ground with palms facing inward.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

Check Points:

✓ At the starting position, the low back must not be arched excessively off the ground. To prevent this, tighten the abdominal muscles to tilt the pelvis and low back toward the ground.
✓ At the end of counts 1 and 3, the feet are flat and pulled near the buttocks. The legs stay together throughout the exercise and the arms are parallel to the ground.

Precautions: This exercise is always performed at a slow cadence. Do not arch the back to assume counts 1 and 3.
PREPARATION DRILL

EXERCISE 5: SQUAT BENDER

Purpose: This exercise develops strength, endurance, and flexibility of the lower back and lower extremities (Figure 8-5).

Starting Position: Straddle stance with hands on hips.

Cadence: SLOW

Count:

1. Squat while leaning slightly forward at the waist with the head up and extend the arms to the front, with arms parallel to the ground and palms facing inward.
2. Return to the starting position.
3. Bend forward and reach toward the ground with both arms extended and palms inward.
4. Return to the starting position.

Check Points:

✓ At the end of count 1, the shoulders, knees, and the balls of the feet should be aligned. The heels remain on the ground and the back is straight.
✓ On count 3, bend forward, keeping the head aligned with the spine and the knees slightly bent. Attempt to keep the back flat and parallel to the ground.

Precaution: This exercise is always performed at a slow cadence. Allowing the knees to go beyond the toes on count 1 increases stress to the knees.

Figure 8-5. Squat bender
PREPARATION DRILL

EXERCISE 6: WINDMILL

**Purpose:** This exercise develops the ability to safely bend and rotate the trunk. It conditions the muscles of the trunk, legs, and shoulders (Figure 8-6).

**Starting Position:** Straddle stance with arms sideward, palms facing down, fingers and thumbs extended and joined.

**Cadence:** SLOW

**Count:**

1. Bend the hips and knees while rotating to the left. Reach down and touch the outside of the left foot with the right hand and look toward the rear. The left arm is pulled rearward to maintain a straight line with the right arm.
2. Return to the starting position.
3. Repeat count 1 to the right.
4. Return to the starting position.

![Figure 8-6. Windmill](image-url)

**Check Points:**

- From the starting position, feet are straight ahead, arms parallel to the ground, hips set, and abdominals tight.
- On counts 1 and 3, ensure that both knees bend during the rotation. Head and eyes are directed to the rear on counts 1 and 3.

**Precaution:** This exercise is always performed at a slow cadence.
PREPARATION DRILL

EXERCISE 7: FORWARD LUNGE

**Purpose:** This exercise promotes balance and develops leg strength (Figure 8-7).

**Starting Position:** Straddle stance with hands on hips.

**Cadence:** SLOW

**Count:**

1. Take a step forward with the left leg (the left heel should be 3 to 6 inches forward of the right foot). Lunge forward, lowering the body and allow the left knee to bend until the thigh is parallel to the ground. Lean slightly forward, keeping the back straight.
2. Return to the starting position.
3. Repeat count one with the right leg.
4. Return to the starting position.

![Forward Lunge Images](image)

**Figure 8-7. Forward lunge**

**Check Points:**

- Keep the abdominal muscles tight throughout the motion.
- On counts 1 and 3, step straight forward, keeping the feet directed forward. When viewed from the front, the feet maintain their distance apart both at the starting position and at the end of counts 1 and 3.
- On counts 1 and 3, the rear knee bends, but does not touch the ground. The heel of the rear foot should be off the ground.

**Precautions:** This exercise is always performed at a slow cadence. On counts 1 and 3, move into position in a controlled manner. Spring off of the forward leg to return to the starting position. This avoids jerking the trunk to create momentum.
EXERCISE 8: PRONE ROW

Purpose: This exercise develops strength of the back and shoulders (Figure 8-8).

Starting Position: Prone position with the arms overhead, palms down, fingers and thumbs extended and joined, 1 to 2 inches off the ground and toes pointed to the rear.

Cadence: SLOW

Count:
1. Raise the head and chest slightly while lifting the arms and pulling them rearward. Hands make fists as they move toward the shoulders.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

Check Points:
- At the starting position, the abdominal muscles are tight and the head is aligned with the spine.
- On counts 1 and 3, the forearms are parallel to the ground and slightly higher than the trunk.
- On counts 1 and 3, the head is raised to look forward but not skyward.
- Throughout the exercise, the legs and toes remain in contact with the ground.

Precautions: This exercise is always performed at a slow cadence. Prevent overarching of the back by maintaining contractions of the abdominal and buttocks muscles throughout the exercise.

Figure 8-8. Prone row
PREPARATION DRILL

EXERCISE 9: BENT-LEG BODY TWIST

Purpose: This exercise strengthens trunk muscles and promotes control of trunk rotation (Figure 8-9).

Starting Position: Supine position with the hips and knees bent to 90-degrees, arms sideward and palms down. The knees and feet are together.

Cadence: SLOW

Count:

1. Rotate the legs to the left while keeping the upper back and arms in place.
2. Return to the starting position.
3. Repeat count 1 to the right.
4. Return to the starting position.

![Figure 8-9. Bent-leg body twist](image)

Check Points:

- Tighten the abdominal muscles in the starting position and maintain this contraction throughout the exercise.
- The head should be off the ground with the chin slightly tucked.
- Ensure that the hips and knees maintain 90-degree angles.
- Keep the feet and knees together throughout the exercise.
- Attempt to rotate the legs to about 8 to 10 inches off the ground.
- The opposite shoulder must remain in contact with the ground.

Precautions: This exercise is always performed at a slow cadence. Do not rotate the legs to a point beyond which the opposite arm and shoulder can no longer maintain contact with the ground.
EXERCISE 10: PUSH-UP

**Purpose:** This exercise strengthens the muscles of the chest, shoulders, arms, and trunk (Figure 8-10).

**Starting Position:** Front leaning rest position.

**Cadence:** MODERATE

**Count:**

1. Bend the elbows, lowering the body until the upper arms are parallel with the ground.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

**Check Points:**

- The hands are directly below the shoulders with fingers spread (middle fingers point straight ahead).
- On counts 1 and 3, the upper arms stay close to the trunk, elbows pointing rearward.
- On counts 2 and 4, the elbows straighten but do not lock.
- To prevent the trunk from sagging, tighten the abdominal muscles while in the starting position and maintain this contraction throughout the exercise.

**Precaution:** N/A
EXERCISE 10A: PUSH-UP USING THE SIX-POINT STANCE

**Purpose:** Cadets should assume the six-point stance on their knees, when unable to perform repetitions correctly to cadence (Figure 8-10A).

![Figure 8-10A. Push-up using the six-point stance](image)

SECTION II- RECOVERY

Recovery serves to gradually slow the heart rate and helps prevent pooling of the blood in the legs and feet. The purpose of the RD is to develop range of motion and stability to enhance performance, control injuries, and gradually bring the body back to its pre-exercise state. To adequately recover from one PRT session to another on consecutive days, Cadets must restore hydration and energy through proper fluid intake and nutrition. This recovery period also includes receiving adequate rest and sleep to allow the body to physiologically adapt to the physical stresses of PRT.

TRAINING AREA

Any dry, level area of adequate size is satisfactory for conduct of the RD.

UNIFORM

Cadets should wear Citadel PT Uniform or ACUs with boots. The uniform should be appropriate for the PRT activity that precedes recovery. For example, when the activity is the CL 2 or the GD, ACUs with boots will be worn.

EQUIPMENT

N/A.

FORMATION

The extended rectangular formation is prescribed for the conduct of the RD.
LEADERSHIP

Recovery should last about 15 minutes and occur immediately after the activities of the PRT session. Cadets should begin recovery after running activities by walking until their heart rates return to less than 100 beats per minute and heavy sweating stops. Walking also may be needed after the end of a strength training circuit activity. Each recovery exercise position will be held for 20-30 seconds. The sequence of exercises listed in Table 8-3 will be performed in its entirety. The RD will be conducted at the end of all PRT sessions, especially after the conduct of the CPFT, obstacle course, and foot marching.

INSTRUCTION AND EXECUTION

A PRT leader and AI are required to lead the RD. The PRT leader and AI must be familiar with the method of teaching these exercises, commands, formations, and the use of AIs as described in Chapter 7, Execution of Training. Cadets should memorize the exercises by name and movement. The RD may be conducted by platoon or en masse. Cadets move in and out of the starting position and exercise positions on the PRT leader’s command. Each exercise position is held for 20-30 seconds. Cadets begin and terminate each exercise at the starting position, then move to the position of attention. The RD is always performed in the order listed. Considerable time and effort must be expended during the early stages to teach precise performance of each exercise. The PRT leader should not execute the RD in cadence and should not count seconds aloud.

PRECISION

Recovery exercises lose much of their value unless performed exactly as prescribed. PRT leaders and AIs must provide verbal feedback and make spot corrections to ensure that the Cadets correctly assume the exercise positions.

PROGRESSION

In the toughening phase Cadets hold each exercise position for 20 seconds. In the sustaining phase, the Cadet holds each exercise position for 20 seconds and progresses to 30 seconds. For either phase, if time allows, a second set of the RD may be performed.

INTEGRATION

Recovery integrates the components of strength and mobility by developing stability and flexibility.

COMMANDS

The commands used to conduct the RD are described Chapter 7, Execution of Training.
RECOVERY DRILLS

Table 8-2 lists the 5, two-position exercises that comprise the RD. These 5 exercises are always performed in the order listed and held for 20 to 30 seconds. The recovery exercises are not given in cadence. Cadets move in and out of the starting position and exercise positions on the PRT leader’s command. The seconds are not counted out loud.

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Hold 20-30 Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead Arm Pull</td>
<td>Hold 20-30 Seconds</td>
</tr>
<tr>
<td>Rear Lunge</td>
<td>Hold 20-30 Seconds</td>
</tr>
<tr>
<td>Extend and Flex</td>
<td>Hold 20-30 Seconds</td>
</tr>
<tr>
<td>Thigh Stretch</td>
<td>Hold 20-30 Seconds</td>
</tr>
<tr>
<td>Single-leg Over</td>
<td>Hold 20-30 Seconds</td>
</tr>
</tbody>
</table>

Table 8-3 lists the body segments trained in the conduct of RD.

<table>
<thead>
<tr>
<th>RECOVERY DRILL (RD)</th>
<th>MUSCLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OVERHEAD ARM PULL</td>
<td></td>
</tr>
<tr>
<td>2. REAR LUNGE</td>
<td>X X X</td>
</tr>
<tr>
<td>3. EXTEND AND FLEX X</td>
<td>X X X</td>
</tr>
<tr>
<td>4. THIGH STRETCH</td>
<td>X X X</td>
</tr>
<tr>
<td>5. SINGLE-LEG OVER</td>
<td>X X</td>
</tr>
</tbody>
</table>

RECOVERY DRILL

EXERCISE 1: OVERHEAD ARM PULL

**Purpose:** This exercise develops flexibility of the arms, shoulders, and trunk muscles.

**Starting Position:** Straddle stance with hands on hips.

**Position 1:** On the command, “Ready, STRETCH,” raise the left arm overhead and place the left hand behind the head. Grasp above the left elbow with the right hand and pull to the right, leaning the body to the right. Hold this position for 20-30 seconds.
**Starting Position:** On the command “Starting Position, MOVE,” assume the starting position.

**Position 2:** On the command “Change Position, Ready, STRETCH,” raise the right arm overhead and place the right hand behind the head. Grasp above the right elbow with the left hand and pull to the left, leaning the body to the left. Hold this position for 20-30 seconds.

**Starting Position:** On the command “Starting Position, MOVE,” return to the starting position.

---

### Check Points:

- Throughout the exercise, keep the hips set and the abdominals tight.
- In positions 1 and 2, lean the body straight to the side, not to the front or back.

**Precaution:** N/A

### RECOVERY DRILL

**EXERCISE 2: REAR LUNGE**

**Purpose:** This exercise develops flexibility of the hip flexors and trunk muscles (Figure 8-13).

**Starting Position:** Straddle stance, hands on hips.

**Position 1:** On the command “Ready, STRETCH,” take an exaggerated step backward with the left leg, touching down with the ball of the foot. This is the same position as count 1 of the rear lunge in the PD. Hold this position for 20-30 seconds.

**Starting Position:** On the command “Starting Position, MOVE,” assume the starting position.

---

![Figure 8-12. Overhead arm pull](image-url)
**Position 2:** On the command “Change Position, Ready, STRETCH,” take an exaggerated step backward with the right leg, touching down with the ball of the foot. This is the same position as count 3 of the rear lunge in the PD. Hold this position for 20-30 seconds.

**Starting Position:** On the command “Starting Position, MOVE,” return to the starting position.

![Figure 8-13. Rear lunge](image)

**Check Points:**
- Maintain straightness of the back by keeping the abdominal muscles tight throughout the motion.
- After the foot touches down on positions 1 and 2, allow the body to continue to lower.
- Lunge and step in a straight line, keeping the feet directed forward. Viewed from the front, the feet are shoulder width apart, both at the starting position and at the end of positions 1 and 2.
- Keep the forward knee over the ball of the foot on positions 1 and 2. Ensure the heel of the rear foot does not touch the ground.

**Precaution:** When lunging to the left or right, do not let the knee move forward of the toes.

**RECOVERY DRILL**

**EXERCISE 3: EXTEND AND FLEX**

**Purpose:** This exercise develops flexibility of the hip flexors, abdominals, hip (position 1–extend), and the low back, hamstrings, and calves (position 2–flex) Figure 8-14.

**Starting Position:** The front leaning rest position.

**Position 1:** On the command “Ready, STRETCH,” lower the body, sagging in the middle, keeping the arms straight and look upward. Hold this position for 20-30 seconds.
**Starting Position:** On the command “Starting Position, MOVE,” assume the starting position.

**Position 2:** On the command “Change Position, Ready, STRETCH,” slightly bend the knees and raise the hips upward. Straighten the legs and try to touch the ground with the heels. Move the head in line with the arms, forming an “A” with the body. Keep the feet together and hold this position for 20-30 seconds.

**Starting Position:** On the command “Starting Position, MOVE,” return to the starting position.

![Image of exercise positions](image)

**Figure 8-14. Extend and flex**

**Check Points:**

- ✓ In position 1, the thighs and pelvis rest on the ground. Relax the back muscles while bearing the bodyweight through the straight arms. Toes point to the rear.
- ✓ In position 2, the legs are straight and the arms are shoulder width apart, palms down on the ground. Relax the shoulders and push to the rear with the hands, forming an “A” with the body. Try not to round the shoulders.
- ✓ Feet are together throughout the exercise.

**Precaution:** N/A

**Variation:** Cadets, who are unable to extend the trunk in position 1 while keeping the arms straight and hips on the ground, may assume the modified position 1 shown above.

**RECOVERY DRILL**

**EXERCISE 4: THIGH STRETCH**

**Purpose:** This exercise develops flexibility of the front of the thigh and the hip flexor muscles (Figure 8-15).

**Starting Position:** Seated position, arms at sides and palms on the floor.
**Position 1:** On the command “Ready, STRETCH,” roll onto the right side and place the right forearm on the ground, perpendicular to the chest. The right hand makes a fist on the ground with the thumb side up. Grasp the left ankle with the left hand and pull the left heel toward the buttocks and pull the entire leg rearward. Push the left thigh further to the rear with the heel of the right foot. Hold this position for 20-30 seconds.

**Starting Position:** On the command, “Starting Position, MOVE,” assume the starting position.

**Position 2:** On the command “Change Position, Ready, STRETCH,” lie on the left side and place the left forearm on the ground, perpendicular to the chest. The left hand makes a fist on the ground with the thumb side up. Grasp the right ankle with the right hand and pull the right heel toward the buttocks pulling the entire leg rearward. Push the right thigh further to the rear with the heel of the left foot. Hold this position for 20-30 seconds.

**Starting Position:** On the command, “Starting Position, MOVE,” return to the starting position.

**Check Points:**

- Keep the abdominal muscles tight throughout this stretch in order to keep the trunk straight.
- Do not pull the heel forcefully to the buttock if there is discomfort in the knee joint.

**Precaution:** N/A

**RECOVERY DRILL**

**EXERCISE 5: SINGLE-LEG OVER**

**Purpose:** This exercise develops flexibility of the hips and lower back muscles (Figure 8-16).
**Starting Position:** Supine position with arms sideward, palms down, feet together and head on the ground.

**Position 1:** On the command, “Ready, STRETCH,” turn the body to the right, bend the left knee to 90-degrees over the right leg, and grasp the outside of the left knee with the right hand and pull toward the right. Hold this position for 20-30 seconds.

**Starting Position:** On the command, “Starting Position, MOVE,” assume the starting position.

**Position 2:** On the command, “Change Position, Ready, STRETCH,” turn the body to the left, bend the right knee to 90-degrees over the left leg, and grasp the outside of the right knee with the left hand and pull toward the left. Hold this position for 20-30 seconds.

**Starting Position:** On the command, “Starting Position, MOVE,” return to the starting position.

![Figure 8-16. Single-leg over](image)

**Check Points:**

- ✔ At the starting position, the arms are directed to the sides at 90-degrees to the trunk; the fingers and thumbs are extended and joined.
- ✔ In position 1, keep the left shoulder, arm, and hand on the ground.
- ✔ In position 2, keep the right shoulder, arm, and hand on the ground.
- ✔ Head remains on the ground throughout the exercise.

**Precaution:** N/A

**Summary**

Preparation and recovery are essential elements of every PRT session. Conducting PRT activities without preparation may adversely affect performance and increase the risk of injury. Recovery enhances mobility and gradually brings the body back to its pre-exercise state. Recovery should also carry over until the next PRT session is performed. Restoring adequate hydration and energy through proper nutrition and getting adequate sleep allow the body to refuel, rest, and adapt to the stresses of training.
CHAPTER 2
STRENGTH AND MOBILITY ACTIVITIES

SECTION I: CONDITIONING DRILLS

CONDITIONING DRILL 1

EXERCISE 1: POWER JUMP

**Purpose:** This exercise reinforces correct jumping and landing, stimulates balance and coordination, and develops explosive strength (Figure 6-83).

**Starting Position:** Straddle stance with hands on hips.

**Cadence:** MODERATE

**Count:**

1. Squat with the heels flat as the spine rounds forward to allow the straight arms to reach to the ground, touching with the palms of the hands.
2. Jump forcefully in the air, vigorously raising arms overhead with palms facing inward.
3. Control the landing and repeat count 1.
4. Return to the starting position.

Figure 6-83. Power jump
Check Points:

- At the starting position, tighten the abdominals to stabilize the trunk.
- On counts 1 and 3, keep the back generally straight with the head up and the eyes forward.
- On count 2 the arms should be extended fully overhead. The trunk and legs should also be aligned.
- On each landing, the feet should be directed forward and maintained at shoulder distance apart. The landing should be “soft” and proceed from the balls of the feet to the heels.
- The vertical line from the shoulders through the knees to the balls of the feet should be demonstrated on each landing.

Precaution: N/A

CONDITIONING DRILL 1

EXERCISE 2: V-UP

Purpose: This exercise develops the abdominal and hip flexor muscles while enhancing balance (Figure 6-85).

Starting Position: Supine, arms on ground 45-degrees to the side, palms down with fingers spread. The chin is tucked and the head is 1-2 inches off the ground.

Cadence: MODERATE

Count:

1. Raise straight legs and trunk to form a V-position, using arms as needed.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

![Figure 6-85. V-up](image-url)
Check Points:

✓ At the starting position, tighten the abdominal muscles to tilt the pelvis and the lower back toward the ground.
✓ On counts 1 and 3, the knees and trunk are straight with the head aligned with the trunk.
✓ On counts 2 and 4, lower the legs to the ground in a controlled manner so as not to injure the feet.

Precautions: To protect the spine, do not jerk the legs and trunk to rise to the V-position.

CONDITIONING DRILL 1

EXERCISE 3: MOUNTAIN CLIMBER

Purpose: This exercise develops the ability to quickly move the legs to power out of the front leaning rest position (Figure 6-87).

Starting Position: Front leaning rest position with the left foot below the chest and between the arms.

Cadence: MODERATE

Count:
1. Push upward with the feet and quickly change positions of the legs.
2. Return to the starting position.
3. Repeat the movements in count 1.
4. Return to the starting position.

Figure 6-87. Mountain climber
Check Points:

- Place the hands directly below the shoulders, fingers spread (middle fingers point straight ahead) with the elbows straight, not locked.
- To prevent the trunk from sagging, tighten the abdominal muscles and maintain this contraction throughout the exercise. Do not raise the hips when moving throughout the exercise.
- Align the head with the spine and keep the eyes directed to a point about two feet in front of the body.
- Throughout the exercise, stay on the balls of the feet.
- Move the legs straight forward and backward, not at angles.

Precautions: N/A

CONDITIONING DRILL 1

EXERCISE 4: LEG-TUCK AND TWIST

Purpose: This exercise develops trunk strength and mobility while enhancing balance (Figure 6-89).

Starting Position: Seated with trunk straight but leaning backward 45 degrees, arms straight and hands on ground 45 degrees to the rear, palms down. Legs are straight, extended to the front and 8-12 inches off the ground.

Cadence: MODERATE

Count:

1. Raise the legs while rotating on to the left buttock and draw the knees toward the left shoulder.
2. Return to the starting position.
3. Repeat count 1 in the opposite direction.
4. Return to the starting position.
Check Points:

✓ At the starting position, tighten the abdominals to stabilize the trunk.
✓ On all counts, keep the feet and knees together.
✓ On counts 1 and 3, keep the head and trunk still as the legs move.
✓ On counts 1 and 3, tuck (bend) the legs and align them diagonal to the trunk.

Precautions: To protect the back on counts 1 and 3, do not jerk the legs and trunk to achieve the end position.

CONDITIONING DRILL 1

EXERCISE 5: SINGLE-LEG PUSH-UP

Purpose: This exercise strengthens muscles of the chest, shoulders, arms, and trunk. Raising one leg while maintaining proper trunk position makes this an excellent trunk stabilizing exercise (Figure 9-6).

Starting Position: Front leaning rest position.

Cadence: MODERATE

Count:

1. Bend the elbows, lowering the body until the upper arms are parallel with the ground while rising the left leg 8-10 inches off the ground.
2. Return to the starting position.
3. Repeat count 1, bringing the right leg to 8-10 inches off the ground.
4. Return to the starting position.

Figure 9-6. Single-leg push-up
Check Points:

- Perform a squat thrust to move into the front leaning rest. Keep the body straight from head to heels.
- Support the body weight on the hands and balls of the feet.
- The fingers should be extended and spread so the middle fingers point straight ahead and are directly in line with the shoulders.
- On counts 1 and 3, the upper arms stay close to the trunk.
- On counts 2 and 4, straighten but do not lock the elbows.
- On counts 1 and 3, the raised leg is straight and aligned with the trunk.
- To keep the trunk from sagging, tighten the abdominal muscles while in the starting position and maintain this contraction throughout the exercise.

Precautions: Do not jerk the leg being raised on counts 1 and 3. Also do not raise the leg higher than straight alignment with the trunk, as this may place undue stress on the back

CONDITIONING DRILL 2

EXERCISE 1: TURN AND LUNGE

Purpose: This exercise develops the agility needed to rotate, lower, and raise the body for effective changes of direction during military movement drill exercises, the 300-yd SR, and individual movement techniques (Figure 9-7).

Starting Position: Straddle stance with hands on hips.

Cadence: SLOW

Count:

1. Turn 90-degrees to the left, stepping with the left foot, and pivoting on the ball of the right foot.
2. Perform a forward lunge (facing the left) while reaching toward the ground with the right hand. The left arm swings rearward while the left hand reaches rearward at the left side of the body.
3. Stand up, rotate to the right, and return to the starting position, stepping with the right foot and pivoting on the ball of the left foot.
4. Turn 90-degrees to the right, stepping with the right foot and pivoting on the ball of the left foot.
5. Perform a forward lunge (facing the right) while reaching toward the ground with the left hand. The right arm swings rearward while the right arm reaches rearward at the right side of the body.
6. Stand up, rotate to the left, and return to the starting position, stepping with the left foot and pivoting on the ball of the right foot.
Figure 9-7. Turn and lunge

Check Points:

✓ When changing directions on all counts, the lead footsteps and the rear foot pivots.
✓ Keep the head in line with the spine throughout the exercise.
✓ Down positions on counts 1 and 3 are similar to the forward lunge, but with the hand down.

Precaution: N/A

CONDITIONING DRILL 2

EXERCISE 2: SUPINE BICYCLE

Purpose: This exercise strengthens the muscles of the abdomen and controls the rotation of the trunk (Figure 9-8).

Starting Position: Supine position with the fingers interlaced, hands on top of the head. Hips, knees, and ankles are flexed at 90 degrees and lower legs are parallel to the ground. The head is off the ground.

Cadence: SLOW

Count:

1. Bring the left knee toward the chest while flexing and rotating the trunk to the left, attempting to touch the right elbow with the left thigh. As the left knee rises, the right leg extends.
2. Return to the starting position.
3. Bring the right knee toward the chest while flexing and rotating the trunk to the right, attempting to touch the left elbow with the right thigh. As the right knee rises, the left leg extends.
4. Return to the starting position.
Figure 9-8. Supine bicycle

Check Points:

✓ At the starting position ensure that the hands are on top of the head, not behind the neck. Maintain tightness of the abdominals throughout the exercise.
✓ On counts 1 and 3, attempt to fully extend one leg while bringing the knee of the other to the elbow.

Precaution: On counts 1 and 3, do not jerk the neck or arch the back to assume the up position.

CONDITIONING DRILL 2

EXERCISE 3: HALF JACKS

Purpose: The purpose of this exercise is to jump and land with the legs apart, controlling the landing by laterally braking with the feet, ankles, and legs (Figure 9-9).

Starting Position: Position of attention.

Cadence: MODERATE

Count:

1. Jump and land with the feet shoulder-width apart and pointed straight ahead. The arms are sideward with palms facing down, thumbs and fingers extended and joined.
2. Jump and return to the starting position.
3. Repeat count 1.
4. Repeat count 2, returning to the starting position.
Check Points:

✓ On each landing, the balls of the feet should touch first.
✓ On counts 1 and 3, do not raise the arms above parallel to the ground.

Precaution: N/A

CONDITIONING DRILL 2

EXERCISE 4: SWIMMER

Purpose: This exercise strengthens the muscles of the low back and the shoulders while promoting quadrilateral coordination of the arms and legs (Figure 9-10).

Starting Position: The prone position with the arms extended, palms facing down, and toes pointed to the rear.

Cadence: SLOW
Count:

1. Raise the left arm and right leg 4 to 6 inches off the ground while arching the back slightly and looking upward.
2. Return to the starting position.
3. Raise the right arm and left leg 4 to 6 inches off the ground, while arching the back slightly and looking upward.
4. Return to the starting position.

Check Points:

- At the starting position and throughout the exercise, maintain tightness in the abdominal and hip muscles.
- On counts 1 and 3, raise the head slightly and look upward.
- Keep the toes pointed throughout the exercise.

Precaution: Do not move into counts 1 and 3 with a jerking motion.

CONDITIONING DRILL 2

EXERCISE 5: 8-COUNT PUSH-UP

Purpose: This exercise combines the functional movements of the squat thrust and push-up to develop total body strength, endurance, and mobility (Figure 9-11).

Starting Position: Position of attention.

Cadence: MODERATE
Count:

1. Assume the squat position.
2. Thrust the legs backward to the front leaning rest position.
3. Bend the elbows, lowering the body until the upper arms are parallel with the ground. Elbows should point to the rear.
4. Return to the front leaning rest position.
5. Repeat count 3.
7. Return to the squat position as in count 1.
8. Return to the starting position.

Check Points:

✓ To keep the trunk from sagging, tighten the abdominal muscles while in the starting position and maintain this contraction throughout the exercise.
On counts 1 through 7, the hands are directly below the shoulders with fingers spread and the middle fingers directed straight forward.

On counts 1 and 7, keep the heels together and raised.

On counts 4 and 6, straighten but do not lock the elbows.

Precautions: Allowing the trunk to sag, especially on count 2, strains the back. Avoid this by maintaining a strong abdominal contraction throughout the exercise. If the pushup cannot be performed on counts 2-6 correctly to cadence, quickly assume the 6-point stance before count 3 and return to the front leaning rest position just before performing count 7.

CONDITIONING DRILL 3

EXERCISE 1: “Y” SQUAT

Purpose: This exercise develops strength, endurance, and mobility of the lower back and lower extremities (Figure 9-12).

Starting Position: Straddle stance with shoulder blades pulled rearward with arms overhead and palms inward.

Cadence: SLOW

Count:

1. Squat with arms overhead (forming a “Y”) without allowing the back to round.
2. Return to the starting position by tightening the buttocks and driving upward.
3. Repeat count 1.
4. Return to the starting position.

Figure 9-12. “Y” squat
Check Points:

- During count 1, lower the body as far as possible without rounding the back, keeping the shoulders drawn rearward, arms forming a “Y” overhead.
- Tighten the buttocks and drive the trunk upward to return to the starting position.
- Heels remain on the ground throughout the exercise.

Precaution: N/A

CONDITIONING DRILL 3

EXERCISE 2: SINGLE-LEG DEAD LIFT

Purpose: This exercise develops strength, endurance, and flexibility of the lower back and lower extremities (Figure 9-13).

Starting Position: Straddle stance with hands on hips.

Cadence: SLOW

Count:

1. Stand maintaining balance on the left foot and bend forward at the waist. Reach straight down toward the ground in front of the body while raising the right leg to the rear.
2. Return to the starting position by tightening the buttocks and driving upward.
3. Stand maintaining balance on the right foot and bend forward at the waist. Reach straight down toward the ground in front of the body while raising the left leg to the rear.
4. Return to the starting position.

Figure 9-13. Single-leg dead lift
Check Points:

- On counts 1 and 3, the hands are slightly in front of and below the shoulders with fingers spread (middle fingers point straight ahead) with the elbows straight, not locked.
- Maintain a natural arch in the back and move the legs straight forward and backward, not at angles.
- To prevent the trunk from sagging, tighten the abdominal muscles and maintain this contraction throughout the exercise.
- The head is aligned with the spine and the eyes are directed to a point about two feet in front of the body.
- On counts 1 and 3, attempt to keep the heel on the ground.

Precaution: N/A

CONDITIONING DRILL 3

EXERCISE 3: SIDE-TO-SIDE KNEE LIFTS

Purpose: This exercise develops coordination, balance, and explosive strength in the legs (Figure 9-14).

Starting Position: Straddle stance with hands on hips.

Cadence: MODERATE

Count:

1. Hop to the left, landing on the left foot, while simultaneously drawing the right knee toward the chest. The right hand moves comfortably down to the side toward the right ankle and the left hand touches the right knee.
2. Hop to the right, landing on the right foot, while simultaneously drawing the left knee toward the chest, the left hand moves comfortably down to the side toward the left ankle and the right hand touches the left knee.
3. Repeat count 1.
4. Repeat count 2 and return to the starting position on the final repetition.
Check Points:

- At the starting position, tighten the abdominals to stabilize the trunk.
- On all counts, do not allow the back to round; keep the head up and the eyes forward.
- On each landing, the feet should be directed forward and maintained at shoulder distance apart. The landing should be "soft" and proceed from the balls of the feet to the heels. The vertical line from the shoulders through the knees to the balls of the feet should be demonstrated on each landing.

Precaution: N/A

CONDITIONING DRILL 3

EXERCISE 4: FRONT KICK ALTERNATE TOE TOUCH

Purpose: This exercise develops balance, coordination, and flexibility of the legs and trunk (Figure 9-15).

Starting Position: Straddle stance with hands on hips.

Cadence: MODERATE
Count:

1. Raise the left leg to the front of the body until it is parallel to the ground while simultaneously bending forward at the waist, extending the right arm forward, and reaching with the right hand toward the left foot, while the left arm reaches rearward.
2. Return to the starting position.
3. Raise the right leg to the front of the body until it is parallel to the ground while simultaneously bending forward at the waist, extending the left arm forward, and reaching with the left hand toward the right foot, while the right arm reaches rearward.
4. Return to the starting position.

Figure 9-15. Front kick alternate toe touch

Check Points:

✓ At the starting position, tighten the abdominals to stabilize the trunk.
✓ On counts 1 and 3, rotate the trunk to reach for the toes keeping the back generally straight.
✓ Keep the head and the eyes forward throughout the exercise.
✓ Maintain a slight bend in the knee as it moves parallel to the ground.

Precaution: N/A
CONDITIONING DRILL 3

EXERCISE 5: TUCK JUMP

**Purpose:** This exercise develops coordination, balance, and explosive strength in the legs (Figure 9-16).

**Starting Position:** Straddle stance with arms at the sides.

**Cadence:** SLOW

**Count:**

1. Perform a half squat, while driving both arms rearward. Jump upward, driving both arms forward, wrapping the hands around the knees, as the knees are drawn toward the chest. Then land in the half-squat position.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

![Starting Position](image1)

![Count 1](image2)

![Count 2](image3)

![Count 3](image4)

![Count 4](image5)

**Figure 9-16. Tuck jump**

**Check Points:**

- On counts 1 and 3, do not allow the back to round; keep the head up and the eyes forward.
- Cadence is slow to allow for precision and adequate time to properly jump and land; however, each jump on counts 1 and 3 should be performed quickly and explosively.
On each landing, the feet should be directed forward and maintained at shoulder distance apart. The landing should be “soft” and proceed from the balls of the feet to the heels. The vertical line from the shoulders through the knees to the balls of the feet should be demonstrated on each landing.

Precaution: N/A

CONDITIONING DRILL 3

EXERCISE 6: STRADDLE-RUN FORWARD AND BACKWARD

Purpose: This exercise develops coordination, balance, and explosive strength in the legs (Figure 9-17).

Starting Position: Straddle stance with arms at the sides.

Cadence: MODERATE

Count:

1. Raise the left leg 4 to 6 inches off the ground and bound forward to the left at a 45-degree angle while swinging the right arm forward and left arm rearward.
2. Raise the right leg 4 to 6 inches off the ground and bound forward to the right at a 45-degree angle while swinging the left arm forward and right arm rearward.
3. Repeat count 1.
4. Repeat count 2.
5. Raise the left leg 4 to 6 inches off the ground and bound rearward to the left at a 45-degree angle while swinging the left arm forward and right arm rearward.
6. Raise the right leg 4 to 6 inches off the ground and bound rearward to the right at a 45-degree angle while swinging the right arm forward and left arm rearward.
7. Repeat count 5.
8. Repeat count 6 and assume the starting position.
Figure 9-17. Straddle-run forward and backward

Check Points:

✓ On all counts, do not allow the back to round; keep the head up and the eyes forward.
✓ On each landing, the feet should be directed forward and the trail foot moves toward the lead foot, but does not make contact with the ground.

Precaution: N/A

CONDITIONING DRILL 3

EXERCISE 7: HALF-SQUAT LATERALS

Purpose: This exercise develops coordination, balance, and explosive strength in the legs (Figure 9-18).

Starting Position: Straddle stance, slightly crouched, assuming a half-squat, with the back straight, arms at the sides with elbows bent at 90-degrees, and palms facing forward.

Cadence: MODERATE

Count:

1. Maintaining a half-squat step/hop to the left.
2. Maintaining a half-squat step/hop to the right.
3. Maintaining a half-squat step/hop to the right.
4. Maintaining a half-squat step/hop to the left and return to the starting position.

![Figure 9-18. Half-squat laterals](image)

**Check Points:**

- ✓ At the starting position, tighten the abdominals to stabilize the trunk.
- ✓ On all counts, do not allow the back to round; keep the head up and the eyes forward.
- ✓ On each landing, the feet should be directed forward and maintained at shoulder distance apart.
- ✓ The landing should be “soft” and proceed from the balls of the feet to the heels.

**Precaution:** N/A

**CONDITIONING DRILL 3**

**EXERCISE 8: FROG JUMPS FORWARD AND BACKWARD**

**Purpose:** This exercise develops coordination, balance, and explosive strength in the legs (Figure 9-19).

**Starting Position:** Straddle stance, slightly crouched, assuming a half-squat, with the back straight, arms at the sides with elbows bent at 90-degrees, and palms facing forward.

**Cadence:** MODERATE

**Count:**

1. Maintain a half-squat and hop forward.
2. Maintain a half-squat and hop backward.
3. Repeat count 2.
4. Maintain a half-squat and hop forward, returning to the starting position.
Check Points:

✓ At the starting position, tighten the abdominals to stabilize the trunk.
✓ On all counts, do not allow the back to round; keep the head up and the eyes forward.
✓ On each landing, the feet should be directed forward and maintained at shoulder distance apart. The landing should be “soft” and proceed from the balls of the feet to the heels.

Precaution: N/A

CONDITIONING DRILL 3

EXERCISE 9: ALTERNATE ¼-TURN JUMP

Purpose: This exercise develops balance, explosive strength in the legs, and control of trunk rotation (Figure 9-20).

Starting Position: Straddle stance, slightly crouched, assuming a half-squat, with the back straight, arms at the sides with elbows bent at 90-degrees, and palms facing forward.

Cadence: MODERATE

Count:

1. Jump upward and twist the hips, turning the legs 90-degrees to the left.
2. Return to the starting position.
3. Jump upward and twist the hips, turning the legs 90-degrees to the right.
4. Return to the starting position.
Check Points:

✓ At the starting position, tighten the abdominals to stabilize the trunk.
✓ On counts 1 and 3, do not allow the back to round; keep the head up and the eyes forward.
✓ The upper body does not turn; the movement involves only the hips and legs.
✓ On each landing, the feet should be directed forward and maintained at shoulder distance apart. The landing should be “soft” and proceed from the balls of the feet to the heels. The vertical line from the shoulders through the knees to the balls of the feet should be demonstrated on each landing.

Precaution: N/A

CONDITIONING DRILL 3

EXERCISE 10: ALTERNATE-STAGGERED SQUAT JUMP

Purpose: This exercise develops balance and explosive strength of the legs (Figure 9-21).

Starting Position: Staggered stance with the left leg back and arms at sides; the trunk is generally straight, but tilted slightly forward.

Cadence: SLOW

Count:

1. Squat and touch the ground, between the legs, with the fingertips of the left hand. Jump forcefully into the air, switching legs in mid-air to land with the right leg back and arms at the sides.
2. Squat and touch the ground between the legs with the fingertips of the right hand. Jump forcefully into the air, switching legs in mid-air to land with the left leg back and arms at the sides.
3. Repeat count 1.
4. Repeat count 2 and return to the starting position.

Figure 9-21. Alternate-staggered squat jump

Check Points:

✓ At the starting position, tighten the abdominals to stabilize the trunk.
✓ Do not allow the back to round; keep the head up and the eyes forward.
✓ Cadence is slow to allow for precision and adequate time to properly jump and land; however, each jump should be performed quickly and explosively.
✓ On each landing, the feet should be oriented to the front. The landing should be “soft” and proceed from the balls of the feet to the heels.

Precaution: N/A
SECTION II- PUSH-UP AND SIT-UP DRILLS

Push-ups and sit-ups develop upper body strength, endurance, and mobility, and specifically prepare Cadets for CPFT performance. Push-ups and sit-ups build upper body and trunk muscular strength and endurance by challenging control of body weight. The PSD promotes muscular endurance without the repetitive motions that often lead to overuse injuries. They improve mobility by progressively moving the major joints through a full, controlled range of motion.

TRAINING AREA

Any level area of adequate size is satisfactory for conduct of the PSD.

UNIFORM

Cadets will wear CITADEL PHYSICAL FITNESS UNIFORM or ACUs and boots.

EQUIPMENT

Stop watch.

FORMATION

For the most efficient instruction, the ideal unit size is one platoon. Larger units up to a battalion can successfully perform these drills if properly taught and mastered at the small unit level. The extended rectangular formation is prescribed.

LEADERSHIP

A PRT leader and AI are required to instruct and lead timed sets of push-ups and sit-ups. The leader must know how to teach these exercises. He must know the commands, cadence counts, cumulative count, formations, starting positions, and how to effectively use AIs.

METHODOLOGY

The PSD enhances CPFT performance in the push-up and sit-up events. The PSD is conducted as follows:

- The first and third ranks conduct the push-up first. The second and fourth ranks count repetitions out loud and monitor technique to ensure the Cadets perform the push-ups to Citadel standard (hand placement is determined by  according to Appendix A) for 30 to 60 seconds. After the first and third ranks complete the push-ups, the ranks swap places: the second and fourth ranks do pushups and the first and third ranks count and monitor proper technique. After all four ranks complete the first timed set of push-ups; the same process is repeated for sit-ups.

- The sit-up is conducted the same as the push-up: first and third perform, second and fourth count and monitor technique, but also hold the feet of the first and third ranks. Again, when the first and third ranks finish, the ranks swap out again, and the second and fourth ranks perform while the first and third ranks count, monitor technique, and hold the feet.
• Timed sets continue like this, alternating between push-ups and sit-ups and between paired ranks, until all the desired number of timed sets have been completed. The Cadets should not perform all of their sets of timed push-ups and then perform all of their sets of timed sit-ups. Alternating allows proper work to rest ratio to provide the required recovery. Avoid performing all of one exercise or the other.

• As with any activity, PRT leaders should perform the exercises with the Cadets in order to determine the appropriate intensity of the PRT session.

**PRECISION**

Push-ups and sit-ups lose much of their value unless performed exactly as prescribed. Precision should never be compromised for quantity of repetitions or speed of movement.

**PROGRESSION**

Cadets perform no more than five repetitions of each exercise while learning and practicing the PSD. They perform timed sets of push-ups and sit-ups during the activity part of the PRT session. They perform as many correct repetitions of push-ups and sit-ups during the 30-second timed sets as they can, progressing to 60-second timed sets. Cadets that fail with time remaining in the timed set of push-ups will go to their knees and continue to perform the push-up in the six-point stance until time has expired within the timed set.

**INTEGRATION**

Performing timed sets of push-ups and sit-ups integrates the components of strength, endurance, and mobility.

**COMMANDS**

Follow the procedures in methodology paragraph.
SECTION III- GUERRILLA DRILLS

The GD, performed in the sustaining phase, consists of three exercises that develop leg power, coordination, and the ability to lift and carry another. When the Cadets can precisely execute each exercise and carry, the drill is performed continuously for 1-3 sets. All movement in the carry position is performed at quick time. Each exercise and carry must be taught and demonstrated before Cadets try to perform the drill. When teaching and demonstrating the GD, use the extended rectangular formation (covered).

In the illustrations that follow, “A” refers to the performing the carry, and “B” refers to the being carried. The drill is always performed in its entirety in the order listed.

TRAINING AREA

Any dry, level area of adequate size (same as MMD 1) and free from hazards (holes, debris) is satisfactory for conduct of the GD.

UNIFORM

Cadets will wear CITADEL PHYSICAL FITNESS UNIFORM or ACUs.

EQUIPMENT

Mark GD area with cones.

FORMATION

For the most efficient instruction, the unit size should be limited to one platoon. Larger units up to a battalion can successfully perform these drills if properly taught and mastered at the small unit level. The extended rectangular formation (covered) is prescribed.

LEADERSHIP

A PRT leader and AI are required to instruct and lead the GD. The instructor must be familiar with the method of teaching the exercises; the commands and counting cadence; formations; starting positions; and the use of AIs as described in Chapter 7, Execution of Training. Cadets should memorize the exercises by name and movement. Considerable time and effort must be expended during the early stages to teach exercises properly to all s.

PRECISION

GD exercises lose much of their value unless performed exactly as prescribed. Precision should never be compromised for speed of movement. Moving too fast will not allow Cadets to perform the exercises with proper technique and may lead to injury. All movement in the carry position is performed at quick time.
PROGRESSION

Cadets perform no more than one repetition of each exercise while learning and practicing the GD. The GD is performed in the sustaining phase during the activity part of the PRT session. Cadets will perform one set of the entire drill, progressing to three sets.

INTEGRATION

The GD exercises integrate the components of strength, endurance, and mobility through functional movements that relate directly to the performance of WTBDs.

GUERRILLA DRILL

EXERCISE 1: SHOULDER ROLL

Purpose: This exercise develops the cadet’s ability to safely fall and roll-up to a standing position (Figure 9-46).

Starting Position: Straddle stance.

Movement: Step forward with the left foot, squat down, and make a wheel with the arms by placing the left hand on the ground with the fingers facing to the rear; the right hand is also on the ground with the fingers facing forward. Tuck the chin to avoid injury to the neck. Push off with the right leg and roll over the left shoulder along the left side of the body. To roll to the opposite side, step forward and switch hand and leg positions. Progress to continuously walking and alternating rolling on opposite sides.

Figure 9-46. Shoulder roll

Check Points:

✓ Lead with the left foot when rolling on the left shoulder and the right foot when rolling on the right shoulder.
✓ Hands are placed on the ground, facing each other with the middle fingertips of each hand touching at the tips so the arms form a wheel.
✓ Rotate the upper body so the lead elbow is pointing straight to the front while maintaining a wheel with the arms.
✓ Tuck the chin so ground contact is made with the arms, shoulder blades, and back, but not with the neck.
The momentum of the roll brings Cadets up to their knees. Continue to the feet by pushing off with the rear leg while standing up on the front leg.

**Precautions:** The PRT leader and an AI(s) must ensure that Cadets are in the proper squatting position for the roll by ensuring that their hands are on the ground and their chins are tucked before rolling.

**GUERRILLA DRILL**

**EXERCISE 2: LUNGE WALK**

**Purpose:** This exercise develops the leg power needed to move both vertically and horizontally (Figure 9-47).

**Starting Position:** Straddle stance.

**Movement:** Walk forward, starting with the left foot, stepping as in the forward lunge. Lightly touch the knee of the rear leg to the ground with each step. Without returning to the starting position, continue to lunge walk to the 25-yard stop point by alternating legs.

![Figure 9-47. Lunge walk](image)

**Check Points:**

- Incorporate arm swing with the arm opposite the forward leg raised parallel to the ground.
- Keep the back straight and the head up.
- Do not allow the knee of the lead leg to move forward of the toes of the forward foot.

**Precaution:** Do not allow the knee of the rear leg to forcefully contact the ground.
GUERRILLA DRILL

EXERCISE 3: CARRY

Purpose: This exercise develops the ‘s ability to carry a conscious or unconscious of comparable size (Figure 9-48).

Starting Position: “B” assumes the prone position, arms overhead. “A” straddles “B” and squats, reaching under “B’s” armpits. “A” stands lifting “B” to his knees. “A” continues to lift “B” to his feet, leaning him back slightly to lock the legs. “A” raises one of “B’s” arms overhead and walks under the arm to the front of “B,” oriented sideways to “B.” “A” bends his knees and leans forward, placing one arm through “B’s” legs. “A” leans “B” forward until he lies across “A’s” shoulders. “A” stands up, lifting “B” off the ground. “A,” using the hand of his arm that is between “B’s” legs, grasps the wrist of “B’s” arm that is hanging over “A’s” shoulder.

Movement: “A” moves 25-yards at quick time; then “B” dismounts; the Cadets then change positions and return to the starting point.

Check Points:

✓ “A” should squat low and grasp “B” under the arms to lift him from the prone position. “A” may clasp his hands in front of “B’s” chest to help him lift “B” to his feet.
✓ Position “B” over the shoulder during the carry. Secure the position with one hand, grasping “B’s” forward arm.
Precautions: Keep back straight and use legs to lift Cadet to the carry position. All movement in the carry position is performed at a quick time; no running.

Summary

The purpose of strength and mobility activities is to improve functional strength, postural alignment, and body mechanics as they relate to the performance of WTBDs. The regular and precise execution of the exercise drills listed in this chapter will develop the body management competencies needed to successfully accomplish these tasks.
CHAPTER 3
SPECIAL CONDITIONING PROGRAMS

“When [Cadets] become ill, injured, or have other medical conditions, leaders have the responsibility to recondition these Cadets and safely return them to duty at an equal or higher physical fitness level.”

COL William R. Rieger, Commandant, U.S. Army Physical Fitness School, 1999 to 2006

Special conditioning programs are appropriate for Cadets who have difficulty meeting unit goals or Citadel standards. These programs are not punitive; their purpose is to improve the physical readiness of s. Special conditioning programs designed to accommodate these needs will be conducted during normal duty hours. Special conditioning programs include:

- CPFT or unit PRT goal failure.
- Cadets on the CWCP.
- Reconditioning.

CPFT OR UNIT PRT GOAL FAILURE

When Cadets fail to meet CPFT standards or unit goals, leaders should consider many factors that may contribute to these failures, including:

- Time in training.
- Regular PRT participation.
- Long class schedules.
- Recovery from injury, illness or medical condition (physical profile).

TIME IN TRAINING

The cadet who is fresh out of High School may have a level of physical performance below the minimum threshold of current cadets. They may be a borderline CPFT performer or borderline overweight. Regardless of the situation, They will not be accustomed to the demands placed on the lower extremities during a normal duty day. These Cadets will face new conditions relating to physical performance such as acclimatization to altitude, temperature, and humidity. It can take up to four weeks to adapt to these unfamiliar conditions.

REGULAR PARTICIPATION

Many factors may influence regular participation in PRT sessions. The most common factors include OPTEMPO and related college requirements. Leaders must anticipate and plan for these, and must make PRT as important as any other programmed training. Cadets are required to participate in collective or individual PRT activities at least three times per week. Optimal participation in PRT may be achieved through conducting training sessions anytime during the duty day; not necessarily only in the early morning. Leaders must understand this and make it known. Cadets should only be excused from regular unit PRT when they have a compelling conflict in duty schedule.
All Cadets must understand that it is their personal responsibility to achieve and sustain a high level of physical readiness. Cadet Commanders must develop leadership environments that encourage and motivate Cadets to accept individual responsibility for their own physical readiness. Leaders and individual Cadets need to use the PRT system outlined in this FM to help achieve and sustain high levels of physical readiness.

**RECOVERY FROM INJURY, ILLNESS, OR MEDICAL CONDITION**

Cadets recovering from injury, illness, or other medical conditions must train within the limits of their medical profiles (Commandant’s Physical Limitation Form) and be afforded a minimum train-up period of twice the length of the profile. Prescribed train-up periods must not exceed 90 days before CPFT administration or other unit physical readiness goal requirements.

**CITADEL WEIGHT CONTROL PROGRAM**

See Chapter 5 of the Whitebook supplemented by AR 600-9 for the policy and procedures that apply to screening and enrollment in the CWCP. Cadets who fail the CPFT or who fail to meet CWCP standards will be enrolled in the Citadel Physical Remediation Program (CPRP). CWCP Cadets should also participate in additional low impact, caloric expenditure activities.

**RECONDITIONING**

Injuries, illness, and other medical conditions impact readiness. Cadet Commanders are faced with the daily challenge of controlling injuries in the conduct of rigorous military training. Leaders must be familiar with the factors that influence injury risk. Adherence to the fundamental principles of PRT allows the commander to manage injury risk effectively. When injuries, illness, or other medical conditions limit the cadet’s ability to participate in PRT, units should offer organized and effective reconditioning programs that expedite his return to unit PRT.

**INJURIES**

Injuries are defined as any intentional or unintentional damage to the body resulting from acute or chronic exposure to mechanical, thermal, electrical, or chemical energy, and from the absence of such essentials as heat or oxygen. The information in this section will focus specifically on musculoskeletal (orthopedic) conditions, since they represent the type of injury risk most responsive to sound PRT practices. Among the other conclusions from the DoD Injury Work Group: In the Army alone, musculoskeletal conditions account for over half of all disabilities creating compensation of about $125 million per year. Knee and back injuries constitute a significant proportion of disability and limited duty. Training injuries treated on an outpatient basis and sports injuries may have the biggest impact on readiness.

According to the Atlas of Injuries in the Armed Forces:

“...injuries pose the single most significant medical impediment to readiness in the military. Not only do injuries impact the strength and ability of our Armed Forces to effectively respond to their mission, they levy staggering annual costs in the hundreds of millions of dollars against the operating budgets of all the services.”

DoD Injury Surveillance and Prevention Work Group (Injury Work Group)
PREVENTION

The reconditioning program described in this FM responds to the DoD Injury Work Group recommendation to “...implement programs designed to enhance fitness and reduce training injury rates.” By enhancing the fitness level of Cadets during the profile and post-profile recovery period, this program is expected to reduce training injury rates. The Citadel Physical Readiness Training System, shown in Figure 6-1, was developed with performance and injury control as its two primary objectives. Though these objectives may seem to oppose one another at first glance, the principles of PRT that improve performance also contribute to reducing injury risk. The DoD Injury Work Group recommends the following measures for injury prevention:

- Implement programs designed to enhance fitness and reduce training injury rates.
- Target knee and back injuries for additional efforts toward prevention.
- Place greater emphasis on prevention of training and sports injuries.

![Figure 6-1. Citadel Physical Readiness Training System](image)

The Citadel PRT System shown in Figure 6-1 includes reconditioning as part of the toughening and sustaining phases for Cadets to facilitate recovery from illness, injury, or other medical conditions. Cadets in need of recovery should return to unit PRT at a level equal to or higher than their physical state previous to the condition that brought them to reconditioning. Cadet Commanders and NCOs must take an active role to control avoidable injuries; however, in spite of every effort to limit injuries at the Citadel, Cadets and situations will continue to produce overuse, accidental, and/or traumatic injuries. Keeping this in mind, a plan to bridge the gap between injury and physical readiness is essential. Reconditioning bridges this gap.

“Injuries are not random events; they are the predictable result of a complex set of risk factors, many of which can and should be controlled.”

MG Patrick Scully, Deputy Surgeon General, U.S. Army
COMMANDER’S ROLE IN INJURY CONTROL

Precise execution of all PRT activities is essential to the injury control effort. Cadet Commanders must allow trained PRT leaders and AIs the time to teach proper execution of PRT activities. PRT leaders and AIs must be able to recognize and offer corrective guidance to Cadets who are not executing drills to the standards described in this FM. It is especially important for PRT leaders and AIs to maintain the standard since transition from the toughening to the sustaining phase of training depends on execution of the drills to standard. For example, to control back injuries, postural awareness should be stressed during execution of all drills and activities. This is evident when the PRT leader or the AI prompts Cadets to “set the hips and tighten the abs” while performing the exercises.

Both military and civilian research has shown that reduced running volume is associated with lower injury rates. Several studies of military units have shown that reduced running volume does not hinder performance on two- or three-mile run assessments as long as the quality (intensity) of running is maintained.

EXECUTING UNIT RECONDITIONING PROGRAMS

The following paragraphs assist leaders as they plan and execute a reconditioning program within their units. The purpose of a reconditioning program is to safely restore a level of physical readiness that enables Cadets to successfully re-enter unit PRT after injury, illness or other medical condition. A physical profile defines, in writing, limitations to physical activity due to injury, illness or medical condition. The authorized forms for written profiles at the Citadel are the Infirmary XPT sheet and the Commandants Physical Limitations form. The Commandant’s Physical Limitation Form requires a much more detailed description of the Cadet’s injury and the activities and exercises that the can perform with the injury. Cadets assigned to the reconditioning program include:

- Cadets on temporary medical profile (XPT/TDS).
- Cadets in the recovery period after a temporary XPT expires.
- Cadets on permanent medical profile with specific limitations and special fitness requirements.

Level I

To address the needs of Cadets who are on profile and those recovering from profile, reconditioning employs a two-level system. Level I is a gym-based program designed to maximize the potential of a profiled cadet while protecting the injured area. Cadets enter level I once cleared to begin limited activity by the profiling health care provider. Activities in level I include the use of STMs and ETMs. Functional criteria are used to determine whether a Cadet is able to begin reconditioning, at level I or level II.

Example

A Cadet with a permanent profile that prohibits sustained or speed running may be assigned to the level I program. This allows him the use of aerobic training equipment on unit endurance and mobility training days.
Level II

To begin at level II, the profile or recovery reconditioning program, Cadets must meet the level II reconditioning entry criteria requirements shown in Figure 6-2. Upon entering level II, Cadets will begin to perform the PRT program. In this level the Cadet is on profile, just off of profile, or cleared to begin level II reconditioning. Preparation will be exactly the same as for unit PRT. The activity may be modified to follow a safe exercise progression. Recovery will be exactly the same as unit PRT.

<table>
<thead>
<tr>
<th>PARTIAL SQUATS WITHOUT PAIN</th>
<th>5 REPETITIONS IN 5 SECONDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUSH-UPS</td>
<td>10 REPETITIONS TO STANDARD</td>
</tr>
<tr>
<td>SIT-UPS</td>
<td>10 REPETITIONS TO STANDARD</td>
</tr>
<tr>
<td>HANG FROM PULL-UP BAR</td>
<td>15 SECONDS</td>
</tr>
<tr>
<td>WALK</td>
<td>30 MINUTES UNASSISTED, AT NORMAL GAIT WITOUT PAIN</td>
</tr>
</tbody>
</table>

Figure 6-2. Level II reconditioning entry criteria

Before being discharged from level II and returning to unit PRT, Cadets must meet the level II exit criteria requirements shown in Figure 6-3.

<table>
<thead>
<tr>
<th>PREPARATION</th>
<th>5 REPETITIONS TO STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILITARY MOVEMENT DRILL 1</td>
<td>1 REPETITION TO STANDARD</td>
</tr>
<tr>
<td>CONDITIONING DRILL 1</td>
<td>5 REPETITIONS TO STANDARD</td>
</tr>
<tr>
<td>CLIMBING DRILL 1</td>
<td>5 REPETITIONS TO STANDARD</td>
</tr>
<tr>
<td>CONTINUOUS RUNNING</td>
<td>30 MINUTES AT SLOWEST AGR PACE IN THE UNIT</td>
</tr>
<tr>
<td>RECOVERY</td>
<td>HOLD EACH STRETCH FOR 20 SECONDS TO STANDARD</td>
</tr>
</tbody>
</table>

Figure 6-3. Level II exit criteria

TOUGHENING PHASE RECONDITIONING

The purpose of the PTRP is to provide physical rehabilitation and physical conditioning for Cadets who are injured. Cadets remain in the PTRP until they are capable of returning to the same phase of physical training that they left. If an injury is minor and only requires short term limitations (with minimal impact to training); it may not require assignment to the PTRP. The CPRPM may authorize short term XPT Cadets to remain with the Regiment during physical training.

SUSTAINING PHASE RECONDITIONING

It is recommended that each company in the battalion should provide an NCO to assist the RPL on a daily basis. These NCOs should meet criteria mentioned above for the ARPL. In addition, training sessions should be provided on a quarterly basis by the physical therapist and/or physical therapy assistant to ensure proper supervision and optimal safety practices are observed. Trained NCOs will provide
supervision and group instruction to Cadets in the reconditioning program. To meet supervision requirements, at least two NCOs per company should be trained in the conduct and supervision of the reconditioning program.

Units should ensure adequate space and equipment are provided for the reconditioning program to accommodate STM and ETM drills. The reconditioning program is best executed at the brigade or installation fitness facilities. Because lower extremity injuries prevent many Cadets from running activities, it is essential to have an adequate number of ETMs that offer cardio-respiratory conditioning while limiting weight-bearing stress to the body. Examples are cycle ergometers, steppers, elliptical machines, rowing machines, and treadmills. Treadmills are full weight bearing machines and are most appropriate for Cadets cleared by medical personnel to begin a walk-to-run progression. Of these machines, cycle ergometers offer the most body weight support.

Pool activities such as swimming or deep-water running can eliminate weight-bearing stress. All Cadets who are recovering from surgery or have open wounds will receive a physician’s clearance before entering the swimming pool. Swimming laps, aqua-jogging, and aquatic exercises are excellent ways to maintain or improve cardio-respiratory fitness without putting undue stress on joints and bones. Limitations to one leg or one arm are minimal deficits in a pool environment. Kick board workouts or upper body workouts allow for strenuous activity with minimal risk of re-injury to an affected limb. If staffing is adequate, specialized aquatics programs may be implemented to work on water aerobics or deep-water running programs for non-swimmers. It is important to plan activities that keep everyone active during group pool sessions. Even if a regular pool program is not practical, an occasional trip to the pool may be scheduled to break up the routine and provide cross-training.

AO’s must rely on shared facilities and should make arrangements to ensure that space and STM/ETM equipment are available during the time dedicated to the reconditioning program. Leaders might need to schedule reconditioning outside typical PRT times such as after 0800 or before 1600 to best achieve dedicated access to gym space and equipment.

COMMAND RESPONSIBILITIES

The reconditioning program is the Commandant’s program. A well-run program will assist Corps reconstitution efforts. The success of the program is dependent on the priority placed on it from the top down. Cadet Commanders and first sergeants must care enough about the program to ensure NCO support.

The Citadel surgeon and CPRPM should maintain constant awareness of the program. A Trainer with a background in rehabilitation should act as the consultant for reconditioning programs. The primary responsibility of the consultant is to act as a liaison or advocate for the CPRPM. The consultant should also provide training for the AO’s. Figure 6-4 shows rehabilitation and reconditioning responsibilities.
Trainers for the reconditioning program must possess the same knowledge of the program that the RPL have and should have additional education in exercise science. The following outline should be used when developing training for this program:

- **STM Orientation**
  - Equipment familiarization: purpose, technique, safety.
  - Etiquette: observe posted rules, replace all weights and equipment to original positions, and wipe down all surfaces after use.

- **ETM Orientation**
  - Equipment familiarization: purpose, technique, safety.
  - Etiquette: observe posted rules, replace equipment to original position, and wipe down all surfaces after use.

- **Reconditioning Session Orientation**
  - Preparation: increase heart rate, muscle temperature to prepare the body for more vigorous activity.
  - Activity: provide neural adaptation and improve strength, endurance, and mobility.
  - Recovery: gradually return to resting heart rate (below 100 beats per minute) and bring body safely back to pre-exercise state.

- **Level I (Gym-Based) Reconditioning Objectives**
  - Prevent de-conditioning.
  - Work within profile limitations.
  - Restore functional strength, endurance, and mobility.
  - Avoid injury or re-injury.

  Transition to level II reconditioning.

- **Level II Reconditioning Objectives**
  - Progress to pre-injury level of fitness.
  - Avoid injury or re-injury.
  - Transition to unit PRT.
PROFILES AND RECOVERY PERIODS

Cadets in the reconditioning program will be on a physical profile or in the authorized recovery period from a temporary profile. Cadets on convalescence leave may be exempted from reconditioning at the discretion of the profiling medical officer. In no case can a Cadet carry a temporary profile that has been extended for more than 12 months without positive action taken to correct the problem or effect other appropriate disposition according to a suitability board. Once a profile is lifted, the Cadet must be given twice the time of the temporary profile (but not more than 90 days) to train for the CPFT.

It is not a requirement to take a CPFT after the recovery period if a Cadet is not due to take the semi-annual test. Refer to AR 350-1 and Appendix A of this FM for CPFT policy and procedures. The CPRPM follows the medical guidance on the profile for Cadets on profile. If there are any questions about the limitations of the profile, the CPRPM will contact the medical officer for clarification. Once a profile has expired, Cadets will remain in the reconditioning program until they have met transition criteria to return to unit PRT activities. During this period, the CPRPM/AO, and unit reconditioning NCOs will reinforce the precise execution of PRT activities with each Cadet in small groups or individually. See Figures 6-2 and 6-3 for transition criteria to move from level I to level II or return to unit PRT.

Cadets with permanent profiles that do not allow them to meet all reconditioning exit criteria may return to unit PRT once they demonstrate proficiency at all non-profiled activities. For example, a Cadet whose permanent profile only prohibits running would not be in the reconditioning program. Rather, he would do PRT with the unit and perform all activities except running. The Cadet in this example would walk or use ETMs when PRT activities call for sustained or speed running. When a permanent profile is so restrictive that the Cadet is unable to perform several PRT activities, the commander may direct the Cadet to the reconditioning program. For less clearly defined cases, the commander can solicit input from the CPRPM or Citadel Surgeon.

EXERCISE PROGRESSION

Progressing injured Cadets to a “return-to-duty” level of fitness is the goal of any reconditioning program. There are two possible pitfalls to exercise progression. First, if the exercise progression is too rapid it may aggravate the injury, resulting in a further delay to recovery. Second, if the exercise progression is too slow it risks general deconditioning and a loss of effectiveness when returned to duty. A gap between recovery fitness and unit expectations may also cause undue physical and psychological stress. To assist the CPRPM in decision making regarding exercise progression, the following recommendations are made:

- Cadets on profile will have specific limitations as defined by their DD Form 689 or DA Form 3349. These limits will be strictly adhered to.
- Communication with the profile writer is encouraged if a cadet is clearly improving faster than written limits allow. There may be a reason that is not obvious for the slow progression. If there is no clear reason to limit the progression, instruct the Cadet to get a new profile that reflects communication with the health care provider. A written request is preferable to relying on the individual’s memory for this.
- Limitations that are in place for a given injury may not affect other areas. A case of tendinitis in the right shoulder should not affect the ability to do leg presses or ride a stationary cycle. Get a clear understanding from the Cadet of what they can and cannot do. Do not read between the lines of the profile. Once again, contact the profile writer if clarification is needed.
• Maintain an exercise workout log to track progress of each individual who will require more than two weeks of gym reconditioning. When a profile expires, work with unit leaders to ensure the recovery period is used for reconditioning until the Cadet can meet the criteria to re-enter unit PRT.

LEVEL I RECONDITIONING DRILLS AND ACTIVITIES

The exercise schedule shown in Table 6-1 provides guidance for conducting level I reconditioning. This schedule of activities will ensure safe reconditioning of Cadets during the profile period. The physical profile of a medical officer supersedes the following:

• The CPRPM briefs the profiled Cadet concerning which exercises are restricted and which they are to perform. The Cadet is also briefed on the use of ETMs (walking and swimming may also be appropriate).
• As the Cadet improves and profiling limitations are removed; the Cadet may be transitioned into level II of the reconditioning program when transition criteria are met.

Before transition to level II, the CPRPM/AO ensures that the Cadet meets the criteria in Figure 6-2. If the Cadet cannot meet the transition criteria, he should be directed to the medical officer for re-evaluation.

Before releasing the Cadet back to unit PRT, the CPRPM/AO ensures the Cadet meets the criteria in Figure 6-3. If the Cadet does not meet these criteria before the recovery period ends, the CPRPM will consult with the Citadel Surgeon or Trainer to determine a proper disposition.

EQUIPMENT

When using equipment, endurance training includes four primary variables: exercise mode, training frequency, exercise duration, and training intensity. Exercise prescription specifies training frequency, exercise duration, and training intensity. The mode of exercise (type of equipment) is determined by environmental constraints and training according to physical profile limitations (temporary/permanent). Each ETM and STM contains specific instructions for proper use and adjustments to obtain optimal posture and technique during exercise (seat position on cycle ergometers, rowing machines, and STMs). If a piece of training equipment has no visible list of operating instructions, the CPRPM, AO, or gym personnel should be consulted for assistance.

EXERCISE MODE

Exercise mode refers to the specific activity performed by a Cadet: running, cycling, swimming, strength training, and endurance training equipment. Environmental constraints, safety for Cadets on physical profile, and isolation of specific muscle groups to be trained during rehabilitation and reconditioning are some of the advantages of using STMs and ETMs. Consideration for use of specific types of equipment may be based on a Cadet’s range of movement, limb limitation and/or the ability to participate in weight-bearing or non-weight-bearing activities. Weight-bearing activities include walking or running on a treadmill and climbing on a stair climbing or stepping machine. Non-weight bearing and limited weight-bearing activities include use of cycle ergometers (upright/recumbent), elliptical trainers, rowers, climbing machines, and cross-country ski machines. Use of limited or non-weight-bearing endurance training equipment is desirable for obtaining higher caloric expenditure through additional training sessions by overweight s. Each of these modes typically provide the Cadet with a variety of individual exercise routines that monitor and display exercise duration, training intensity (heart rate/pace/watts,
caloric expenditure, and distance completed miles/km). See Figure 6-5 for examples of various types of endurance training equipment. Use of STMs not only improves strength, but also builds muscle mass for higher caloric expenditure and stability for rehabilitation and reconditioning of the injured body part.

TRAINING FREQUENCY

Training frequency refers to the number of training sessions conducted per day or week. Training frequency is determined by exercise duration and training intensity. Training sessions that involve high intensity or longer duration may necessitate less frequent training to allow for adequate recovery. Endurance and mobility, as well as strength and mobility training frequency, is three exercise sessions per week for each, for a total of six reconditioning PRT sessions. If five days of training occur, then three days are dedicated to endurance and mobility and two days are dedicated to strength and mobility for one week. The following week will consist of three days of strength and mobility and two days of endurance and mobility training.

EXERCISE DURATION

Exercise duration is 20 minutes or longer and varies from machine to machine, depending on the intensity of the exercise routine being performed (hill profile, speed, degree of incline, resistance). Most exercise sessions of high or moderate intensity should last 20 to 30 minutes. Endurance exercise sessions, that address additional caloric expenditure for body fat reduction, should be of low intensity and may last up to 60 minutes. The duration for STM exercise is 1-3 sets of 10 repetitions of each exercise for each major muscle group. Refer to the STM drill later in this chapter for specific instructions on the conduct of each exercise.
TRAINING INTENSITY

Training intensity is typically monitored and displayed on the exercise equipment control panel in terms of heart rate, pace (mph/kph, step rate), watts, kiloponds, caloric expenditure (kcals), or resistance for ETMs and weight lifted (number of plates, pin placement, pounds, or kilograms) for STMs.

SECTION I- STABILITY TRAINING

Stability is dependent upon structural strength and body management. Regular precise performance of 4C and the HSD form a foundation of good stability for physical performance. These drills are listed in detail throughout the following pages in this chapter.

SECTION 1A- 4 FOR THE CORE

The abdomen, lower spine, and pelvis comprise the trunk (core) of the body. This area must be stable so the limbs have a fixed base from which to create powerful movements. The abdominal and back muscles form a supportive ring around the spine. Cadets are only as strong as their weakest link; so all these muscles must be trained in a manner that mimics their function. In reconditioning, 4C and HSD are performed daily before engaging in other PRT activities. During the toughening phase, 4C is performed after preparation and prior to strength and mobility activities. Four for the core may also be performed outside regular PRT sessions as supplemental training. Do not exceed 60 seconds for each 4C exercise. The following commands are used for 4C exercises.

Exercises 1 and 3 (bent leg raise and back bridge):

- Starting Position, MOVE.
- Ready, EXERCISE.
- Starting Position, MOVE.
- Position of Attention, MOVE.

Exercises 2 and 4 (side bridge and quadraplex) are both performed on the right and left sides. The commands for execution for this exercise and changing sides are as follows:

- Starting Position, MOVE.
- Ready, EXERCISE.
- Starting Position, MOVE.
- Change Position, Ready EXERCISE.
- Starting Position, MOVE.
- Position of Attention, MOVE.

The goal is to hold each exercise position for 60 seconds. If the is unable to do this, he will follow the instructions for each exercise to momentarily change position and return to the prescribed exercise position. Detailed descriptions of each 4C exercise follows.
4 FOR THE CORE

EXERCISE 1: BENT-LEG RAISE

Lying in the starting position for the sit-up, place the fingers of both hands underneath the small of the back. Raise the feet off of the ground until both the hips and knees flex to 90 degrees. Holding the head two or three inches off the ground, contract the abdominals as if preparing for a blow to the stomach. Another way to perform this drawing in maneuver is to imagine pulling the navel toward the spine. Think about the amount of pressure on the fingers created by the contraction of the abdominals. Maintain the same degree of pressure while slowly straightening the legs. As soon as the Cadet can no longer maintain the same degree of pressure on his fingers, he brings his legs back to the 90-degree position for three to five seconds, and repeats until one minute has elapsed (Figure 6-6).

![Figure 6-6. Bent-leg raise (4 for the core)](image)

4 FOR THE CORE

EXERCISE 2: SIDE BRIDGE

Lay on either side with the upper body off the ground, supported by the elbow, forearm, and fist. Cross the bottom leg in front of the top leg, keeping the feet together. The legs may also be positioned with the knees together and bent 90 degrees. Firmly press into the ground with the supporting arm, and then raise the trunk and pelvis straight upward until they form a straight line with the legs and knees. Hold this position while continuing to breathe. Switch to the other side after one minute. If he cannot hold for one minute, lower, rest briefly, then repeat until one minute has elapsed (Figure 6-7).
4 FOR THE CORE

EXERCISE 3: BACK BRIDGE

Lying on the back with knees bent at 90 degrees, arms extended sideward at 45 degrees, with head and feet on the marching surface, perform the drawing-in maneuver. Once the abdominal contraction is established, raise the hips off of the ground until the trunk and thighs form a generally straight line. The spine must not arch to achieve this position. With the buttocks still up, straighten the left leg until it aligns with the trunk and thigh. Don’t let the trunk and pelvis sag on the unsupported side. Hold five seconds, and then switch to the other leg. Repeat for one minute. If the spine begins to sag, arch, or tilt, lower to the starting position, rest for 3 to 5 seconds, then, try again (Figure 6-8). The goal is to maintain the back bridge position for 60 seconds alternating leg raises as needed.
4 FOR THE CORE

EXERCISE 4: QUADRUPLEX

The starting position is on the hands and knees with the back flat. Contract the abdominal muscles as described in the bent-leg raise. Without rotating the trunk or sagging or arching the spine, straighten the left leg to the rear and the right arm to the front. Hold for at least 5 seconds, recover to the starting position if needed, then return to the quadruplex. The goal is to hold each quadruplex position (left and right) for 60 seconds each. Alternate the arm and leg movements on subsequent repetitions, repeating for one minute. The key to this exercise is controlled lowering and raising of the opposite arm and leg while keeping the rest of the body aligned and still (Figure 6-9).
SECTION IB- HIP STABILITY DRILLS

The HSD, like 4C, trains the hip and upper thigh areas three-dimensionally, developing the basic strength and mobility needed for stability to perform functional movements. In reconditioning, the HSD is performed daily immediately after 4C and before engaging in other PRT activities. During the toughening phase, the HSD is performed after preparation and prior to endurance and mobility activities. The HSD may also be performed outside regular PRT sessions as supplemental training. In the HSD, perform no more than 10 repetitions of exercises 1 through 4 and do not exceed 30 seconds for each exercise position in exercise 5. If more repetitions are desired, repeat the entire drill.

EXERCISE 1: LATERAL LEG RAISE
(5 repetitions on each side)

Purpose: This exercise strengthens lateral hip and upper leg muscles (Figure 6-10).

Starting Position 1: Lay on the right side with the legs extended straight to the side and feet together with toes pointing straight ahead. Support the upper body with the right elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground and the right hand makes a fist vertical to the ground.

Starting Position 2: Lay on the left side with the legs extended straight to the side and feet together with toes pointing straight ahead. Support the upper body with the left elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground and the left hand makes a fist vertical to the ground.
**Commands:** The commands for the lateral leg raise are as follows:

- Starting Position, MOVE.
- In Cadence, EXERCISE (count as a 4-count).
- Change Position, MOVE.
- In Cadence, EXERCISE (count as a 4-count exercise).
- Position of Attention, MOVE.

**Cadence:** SLOW

**Count:**

1. Raise the top leg so the top foot is 6 to 8 inches above the ground.
2. Return to the starting position.
3. Raise the top leg so the top foot is 6 to 8 inches above the ground.
4. Return to the starting position.

**Check Points:**

- ✓ Face to the front of the formation, maintaining a generally straight line with the body.
- ✓ On counts 1 and 3, keep the knee of the raised leg straight and the foot pointing forward.
- ✓ The top leg raises no more than 6-8 inches above the ground.
- ✓ Place the top hand over the stomach throughout the exercise.
Precaution: N/A

HIP STABILITY DRILL

EXERCISE 2: MEDIAL LEG RAISE
(5 repetitions on each side)

Purpose: This exercise strengthens the inner thigh and hip muscles (Figure 6-11).

Starting Position 1: Lay on the left side with the left leg extended straight to the side and the right leg bent at 90 degrees with the right foot flat on the ground behind the left leg. Support the upper body with the left elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground and the left hand makes a fist vertical to the ground.

Starting Position 2: Lay on the right side with the right leg extended straight to the side and the left leg bent at 90 degrees with the left foot flat on the ground behind the right leg. Support the upper body with the right elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground and the right hand makes a fist vertical to the ground.

Commands: The commands for the lateral leg raise are as follows:

- Starting Position, MOVE.
- In Cadence, EXERCISE (count as a 4-count exercise according to Chapter 7, Execution of Training, paragraph 7-29).
- Change Position, MOVE.
- In Cadence, EXERCISE (count as a 4-count exercise according to Chapter 7, Execution of Training, paragraph 7-29).
- Position of Attention, MOVE.

Cadence: SLOW

Count:

1. Raise the bottom leg so the bottom foot is 6-8 inches above the ground.
2. Return to the starting position.
3. Raise the bottom leg so the bottom foot is 6-8 inches above the ground.
4. Return to the starting position.
Check Points:

✔ Keep the hips facing forward and the body in a generally straight line.
✔ Keep the toes facing forward on the bottom leg.
✔ Place the top hand over the stomach throughout the exercise.
✔ Do not raise the bottom foot higher than 6-8 inches above the ground.

Precaution: N/A

HIP STABILITY DRILL

EXERCISE 3: BENT-LEG LATERAL RAISE
(5 repetitions on each side)

Purpose: This exercise strengthens hip rotator muscles (Figure 6-12).

Starting Position 1: Lay on the right side with the legs bent at 90 degrees and feet together with toes pointing straight ahead. Support the upper body with the right elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground and the right hand makes a fist vertical to the ground.

Starting Position 2: Lay on the left side with the legs bent at 90 degrees and feet together with toes pointing straight ahead. Support the upper body with the left elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground, and the left hand makes a fist vertical to the ground.
**Commands:** The commands for the lateral leg raise are as follows:

- Starting Position, MOVE.
- In Cadence, EXERCISE (count as a 4-count exercise according to Chapter 7, Execution of Training, paragraph 7-29).
- Change Position, MOVE.
- In Cadence, EXERCISE (count as a 4-count exercise according to Chapter 7, Execution of Training, paragraph 7-29).
- Position of Attention, MOVE.

**Cadence:** SLOW

**Count:**

1. Raise the top leg about 12 inches above the ground, keeping the feet together.
2. Return to the starting position.
3. Raise the top leg about 12 inches above the ground, keeping the feet together.
4. Return to the starting position.
HIP STABILITY DRILL

EXERCISE 4: SINGLE-LEG TUCK
(5 repetitions on each side)

Purpose: This exercise strengthens the hip flexors, lateral hip, and upper leg muscles (Figure 6-13).

Starting Position 1: Lay on the right side with the legs extended straight to the side, with the left leg 6 to 8 inches above the ground, and toes pointing straight ahead. Support the upper body with the right elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground, and the right hand makes a fist vertical to the ground.

Starting Position 2: Lay on the left side with the legs extended straight to the side with the right leg 6 to 8 inches above the ground and toes pointing straight ahead. Support the upper body with the left elbow. The elbow is bent at 90 degrees, the upper arm is perpendicular to the ground, and the left hand makes a fist vertical to the ground.

Commands: The commands for the lateral leg raise are as follows:

- Starting Position, MOVE.
- In Cadence, EXERCISE(count as a 4-count exercise according to Chapter 7, Execution of Training, paragraph 7-29).
- Change Position, MOVE.
- In Cadence, EXERCISE (count as a 4-count exercise according to Chapter 7, Execution of Training, paragraph 7-29).
- Position of Attention, MOVE.

Cadence: SLOW

Count:

1. Bring the thigh of the top leg toward the chest, bending the knee at 90-degrees.
2. Return to the starting position.
3. Bring the thigh of the top leg toward the chest, bending the knee at 90-degrees.
4. Return to the starting position.
Check Points:

- Face to the front of the formation, maintaining a generally straight line with the body.
- The top foot remains 6-8 inches above the ground throughout the exercise.
- Place the top hand over the stomach throughout the exercise.

Precaution: N/A

HIP STABILITY DRILL

EXERCISE 5: SINGLE-LEG OVER
(20-30 seconds on each side)

Purpose: This exercise develops flexibility of the hips and lower back muscles (Figure 6-14).

Starting Position 1: Supine position with arms sideward, palms down, and head on the ground.

Movement: On the command, “Ready, STRETCH,” turn the body to right, bend the left knee to 90 degrees over the right leg, grasp the outside of the left knee with the right hand, and pull toward the right. Hold this position for 20-30 seconds. On the command, “Starting Position, MOVE,” assume the starting position. On the command, “Change Position, Ready, STRETCH,” turn the body to left, bend the right knee to 90-degrees over the left leg and grasp the outside of the right knee with the left hand.
and pull toward the left. Hold this position for 20-30 seconds. On the command, “Starting Position, MOVE,” assume the starting position.

![Figure 6-14. Single-leg over](image)

**Check Points:**

- At the starting position, the arms are directed to the sides at 90-degrees to the trunk; the fingers and thumbs are extended and joined.
- In Exercise Position 1, keep the left shoulder, arm, and hand on the ground.
- In Exercise Position 2, keep the right shoulder, arm, and hand on the ground.
- Head remains on the ground throughout the exercise.

**Precaution:** N/A

### SECTION IC - SHOULDER STABILITY DRILLS

The shoulder stability drill (SSD), Figure 6-2, is designed to develop strength and stability of the shoulders. This drill consists of five, 4-count exercises performed at a SLOW cadence for five repetitions each. The SSD may be performed between preparation, strength, and mobility activities along with 4C and the HSD to better prepare Cadets in the toughening phase for the rigors of conditioning, climbing, push-up and sit-up drills, and the STC. Cadets recovering from shoulder injuries may perform exercises in this drill as part of rehabilitation and reconditioning according to their medical profile.

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Repetitions</th>
<th>Cadence</th>
</tr>
</thead>
<tbody>
<tr>
<td>I raise</td>
<td>5</td>
<td>SLOW</td>
</tr>
<tr>
<td>T raise</td>
<td>5</td>
<td>SLOW</td>
</tr>
<tr>
<td>Y raise</td>
<td>5</td>
<td>SLOW</td>
</tr>
<tr>
<td>L raise</td>
<td>5</td>
<td>SLOW</td>
</tr>
<tr>
<td>W raise</td>
<td>5</td>
<td>SLOW</td>
</tr>
</tbody>
</table>
SHOULDER STABILITY DRILL

EXERCISE 1: “I” RAISE

Purpose: This exercise develops shoulder strength and stability (Figure 6-15).

Starting Position: Prone position with the head slightly elevated and aligned with the spine. Feet are together and toes are pointed to the rear. The arms remain on the ground and are extended overhead, forming an “I” straight in line with the body. The hands are in a neutral position (perpendicular to the ground) with the thumbs and fingers extended and joined.

Cadence: SLOW

Count:

1. Raise both arms 3-6 inches off the ground.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

Check Points:

✓ At the starting position, tighten the abdominals to stabilize the trunk. The head is slightly elevated and aligned with the spine.
✓ On counts 1 and 3, keep the back generally straight with the head up.
✓ Throughout the exercise, the arms should be fully extended and the trunk and legs should also be aligned.

Precaution: Keep the head slightly elevated throughout the exercise and do not jerk the body into the up positions on counts 1 and 3.

SHOULDER STABILITY DRILL

EXERCISE 2: “T” RAISE

Purpose: This exercise develops shoulder strength and stability (Figure 6-16).

Starting Position: Prone position with the head slightly elevated and aligned with the spine. Feet are together and toes are pointed to the rear. The arms remain on the ground and are extended sideward at
90 degrees to the trunk, forming a “T.” The hands are in a neutral position (perpendicular to the ground) with the thumbs and fingers extended and joined.

**Cadence:** SLOW

**Count:**

1. Raise both arms 3-6 inches off the ground.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

![Figure 6-16. “T” raise](image)

**Check Points:**

- At the starting position, tighten the abdominals to stabilize the trunk. The head is slightly elevated and aligned with the spine.
- On counts 1 and 3, keep the back generally straight with the head up.
- Throughout the exercise, the arms should be fully extended and the trunk and legs should also be aligned.

**Precaution:** Keep the head slightly elevated throughout the exercise and do not jerk the body into the up positions on counts 1 and 3.

**SHOULDER STABILITY DRILL**

**EXERCISE 3: “Y” RAISE**

**Purpose:** This exercise develops shoulder strength and stability (Figure 6-17).

**Starting Position:** Prone position with the head slightly elevated and aligned with the spine. Feet are together and toes are pointed to the rear. The arms remain on the ground and are extended overhead at 45 degrees to the trunk, forming a “Y.” The hands are in a neutral position (perpendicular to the ground) with the thumbs and fingers extended and joined.
Cadence: SLOW

Count:

1. Raise both arms 3-6 inches off the ground.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.

Figure 6-17. “Y” raise

Check Points:

- At the starting position, tighten the abdominals to stabilize the trunk. The head is slightly elevated and aligned with the spine.
- On counts 1 and 3, keep the back generally straight with the head up.
- Throughout the exercise, the arms should be fully extended and the trunk and legs should also be aligned.

Precaution: Keep the head slightly elevated throughout the exercise and do not jerk the body into the up positions on counts 1 and 3.

SHOULDER STABILITY DRILL

EXERCISE 4: “L” RAISE

Purpose: This exercise develops shoulder strength and stability (Figure 6-18).

Starting Position: Prone position with the head slightly elevated and aligned with the spine. Feet are together and toes are pointed to the rear. The arms remain on the ground and are extended sideward and the elbows are bent at 90 degrees, forming an “L.” The hands are in a neutral position (perpendicular to the ground) with the thumbs and fingers extended and joined.

Cadence: SLOW

Count:

1. Raise both arms 3-6 inches off the ground.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.
Check Points:

- At the starting position, tighten the abdominals to stabilize the trunk. The head is slightly elevated and aligned with the spine.
- On counts 1 and 3, keep the back generally straight with the head up.
- Throughout the exercise, the arms maintain an “L” and the trunk and legs should also be aligned.

Precaution: Keep the head slightly elevated throughout the exercise and do not jerk the body into the up positions on counts 1 and 3.

SHOULDER STABILITY DRILL

EXERCISE 5: “W” RAISE

Purpose: This exercise develops shoulder strength and stability (Figure 6-19).

Starting Position: Prone position with the head slightly elevated and aligned with the spine. Feet are together and toes are pointed to the rear. The arms remain on the ground and are extended downward at 45 degrees to the trunk and the elbow bent also at 45 degrees, forming a “W.” The hands are in a neutral position (perpendicular to the ground) with the thumbs and fingers extended and joined.

Cadence: SLOW

Count:

1. Raise both arms 3-6 inches off the ground.
2. Return to the starting position.
3. Repeat count 1.
4. Return to the starting position.
Check Points:

✓ At the starting position, tighten the abdominals to stabilize the trunk. The head is slightly elevated and aligned with the spine.
✓ On counts 1 and 3, keep the back generally straight with the head up.
✓ Throughout the exercise, the arms maintain a “W” and the trunk and legs should also be aligned.

Precaution: Keep the head slightly elevated throughout the exercise and do not jerk the body into the up positions on counts 1 and 3.
SECTION II- STRENGTH AND MOBILITY TRAINING

Strength and mobility training in reconditioning consists of the STM drill for level I, CD 1 and 2, and the PSD with modifications for level II. The following pages in this chapter describe in detail the conduct of these drills and modifications.

SECTION II A- STRENGTH TRAINING MACHINE DRILL

The STM drill is conducted on strength and mobility training days according to the Cadets’ physical profile. The exercises may be modified to meet the Cadets’ capabilities. The following exercises are examples of each exercise in the STM and modifications of these exercises that may be employed to accommodate Cadets’ specific profiles.

STRENGTH TRAINING MACHINE DRILL

EXERCISE 1: LEG PRESS

Purpose: This exercise develops strength in the hip and thigh muscles (Figure 6-20).

Starting Position: Seated position with the knees bent at 90-degrees and feet flat on the foot platform. The hips, low back, shoulders, and head are firmly against the seat back with the eyes looking straight ahead. A natural arch is maintained in the lower back. Select the appropriate weight and ensure the pin is secure in the weight stack. Hands are relaxed and placed on the handgrips.

Cadence: SLOW

Count:

1. Straighten the legs slowly until they are fully extended, not locked.
2. Return to the starting position in a slow, controlled motion.

Figure 6-20. Leg press
Check Points:

- The hips, low back, shoulders, and head are firmly against the seat back.
- Maintain a natural arch in the lower back.
- Exhale on count 1 and inhale on count 2.

Precautions: Do not arch the back or allow the hips to rise off the seat. Do not grip the handgrips tightly.

MODIFIED EXERCISE 1A: MODIFIED LEG PRESS

This exercise (Figure 6-21) is performed the same as the leg press. However, the range of motion is much less. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion and perform the exercise to standard. The Cadet may also employ the single-leg press to maintain a heavy resistance on the good leg and/or to reduce the resistance on the injured leg.

Figure 6-21. Modified leg press

MODIFIED EXERCISE 1B: SINGLE-LEG PRESS

This exercise (Figure 6-22) is performed much like the leg press, using only one leg at a time. The range of motion and resistance is decreased for the injured leg. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single leg press is used to maintain a heavy resistance on the good leg and/or to reduce the resistance on the injured leg.
STRENGTH TRAINING MACHINE DRILL

EXERCISE 2: LEG CURL

Purpose: This exercise develops strength in the back of the upper leg muscles (Figure 6-23).

Starting Position: Seated position, knees aligned with the center axis of the machine. The lower leg pad is adjusted to contact the lower legs just above the ankle, allowing the lower leg to be fully extended, but not locked. The lower legs and feet are relaxed. The thigh pad is positioned just above the knees. The hips, low back, shoulders, and head are firmly against the seat back with the eyes looking straight ahead. A natural arch is maintained in the lower back. Select the appropriate weight and ensure the pin is secure in the weight stack. Hands are relaxed and placed on the handgrips on the top of the thigh pad.

Cadence: SLOW

Count:

1. Pull the lower legs to the rear slowly until the lower legs are flexed, forming a 90-degree angle between the upper and lower legs.
2. Return to the starting position by slowly raising the lower legs.
Check Points:

- Knees are aligned with the center axis of the machine.
- The leg pad contacts the lower legs just behind the ankles.
- The hips, low back, shoulders, and head are firmly against the seat back.
- Maintain a natural arch in the lower back.
- Exhale on count 1 and inhale on count 2.

Precautions: Do not arch the back or allow the hips to rise off the seat. Do not grip the handgrips tightly.

MODIFIED EXERCISE 2A: MODIFIED LEG CURL (SEATED)

6-56. This exercise (Figure 6-24) is performed the same as the leg curl; however, the range of motion is much less. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion and perform the exercise to standard.
MODIFIED EXERCISE 2B: SINGLE-LEG CURL (SEATED)

This exercise (Figure 6-25) is performed much like the leg curl, using only one leg at a time. The range of motion and resistance is decreased for the injured leg. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single-leg curl is used to maintain a heavy resistance on the good leg and/or to reduce the resistance on the injured leg.

MODIFIED EXERCISE 2C: MODIFIED LEG CURL (PRONE)

This exercise (Figure 6-26) is performed in the prone position through a limited range of motion. Cadets with low back or hip injuries may prefer to use the seated leg curl if it is available. As the cadet’s condition improves, the range of motion may gradually increase until the exercise is performed through a full range of motion (heels to the buttocks). The resistance should not be increased until the Cadet can move through the full range of motion.
MODIFIED EXERCISE 2D: SINGLE-LEG CURL (PRONE)

This exercise (Figure 6-27) is performed using only one leg at a time. Cadets with low back or hip injuries may prefer to use the seated leg curl if it is available. The range of motion and resistance is decreased for the injured leg. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard (heel to the buttocks). The resistance should not be increased until the Cadet can move through the full range of motion. The single-leg curl is used to maintain a heavy resistance on the good leg and to reduce the resistance on the injured leg.
STRENGTH TRAINING MACHINE DRILL

EXERCISE 3: HEEL RAISE

**Purpose:** This exercise develops strength in the back of the lower leg muscles (Figure 6-28).

**Starting Position:** Stand with the balls of the feet on the elevated platform, toes pointing straight ahead, feet aligned directly below the hips, and the knees slightly flexed.

**Cadence:** SLOW

**Count:**

1. Raise the entire body slowly by pulling the heels up, maintaining a slight bend in the knees, and a natural arch in the low back.
2. Return to the starting position.

**Check Points:**

- Maintain a natural arch in the lower back.
- Keep the knees slightly flexed throughout the exercise.
- Keep the head and neck in a neutral position, looking straight ahead.
- Keep the knees aligned over the feet.
- Exhale on count 1 and inhale on count 2.

**Precautions:** Avoid flexing or extending the trunk. Do not allow the ankles to turn in or out.
MODIFIED EXERCISE 3A: SINGLE-LEG HEEL RAISE

This exercise (Figure 6-29) is performed much like the heel raise, using only one leg at a time. The range of motion and resistance is decreased for the injured leg. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single leg is used to maintain a heavy resistance on the good leg and/or to reduce the resistance on the injured leg.

![Starting Position](image1)

![Left Single-leg Heel Raise](image2)

![Starting Position](image3)

![Starting Position](image4)

![Starting Position](image5)

![Right Single-leg Heel Raise](image6)

![Starting Position](image7)

Figure 6-29. Single-leg heel raise
STRENGTH TRAINING MACHINE DRILL

EXERCISE 4: CHEST PRESS

**Purpose:** This exercise develops strength in the arms, shoulders, and chest muscles (Figure 6-30).

**Starting Position:** Seated position with the feet firmly on the ground. The seat is adjusted so a 90-degree angle is formed between the upper and lower arms with the shoulders directly below the handgrips. The hips, low back, shoulders, and head are firmly against the seat back with the eyes looking straight ahead. A natural arch is maintained in the lower back. Select the appropriate weight and ensure the pin is secure in the weight stack.

**Cadence:** SLOW

**Count:**

1. Push upward until both arms are fully extended, but not locked.
2. Return to the starting position.

![Starting Position](image1)

![Count 1](image2)

![Count 2](image3)

*Figure 6-30. Chest press*

**Check Points:**

- Feet remain on the ground, with hips, back, shoulders, and head firmly on the bench.
- Keep the head and neck in a neutral position, looking straight ahead.
- Exhale on count 1 and inhale on count 2.

**Precaution:** Do not arch the back or allow the hips to rise off the bench.
MODIFIED EXERCISE 4A: MODIFIED CHEST PRESS

This exercise (Figure 6-31) is performed the same as the chest press, but with much less range of motion. The elbows will not flex below 90 degrees as the resistance is lowered, nor will they fully straighten when the resistance is raised. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion and perform the exercise to standard.

STRENGTH TRAINING MACHINE DRILL

EXERCISE 5: SEATED ROW

**Purpose:** This exercise develops strength in the arm and back muscles (Figure 6-33).

**Starting Position:** Seated position with the feet firmly planted on the foot supports. Lean forward and grasp the handgrips with the hands in a neutral closed grip. Sit erect so the upper body is perpendicular to the floor. Select the appropriate weight and ensure the pin is secure in the weight stack.
**Cadence:** SLOW

**Count:**

1. Simultaneously, bend the elbows and pull the handgrips to the chest or upper abdomen while keeping the trunk rigid and the back flat.
2. Return to the starting position by slowly extending the elbows.

![Figure 6-33. Seated row](image)

**Check Points:**

- Feet remain flat on the ground or foot supports.
- The trunk is erect and the back is flat.
- Keep the head and neck in a neutral position, looking straight ahead or slightly downward.
- The arms are about parallel to the ground.
- On count 1 ensure the elbows point up and to the rear.
- Exhale on count 1 and inhale on count 2.

**Precautions:** Do not jerk the trunk to move the handgrips towards the chest. Maintain a flat back.

**MODIFIED EXERCISE 5A: STRAIGHT-ARM SEATED ROW**

This exercise (Figure 6-34) is performed the same as the seated row, however, the range of motion is much less. The elbows remain fully extended and the arms straight, as the resistance is lowered and when the resistance is raised. As the Cadet’s range of motion improves, he may employ the single-arm seated row to maintain a heavy resistance on the good side and/or to reduce the resistance on the injured side.
MODIFIED EXERCISE 5B: SINGLE-ARM SEATED ROW

This exercise (Figure 6-35) is performed much like the seated row, using only one arm at a time. The range of motion and resistance is decreased for the injured side. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single-arm seated row is used to maintain a heavy resistance on the good side and/or to reduce the resistance on the injured side.
STRENGTH TRAINING MACHINE DRILL

EXERCISE 6: OVERHEAD PRESS

**Purpose:** This exercise develops strength in the arm and shoulder muscles (Figure 6-36).

**Starting Position:** The Cadet assumes a seated position with the feet firmly on the ground. The Cadet adjusts the seat to achieve a 90-degree angle between the Cadet’s upper and lower arms, with the shoulders directly below the handgrips. The hips, low back, shoulders, and head rest firmly against the seat back. The Cadet looks straight ahead, maintaining a natural arch in the lower back. The Cadet selects the appropriate weight and ensures the pin is secure in the weight stack.

**Cadence:** SLOW

**Count:**

1. Push upward until both arms are fully extended, but not locked.
2. Return to the starting position.

![Starting Position](image1)

![Count 1](image2)

**Figure 6-36. Overhead press**

**Check Points:**

- Feet remain on the ground, with hips, back, shoulders, and head firmly on the bench.
- Keep the head and neck in a neutral position, looking straight ahead.
- Exhale on count 1 and inhale on count 2.

**Precaution:** Do not arch the back or allow the hips to rise off the bench.

MODIFIED EXERCISE 6A: MODIFIED OVERHEAD PRESS

This exercise (Figure 6-37) is performed the same as the overhead press, but with much less range of motion. The elbows will not flex below 90 degrees as the resistance is lowered, nor will they fully straighten when the resistance is raised. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion and perform the exercise to standard.
MODIFIED EXERCISE 6B: SINGLE-ARM OVERHEAD PRESS

This exercise (Figure 6-38) is performed much like the overhead press, using only one arm at a time. The range of motion and resistance is decreased for the injured side. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single-arm overhead press is used to maintain a heavy resistance on the good side and/or to reduce the resistance on the injured side.
STRENGTH TRAINING MACHINE DRILL

EXERCISE 7: LAT PULL-DOWN

Purpose: This exercise develops strength in the arm and back muscles (Figure 6-39).

Starting Position: Select the appropriate weight and ensure the pin is secure in the weight stack before assuming the starting position. Sit erect and adjust the roller pad so it is firm against the upper thigh and hip. Grasp the bar with a closed, pronated grip and assume a seated position with the hips against the roller pad and the feet flat on the ground. The upper body is perpendicular to the floor.

Cadence: SLOW

Count:

1. Keeping the arms straight and elbows rotated out to the side and slightly flexed, simultaneously bend the elbows and pull bar toward the shoulders until the upper arms are parallel to the ground.
2. Return to the starting position by slowly extending the elbows.

Check Points:

✓ Feet remain flat on the ground and the trunk is erect.
✓ Maintain a natural arch in the lower back.
✓ Keep the head and neck in a neutral position, looking straight ahead or slightly upward.
✓ Arms are straight and elbows rotated out to the side and slightly flexed and in direct line with the cable.
✓ Exhale on count 1 and inhale on count 2.

Precaution: Do not jerk the trunk or lean back to move the bar toward the shoulders.
MODIFIED EXERCISE 7A: STRAIGHT-ARM LAT PULL-DOWN

This exercise (Figure 6-40) is performed the same as the lat pull-down, however, the range of motion is much less. The elbows remain fully extended and the arms straight, as the resistance is lowered and when the resistance is raised. As the Cadet’s range of motion improves, he may employ the single-arm lat-pull-down to maintain a heavy resistance on the good side and/or to reduce the resistance on the injured side.

![Figure 6-40. Straight-arm lat pull-down](image)

MODIFIED EXERCISE 7B: SINGLE-ARM LAT PULL-DOWN

This exercise (Figure 6-41) is performed much like the lat pull-down, using only one arm at a time. The range of motion and resistance is decreased for the injured side. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single-arm lat pull-down is used to maintain a heavy resistance on the good side and/or to reduce the resistance on the injured side.
Figure 6-41. Single-arm lat pull-down

STRENGTH TRAINING MACHINE DRILL

EXERCISE 8: LATERAL RAISE

**Purpose:** This exercise develops strength in the shoulder and neck muscles (Figure 6-42).

**Starting Position:** Seated position with the feet firmly on the ground. The seat is adjusted so a 90-degree angle is formed between the upper and lower arms. The hips, lower back, shoulders, and head are firmly against the seat back with the eyes looking straight ahead. A natural arch is maintained in the lower back. Select the appropriate weight and ensure the pin is secure in the weight stack.

**Cadence:** SLOW

**Count:**

1. Raise both arms upward until they are parallel to the ground.
2. Return to the starting position.
Figure 6-42. Lateral raise

Check Points:

✓ Feet remain on the ground, with hips, back, shoulders, and head firmly on the bench.
✓ Keep the head and neck in a neutral position, looking straight ahead.
✓ Exhale on count 1 and inhale on count 2.

Precautions: Do not arch the back or allow the hips to rise off the bench. Do not raise arms above parallel to the ground.

MODIFIED EXERCISE 8A: SINGLE-ARM LATERAL RAISE

This exercise (Figure 6-43) is performed much like the lateral raise, using only one arm at a time. The range of motion and resistance is decreased for the injured side. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single-arm lateral raise is used to maintain a heavy resistance on the good side and/or to reduce the resistance on the injured side.
STRENGTH TRAINING MACHINE DRILL

EXERCISE 9: TRICEPS EXTENSION

Purpose: This exercise develops strength in the triceps muscles (Figure 6-44).

Starting Position (Standing): Straddle stance with a 90-degree angle formed at the upper and lower arms. Select the appropriate weight and ensure the pin is secure in the weight stack. Maintain an erect position, eyes looking straight ahead, grasping the bar with a closed, pronated grip.

Starting Position (Seated): Seated position with the feet firmly on the ground. The seat is adjusted so a 90-degree angle is formed between the upper and lower arms, with elbows shoulder-width apart on the supporting pad, and hands in a closed-grip. The hips and low back are firmly against the seat back with the eyes looking straight ahead. A natural arch is maintained in the lower back. Select the appropriate weight and ensure the pin is secure in the weight stack.

Cadence: SLOW
Count:

1. Push downward until both arms are fully extended, but not locked.
2. Return to the starting position.

Figure 6-44. Triceps extension

Check Points:

✔ Feet remain on the ground, with hips and back firmly on the bench during seated triceps extension.
✔ Keep the head and neck in a neutral position, looking straight ahead.
✔ Exhale on count 1 and inhale on count 2.

Precautions: Do not lean forward while performing standing triceps extension. Do not arch the back or allow the hips to rise off the bench during seated exercise.
MODIFIED EXERCISE 9A: MODIFIED TRICEPS EXTENSION

This exercise (Figures 6-45 and 6-46) is performed the same as the triceps extension, but the range of motion is much less. The elbows will not fully flex as the resistance is lowered, nor will they fully straighten when the resistance is raised. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion and perform the exercise to standard.

Figure 6-45. Modified triceps extension using a high pulley

Figure 6-46. Modified triceps extension using a triceps extension machine
MODIFIED EXERCISE 9B: SINGLE-ARM TRICEPS EXTENSION

This exercise (Figures 6-47 and 6-48) is performed much like the triceps extension, using only one arm at a time. The range of motion and resistance is decreased for the injured side. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single-arm triceps extension is used to maintain a heavy resistance on the good side and/or to reduce the resistance on the injured side.

Figure 6-47. Single-arm triceps extension using a high pulley
MODIFIED EXERCISE 9B: SINGLE-ARM TRICEPS EXTENSION (CONTINUED)

Figure 6-48. Single-arm triceps extension using a triceps extension machine
STRENGTH TRAINING MACHINE DRILL

EXERCISE 10: BICEPS CURL

Purpose: This exercise develops strength in the upper biceps muscles (Figure 6-49).

Starting Position: Seated position with the feet firmly on the ground. The seat is adjusted so the arms are straight, with elbows shoulder-width apart. The back of the upper arms are on the supporting pad with hands in a closed-grip. The hips and low back are firmly against the seat back with the eyes looking straight ahead. A natural arch is maintained in the lower back. Select the appropriate weight and ensure the pin is secure in the weight stack.

Cadence: SLOW

Count:

1. Pull upward until both arms are fully flexed.
2. Return to the starting position.

Check Points:

✓ Feet remain on the ground, with hips and back firmly on the bench during seated triceps extension.
✓ Keep the head and neck in a neutral position, looking straight ahead.
✓ Exhale on count 1 and inhale on count 2.

Precautions: Do not arch the back or allow the hips to rise off the bench. Do not arch backward while performing the biceps curl.
MODIFIED EXERCISE 10A: MODIFIED BICEPS CURL

This exercise (Figure 6-50) is performed the same as the biceps curl, but the range of motion is much less. The elbows will not fully flex as the resistance is raised, nor will they fully straighten when the resistance is lowered. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion and perform the exercise to standard.

![Figure 6-50. Modified biceps curl](image)

MODIFIED EXERCISE 10B: SINGLE-ARM BICEPS CURL

This exercise (Figure 6-51) is performed much like the biceps curl, using only one arm at a time. The range of motion and resistance is decreased for the injured side. As the Cadet’s condition improves, the range of motion may gradually increase until the exercise is performed to standard. The resistance should not be increased until the Cadet can move through the full range of motion. The single-arm biceps curl is used to maintain a heavy resistance on the good side and to reduce resistance on the injured side.
SECTION III - LEVEL II RECONDITIONING DRILLS AND ACTIVITIES

Cadets in level II reconditioning are on profile, just off of profile, or cleared to begin level II reconditioning. These Cadets will perform PRT drills and activities, in some cases, modified to fit the Cadet’s specific physical profile or level of injury. See Table 6-3 for the schedule of level II reconditioning drills and activities.

Table 6-3. Reconditioning Level II training schedule

<table>
<thead>
<tr>
<th>MON</th>
<th>TUE</th>
<th>WED</th>
<th>THU</th>
<th>FRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVITIES:</td>
<td>ACTIVITIES:</td>
<td>ACTIVITIES:</td>
<td>ACTIVITIES:</td>
<td>ACTIVITIES:</td>
</tr>
<tr>
<td>HSD (5 reps)</td>
<td>4C (60 secs)</td>
<td>HSD (5 reps)</td>
<td>4C (60 secs)</td>
<td>HSD (5 reps)</td>
</tr>
<tr>
<td>MMD1 (1 rep)</td>
<td>CD 1 (5 reps)</td>
<td>MMD1 (1 rep)</td>
<td>CD 1 (5 reps)</td>
<td>MMD1 (1 rep)</td>
</tr>
<tr>
<td>Walk to Run (30 min)</td>
<td>CL 1 (5 reps)</td>
<td>Walk to Run (30 min)</td>
<td>CL 1 (5 reps)</td>
<td>Walk to Run (30 min)</td>
</tr>
</tbody>
</table>

Preparation, military movement drill 1, CD 1, and recovery will be the same as for unit PRT or may be modified to follow a safe exercise progression. The CL will be performed with spotters as in unit PRT. Spotters must be especially aware of each Cadet’s physical limitation. The walk-to-run program safely progresses Cadets from bouts of walking to increased bouts of continuous running for 30 consecutive
minutes. Each week the walking time decreases as the running time increases to reach the 30-minute continuous running goal. (Table 6-4 shows how to conduct the walk-to-run program.)

**Table 6-4. Reconditioning walk-to-run progression**

<table>
<thead>
<tr>
<th>Week of Training</th>
<th>Walk</th>
<th>Jog</th>
<th>Repetitions</th>
<th>Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week I</td>
<td>4 minutes</td>
<td>2 minutes</td>
<td>5 times</td>
<td>30 minutes</td>
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<tr>
<td>Week II</td>
<td>3 minutes</td>
<td>3 minutes</td>
<td>5 times</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Week III</td>
<td>2 minutes</td>
<td>4 minutes</td>
<td>5 times</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Week IV</td>
<td>1 minute</td>
<td>5 minutes</td>
<td>5 times</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Week V</td>
<td>Run every other day with a goal of reaching thirty consecutive minutes.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Perform the activities for each level every other day.
- Spend at least one week at each level. Begin Week V runs with duration of 15 minutes.
- Walk 5 minutes before and after each session. Progress to 30 consecutive minutes of running over the next 2 to 4 weeks.

**EXERCISE GUIDANCE**

The following exercise guidance is intended for RPLs/ARPLs in the level II reconditioning program. Common sites of pain/injury are given, followed by a discussion of PRT progression. The information below assumes that all profile restrictions have been removed. General exercise guidance is provided for knee injury/pain, foot and ankle injury/pain; lower leg injury/pain, low back injury/pain, and shoulder injury/pain; as well as modifications to exercises based on limitations of various physical profiles. In the pages to follow each of these injury conditions are listed with specific guidance on the conduct of exercise drills and activities as they apply to the knee, foot and ankle, lower leg, back and shoulder pain, and injuries.

**Knee Pain/Injury**

Knee pain/injury may require restrictions. In the post-profile recovery period, progress as follows:

**Preparation (PD)**

Resume lunging and squatting movements (to include the high jumper) with a reduced range of motion and fewer repetitions. The high jumper should not be resumed until the Cadet has demonstrated proficiency at all other exercises. Resume the high jumper by only rising to the toes on counts one and three, then gradually progress starting with minimal height and few repetitions. When performing the squat thrust, Cadets should assume the front leaning rest position by initially stepping into and out of the squat position while bearing most of their body weight with their arms. Cadets must gradually increase the range of motion and repetitions to meet the standards. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

**Conditioning Drill 1 (CD 1)**

When assuming the starting position for the single-leg push-up, Cadets should initially step into and out of the squat position to the front leaning rest position. This should be done while bearing most of the body weight with the arms. Allow Cadets to assume a six-point position if they are unable to maintain good
form or keep up with the cadence. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

**Military Movement Drill 1 (MMD1)**

Resume MMD 1 by reducing the distance from 25 to 15 yards and ensure that the Cadet limits the speed and intensity of movement. For laterals, this means decreasing the crouch and stepping the movements instead of maintaining the normal tempo. For verticals, start with minimal air time and gradually progress to more powerful movements. For the shuttle sprint, ensure that the Cadets are able to negotiate the turns at walking speed before allowing them to run.

**Push-up and Sit-up Drill (PSD)**

When performing the squat thrust, Cadets assume the front leaning rest position by initially stepping into and out of the squat position while bearing most of their body weight with their arms. Allow Cadets to assume a six-point position for the push-ups if they are unable to maintain good form or keep up with the cadence. To modify the sit-up, allow Cadets to initially use their hands to move into and out of the supine position.

**Climbing Drill 1 (CL 1)**

Proper spotting is essential in the post-profile period. Cadets performing CL 1 exercise modifications in level II reconditioning depend greatly on their spotters to assist them through the movements of each exercise. Gradually, they will need less help from the spotters. Eventually, they may complete many, if not all the repetitions, with little or no assistance.

**Sustained and Speed Running**

If running is restricted, the Cadet will need to maintain conditioning through the use of ETM, the pool, and walking. When the profile ends or allows a return to running, a systematic progression should be followed. The Cadet must be able to walk for 30 minutes without increasing his symptoms before starting the running progression.

**Recovery (RD)**

As with all lunges, the amount of knee bend may be restricted for the rear lunge. The starting position for the extend and flex may be assumed as shown for the front leaning rest position. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground. In the post-profile period, range of motion for some exercises may still be limited. Gradually increase the range of motion over time and work toward the standard execution of each exercise.

**Foot and Ankle Pain/Injury**

PRT activities that involve jumping and landing, running, and single leg weight bearing should be resumed with the most caution. During the post-profile recovery period, progress as follows:

**Preparation (PD)**

Resume this drill at a slow cadence with few repetitions. The Cadet should resume the high jumper only after demonstrating proficiency in all other exercises. The Cadet resumes the high jumper by only rising to the toes on counts one and three, and then gradually progressing, starting with minimal height and few
repetitions. The instructor monitors lunges closely, since they require most of the body weight to shift to a single leg. The stress of lunges can be limited by reducing the stride and the depth of the lunge. Initially, Cadets might need to do push-ups by stepping back into the front-leaning rest rather than by performing a squat thrust. The instructor allows the Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

**Military Movement Drill 1 (MMD 1)**

Resume MMD 1 by reducing the distance from 25 to 15 yards and ensure that the Cadet limits the speed and intensity of movement. For laterals, this means decreasing the crouch and stepping the movements instead of maintaining the normal tempo. For verticals, start with minimal air time and gradually progress to more powerful movements. For the shuttle sprint, ensure that Cadets are able to negotiate the turns at walking speed before allowing them to run.

**Conditioning Drill 1 (CD 1)**

When assuming the starting position for the single-leg push-up, Cadets should initially step into and out of the squat position to the front leaning rest position. This should be done while bearing most of the body weight with the arms. Allow Cadets to assume a six-point position if they are unable to maintain good form or keep up with the cadence. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

**Climbing Drill 1 (CL 1)**

Proper spotting is essential in the post-profile period. Encourage hands on spotting for all participants.

*Sustained and Speed Running*

While profiled for running, the Cadet will need to maintain conditioning through the use of ETMs, the pool, and walking. When the profile ends or allows a return to running, a systematic progression must be followed. The Cadet must be able to walk for 30 minutes without increasing his symptoms before starting the running progression.

**Recovery (RD)**

The starting position for the extend and flex may be assumed as shown for the front leaning rest position. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground. In the post-profile period, range of motion for some exercises may be limited still. Over time, gradually increase the range of motion and work toward the standard execution of each exercise.

**Lower Leg Pain/Injury**

PRT activities that involve jumping, landing, and running should be resumed with the most caution. In the post-profile recovery period, progress as follows:

**Preparation (PD)**

Resume this drill at a slow cadence with few repetitions. The high jumper should not be resumed until the Cadet has demonstrated proficiency at all other exercises. Resume the high jumper by rising to the toes only on counts one and three, then gradually progress starting with minimal height and few repetitions. Lunges should be monitored closely since they require most of the body weight to shift to a single leg.
The stress of lunges can be limited by reducing the stride and the depth of the lunge. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

_Military Movement Drill 1 (MMD 1)_

Resume MMD 1 by reducing the distance from 25 to 15 yards and ensure that the Cadet limits the speed and intensity of movement. For laterals, this means decreasing the crouch and stepping through the movements instead of maintaining the normal tempo. For verticals, start with minimal air time and gradually progress to more powerful movements.

_Conditioning Drill 1 (CD 1)_

When assuming the starting position for the single-leg push-up, Cadets should initially step into and out of the squat position to the front leaning rest position while bearing most of the body weight with the arms. Allow Cadets to assume a six-point position if they are unable to maintain good form or keep up with the cadence. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

_Climbing Drill 1 (CL 1)_

Proper spotting is essential in the post-profile period. Encourage hands on spotting for all participants.

_Sustained and Speed Running_

6-98. While profiled for running, the Cadet will need to maintain conditioning through the use of ETMs, the pool, and walking. When the profile ends or allows a return to running, a systematic progression should be followed. Cadets must be able to walk for 30 minutes without increasing their symptoms before starting the running progression.

_Recovery (RD)_

These exercises are generally not restricted, though Cadets may need to use their hands to move into and out of starting and exercise positions on the ground. In the post-profile period, range of motion for some exercises may still be limited. Over time, gradually increase the range of motion and work toward the standard execution of each exercise.

_Back Pain or Back Injury_

PRT activities that bend or twist the trunk must be resumed with caution. In the post-profile recovery period, progress as follows:

_Preparation (PD)_

Exercises that bend or twist the trunk may have been restricted while on profile. Post-profile, the Cadet starts with a limited range of movement and gradually progresses to the standard positions. Lunges and the squat bender are generally well tolerated, because the trunk remains straight throughout the movement. Post profile, the resumes the high jumper by rising only to the toes on counts one and three, then gradually progress starting with minimal height and few repetitions. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.
**Military Movement Drill 1 (MMD 1)**

The shuttle sprint will normally be restricted by profile. In the post-profile period, resume the shuttle sprint without touching the hand to the ground on turns, and then gradually work toward bending enough to touch the ground. Resume the other MMD 1 exercises by reducing the distance from 25 to 15 yards and ensure that the Cadet limits the speed and intensity of movement. For laterals, this means decreasing the crouch and stepping through the movements instead of maintaining the normal tempo. For verticals, start with minimal air time and gradually progress to more powerful movements.

**Conditioning Drill 1 (CD 1)**

When assuming the starting position for the single-leg push-up, Cadets should initially step into and out of the squat position to the front leaning rest position while bearing most of their body weight with their arms. Allow Cadets to assume a six-point position if they are unable to maintain good form or keep up with the cadence. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

**Climbing Drill 1 (CL 1)**

Proper spotting is essential in the post-profile period. Encourage hands on spotting for all participants.

**Sustained and Speed Running**

If profiled for running, the Cadet will need to maintain conditioning through the use of ETMs, the pool, and walking. When the profile ends or allows a return to running, a systematic progression should be followed. The Cadet must be able to walk for 30 minutes without increasing their symptoms before starting the running progression.

**Recovery (RD)**

The extend and flex may be restricted by profile. Post-profile, Cadets should go to the starting position by stepping back into the front-leaning rest position rather than performing a squat thrust. The other exercises should be tolerated in the post-profile period by starting with a reduced range of motion and gradually working toward the standard. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

**Shoulder Pain or Shoulder Injury**

PRT activities that involve overhead motion or otherwise stress the shoulder must be resumed with caution. In the post-profile recovery period, progress as follows:

**Preparation (PD)**

Exercises that include raising the arms overhead may be restricted by profile. These exercises, unless otherwise restricted by the profile, can still be performed with hands on hips. The push-up will usually be restricted while on profile. After profiling, the Cadet may need to resume the exercise with a modified hand position. Push-up progression may start from the knees. Gradually work toward the standard exercise positions.
Military Movement Drill 1 (MMD 1)

If this drill is restricted by profile, resume the exercises in the post-profile period by reducing the distance from 25 to 15 yards and ensure that the Cadet limits the speed and intensity of movement. For laterals, this means decreasing the crouch and stepping the movements instead of maintaining the normal tempo. For verticals, start with minimal air time and gradually progress to more powerful movements.

Conditioning Drill 1 (CD 1)

When assuming the starting position for the single-leg push-up, Cadets should initially step into and out of the squat position to the front leaning rest position while bearing most of the body weight with the arms. Allow Cadets to assume a six-point position if they are unable to maintain good form or keep up with the cadence.

Sit-Up (SU)

Initially, allow Cadets to use their hands to move into and out of the supine position. An alternate arm position with arms at sides or across the chest may be used.

Climbing Drill 1 (CL1)

Proper spotting is essential in the post-profile period. Encourage hands-on spotting for all participants.

Recovery (RD)

The extend and flex is generally the most stressful on the shoulder. The other exercises should be tolerated in the post-profile period by starting with a reduced range-of-motion and gradually working toward the standard. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground.

SECTION IV- EXERCISE MODIFICATIONS

The PD, CD 1, military movement drill 1 (MMD 1), and the RD exercises include a wide range of movements requiring strength, endurance, and mobility using standing, seated, prone, and supine postures. Each exercise may be modified to accommodate various physical limitations. This allows Cadets to work within their physical profiles, gradually progressing to performing each exercise to standard. The following pages describe each drill with exercise modifications to accommodate various physical profile limitations.

PREPARATION DRILL

MODIFIED EXERCISE 1: MODIFIED BEND AND REACH

The instructor may modify the bend and reach by decreasing the range of motion and limiting the use of the arms. The Cadet may use the modifications shown in Figure 6-57 to exercise within physical profile limitations. The Cadet gradually increases the range of motion and works toward the standard execution of the exercise, then progresses performance to standard.
PREPARATION DRILL

MODIFIED EXERCISE 2: MODIFIED REAR LUNGE

The rear lunge can be modified (Figure 6-59) by decreasing the range of motion at which it is performed. As with all lunges, the amount of knee bend may be restricted for the rear lunge. The feet may be closer together. Concentrate on trying to gradually lower the body in the lunge position. The Cadet gradually increases the range of motion and works toward the standard execution of the exercise, then progresses performance to standard.

PREPARATION DRILL

MODIFIED EXERCISE 3: MODIFIED HIGH JUMPER

The instructor may modify the high jumper by decreasing the range of motion and limiting the use of the arms. The Cadet may use the modifications shown in Figure 6-61 to exercise within physical profile limitations. The Cadet gradually increases the range of motion and works toward the standard execution of the exercise, then progresses performance to standard.
PREPARATION DRILL

MODIFIED EXERCISE 4: MODIFIED ROWER

The instructor may modify the rower by decreasing the range of motion or limiting the use of the arms. The Cadet may use the modifications shown in Figure 6-63 and Figure 6-64 to exercise within physical profile limitations. The Cadet gradually increases the range of motion and works toward the standard execution of the exercise, then progresses performance to standard.

Figure 6-61. Modified high jumper (remaining on the ground)

Figure 6-63. Modified rower (limited range of movement)
PREPARATION DRILL

MODIFIED EXERCISE 5: MODIFIED SQUAT BENDER

The instructor may modify the squat bender by decreasing the range of motion and limiting the use of the arms. The Cadet may use the modifications shown in Figure 6-66 to exercise within physical profile limitations. The Cadet gradually increases the range of motion and works toward the standard execution of the exercise, then progresses performance to standard.

PREPARATION DRILL

MODIFIED EXERCISE 6: MODIFIED WINDMILL
The instructor may modify the windmill by decreasing the range of motion and limiting the use of the arms. The modifications to the windmill shown in Figures 6-68, 6-69, and 6-70 may be used to exercise within physical profile limitations and gradually progress performance to standard.

Figure 6-68. Modified windmill (body twist)

Figure 6-69. Modified windmill (hands on hips)

Figure 6-70. Modified windmill (single arm)
PREPARATION DRILL

MODIFIED EXERCISE 7: MODIFIED FORWARD LUNGE

The instructor may modify the forward lunge by decreasing the range of motion. As with all lunges, this one may restrict knee bend. The Cadet may keep the feet closer together than with the forward lunge. The Cadet concentrates on trying to gradually lower the body in the lunge position (Figure 6-72). Over time, the Cadet gradually increases his range of motion and works toward standard execution of the exercise.

Figure 6-72. Modified forward lunge

PREPARATION DRILL

MODIFIED EXERCISE 8: MODIFIED PRONE ROW

The instructor may modify the prone row by decreasing the range of motion and limiting the use of the arms. The Cadet assumes the starting position using his hands to assist in lowering the body, and then steps back into the six-point stance before lowering the body to the ground. He uses the modifications shown in Figures 6-74 and 6-75 to exercise within physical profile limitations. The Cadet works toward standard execution of the exercise.
PREPARATION DRILL

MODIFIED EXERCISE 9: MODIFIED BENT-LEG BODY TWIST

The starting position for this exercise is the supine position with the arms sideward or at 45 degrees to the body (according to profile limitations). Palms should face downward and knees bent at 90 degrees, with the feet flat on the floor. The head may be on the ground or elevated 1-2 inches depending on profile limitations. The Cadet assumes the starting position as in the bent-leg body twist, leaving the feet flat on the ground. (Figures 6-77 and 6-78).
PREPARATION DRILL

MODIFIED EXERCISE 10: MODIFIED PUSH-UP

The Cadet performs the modified push-up in the six-point stance. The Cadet assumes the starting position, using his hands to assist in lowering his body, and then steps back into the six-point stance. Range of movement may be limited throughout the exercise. Over time, the Cadet gradually increases the range of motion and works toward the standard execution of the push-up (Figures 6-81 and 6-82).
CONDITIONING DRILL 1

MODIFIED EXERCISE 1: MODIFIED POWER JUMP

The instructor may modify the power jump by decreasing the range of motion or limiting the use of the arms. The Cadet may use the modifications shown in Figure 6-84 to exercise within physical profile limitations. The Cadet works toward standard execution of the exercise.
CONDITIONING DRILL 1

MODIFIED EXERCISE 2: MODIFIED V-UP

The starting position for this exercise is the supine position with the arms sideward or at 45 degrees to the body (according to profile limitations). Palms are downward and knees are bent at 90 degrees with the feet flat on the floor. The head may be on the ground or elevated 1-2 inches off the ground according to profile limitations. The Cadet assumes the starting position as in the V-up, using the hands as needed to lower the body to the ground. The head is elevated while the back and feet are flat on the ground. On counts 1 and 3, the Cadet lifts the feet off the ground, pulling the knees toward the chest. Then the Cadet lowers the feet to the ground, returning to the starting position on counts 2 and 4 (refer to Figure 6-86). Over time, the Cadet gradually increases the range of motion and works to perform the V-up to standard.
CONDITIONING DRILL 1

MODIFIED EXERCISE 3: MODIFIED MOUNTAIN CLIMBER

The instructor may modify the mountain climber by decreasing the range of motion. The Cadet assumes the starting position, stepping back as in the modified push-up. The Cadet may use the modifications shown in Figure 6-88 to exercise within physical profile limitations. The Cadet gradually increases the range of motion and works toward the standard execution of the exercise, then progresses performance to standard.
MODIFIED EXERCISE 4: MODIFIED LEG-TUCK AND TWIST

Starting Position: The starting position for this exercise is the seated position with the arms sideward or at 45 degrees to the body (according to profile limitations). Place the palms down and bend the knees 90 degrees. Keep the feet flat on the floor. Assume the starting position as in the leg-tuck and twist, but with the feet flat on the ground.

Count: On counts 1 and 3, lift the feet off the ground and rotate to the left or right side, pulling the knees toward the chest. Lower the feet to the ground, returning to the starting position on counts 2 and 4 (Figure 6-90). Over time, gradually increase the range of motion and work toward the standard execution of the leg-tuck and twist.

CONDITIONING DRILL 1

MODIFIED EXERCISE 5: MODIFIED SINGLE-LEG PUSH-UP

The single-leg push-up is modified by performing the modified push-up in the six-point stance. The Cadet assumes the starting position using the hands to assist in lowering the body, and then stepping back into the six-point stance (Figure 6-92). Range of movement may be limited throughout the exercise. The Cadet gradually increases the range of motion (Figure 6-93) and works toward the standard execution of the exercise, then progresses performance to standard.
MILITARY MOVEMENT DRILL 1 EXERCISE MODIFICATIONS

During level II resume MMD 1 by reducing the distance from 25 to 15 yards and ensure the Cadet limits the speed and intensity of movement.

- For verticals, start with minimal air time and gradually progress to more powerful movements.
- For laterals this means decreasing the crouch and stepping movements instead of maintaining the normal tempo.
- The shuttle sprint is often restricted by profile. When conducting the shuttle sprint, ensure that the Cadet is able to negotiate the turns at walking speed before allowing him to run. In the post-profile period, resume the shuttle sprint without touching the hand to the ground on turns, and then gradually work toward bending enough to touch the ground.

RECOVERY DRILL EXERCISE MODIFICATIONS

The five exercises that comprise recovery include a wide range of movements that require structural strength, stability, flexibility, and mobility while using standing, seated, prone, and supine postures supported by one or both upper or lower limbs. Allow Cadets to use their hands as needed to move into and out of starting and exercise positions on the ground. In the post-profile period, range of motion for some exercises may still be limited. Each of the five exercises may be modified to accommodate various physical limitations and gradually progress each exercise to standard.
RECOVERY DRILL

MODIFIED EXERCISE 1: MODIFIED OVERHEAD ARM PULL

The instructor may modify this exercise by decreasing the range of motion. The Cadet reaches overhead and then grasps the wrist with the opposite hand instead of the elbow (Figure 6-95). Another modification is to pull the arm across the front of the chest.

![Image of modified overhead arm pull](Image)

Figure 6-95. Modified overhead arm pull and front arm pull

RECOVERY DRILL

MODIFIED EXERCISE 2: MODIFIED REAR LUNGE

The instructor can modify the rear lunge by decreasing the range of motion (Figure 6-97). As with all lunges, this one might restrict how far the knee can bend. The Cadet may place his feet closer together than with the rear lunge. The Cadet gradually lowers the body into the lunge position. Over time, the Cadet gradually increases the range of motion and works toward the standard execution of each exercise.

![Image of modified rear lunge](Image)

Figure 6-97. Modified rear lunge
RECOVERY DRILL

MODIFIED EXERCISE 3: MODIFIED EXTEND AND FLEX

The instructor may modify this exercise by using a standing (Figure 6-99) or prone position. The Cadet may assume the starting position for the extend and flex using the prone position. To do so, the Cadet steps back into the front leaning rest position (Figure 6-100) instead of performing a squat thrust. In the post-profile period, range of motion for some exercises may still be limited. Cadets may modify the extend position by raising up their forearms instead of their hands or by laying prone with the arms alongside the body, palms up (Figure 6-101). Over time, the Cadet gradually increases the range of motion and works toward the standard execution of each exercise.

Figure 6-99. Modified extend and flex (standing)

Figure 6-100. Stepping into the modified extend and flex (prone)

Figure 6-101. Modified extend and flex (prone) starting position
RECOVERY DRILL

MODIFIED EXERCISE 4: MODIFIED THIGH STRETCH

The instructor may modify the thigh stretch by decreasing the range of motion. The starting position may be assumed using the hands (Figure 6-103).

The knee bend may be restricted so pull the leg slightly toward the front. Over time, the Cadet gradually increases the range of motion and works toward the standard execution of each exercise. The Cadet may also perform this exercise in a kneeling position, assuming the starting position from the modified extend and flex (Figure 6-104).

RECOVERY DRILL

MODIFIED EXERCISE 5: MODIFIED SINGLE-LEG OVER

The starting position for this exercise is supine (Figure 6-106). The Cadet places the arms sideward at 45 degrees to the body, palms downward. The Cadet bends the knees to 90 degrees with the feet flat on the ground. The Cadet rotates the hips and lowers the knees toward the ground.
Before being discharged from level II and returning to unit PRT, Cadets must meet the requirements shown in Table 6-5.

**Table 6-5. Reconditioning phase level II exit criteria**

<table>
<thead>
<tr>
<th>PREPARATION</th>
<th>5 REPETITIONS TO STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILITARY MOVEMENT DRILL 1</td>
<td>1 REPETITION TO STANDARD</td>
</tr>
<tr>
<td>CONDITIONING DRILL 1</td>
<td>5 REPETITIONS TO STANDARD</td>
</tr>
<tr>
<td>CLIMBING DRILL 1</td>
<td>5 REPETITIONS TO STANDARD</td>
</tr>
<tr>
<td>CONTINUOUS RUNNING</td>
<td>30 MINUTES AT SLOWEST AGR PACE IN THE UNIT</td>
</tr>
<tr>
<td>RECOVERY</td>
<td>HOLD EACH STRETCH FOR 20 SECONDS TO STANDARD</td>
</tr>
</tbody>
</table>

**Summary**

Unit readiness is greatly affected by injuries, illness, and other medical conditions. The Citadel PRT program is safe and effective. Physical readiness training must challenge Cadets without breaking them. Some injuries inevitably occur, but units that take measures to control injury risks will have fewer Cadets on medical profile and more on duty to perform mission requirements. For Cadets who suffer injuries or are recovering from illness or other medical conditions, effective reconditioning allows them to return to duty at or above their pre-injury level of individual physical readiness. This is what special conditioning programs are all about.
RUNNING

The purpose of running is to improve the overall conditioning of the Cadet 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, and then repeating the sequence. Aerobic training alone does not fully prepare Cadets for the functional endurance and strength requirements of Physical Readiness. In order to train the complete spectrum of endurance, speed running, sustained running, and foot movement under load must be performed. The running activities described in this chapter may be performed individually or collectively. Table 3-1 describes endurance and mobility activities used in PRT. Table 10-2 describes endurance and mobility activities and the prescription of intensity, duration, and volume within the toughening and sustaining phases.

| Military Movement Drills 1 and 2 (MMD 1&2) | These drills dynamically prepare the body for more vigorous running activities and develop motor efficiency |
| 30:60s and 60:120s | 30:60s and 60:120s improve 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. |
| 300-yard Shuttle Run (SR) | 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 agility. |
| Hill Repeats (HR) | Hill repeats are an effective means of developing explosive leg strength, anaerobic power and speed. |
| Ability Group Run (AGR) | Ability group runs train Soldiers in groups of near-equal ability to sustain running for improvement in aerobic endurance. |
| Unit Formation Run (UFR) | Unit formation runs are based on a time and distance that can be achieved with unit integrity and a display of unit cohesion. |
| Release Run (RR) | Release runs combine the benefits of formation running and individual performance at higher training intensities. Soldiers will run in formation to a specified time (no more than 15 minutes), then are released to run as fast as they can back to the starting point. |
| Terrain Run (TR) | Terrain running applies the Train as you will 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. |
Foot March (FM)  
Foot marching as a movement component of maneuver, is a critical Soldier physical requirement. Regular foot marching prepares Soldiers to successfully move under load.

Conditioning Obstacle Course (CDOC)  
Running the conditioning obstacle course for time challenges Soldiers’ strength, endurance, and mobility, improving individual movement techniques.

Endurance Training Machines (ETM)  
Use of endurance training equipment may be based on environmental constraints, safety for Soldiers on physical profile, and isolation of specific muscle groups to be trained during rehabilitation and reconditioning.

### Table 3-2. Endurance and mobility activity prescription

<table>
<thead>
<tr>
<th>Activities</th>
<th>Toughening Phase (BCT &amp; OSUT-R/WB)</th>
<th>Sustaining Phase (AIT &amp; OSUT-B/G)</th>
<th>Sustaining Phase ARFORGEN (Reset)</th>
<th>Sustaining Phase ARFORGEN (Train/Ready)</th>
<th>Sustaining Phase ARFORGEN (Available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMD 1</td>
<td>1 rep</td>
<td>1 rep</td>
<td>1 rep</td>
<td>1 rep</td>
<td>1 rep</td>
</tr>
<tr>
<td>MMD 2</td>
<td>N/A</td>
<td>1 rep</td>
<td>1 rep</td>
<td>1 rep</td>
<td>1 rep</td>
</tr>
<tr>
<td>30:60s</td>
<td>6-8 reps</td>
<td>6-10 reps w/o load</td>
<td>6-10 reps w/o load</td>
<td>10-15 reps w/o load</td>
<td>10-15 reps w/o load</td>
</tr>
<tr>
<td>60:120s</td>
<td>6-10 reps</td>
<td>6-10 reps</td>
<td>6-10 reps</td>
<td>6-10 reps</td>
<td>6-10 reps</td>
</tr>
<tr>
<td>300-yd SR</td>
<td>1 rep</td>
<td>1-2 reps w/o load</td>
<td>1-2 reps w/o load</td>
<td>1-2 reps w/o load</td>
<td>1-2 reps w/o load</td>
</tr>
<tr>
<td>HR</td>
<td>N/A</td>
<td>6-8 reps uphill or downhill</td>
<td>6-10 reps uphill or downhill</td>
<td>6-10 reps uphill or downhill</td>
<td>6-10 reps uphill or downhill</td>
</tr>
<tr>
<td>AGR</td>
<td>10-30 min</td>
<td>20-30 min</td>
<td>20-30 min</td>
<td>20-30 min</td>
<td>20-30 min</td>
</tr>
<tr>
<td>UFR</td>
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<td>20-30 min</td>
<td>30 min</td>
<td>30 min</td>
<td>30 min</td>
</tr>
<tr>
<td>RR</td>
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<td>20-30 min</td>
<td>30 min</td>
<td>30 min</td>
<td>30 min</td>
</tr>
<tr>
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<td>20-30 min</td>
<td>20-30 min</td>
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</tr>
<tr>
<td>FM</td>
<td>2-15 Km</td>
<td>2-15 Km</td>
<td>10 Km or less</td>
<td>10-30 Km</td>
<td>10-30 Km</td>
</tr>
<tr>
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<td>1 rep</td>
<td>1 rep</td>
<td>1 rep</td>
<td>1 rep</td>
</tr>
<tr>
<td>ETM</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

Abbreviations:  
MMD-Military Movement Drill  
UFR-Unit Formation Run  
CDOC-Conditioning Obstacle Course  
ETM-Endurance Training Machines  
SR-Shuttle Run  
RR-Release Run  
HR-Hill Repeats  
TR-Terrain Run  
AGR-Ability Group Run  
FM-Foot March

### SUSTAINED RUNNING FORM

Running form varies from Cadet to Cadet. Anatomical variations cause a variety of biomechanical manifestations. Many individual variations may be successful. Attempts to force Cadets 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.
HEAD

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

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 shoulder muscles.

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

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

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 lean to the front.

LEGS

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

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

BREATHING

Breathing should be rhythmic in nature and coordinated with the running stride.
SECTION I- MILITARY MOVEMENT DRILLS

The purpose of MMD1 in the toughening phase (Figure 10-3) is to enhance running form, dynamically prepare the body for more vigorous running activities, and develop motor efficiency. Military movement drill 1 is conducted following preparation and the HSD prior to running activities during the PRT session. Any level area of adequate size is appropriate for conducting MMD1. Beware of hazards such as holes, uneven terrain and rocks. Use caution when conducting MMD1 on wet terrain. This drill is conducted using the extended rectangular formation (covered) and performed by rank. Military movement drill 1 consists of exercises performed at 25-yard intervals: verticals, laterals, and the shuttle sprint. Refer to Table 10-2 for endurance and mobility activities, prescriptions of intensity, duration, and volume within the toughening and sustaining phases. In addition, Chapter 5, Planning Considerations, provides the template for Cadet Commanders and PRT leaders to implement endurance and mobility activities into their PRT programs.

![Diagram of Extended Rectangular Formation (covered)]

**NOTE:** RL - Rank Leader  S - Soldier

**Figure 10-3. Military movement drill 1**

MILITARY MOVEMENT DRILL 1

EXERCISE 1: VERTICALS

**Purpose:** This exercise helps to develop proper running form (Figure 10-4).

**Starting Position:** Staggered stance with the right foot forward. The right heel is even with the toes of the left foot. The right arm is to the rear with the elbow slightly bent and the left arm is forward. The head is up, looking straight ahead, and the knees are slightly bent.

**Movement:** Bring the hips quickly to 90-degrees of bend without raising the knees above waist level. Ground contact should be primarily with the balls of the feet. When the left leg is forward, the right arm
swings forward and the left arm swings to the rear. When the right leg is forward, the left arm swings forward and the right arm swings to the rear.

![Starting Position](image)

**Figure 10-4. Verticals**

**Check Points:**

- ✓ Arm swing is strong and smooth with the forward arm slightly bent and 90-degrees to the ground and the rearward arm relatively straight.
- ✓ Arm swing is from front to rear, not side to side, with the upper part of the forward arm reaching parallel to the ground as it swings to the front.
- ✓ Keep a tall stance with a stable, upright trunk.
- ✓ The back remains perpendicular to the ground. There should not be any back swing of the legs.

**Precaution:** N/A

**MILITARY MOVEMENT DRILL 1**

**EXERCISE 2: LATERALS**

**Purpose:** This exercise develops the ability to move laterally (Figure 10-5).

**Starting Position:** Straddle stance, slightly crouched, with the back straight, arms at the side with elbows bent at 90-degrees and palms facing forward. Face perpendicular to the direction of movement.

**Movement:** Step out with the lead leg and then bring the trail leg up and toward the lead leg. The Cadet always faces the same direction so that for the first 25-yards he is moving to the left and for the second 25-yards he is moving to the right.
Figure 10-5. Laterals

Check Points:

✓ Pick the feet up with each step. Avoid dragging the feet along the ground.
✓ Crouch slightly while keeping the back straight.
✓ Avoid hitting the feet and ankles together on each step.
✓ Rank leaders will face their rank throughout the exercise.

Precaution: N/A

MILITARY MOVEMENT DRILL 1

EXERCISE 3: SHUTTLE SPRINT

Purpose: This exercise develops anaerobic endurance, leg speed, and agility (Figure 10-6).

Starting Position: Staggered stance with the right foot forward. The right heel is even with the toes of the left foot. The right arm is to the rear with the elbow slightly bent and the left arm is forward. The head is up looking straight ahead and the knees are slightly bent.

Movement: Run quickly to the 25-yard mark (as arrow 1 in the following exercise illustration shows). Turn clockwise while planting the left foot and bending and squatting to touch the ground with the left hand. Run quickly back to the starting line (arrow 2) and plant the right foot, then turn counterclockwise and touch the ground with the right hand. Run back to the 25-yard mark (arrow 3) accelerating to near maximum speed.

Check Points:

✓ Cadets should slow their movement before planting feet and changing direction.
✓ Cadets should squat while bending the trunk when reaching to touch the ground as they change direction.
✓ Cadets touch the ground with their left hand on the first turn, then with their right hand on the second turn.
✓ Accelerate to near maximum speed during the last 25-yard interval.

Precaution: Cadets should use caution when performing this exercise on wet terrain.
The purpose of MMD2 in the sustaining phase is to enhance running form, dynamically prepare the body for more vigorous running activities, and develop motor efficiency. Military movement drill 2 is conducted following preparation and the HSD prior to running activities during the PRT session. Military movement 2 contains three dynamic, plyometric exercises that are conducted in the same manner as MMD1. If both drills are conducted, MMD1 should precede MMD2. DO NOT mix exercises between the two drills. Perform the drills as prescribed in this FM. Refer to Table 10-2 for endurance and mobility activities, prescriptions of intensity, and duration and volume within the toughening and sustaining phases. In addition, Chapter 5, Planning Considerations, provides the template for Cadet Commanders and PRT leaders to implement endurance and mobility activities into their PRT programs.

MILITARY MOVEMENT DRILL 2

EXERCISE 1: POWER SKIP

Purpose: This exercise develops leg power, coordination, and jumping ability from a single leg. It also promotes a powerful extension from the ankle, knee, and hip. (Figure 10-7).

Starting Position: Staggered stance with right foot forward.

Movement: Step with the left foot, then hop and land on the left leg followed by the same action with the opposite leg. When the right leg is forward, the left arm swings forward and the right arm is to the rear. When the left leg is forward, the right arm swings forward and the left arm is to the rear.
Check Points:

- Start slowly and progress the speed and height of the skip throughout each 25-yard interval.
- Cadets should gradually incorporate larger arm swings as they jump to get higher elevation. Arm swing is strong and smooth with the forward arm at 90-degrees and the rearward arm relatively straight.
- Arm swing is from front to rear, not side to side, with the upper part of the forward arm reaching parallel to the ground as it swings to the front.

Precaution: N/A

MILITARY MOVEMENT DRILL 2

EXERCISE 2: CROSSTEPS

Purpose: This exercise improves leg coordination and trains Cadets to move laterally (Figure 10-8).

Starting Position: Straddle stance, slightly crouched, with the back straight, arms at the side with elbows bent at 90-degrees, and palms facing forward or holding weapon. Face perpendicular to direction of movement.

Movement: Cross the trail leg first to the front of the lead leg and step in the direction of travel to return to the starting position. Then cross the trail leg to the rear of the lead leg and step in the direction of travel to return to the starting position. Repeat sequence to the 25-yard stop point. Always face the same direction so that movement of the first 25-yards is to the left and movement of the second 25-yards is to the right.
Check Points:

✓ Pick the feet up with each step. Avoid dragging the feet along the ground.
✓ Crouch slightly while keeping the back straight.
✓ Maintain the trunk perpendicular to the direction of travel while allowing the hips to move naturally.
✓ Rank leaders will face their rank throughout the exercise.

Precaution: N/A

MILITARY MOVEMENT DRILL 2

EXERCISE 3: CROUCH RUN

Purpose: This exercise develops the ability to run quickly in a crouched position (Figure 10-9).

Starting Position: Assume the starting position for exercise three of CD 1: mountain climber.

Movement: Power out of the starting position, performing one repetition of mountain climber, then upon finishing count 4, run forward in the crouched position to the 25-yard mark. Turn clockwise while planting the left foot and bending and squatting to touch the ground with the left hand, as in performing the shuttle sprint in MMD1. Crouch run quickly back to the starting line and plant the right foot, turn counterclockwise and touch the ground with the right hand. Accelerate out of the crouch run to an upright position and sprint back to the 25-yard mark gradually accelerating to near maximum speed.
Check Points:

✓ Move from the crouch run starting position by executing one repetition of mountain climber and firing out of count four with the right leg and swinging the left arm forward to the crouch run.
✓ On the crouch run, stay low with minimal arm swing.
✓ Cadets should slow their movement before planting their feet and changing direction.
✓ Cadets should squat while bending the trunk when reaching to touch the ground as they change direction.
✓ Cadets touch the ground with their left hand on the first turn, then with their right hand on the second turn.
✓ Accelerate to near maximum speed during the last 25-yard interval.

Precaution: Cadets should use caution when performing this exercise on wet terrain.

SECTION II- ENDURANCE TRAINING MACHINES

When using ETM there are four primary variables to consider: exercise mode, training frequency, exercise duration, and training intensity. Exercise prescription specifies training frequency, exercise duration, and training intensity. The mode of exercise (type of ETM) is determined by environmental constraints and/or training according to physical profile limitations (temporary/permanent). Each ETM contains specific instructions for proper use and adjustments for the Cadet to obtain optimal posture during endurance exercise (seat height on cycle ergometers or seat distance on rowing machines). If the ETM has no visible list of operating instructions, ask the PRT leader or AI for assistance (Figure 10-12).

EXERCISE MODE

Exercise mode refers to the specific activity performed by the Cadet: running, cycling, swimming, and the use of a variety of endurance training equipment. There are advantages to using endurance training equipment (environmental constraints, safety for Cadets on physical profile, and isolation of specific muscle groups to be trained during rehabilitation and reconditioning). Consideration for use of specific types of equipment may be based on the Cadet’s ability to participate in weight-bearing or non-weight-bearing activities. Weight-bearing activities include walking or running on a treadmill and using a stair climbing/stepping machine. Non-weight-bearing and limited weight-bearing activities include use of
cycle ergometers (upright/recumbent) elliptical trainers, rowers, climbing machines, and cross-country ski machines. Use of limited or non-weight-bearing endurance training equipment is desirable for obtaining higher caloric expenditure through additional training sessions by overweight Cadets trying to reduce body fat. Each of these modes typically provide the Cadet with a variety of individual exercise routines that monitor and display exercise duration, training intensity (heart rate/pace/watts), caloric expenditure, and distance completed (miles/km). See Figure 10-12 for examples of various types of endurance training equipment.

![Endurance Training Machines](image)

**Figure 10-12. Endurance training machines**

**TRAINING FREQUENCY**

Training frequency refers to the number of training sessions conducted per day or per week. Training frequency is determined by exercise duration and training intensity. Training sessions that involve high intensity or longer duration may necessitate less frequent training to allow for adequate recovery. Normal endurance training frequency is three to five exercise sessions per week.

**EXERCISE DURATION**

Exercise duration is 20 minutes or longer and varies from machine to machine, depending on the intensity of the exercise routine being performed (hill profile, speed, degree of incline, resistance). Most exercise sessions of high or moderate intensity should last 20 to 30 minutes. Endurance exercise sessions that address additional caloric expenditure for body fat reduction, should be of low intensity and may last up to 60 minutes.
TRAINING INTENSITY

Training intensity is typically monitored and displayed on the exercise equipment control panel in terms of heart rate, pace (mph/kph, step rate), watts, kiloponds, caloric expenditure (kcals), or resistance.

SECTION III- SPEED RUNNING

Speed running is based on the training principle that a greater amount of intense work can be performed if the work is interspersed with periods of recovery. Improvements in physical fitness are affected to a greater extent by the intensity of training than by the frequency or duration of the training. During speed running, Cadets 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, Cadets are 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 Cadet physical readiness is 1:2. Speed running has three variables: work duration, recovery duration, and the number of repetitions. The speed running activities appropriate for Cadets to improve physical readiness and APFT 2-mile run performance are 30:60s and 60:120s. Refer to Table 10-2 for appropriate speed running prescriptions for the toughening and sustaining phases. When conducting speed running, the PRT leaders will perform the activity by running with Cadets in the unit. This allows the AI’s to continually monitor and motivate Cadets throughout the conduct of the exercise. The PRT leader positions himself to supervise the conduct of speed running and uses a stopwatch and a whistle for signaling the “Start” and “Stop” of each work and rest interval. Refer to Table 10-2 for endurance and mobility activities, prescriptions of intensity, and duration and volume within the toughening and sustaining phases. In addition, Chapter 5, Planning Considerations, provides the template for Cadet Commanders and PRT leaders to implement endurance and mobility activities into their PRT programs.

30:60s

Cadets will perform 30:60s adhering to a work to recovery ratio of 1:2. During the work interval, Cadets will sprint for 30 seconds. During the recovery interval, Cadets walk for 60 seconds. This is one repetition of a 30:60. Speed running will cause Cadets to spread out over the course of the running track during the work interval. If required, the PRT Leader will have Cadets regroup before the start of the next work interval. Cadets run at a slow pace (jog) ¼ mile before beginning 30:60s. Table 10-2 shows speed running progression. Cadets should walk at least 3 minutes before performing additional activities or recovery.

60:120s

Cadets perform 60:120s adhering to a work to recovery ratio of 1:2. During the work interval, Cadets sprint for 60 seconds. During the recovery interval, Cadets walk for 120 seconds. This is one repetition of a 60:120. Speed running causes Cadets to spread out over the course of the running track during the work interval. If required, the PRT leader has Cadets regroup before the start of the next work interval. All ability groups should run at a slow pace (jog) ¼ mile before beginning 60:120s. Table 10-2 shows speed
running progression. Cadets should walk at least 3 minutes before performing additional activities or recovery.

**TRAINING AREAS FOR SPEED RUNNING**

Ideally, the training area for the conduct of 30:60s and 60:120s is a ¼-mile or a 400-meter oval running track. The PRT leader should stand in the middle of the training area so he can see all Cadets. From there, the Cadets can easily hear his whistled commands to start and stop walking and running intervals. If 30:60s or 60:120s are conducted on a road, the route MUST be wide enough for Cadets to turn around and not collide. The recommended distances for conducting 30:60s or 60:120s on a straight road course is at least 100 yards and a maximum of 200 yards (Figure 10-10).

![Figure 10-10. Speed running on a straight course](image-url)
Figure 10-11. 300-yard shuttle run

Checkpoints:
- Soldiers should slow their movement before planting feet and changing direction.
- Soldiers should both bend the trunk and squat when reaching to touch the ground as they change direction.
- Soldiers touch the ground with their left hand on the first turn, then with their right hand on the second turn and continue to alternate hand touches on each turn.
- Soldiers must sprint with their heads up and watch for other soldiers who may be moving in an opposite direction.
SECTION IV- ABILITY GROUP RUN

The AGR trains Cadets in groups of near-equal ability. Each ability group runs at a prescribed pace intense enough to produce a training effect for that group and each Cadet in it. Leaders should program these runs for specific lengths of time, not miles to be run. This training method provides a challenge for each ability group while controlling injuries. The PRT leader conducts a 1-mile run assessment to assign Cadets in ability groups. Based on each Cadet’s 1-mile run assessment time, the PRT leader assigns the Cadet to one of the groups shown in Table 10-3.

<table>
<thead>
<tr>
<th>Toughening Phase AGR Assignments</th>
<th>Sustaining Phase AGR Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Group 7:15 and faster</td>
<td>A Group 6:30 and faster</td>
</tr>
<tr>
<td>B Group 7:16 to 8:15</td>
<td>B Group 6:31 to 7:15</td>
</tr>
<tr>
<td>C Group 8:16 to 10:15</td>
<td>C Group 7:16 to 8:00</td>
</tr>
<tr>
<td>D Group 10:16 and slower</td>
<td>D Group 8:01 and slower</td>
</tr>
</tbody>
</table>

Some Cadets may make the cut off times to qualify for an ability group but are unable to maintain the prescribed running pace listed in the PRT schedule. If this occurs, they may drop down to the slower group and progress later to the faster running group. Ability group runs must be conducted for the duration and intensity specified in the training schedules in Chapter 5, Planning Considerations. The frequency of AGRs is one or two times per week. Ability group runs, speed running, and foot marching (greater than 5 km) should not be conducted on the same or consecutive days. The running duration is determined by time, not distance. Cadets should move to faster groups when they are ready because they progress at different rates. Those who have difficulty maintaining the specified pace within an ability group should be placed in a slower ability group. Supervision will prevent a constant shifting of Cadets between groups due to lack of individual effort. See the training schedules in Chapter 5, Planning Considerations, for AGR times and pace. Routes used for sustained running in ability groups should be well lighted, free from hazards and traffic, and marked at ¼-mile intervals. Ability group leaders will ensure running is at the proper pace prescribed for their group by checking their split times at each ¼-mile marker along the route. Table 10-4 shows the appropriate ¼-mile split time based on the AGR pace.

<table>
<thead>
<tr>
<th>Pace/Mile</th>
<th>1/4-Mile Split</th>
<th>Pace/Mile</th>
<th>1/4-Mile Split</th>
<th>Pace/Mile</th>
<th>1/4-Mile Split</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00</td>
<td>1:30</td>
<td>8:15</td>
<td>2:03</td>
<td>10:30</td>
<td>2:38</td>
</tr>
<tr>
<td>6:15</td>
<td>1:34</td>
<td>8:30</td>
<td>2:07</td>
<td>10:45</td>
<td>2:42</td>
</tr>
<tr>
<td>6:30</td>
<td>1:37</td>
<td>8:45</td>
<td>2:11</td>
<td>11:00</td>
<td>2:45</td>
</tr>
<tr>
<td>6:45</td>
<td>1:42</td>
<td>9:00</td>
<td>2:15</td>
<td>11:15</td>
<td>2:49</td>
</tr>
<tr>
<td>7:00</td>
<td>1:45</td>
<td>9:15</td>
<td>2:19</td>
<td>11:30</td>
<td>2:53</td>
</tr>
<tr>
<td>7:15</td>
<td>1:48</td>
<td>9:30</td>
<td>2:23</td>
<td>11:45</td>
<td>2:57</td>
</tr>
<tr>
<td>7:30</td>
<td>1:52</td>
<td>9:45</td>
<td>2:27</td>
<td>12:00</td>
<td>3:00</td>
</tr>
<tr>
<td>7:45</td>
<td>1:56</td>
<td>10:00</td>
<td>2:30</td>
<td>12:15</td>
<td>3:04</td>
</tr>
<tr>
<td>8:00</td>
<td>2:00</td>
<td>10:15</td>
<td>2:34</td>
<td>12:30</td>
<td>3:07</td>
</tr>
</tbody>
</table>

Refer to Table 10-2 for endurance and mobility activities, prescriptions of intensity, duration, and volume within the toughening and sustaining phases. In addition, Chapter 5, Planning Considerations, provides
the template for Cadet Commanders and PRT leaders to implement endurance and mobility activities into their PRT programs.

SECTION V - UNIT FORMATION RUN

The UFR elicits intangible rewards gained from running with a group, such as esprit de corps, team building, and discipline. Unit formation runs are based on a time and/or distance that can be achieved with unit integrity and a display of unit cohesion. Unit formation runs are organized by squad, platoon, company, or battalion; not by ability. Keeping a large unit in step, with proper distance intervals and correct running form, offers intangible benefits that commander’s desire. Cadet Commanders should not use UFRs 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 UFR begins with a gradual increase in intensity for the first three minutes or ¼ mile, then 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 Cadets in the unit. Refer to Table 10-2 for endurance and mobility activities, prescriptions of intensity, duration, and volume within the toughening and sustaining phases. In addition, Chapter 5, Planning Considerations, provides the template for Cadet Commanders and PRT leaders to implement endurance and mobility activities into their PRT programs.

SECTION VI- RELEASE RUN

The RR combines the benefits of formation running and individual performance at higher training intensities. Cadets will run in formation for a specified time (no more than 15 minutes), then released to run as fast as they can back to the starting point. Upon completion of the release run, additional PRT activities may be conducted or recovery performed. Refer to Table 10-2 for endurance and mobility activities, prescriptions of intensity, duration, and volume within the toughening and sustaining phases. In addition, Chapter 5, Planning Considerations, provides the template for Cadet Commanders and PRT leaders to implement endurance and mobility activities into their PRT programs.

All ability groups should run at a slow pace (jog) ¼ - mile prior to beginning 30:60s or 60:120s. All ability groups should walk a minimum of 2-3 minutes prior to performing additional activities or Cool-down.

SECTION VII- THE 300-YARD SHUTTLE RUN

The 300-yard shuttle run develops the ability to repeatedly sprint after changing direction. It is an indicator of the Cadet’s anaerobic endurance, speed, and agility. The 300-Yard Shuttle Run is conducted from the extended rectangular formation (covered) as shown in Figure 6-6. On the command, “Ready,” one Cadet in each column will move behind the starting line and assume the ready position (staggered stance). On the command, “GO,” the Cadet will sprint 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 Cadet will perform six repetitions alternating touching the lines with opposite hands. On the last (sixth) repetition, the Cadet will sprint past the starting/finish line without touching it. The PT leader and assistant instructors (AIs) will ensure that Cadets sprint in their own lanes and run with their heads up to watch for other Cadets who may be moving in an opposite direction.
The 300-yard Shuttle Run

Checkpoints:

✓ Cadets should slow their movement before planting feet and changing direction.
✓ Cadets should both bend the trunk and squat when reaching to touch the ground as they change direction.
✓ Cadets touch the ground with their left hand on the first turn, then with their right hand on the second turn and continue to alternate hand touches on each turn.
✓ Cadets must sprint with their heads up and watch for other Cadets who may be moving in an opposite direction.
APPENDIX A

PT Leader Drill Cards

The PT Leader Drill Cards are intended for use as a reference when leading the PT drills in Army Physical Training Standardization. The drills must be performed in the order listed to the standards prescribed or they lose much of their value.

The drill cards are sized to 3” x 5”. Cut around the outside of the figure below; fold in the middle so that the two sides are back-to-back, and laminate.

<table>
<thead>
<tr>
<th>WARM-UP</th>
<th>COOL-DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conditioning Drill 1 (1 set x 5 reps)</strong></td>
<td><strong>Conditioning Drill 1 (1 set x 5 reps)</strong></td>
</tr>
<tr>
<td>1. The Bend And Reach (4-count, SLOW)</td>
<td>1. The Bend And Reach (4-count, SLOW)</td>
</tr>
<tr>
<td>2. The Rear Lunge (4-count, SLOW)</td>
<td>2. The Rear Lunge (4-count, SLOW)</td>
</tr>
<tr>
<td>3. The High Jumper (4-count, MODERATE)</td>
<td>3. The High Jumper (4-count, MODERATE)</td>
</tr>
<tr>
<td>4. The Rower (4-count, SLOW)</td>
<td>4. The Rower (4-count, SLOW)</td>
</tr>
<tr>
<td>5. The Squat Bender (4-count, SLOW)</td>
<td>5. The Squat Bender (4-count, SLOW)</td>
</tr>
<tr>
<td>6. The Windmill (4-count, SLOW)</td>
<td>6. The Windmill (4-count, SLOW)</td>
</tr>
<tr>
<td>7. The Forward Lunge (4-count, SLOW)</td>
<td>7. The Forward Lunge (4-count, SLOW)</td>
</tr>
<tr>
<td>8. The Prone Row (4-count, SLOW)</td>
<td>8. The Prone Row (4-count, SLOW)</td>
</tr>
<tr>
<td>9. The Bent-leg Body Twist (4-count, SLOW)</td>
<td>9. The Bent-leg Body Twist (4-count, SLOW)</td>
</tr>
<tr>
<td>10. The Push-up (4-count, MODERATE)</td>
<td>10. The Push-up (4-count, MODERATE)</td>
</tr>
<tr>
<td><strong>The Military Movement Drill (1 set x 1 rep)</strong></td>
<td><strong>The Stretch Drill (1 set x 1 rep)</strong></td>
</tr>
<tr>
<td>1. Verticals</td>
<td>1. The Overhead Arm Pull (20 seconds)</td>
</tr>
<tr>
<td>2. Laterals</td>
<td>2. The Rear Lunge (20 seconds)</td>
</tr>
<tr>
<td>3. The Shuttle Sprint</td>
<td>3. The Flex and Extend (20 seconds)</td>
</tr>
<tr>
<td></td>
<td>4. The Thigh Stretch (20 seconds)</td>
</tr>
<tr>
<td></td>
<td>5. The Single-leg Over (20 seconds)</td>
</tr>
</tbody>
</table>
Conditioning Drill 2 (10-20/5/5/5 reps)

1. The Push-up (4-count, MODERATE)
2. The Sit-up (4-count, MODERATE)
3. The Straight-arm Pull (2-cnt., MODERATE)
4. The Pull-up (2-count, MODERATE)
5. The Leg Tuck (2-count, MODERATE)

Ability Group Progression (4 Groups)

<table>
<thead>
<tr>
<th>Group</th>
<th>WK1</th>
<th>WK2</th>
<th>WK 3</th>
<th>WK 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>15 min</td>
<td>15 min</td>
<td>20 min</td>
<td>20 min</td>
</tr>
<tr>
<td></td>
<td>@7:30</td>
<td>@7:15</td>
<td>@7:15</td>
<td>@7:15</td>
</tr>
<tr>
<td>B</td>
<td>15 min</td>
<td>15 min</td>
<td>20 min</td>
<td>20 min</td>
</tr>
<tr>
<td></td>
<td>@9:00</td>
<td>@8:30</td>
<td>@8:30</td>
<td>@8:30</td>
</tr>
<tr>
<td>C</td>
<td>10 min</td>
<td>12 min</td>
<td>14 min</td>
<td>16 min</td>
</tr>
<tr>
<td></td>
<td>@10:30</td>
<td>@10:00</td>
<td>@9:30</td>
<td>@9:30</td>
</tr>
<tr>
<td>D</td>
<td>10 min</td>
<td>12 min</td>
<td>14 min</td>
<td>16 min</td>
</tr>
<tr>
<td></td>
<td>@12:00</td>
<td>@11:00</td>
<td>@10:30</td>
<td>@10:00</td>
</tr>
</tbody>
</table>

Cadets running the one-mile in 7:15 and faster will be assigned to ability group A.
Cadets running the one-mile from 7:16 to 8:45 will be assigned to ability group B.
Cadets running the one-mile from 8:46 to 10:15 will be assigned to ability group C.
Cadets running the one-mile in 10:16 and slower will be assigned to ability group D.

Ability Group Progression (4 Groups)

<table>
<thead>
<tr>
<th>Group</th>
<th>WK 5</th>
<th>WK 6</th>
<th>WK 7</th>
<th>WK 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20 min</td>
<td>25 min</td>
<td>25 min</td>
<td>30 min</td>
</tr>
<tr>
<td></td>
<td>@7:15</td>
<td>@7:15</td>
<td>@7:15</td>
<td>@7:30</td>
</tr>
<tr>
<td>B</td>
<td>20 min</td>
<td>25 min</td>
<td>25 min</td>
<td>30 min</td>
</tr>
<tr>
<td></td>
<td>@8:00</td>
<td>@8:00</td>
<td>@8:00</td>
<td>@8:00</td>
</tr>
<tr>
<td>C</td>
<td>18 min</td>
<td>20 min</td>
<td>20 min</td>
<td>20 min</td>
</tr>
<tr>
<td></td>
<td>@9:00</td>
<td>@8:30</td>
<td>@8:15</td>
<td>@8:15</td>
</tr>
<tr>
<td>D</td>
<td>18 min</td>
<td>20 min</td>
<td>20 min</td>
<td>20 min</td>
</tr>
<tr>
<td></td>
<td>@10:00</td>
<td>@9:30</td>
<td>@9:30</td>
<td>@9:00</td>
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</table>