10 | Training in Confined Spaces

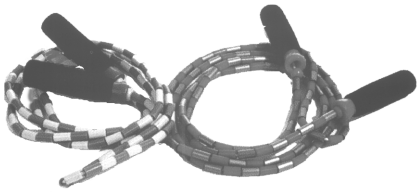
In this chapter you will learn about:

- Exercises to perform when space and equipment are limited.
- Designing a circuit training workout.
- Maintaining morale during deployment.

During deployment or extended training exercises you may encounter conditions that limit your physical training routines and options. Submarines and small assault craft probably create the greatest challenge, but a well balanced training program can be maintained even with limited space and equipment. So, take this opportunity to design new routines with alternative exercises and have fun. The concepts for designing training routines in confined spaces is the same as any gym-based routine, you just have to be more creative. Follow the FITT Principle guidelines outlined in Chapters 4, 5, and 7 and try some of the exercise in this chapter when designing your workouts.

Aerobic Conditioning

Some exercises for aerobic conditioning that you can perform in confined quarters with minimal equipment include:

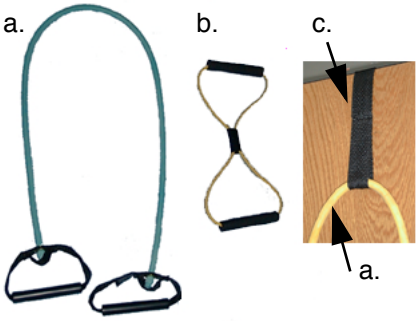


- Jogging or marching in place.
- Jumping rope or jumping jacks.
- Stair stepping, if you have access to stairs or if you have space for an aerobic step bench (plastic step with risers).

Strength Training

Besides calisthenics, strength exercises with light-weight, portable equipment, such as elastic tubing, dumbbells or a ball, can be performed in small spaces. Examples of these exercises are shown in Table 10-1. Regardless of the equipment used, the general principles and techniques outlined in Chapter 7 for muscle strength and endurance training apply. Follow the set and rep recommendations outlined in Chapter 8 for calisthenic exercises, starting with one set of eight reps. Include exercises for each of the major muscle groups mentioned in Chapter 7, Figure 7-2.

Elastic Tubing and Bands



a. 4 ft. elastic band.

b. 1 ft. elastic loop with foam handles.

c. Nylon anchor piece to place in door jams.

These come in different widths and resistances, each designated by a different color. (As a rule, the smaller the tube's width, the less resistance it provides.) The basis of elastic tubing exercises is that as you stretch the tubing during your exercise, it provides a continuously increasing resistance. Resistance can be adjusted by: 1) altering the placement of the tubing (addressed in Table 10-1), 2) using two tubes, 3) using a thicker tube, or a combination of all these. Note that using two thin tubes may provide less resistance than using one thick tube. Typically, tubes and bands are sold in 4 ft. lengths and cost $5 to $10. When purchasing tubing, buy one with handles large enough to slip over your forearms. Buy several tubes of varying widths since you will need different resistances for different exercises. Also, check the tubes periodically for wear and tear.

Inflatable Resistance Balls

These light-weight balls are becoming very popular in fitness centers and are excellent for abdominal, lower back, stability, and stretching exercises. The goal in resistance ball training is to keep your balance and stability while performing exercises on the ball, which acts as an unstable base. Resistance balls are typically 18 to 30 inches in diameter and cost about $30. Purchase a resistance ball that when you sit on it after it is fully inflated, your thighs are parallel to the deck. In addition, when you purchase these balls, you get a video of various exercises and routines. One drawback is that you need access to an air pump because, if the ball is kept inflated, it can take up a lot of storage space.

Strength Exercises

Table 10-1 shows exercises that can be performed using resistance tubing (bands) and balls. When performing elastic tubing exercises, you can use a partner, instead of an anchor, to secure the tubing during your exercise. Just be sure your partner holds the tubing at the appropriate height and distance from you (and doesn't let go!). When using the resistance bands, it is important to anchor them properly. Some examples are shown in Figure 10-1.

Figure 10-1. Anchoring Elastic Tubing

1.

1. Wrap the band around the top and sides of both feet, then pull the handles up through the middle of your feet. This type of wrap is useful for anchoring the band during rowing exercises.

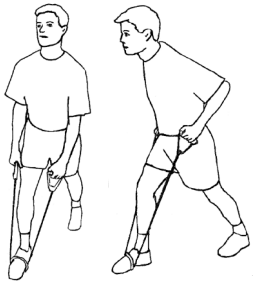
2.

2. a. Using the 1 ft. elastic loop, sit down and place your right foot on the middle of the loop.
   b. Wrap the right end of the tubing over your foot.
   c. Pull the left end of the tubing up through the right end of the tubing loop.
   d. Take the left end of the tubing loop and wrap it around your left foot.
   This type of anchor is useful for leg lifts and leg curls.

Table 10-1. Exercises to Perform in Confined Spaces

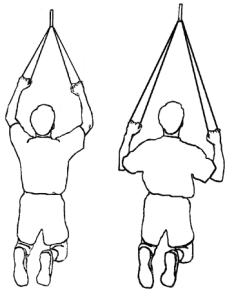
Back

Bent-Over Row with Band



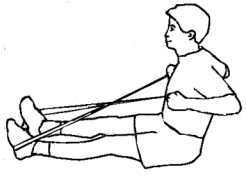
Grab one end of the band in each hand. Step on the middle of the band with your left foot, step back 2 ft. with your right foot. Bend forward slightly at the waist, keep your shoulders and hips facing forward. Count 1: Lift both hands from your thighs to your waist. This should take 2 seconds. Pause for 1 second. Count 2: Return hands to thigh level in 4 seconds. Keep your elbows close to your body throughout the exercise. Works the back and biceps muscles.

Lat Pulldown with Band



Secure the middle of the band to a fixed object above your head. Grasp one handle in each hand. Facing the anchor, step back 1 foot and kneel. Arms should be extended above head. Count 1: Pull hands down to shoulder height in front of your head, keeping chest and head up. Back should remain straight. Press your shoulder blades together in the middle of your back as you pull your arms down. This should take 2 seconds. Pause 1 second. Count 2: Return to start position in 4 seconds. Variation: may need to use the tubing loop instead of a band for adequate resistance.

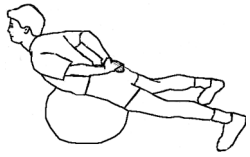
Seated Row with Band



Sit on deck with legs extended, knees slightly bent. Place the center of the band under your feet. Count 1: With arms extended at chest level and hands over knees, bend your elbows and pull your hands back to each side of your chest. This should take 2 seconds. Pause 1 second. Count 2; Return to start position in 4 seconds. Works back and biceps.

Lower Back

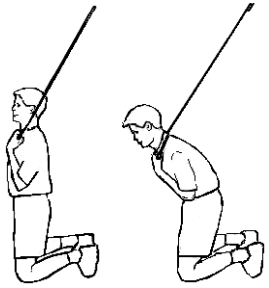
Lower Back on Ball



Kneel beside resistance ball, lay your chest on top of the ball, place your hands in front of the ball. Extend your legs so only your feet are on the deck and walk forward, rolling the ball back closer to your hips. Place your hands behind your back. Count 1: Keep your back straight and raise your torso up off the ball until your back is extended. Count 2: Return to the start position. Try to keep ball steady during exercise. Works the lower back. Similar to prone back extension performed on the deck. Variations: Can do all the same extension exercises as on the deck.

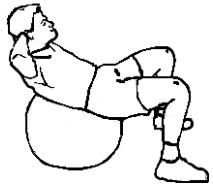
Abdominals

Abdominal Crunch with Band



Anchor the middle of the band above your head. Kneel 1 ft. in front of the anchor, and grasp both ends of the band in your hands. Place your hands palms down on your shoulders. Count 1: Pull your rib cage down closer to your hips. This should take 2 seconds. Pause 1 second. Keep your hips and legs still. Count 2: Return to the start position in 4 seconds.

Abdominal Crunch on Ball

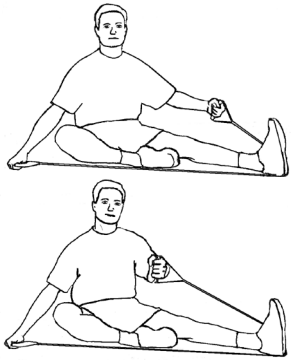


Sit on ball, slowly walk feet away from ball as you lie back on to the ball. Ball should be underneath your midback. Place your hands behind your head. Count 1: Pull your rib cage closer to your hips. Count 2: Return to the start position. Try to keep ball steady during exercise. Works the abdominals. Variations: Use a towel under your lower back instead of the ball; perform side crunches on the ball to target the obliques.

Table 10-1. Exercises to Perform in Confined Spaces

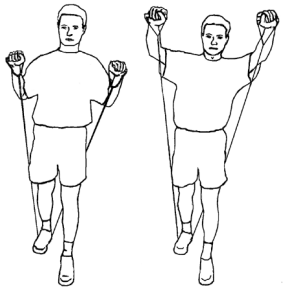
Chest

Chest Fly with Band



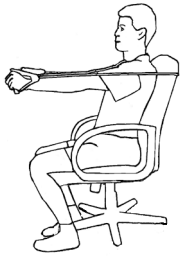
Sit on the deck with your left leg straight and your right leg bent, with your right foot touching your left thigh. Hold one handle of the band in each hand. Wrap the band under your left heel, about 1/3 the length of the band down from your left hand. Keep your back straight, head up, and shoulders back. Place your right hand on the deck by your right knee. Straighten your left arm so that your elbow is only slightly bent and raise your arm in front of you to chest level. Count 1: Slowly pull your upper left arm across your chest without bending your elbow; this should take 2 seconds. Pause for 1 second. Count 2: Return to the start position in 4 seconds. Your torso and hips should not move during this exercise. Works your chest muscles.Variations: a) perform this standing or kneeling by anchoring the band to a stationary object at chest height; b) lie on your back on a bench and use dumbbells; c) have a partner push (manual resistance) against your upper arms as you do the exercise.

Incline Press with Band



Grab one end of the band in each hand. Step on the band with your right foot, step your left foot through the band and forward 2 ft. Bring your hands to your shoulders with your palms facing forward. Count 1: Extend your arms up and forward in front; your hands should be in front of and a little higher than your forehead. This should take 2 seconds. Pause for 1 second. Count 2: Return to start position. Works the chest and shoulders. Variations: a) for more resistance, use a second tube and place it under your front foot; b) for less resistance, anchor the tube to a stationary object at waist height, step forward 2 ft. and perform the exercise.

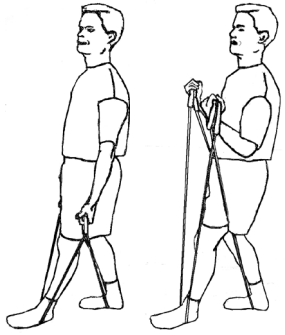
Chest Press with Band



Wrap the band at shoulder height around a bench that is wider than shoulder-width (or secure with two anchors). Keep your back straight, shoulders down and head up. Grip one end of the band in each hand, and place your hands on each side of your chest. Count 1: Extend arms straight in front of you at chest height, do not lock your elbows; this should take 2 seconds. Pause for 1 second. Count 2: Return to the start position in 4 seconds. Works your chest, shoulders, and triceps.Variations: a) have a partner hold the band in both hands, keeping his hands at your shoulder height and wider than your shoulder-width; b) lie on back on a bench and use dumbbells; c) have a partner provide manual resistance against your hands as you perform a press.

Biceps

Biceps Curl with Band

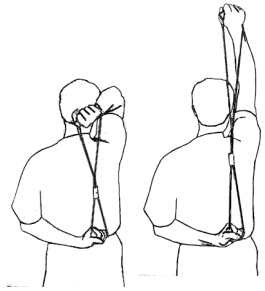


Grab one end of the band in each hand. Step on the band with your left foot, step your right foot through the band and forward 2 ft. Count 1: With hands at sides and palms up, bring your palms to your shoulders. This should take 2 seconds. Pause for 1 second. Count 2: Return to start position. Works the biceps. Variations: a) for more resistance, use a second tube (as shown) and place it under your front foot); b) use dumbbells; c) have a partner pull against your lower arm during the curl.

Table 10-1. Exercises to Perform in Confined Spaces

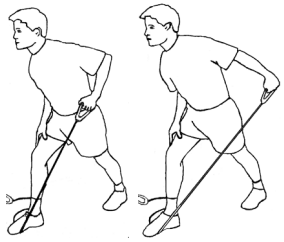
Triceps

Triceps Extension with Band



Stand with feet hip distance apart, knees slightly bent. Grab one end of the band in your right hand and place it over your right shoulder. Your right elbow should be beside your head and the band should be dangling down your back. Reach around your back with your left hand and grab the other end of the band with your left hand. Place your left hand on your low back. Count 1: Extend your right arm straight above your head, keeping your left hand still and your right elbow close to your head. Do not lock your right elbow. This should take 2 seconds. Pause 1 second. Count 2: Return to the start position in 4 seconds. Works the right triceps. Switch arms to work the left triceps.Variations: a) if you have a long piece of tubing, grab the middle of the tubing (instead of the end) with your left hand; b) use dumbbells.

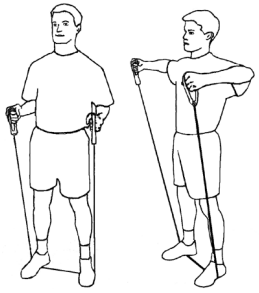
Triceps Kickback with Band



Grab one end of the band in each hand. Step on the middle of the band with your left foot, step back 2 ft. with your right foot. Bend forward slightly at the waist, keep your shoulders and hips facing forward. Place your left hand on your left thigh for support. Pull your right hand up to your right hip, keeping your right elbow close to your body. Count 1: Straighten your lower right arm behind your back without lifting your elbow. This should take 2 seconds. Pause 1 second. Count 2: Return to the start position in 4 seconds. Works the right triceps. Switch to work the left triceps. Variations: a) use dumbbells; b) have a partner push against your lower arm during the lift.

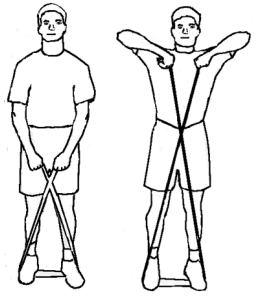
Shoulders

Lateral Raise with Band



Grab one end of the band in each hand. Stand on middle of the band, feet shoulder-width apart, knees slightly bent. With arms at sides, bend elbows 90°. Count 1: raise your upper arms to each side until your elbow (still bent 90°) is level with your shoulder. This should take 2 seconds. Pause 1 second. Count 2: Return to start position in 4 seconds. Keep your elbow bent during the lift. Works the shoulders. Variations: a) for more resistance, use 2 bands, stand on only one band with each foot, hold one end of each band in each hand; b) use dumbbells; c) have a partner push down against your upper arms as you lift; d) increase the difficulty of the exercise by straightening your elbow.

Upright Rows with Band

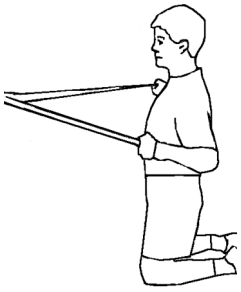


Stand on the middle of the band, feet shoulder-width apart, knees slightly bent. Cross ends of band in front of you and grasp one end of the band in each hand, palms facing back. Count 1: With arms extended and hands together at the center of your body, pull elbows up and back to the level of your shoulders. Your arms should form a “V”. This should take 2 seconds. Pause 1 second. Count 2: Return to start position in 4 seconds. Do not arch your back during the lift. Works the front of the shoulders. Variations: a) for more resistance, use 2 bands, stand on only one band with each foot, hold one end of each band in each hand; b) use dumbbells.

Table 10-1. Exercises to Perform in Confined Spaces

Shoulders

Reverse Fly with Band



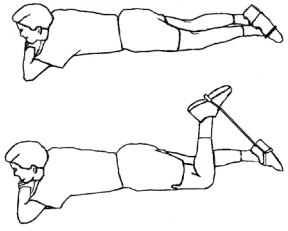
Anchor the middle of the band at chest height. Facing the anchor, step back 4-5 ft. Grab one end of the band in each hand. Extend your arms straight in front of you at chest level, elbows slightly bent. Count 1: Pull your upper arms out to each side without bending your elbows any more. This should take 2 seconds. Pause 1 second. Count 2: Return to the start position in 4 seconds. Works the back of the shoulders. Variations: a) kneel on one knee, bend at the waist, rest chest on opposite thigh, and use dumbbells or have a partner push against your upper arms.

Legs

Lunge with Band

Grab one end of the band in each hand. Step on the middle of the band with your left foot, step your right foot through the band and beside your left foot. Bring hands up to shoulders, palms facing forward. Band should be behind your arms. Count 1: Take a large step forward with your right foot, keep your back straight and head up. Count 2: Squat straight down, dropping your left knee, until your right knee is over your right ankle. Count 3: Lift up. Count 4: Push off your right foot to return to the start position. Works the leg muscles. Switch sides. Variation: a) for more resistance, use a second tube and place it under your front foot; b) on Count 1, step to the left or right instead of straight ahead; c) use dumbbells.

Leg Curl with Band

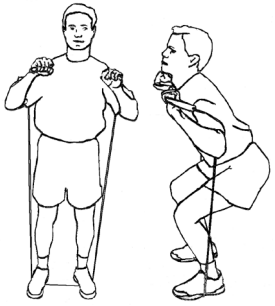


Wrap one end of the tubing loop around your right foot. Hook the other end on your left foot. Lie on your stomach with both legs extended. Count 1: Lift your left heel up toward your buttocks, keeping your right knee and hips flat on the deck. This should take 2 seconds. Pause 1 second. Count 2: Lower your leg to the start position in 4 seconds. Works the hamstrings.

Leg Lifts with Band

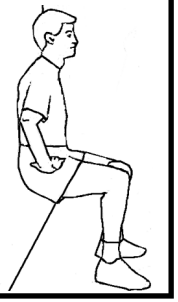
Anchor the band at shin height. Wrap the band around your left ankle and, facing the anchor, step back 3 ft. Place feet side by side and point your left foot up. Place your hand on the wall for support and slightly bend your right knee. Count 1: Keeping your left leg extended, pull your left ankle back 1-2 ft. This should take 2 seconds. Pause for 1 second. Count 2: Return to start position in 4 seconds. Switch legs. Works hamstring and gluteal muscles. Variations: a) to work inner and outer thighs and hip flexors, change the position of your body so you pull against the band in all four directions (front, back, and two sides); b) lie down and use ankle weights.

Squat with Band



Grasp one handle in each hand, step on the band with feet hip-width apart, knees slightly bent. Bring hands up to shoulders, palms facing forward. Band should be behind your arms. Count 1: Slowly squat down; look forward, keeping your shoulders back, chest and head up. Squat until your knees are above your toes. This should take 2 seconds. Pause 1 second. Count 2: Return to the start position in 4 seconds. Works the quadriceps and gluteals.

Wall Squat with Ball



Stand against a flat wall, place both feet 2 ft. from the wall hip distance apart. Place a small ball between your knees. Count 1: Slide down the wall until your knees are over your feet and squeeze the ball between your knees. Hold this position for 10 seconds. Count 2: Return to the start position. Works the thigh muscles.Variations: a) hold dumbbells in your hands.

Workout Design

Since space, equipment, and time are limiting factors during deployment, one of the most effective workouts for you to perform is circuit training (described in Chapter 7). The basics of this type of workout are:

- Total session is 30-60 minutes, divided into 30-60 second stations.
- Each station is a new exercise; alternate aerobic and strength stations, and upper and lower body exercises.
- Perform aerobic exercises in your target heart rate zone.
- Perform strength exercises with proper form and use a resistance that you can lift 10-12 times.
- Stretch after your workout. (See Chapter 9.)

When designing a circuit training routine, follow the FITT principle guidelines outlined in Chapters 4, 5, and 7.

Table 10-2. Circuit Training Workout

Station	Exercise	Time
	Warm-up	5 minutes
1	Wall Squat with Ball	60 sec
2	Push ups	60 sec
3	Jog in place	60 sec
4	Stair step/Jog	60 sec
5	Jumping Jacks	60 sec
	Check heart rate	10 sec
6	Lat Pulldown with Band	60 sec
7	Abdominal Crunches and Lower Back Extensions	60 sec (30 sec each)
8	Biceps curl and Triceps Extension with band	60 sec (30 sec each)
9	Jumping Jacks	60 sec
10	Stair Step/Jog	60 sec
11	Jog in place	60 sec
12	Jumping Jacks	60 sec
	Check heart rate	10 sec
	Repeat Stations 1-12, 2-4 times	
	Cool Down	5 minutes
	Stretch	5-10 minutes

Note: One cycle of this circuit training workout has 7 minutes of aerobic exercises and one set of strength exercises for each of the major muscle groups.

Morale During Deployment

Although confined spaces can limit your training options and make you feel less than enthusiastic to train, you need to remain physically active. Stopping all physical training results in a rapid decline in muscle strength and endurance, flexibility, and aerobic conditioning (see Chapter 4). One option to boost morale and increase participation in physical training during deployment is to help organize and participate in team competitions such as mini-triathlons (perform any three aerobic exercises back-to-back for the best time) and sports days.

Finally, you may feel that the biggest barrier to working out when deployed is time limitations. In actuality, it requires less time to maintain fitness levels than to increase fitness levels. Though not ideal, you can maintain your fitness level by working at your usual intensity fewer times per week and for shorter durations than what is required to improve your fitness level. A minimum of one strength session, which includes exercises for all the major muscle groups (1 set of 8-12 repetitions), and two 20-minute aerobic sessions, within your target heart rate zone, per week will allow you to maintain your current fitness level. Though this limited amount of training is not ideal for your overall fitness, it is much better than not performing any exercise at all. Remember, detraining occurs rapidly when all training is stopped (see Chapter 4).