

LESSON PLAN

January 2004

COURSE TITLE: Aviation Rescue Swimmer
Courses, Q-050-0600
Q-050-0602

CLASSIFICATION: UNCLASSIFIED

LESSON PLAN NUMBER: 2.1

LESSON TOPIC: Principles of Physical
Fitness and Dry Land Conditioning Program

ALLOTTED LESSON TIME: 0.5 Classroom
31.5 Laboratory
8.0 Exam

INSTRUCTIONAL SUPPORT:

1 Classroom Instructor
1 Laboratory Instructor Team
Safety personnel and additional instructors
as required per annex E, Staffing
Requirements, of Curriculum Outline.

INSTRUCTIONAL REFERENCES:

1. OPNAVINST 3130.6, Naval Search and Rescue (SAR) Standardization Program.
2. Exercise Physiology McArdle, Katch and Katch.
3. Navy Basic Weight Training National

TERMINAL OBJECTIVE:

Partially supported by this lesson topic:

- 2.0 Upon completion of this unit of instruction, the student will achieve and maintain a level of physical conditioning and proficiency that will enable satisfactory performance of Rescue Swimmer duties on land, in a swimming pool, or open ocean, while wearing appropriate Rescue Swimmer equipment, as outlined in NWP 3-50.1 and OPNAVINST 3130.6 series, without injury to personnel or damage to equipment.

Enabling Objectives:

Completely supported by this lesson topic:

- 2.1 State the fundamentals of physical conditioning.
- 2.2 Perform the proper physical conditioning exercises and Physical Training Level 1, 2, and 3.
- 2.3 Explain the importance of proper technique and form when utilizing weight lifting equipment.
- 2.4 Demonstrate proper techniques for

Strength and Conditioning Association,
2000.

4. Sports Medicine, Prevention,
Evaluation, Management and
Rehabilitation, Roy/Irvin.
5. Total Fitness for Life, Cooper.
6. Naval Aerospace Medical Institute
Staff Exercise Physiologists
7. Essentials of strength training and
Conditioning.

developing and maintaining overall
muscular strength utilizing weight
lifting equipment without injury to
personnel or damage to equipment.

CRITERION TESTS:

Pass Level 1, 2, and 3 Fitness Tests and
the Rescue Swimmer Fitness Test.

HOMEWORK: None

INSTRUCTIONAL AIDS:

1. Trainee Guide
2. Classroom
3. Overhead projector
4. PT Area (including pull-up bars and
exercise mats or grass)
5. Whistle
6. Stop Watch
7. Running Trail/Area
8. Radio

9. Weight Training facility

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

INTRODUCTION

A. Establish Contact

Display name and lesson topic.

1. Introduce self, give rank, current job.
2. State background, schools, duty stations, etc.
3. State question and answer policy.
4. (Lab only) State training time out policy.
5. (Lab only) Ask the following questions:
 - a. Has anyone gone to the hospital/branch clinic for treatment within 24 hours, and are you taking any medications?
 - b. Has anyone taken over-the-counter medications within 24 hours?
 - c. Does anyone have a potentially disqualifying illness/conditions?

Refer questionable cases to a department medical representative for disposition.

B. State Lesson Objectives

Turn to cover page of Lesson Plan and paraphrase objectives.

C. Establish Readiness

1. Motivating Statements

Establish importance and relevance of lesson.

DISCUSSION POINT

2. Lesson Overview

- a. Lesson Topic: Principles of Physical Fitness and Rescue Swimmer Dry Land Conditioning Program
- b. Major Teaching Points:
 - (1) Principles of Physical Fitness

RELATED INSTRUCTOR ACTIVITY

Briefly outline material to be covered.

PRESENTATION

A. Principles of Physical Fitness

- 1. Objectives of Rescue Swimmer conditioning program.
 - a. Achieve a level of conditioning which allows the Rescue Swimmer to operate for 30 minutes in a sea state of three (minimum). There is no substitute for practical preparation, but a comprehensive dry land conditioning program will assist toward this goal.
 - b. Pass Level 1, 2, and 3 Fitness Test and the Rescue Swimmer Fitness Test (Per OPNAVINST 3130.6).
 - c. Enhance performance of Rescue Swimmer duties while reducing risk of injury to self or survivor.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

2. Job performance is enhanced for the Rescue Swimmer by maintaining the following:
 - a. Wellness: Is an approach to optimal health and emphasizes the swimmer's deliberate effort to stay healthy and achieve the highest potential for well being. Wellness is an ongoing process which requires daily decisions in areas of proper nutrition, stress management, disease prevention, substance abuse control, and physical fitness.
 - b. Physical Fitness: Is defined as the general capacity to adapt and respond favorably to physical effort. A physically fit rescue swimmer is able to perform normal daily activities effectively and have enough energy remaining to complete the SAR mission.
3. General Principles

NOTE

Aviation Rescue Swimmers are not unlike multi-sport athletes in that they must be able to perform a variety of physically demanding tasks on land and in water. The rescue swimmer requires a variety of training workouts, which focus on different goals. Because of the high level of multi-dimensional fitness required by the rescue swimmer, 6-10 training sessions per week may be required.

- a. Overload - System must be stressed to loads greater than it is accustomed to in order to improve.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

Increase resistance, repetitions, intensity, or duration during exercise.

- b. Specificity - Effects of exercise limited to system being stressed. To be a good swimmer, you must swim.
- c. Progression - Is continually applying overload to experience gain. (Trng. effect)

4. Aerobic Conditioning

- a. Includes aerobic endurance, cardiorespiratory fitness, cardiopulmonary fitness, and heart rate training. Aerobic exercise requires large amounts of oxygen, large muscle groups, is rhythmical in nature, and should be maintained over time at a moderate intensity.
- b. Examples include swimming, running, bicycling, etc. Weight lifting and most team sports are not aerobic activities.
- c. A good aerobic training program conforms to the F-I-T-T principle:
 - (1) Frequency - Minimum three times a week. If exercising daily, "Cross-Train" (alternate different activities) so

Ask students for examples of aerobic activities which can be done aboard ship, such as jumping rope, stationary cycles, treadmills, etc.

Write F, I, T, and T on board.

Fill in "Frequency".

DISCUSSION POINT

skeletal muscles are not over-trained.

- (2) Intensity - Heart and breathing rate must be accelerated, but only to a level which can be maintained for extended periods of time. This is 60% - 75% of an individual's maximum heart rate. As a general guideline, an exerciser should be breathing hard yet still able to talk while performing aerobic activities.
- (3) Type - Must be an aerobic activity.
- (4) Time - Continuous exercise for a minimum of 20 minutes.

5. Anaerobic Conditioning

- a. Activities which are not long term or rhythmic in nature. They allow the body to recover between efforts. Many team sports and strength/speed training are considered anaerobic.
- b. Two workouts a week can build strength (given sufficient intensity).

WARNING

Do not exercise the same skeletal muscle group on successive days. Minimum 48 hours rest is required between workouts to avoid over-use injuries and optimize gains.

- c. A muscle which is too fatigued to contract

RELATED INSTRUCTOR ACTIVITY

Fill in "Intensity".

Fill in "Type".

Fill in "Time".

Ask for examples.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

can still be exercised using a technique called "negatives". For example, an exerciser performing pull-ups will reach a point where he/she can no longer lift themselves. The partner then assists (or "spots") the exerciser by QUICKLY lifting him/her all the way up. The exerciser SLOWLY returns to the starting position. Do not rest at the top or bottom of the cycle. This process can be repeated until the muscle achieves total failure.

6. Ideal Workout

- a. An adequate warm-up period (light jogging, jumping jacks) increases the core temperature 1-2°, warming up the muscles for more effective stretching and exercise.
- b. Slow, steady stretching reduces the risk of strains and improves performance. Avoid ballistic (jerking) stretches - they can cause strains. Avoid unsupported bending at the waist - it can cause back trouble.
- c. Training period - aerobic or anaerobic.
- d. A cool-down period of light exercise helps the body return to its normal state.

7. Preventing Dehydration

- a. Dehydration, a below normal level of water in

Emphasize danger of heat

DISCUSSION POINT

the body, is a dangerous situation which can lead to heat injuries (heat stress and heat stroke) in the worst case and muscle cramps (including "side stitches") and sub-par performance at a minimum.

RELATED INSTRUCTOR ACTIVITY

disorders if environment is likely to be hot and humid, including enclosed pools.

WARNING

Exercisers, especially in hot, humid environments, are especially vulnerable to dehydration. Up to two quarts of water per hour may be lost through sweating during exercise and one quart per day is lost through urine.

b. Drink large amounts of clear, non-alcoholic, non-caffeinated, non-carbonated beverages before, during and after exercise.

(1) Water: The recommended amount for adults is ten 8oz cups during a normal day.

(2) Sports drinks with less than 8% dissolved sugar.

Make your own: 1 gallon water, 6 oz sugar, 1 TBSP salt, flavored Kool-Aid sweetened with fructose (not sugar).

(3) Six to eight ounces of fluid consumed every 20 minutes of exercise can help replenish the sweat lost during exercises.

c. By the time an active individual feels thirsty, he/she is behind the "dehydration

Seek examples from students - many are not aware that caffeine in colas, etc. is a diuretic causing urination.

DISCUSSION POINT

power curve."

RELATED INSTRUCTOR ACTIVITY

NOTE

The best indication of adequate hydration is clear to light yellow urine.

8. Exercises to avoid.

- a. Knee care. Avoid exercises which require the knee to bear weight while bent beyond 90 degrees.
- b. Back care.
 - (1) Avoid unsupported bending at the waist (i.e., standing toe touch).
 - (2) Avoid doing flutter kicks, leg levers, and horizontal scissor kicks in excessive amounts. These common exercises, mistakenly thought to strengthen the abdominal, predominantly work the Illio Psoas (hip flexor) muscles. These muscles are attached to the top front of the leg, wrap around outside the hip, and attach to the back of the pelvic girdle. Over-developed hip flexors cause a lordotic (sway-backed) spinal curve and result in lower back pain.

9. Rest and Basic Nutrition

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- a. The Rescue Swimmer School is a very demanding physical program. Hard workouts without adequate rest or nutrition will result in over-use injuries and illness.

- b. Adequate rest is vital if muscles are to recover and gain strength. Seven to nine hours of uninterrupted sleep is adequate for many adults, however, participants in this program need to "listen to their body" and get more sleep as required.

- c. Proper nutrition provides the Rescue Swimmer with the energy required to perform duties.

(1) Carbohydrates: Provide energy and is the main fuel source to the cells in the body. Glucose is the main product of carbohydrate digestion. Carbohydrates are usually referred to as the following:

- a. Simple: Derive from fruits and sugars. IE. Soda, candy, cake, ECT.

- b. Complex: Derive from vegetables, grains, fruits, and beans. Most of your diet should come from complex carbohydrates.

(2) Avoid fatty, fried, and oily foods.

Ask students for examples of carbohydrates, such as grains (bread and pasta), rice, potatoes, etc.

Unhealthy snack food should be avoided as much as possible.

10. Conclusion

DISCUSSION POINT

- a. The Rescue Swimmer School Dry Land Conditioning program is a comprehensive, total body workout designed by an exercise physiologist from the Naval Aeronautical Medical Institute. Special emphasis is given to muscle groups utilized in Rescue Swimming, specifically the pulling muscles of the upper body and the muscles in front of the thigh (which power the flutter kick).
- b. The principles of this unit apply to the training environment and the fleet.

RELATED INSTRUCTOR ACTIVITY

Refer students to Information Sheet (2.1-1) in Trainee Guide to follow during explanation of Stretch and Calisthenics sets.

SUMMARY

A. State Lesson Objectives

Turn to cover page for

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY
objectives.

B. Review Major Teaching Points

Briefly summarize.

APPLICATION OF RESCUE SWIMMER DRY LAND CONDITIONING PROGRAM.

Basic philosophy

The calisthenics and strength training program was designed to exercise muscles identified as being utilized while performing Rescue Swimmer duties.

All instructors shall complete the exercises with the students. The Lead Instructor will remain in the front and ensure correct form/pace are utilized, except during strength training exercises.

STRETCHING AND CALISTHENICS:

Before beginning dry land conditioning, ensure heat index does not preclude exercise.

Calisthenics shall be performed per the lesson plan and the Master Course Schedule. Conduct a stretch set followed by **no more than two repetition's of the calisthenics routine**, group-paced run, and a cool down stretch set with water breaks between evolutions. (Requiring students to bring a full squeeze bottle to PT will reduce the time between events, increasing the effectiveness of the program. Stretching and the calisthenics routine shall take place in a designated area utilizing exercise mats, non-sloping sandy area or grass.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

All stretches and calisthenics are initiated by the lead instructor stating the number of repetitions, the type of exercise, and by giving the commands "ready . . . begin".

Example: "30 four-count jumping jacks-ready-begin".

The exercises shall be performed in a smooth, continuous manner with an emphasis on correct form. The instructor shall state the intermediate counts as indicated in the text by "One", "Two", or "Up", "Down", etc. The students shall call out the completed repetition by stating the number of repetitions completed as indicated in the text by "(Count)".

There will be two different sets of stretching, one will be for calisthenics and running and the other will be for strength training and swimming. One set of stretches will be sufficient for the day depending on which exercise routine that is being performed. The time length for holding a specific stretch shall be no less than 15 seconds.

STRENGTH TRAINING:

Strength training workout will be conducted in two alternating day groups Core Exercises and Auxiliary Exercises (i.e. Core-Tuesday, Auxiliary -Thursday). Perform 2-3 sets of 8-12 repetitions for each exercise. All repetitions will be performed in a slow and controlled manner.

Machines and alternate strength training equipment that perform the same exercise may be used in place of free weights. However, to experience the full benefits of the strength training program, free weights should be used to develop the stabilizing muscles as well as the primary muscle. **When performing Dead Lifts, begin with a moderate weight level to prevent over exertion of lower back muscles.**

RUNNING:

All runs shall be kept between 8 to 10 minutes per mile pace and shall be continuous for 30-40 minutes.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

A graduation fun run may be conducted during Week 5, after all course requirements for graduation have been completed. The run shall be voluntary and have no impact on graduation. The run shall be group paced and not to exceed 60 minutes.

During runs, faster runners may be allowed to circle back to pick up slower runners, or be allowed several short sprints during the course of the continuous run to increase intensity and training effect. Terrain runs can be incorporated to provide variety and increases the difficulty of the running session. Due consideration shall be given to the course to ensure student safety.

Brief stops for calisthenics exercises (i.e. push-ups, crunches, flutter kicks) can be included during the course of the run. **The exercises shall be from the second repetition of the calisthenics exercise routine, and not to exceed the PT level the class is currently training under.**

Interval run: Interval training runs are best conducted on a quarter mile track. However, a safe running route with marked distances is sufficient. The interval training session is performed by running quarter mile intervals at a fast pace (near maximum), followed by a 1-4 minute recovery period. Two to four intervals are an adequate training stimulus. Interval running may only be done once a week and not to be combined with endurance running. No calisthenics are to be performed between running intervals.

STRETCH SET FOR CALISTHENICS AND RUNNING(15 Sec.)

POST RUN COOL DOWN STRETCHES (30 SEC.)

DISCUSSION POINT

ANKLE ROTATIONS, 10 EACH DIRECTION EACH ANKLE
JUMPING JACKS, 15 FOUR-COUNT
ROTATOR CUFF STRETCH
TRICEPS STRETCH
QUADRICEPS STRETCH
INSIDE HURDLER STRETCH
GROIN STRETCH
KNEE TO CHEST
BOTH KNEES TO CHEST
BACK TWIST
CALF STRETCH
ACHILLES STRETCH

RELATED INSTRUCTOR ACTIVITY

QUADRICEPS STRETCH
INSIDE HURDLER STRETCH
GROIN STRETCH
KNEE TO CHEST
CALF STRETCH
ACHILLES STRETCH

CALISTHENICS SET (REPETITIONS FOR LEVELS I, II AND III FOLLOW)

PULL-UPS (5, 6, 8)
FOUR-COUNT LUNGES (15, 18, 20)
PUSH-UPS (25, 30, 35)
BENT KNEE SIT-UPS (35, 45, 50)
PULL-UPS (5, 6, 8)
TWO-COUNT SQUATS (15, 18, 20)
WIDE ARM PUSH-UPS (25, 30, 35)
CRUNCHES (25, 30, 35)
FOUR-COUNT DIRTY DOGS (15, 20, 25)
FOUR-COUNT OBLIQUE CRUNCHES (15, 18, 20)
FOUR-COUNT SUPERMANS (15, 18, 20)
FOUR-COUNT FLUTTER KICKS (25, 30, 35)
TRICEPS PUSH-UPS (15, 20, 25)
CALF RAISES (30, 35, 40)
CROSS KNEE OBLIQUE CRUNCHES (15, 18, 20)
EIGHT-COUNT BODY BUILDERS (10, 12, 15)
HIP FLEXOR STRETCH, 30 SECONDS EACH LEG

DISCUSSION POINT

STRETCH SET FOR STRENGTH TRAINING AND SWIMMING
(15 Sec.)

PUSH-UPS, 10
ARM CIRCLES, 10 SECONDS EACH DIRECTION
FLUTTER KICKS, 25
LUNGES, 10
CRUNCHES, 15
ABDOMINAL STRETCH
ROTATOR CUFF STRETCH
CHEST STRETCH
TRICEP STRETCH
QUADRICEP STRETCH
INSIDE HURDLER STRETCH
KNEE TO CHEST
BOTH KNEES TO CHEST
BACK TWIST

STRENGTH TRAINING EXCERSISES

CORE EXERCISES

PULL-UPS (5, 6, 8)
SQUATS
DEAD LIFTS
MILITARY PRESS
BENT OVER ROW
BENCH PRESS
BENT KNEE SIT-UPS (35, 45, 50)
CRUNCHES (20, 25, 30)
CROSS KNEE OBLIQUE SIT-UPS (15, 18, 20)

RELATED INSTRUCTOR ACTIVITY

POST SWIM/STRENGTH TRAINING STRETCHES
(30 Sec.)

ROTATOR CUFF STRETCH
CHEST STRETCH
TRICEP STRETCH
QUADRICEP STRETCH
INSIDE HURDLER STRETCH
KNEE TO CHEST
BOTH KNEES TO CHEST
BACK TWIST
CALF STRETCH

AUXILIARY EXCERSISES

SEATED CABLE ROW
TRICEPS CABLE PRESS DOWNS
INCLINE BENCH PRESS
DUMBBELL BICEPS CURL
LEG PRESS
LAT PULL DOWNS
BENT KNEE SIT-UPS (35, 45, 50)
CRUNCHES (25, 30, 35)
CROSS KNEE OBLIQUE SIT-UPS (15, 18, 20)

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

A. Stretch

1. Ankle Rotations

Announce and lead.

a. Purpose - To stretch ankle tendons prior to jumping jacks.

b. Action:

(1) From a sitting position cross left leg over right knee, place left hand on left ankle, with right hand grasp toes of right foot and rotate each direction 10 times making as large a circle as possible.

(2) Switch and repeat other ankle.

2. 15 Four-count Jumping Jacks

a. Purpose - warm and limber up.

b. Action:

(1) "Ready" Stand with arms at side. Begin.

(2) "One" Raise arms overhead relatively straight, feet slightly wider than shoulder width:

(3) "Two" Return to ready position.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (4) "Three": as "One".
- (5) "(Count)": as "Two".
3. Rotator Cuff Stretch
- a. Purpose - stretch back of shoulder.
- b. Action - from a standing position, reach right arm straight out. With left hand, grasp right arm just above the elbow. Pull right arm across body ensuring thumb pointed up.
- c. Repeat other arm.
4. Triceps Stretch
- a. Purpose - stretch back of arm.
- b. Action - bring arm up and back so that elbow is pointing upward and the hand rest between the shoulder blades. Gently pull arm toward the midline behind the head to stretch the tricep muscle. Do not use back of head for leverage:
- c. Repeat other side.
5. Quadriceps Stretch
- a. Purpose - stretches quadriceps muscles (front of thigh).
- Announce and lead.
- Announce and lead.
- Announce and lead.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- b. Action - Lie on stomach. Bend right leg at knee and grasp right ankle with right hand. Pull foot towards thigh. Do not allow foot to be pulled out to side. Ensure knees stay together.
- c. Repeat other leg.
- 6. Inside Hurdler Stretch Announce and lead.
 - a. Purpose - stretch hamstrings (back of thigh).
 - b. Action - from seated position, bend left leg such that foot is directly in front and approximately 6" from body. Stretch right leg straight out WITH KNEE AND FOOT POINTING STRAIGHT UP. Reach hand over right foot, slowly bend trunk forward from hips. Keep back and neck in-line; DO NOT BEND HEAD DOWN. Repeat other leg.
- 7. Groin Stretch Announce and lead.
 - a. Purpose - stretch groin muscles.
 - b. Action - seated position with feet pulled in, soles of feet together, heels approximately 6" from body, hands on ankles, elbows on upper leg. Leaning trunk forward slightly, WITH BACK AND NECK STRAIGHT, apply gentle pressure with elbows.
- 8. Knee-to-Chest Stretch Announce and lead.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- a. Purpose - stretches gluteal and hamstrings.
 - b. Action - On flattened back with head down, raise right leg. Keeping left foot on deck, grasp the leg with both hands placed behind the knee, pull leg toward chest.
 - c. Repeat other leg.
9. Both Knees-to-Chest Stretch
- Announce and lead.
- a. Purpose - stretch lower back.
 - b. Action - laying on back, place hands behind knees and pull to chest. Tilt pelvis off deck.
10. Back Twist
- Announce and lead.
- a. Purpose - stretch lower back and torso.
 - b. Action - from seated position, stretch left leg straight out. Hook right foot over left leg near knee. Reach left arm across body and use right leg for leverage; gently twist trunk to right.
 - c. Repeat other leg.
11. Calf and Achilles stretch.
- Announce and lead.
- a. Purpose - stretch calf and Achilles tendon.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- b. Action - With feet approximately 5' from bulkhead, legs straight, lean forward and place both hands on bulkhead. Adjust foot placement as required to provide sufficient stretch.
 - c. Repeat with bent legs, shifting stretch to Achilles tendon.
12. Arm Circles
- Announce and lead.
- a. Purpose - Warm up and stretch the shoulder muscles.
 - b. Action - Extend arms out to the side level with the shoulders and rotate 6-inch circles for 10 seconds forward and backwards. Repeat steps with 24-inch circles.
13. Abdominal Stretch
- Announce and lead.
- a. Purpose - stretch abdominal muscles.
 - b. Action - While lying in the prone position, raise the upper body, by placing the upper body weight on the elbows. Next, raise the upper body farther by pushing up with the palms of the hands. Lower slowly.
14. Chest Stretch
- Announce and lead.
- a. Purpose - stretch pectoralis and deltoid muscles.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- b. Action - The chest stretch is a partner assisted exercise. Have your partner stand behind you and grasp both of your arms at your wrists. Your arms should be extended at your side and your palms facing forward. Your partner then pulls your arms back slowly and smoothly until you feel the stretch in your pectoralis and deltoid muscles. The stretch is held for the prescribed amount of time and released slowly.

CALISTHENICS EXERCISES

1. Pull-Ups

Announce and lead.

- a. Purpose: Strengthen the pulling muscles of the upper body: back, biceps, forearms, back of deltoids (shoulders). These muscles are used in the crawl stroke and when hooking survivor to cable.
- b. Action:
 - (1) "Mount bar": Hang from bar, palms facing away.
 - (2) "Up": Without kicking, pull chin above bar.
 - (3) "(Count)". Without dropping, steadily lower body to starting position. Monitor number of unassisted pull-ups students

DISCUSSION POINT

perform; recognize gains.

- c. Variations. Upon reaching partial failure (unable to lift self), the spotter shall quickly lift the exerciser to the "up" position. The exerciser will slowly lower themselves to the count position. Upon reaching total failure (unable to lift or lower self), the exerciser shall hang on the bar until the group is finished.

2. Four Count Lunges.

- a. Purpose. Strengthen the quadriceps for effective flutter-kicking.
- b. Action.
 - (1) "Ready". Stand with back and neck straight and feet shoulder width apart.
 - (2) "One" Take a large step forward with right leg so your leg forms an angle greater than 90 degrees. YOUR KNEE SHOULD NOT BE PAST YOUR FOOT. At the same time, bring your left knee down, almost to the floor (DO NOT LET DOWN KNEE HIT THE DECK).
 - (3) "Two" Stand up, returning to starting position.

RELATED INSTRUCTOR ACTIVITY

WARNING. DO NOT SPOT EXERCISER BELOW THE WAIST. SHOULD THE EXERCISER'S HANDS SLIP, IT IS IMPERATIVE THE FEET ARE FREE TO BREAK THE FALL.

Announce and lead.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (4) "Three" Repeat step one with left foot.
 - (5) "(Count)" Stand up, returning to starting position.
3. Pushups
- Announce and lead.
- b. Action.
- (1) "Ready" The "lean and rest" - body is prone, **supported by straight arms on flat hands** approximately shoulder width apart and feet. THE BACK IS STRAIGHT, NECK IN-LINE, HEAD NEITHER DIPS NOR LOOKS UP. "Begin".
 - (2) "Down" Lower body till upper arms are bent at a 90-degree angle.
 - (3) "Up" Raise body to starting position.
"(Count)"
4. Bent Knee Sit-ups
- Announce and lead.
- a. Purpose. Strengthen abdominal muscles.
- b. Action
- (1) "Ready" Starting in the up position, with legs bent at a 90° angle, keep feet on deck, cross arms over chest (hands maintain contact with shoulders).
"Begin".

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (2) "Down" Keeping heels on deck, slowly lower torso until shoulder blades touch deck. Maintain muscles in tension; immediately begin recovery.
 - (3) Students will hold each others feet during Sit-ups.
5. Two Count Squats. Announce and lead.
- a. Purpose: Strengthen the quadriceps (muscles in front of the thigh), the muscles used in flutter kicking.
 - b. Action.
 - (1) "Ready" Hands on hips, feet shoulder width apart. MAINTAIN STRAIGHT BACK, HEAD LOOKING FORWARD, THROUGHOUT EXERCISE. "Begin".
 - (2) "Down" Bend legs to a 90-degree angle.
 - (3) "Up" Return to ready position.(Count)
6. Wide Arm Push-ups. Announce and lead.
- a. Purpose. Same as regular push-ups, with greater emphasis on chest muscles.
 - b. Action.

All same as push-ups except hands are placed

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- significantly wider than shoulder-width.
7. Crunches.
- a. Purpose. Strengthen abdominal.
- b. Action.
- (1) "Ready" Lying on back, raise bent legs, knees relaxed. Cross arms over chest, fingers maintaining contact with shoulders. ("Begin").
- (2) "Up" Raise torso off deck until elbows touch thighs. Pause briefly:
- (3) "(Count)" Slowly lower torso only until shoulder blades touch deck. Do not relax abdominal.
- 8 Dirty Dogs.
- a. Purpose. Strengthen Hip Extensors and Abductors.
- b. Action.
- (1) Start in a kneeling position with hands flat on the ground and legs forming a 90-degree angle.
- (2) Slowly raise left leg to the side, knee bent, (one), slowly lower left leg to starting position without touching the

Announce and lead.

Be alert for students relaxing muscles at this point.

Announce and lead.

DISCUSSION POINT

deck (two), slowly straighten left leg back with toe pointed down (three), slowly return left leg to starting position (four); repeat count as required then switch to right leg.

RELATED INSTRUCTOR ACTIVITY

9. Four Count Oblique Crunches.

Announce and lead.

a. Purpose. Strengthen oblique's, the muscles on the sides of the abdominal wall.

b. Action.

(1) "Ready" Same as regular crunches.

(2) "One" Raise and twist torso until right elbow touches left thigh.

(3) "Two" Lower body only until both shoulder blades touch deck. Do not relax abdominal.

(4) "Three" Raise and twist torso until left elbow touches right thigh, similar to "one".

(5) "(Count)" As in two.

10. Four Count Supermans.

Announce and lead.

a. Purpose. Strengthen hip extensors and lower back.

b. Action:

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (1) "Ready". Lying on stomach, chin off ground, hands forward with palms on deck, feet about shoulder width apart. "Begin".
- (2) "One". Raise left arm and right leg 6 inches off deck and hold position for 3 to 5 seconds.
- (3) "Two". Return to starting position.
- (4) "Three". Raise right arm and left leg 6 inches off deck and hold position for 3 to 5 seconds.
- (5) "(Count)". As in one.

11. Four Count Flutter Kicks.

Announce and lead.

a. Purpose. Strengthens abdominals and hip flexors.

b. Action:

- (1) "Ready". Lying on back, head up, hands (palms down) under the hips, legs extended, feet together 6 inches above the deck. "Begin"
- (2) "One". Lift left leg 18 inches above deck, keeping the leg straight.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (3) "Two". Lift right leg to same position while returning left to starting position.
- (4) "Three". Reverse step (2).
- (5) "Count". Shift legs once more.

12. Triceps Push-ups.

Announce and lead.

- a. Purpose. Strengthens arms, shoulders and chests with an emphasis on the triceps muscles in back of the upper arm.
- b. Action:
 - (1) "Ready" Similar to regular push-ups, only hands are much more close together. Thumbs touch, thumbs and index fingers form half-box (not diamond). Feet are approximately shoulder width apart.
"Begin"
 - (2) "Down" WITH NECK AND BACK IN LINE, HEAD NEITHER RAISED NOR DIPPED, BUTTOCKS NEITHER SWAYED DOWN OR ELEVATED, lower body until arms are bent at a 90-degree arm.
 - (3) "Up" Maintaining form, raise body.
"(Count)"

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

13. Calf Raises.

Announce and lead.

a. Purpose. Strengthen calf muscles.

b. Action:

(1) "Ready" Standing position with feet shoulder width apart and toes pointed forward. "Begin"

(2) "Up" Raise heels off deck and pause briefly.

(3) "Down" Return to starting position. "(Count)"

14. Cross Knee Oblique Crunches.

Announce and lead.

a. Purpose. Strengthen abdominal muscles.

b. Action:

(1) "Ready" Lay down with legs bent with left ankle positioned on right knee and right hand resting on the temple. Left arm is out to the side. "Begin"

(2) "Up" Raise upper torso and touch right elbow to left knee.

(3) "Down" Return to starting position. Repeat IAW calisthenics guide.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (4) Switch and repeat.
15. Eight-count body builders
- a. Purpose. Full-body conditioning.
- b. Action:
- (1) "Ready". Stand with arms at side and feet shoulder-width apart. "Begin".
- (2) "One". Squat down to an all fours position. DO NOT LET KNEES BEND PAST 90 DEGREES.
- (3) "Two". Thrust legs out to "lean and rest" position of push-ups.
- (4) "Three". As in push-ups, lower body until arms are parallel to deck.
- (5) "Four". Raise body to "lean and rest".
- (6) "Five". Straddle legs.
- (7) "Six". Bring legs together.
- (8) "Seven". Return to all fours. DO NOT BEND BEYOND 90 DEGREES.
- (9) "(Count)". Return to ready position.
16. Hip Flexor Stretch.
- Announce and lead.
- Ensure all students stand fully upright.
- Announce and lead.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- a. Purpose. Stretch Illio Psoas muscles.
- b. Action:
 - (1) Put right leg well out in front of you, as if in a lunge. Allow left knee to rest on deck. Lower torso and push hips forward, emphasizing stretch on front of left leg. Body should twist slightly.
 - (2) Repeat other leg.

B. Instructions for Group Paced Runs

Students shall run continuously, in formation, The pace shall be such that all students can stay with the group, "jodies" can be sung.

According to physiologists, there is "minimal cardio-vascular transfer" between running and swimming. GPRs primarily benefit students by providing esprit de corps and a break from the pool. Accordingly, motivation should be emphasized more than conditioning.

C. Instructions For Post Run Cool Down Stretches

For maximum benefit, perform stretch set immediately after

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY
completion of run.

1. All stretches will be conducted IAW initial stretch set criteria.

Stretches to complete are listed on page 2.1-15 of this lesson plan.

D. Description of Strength Routine

INSTRUCTOR NOTES. For maximum benefit, perform the set with minimum rest between exercises. Perform the exercises themselves at the steady pace as demonstrated in the Instructor Course.

The program is designed to provide a good workout to as many participants as possible. Students are to perform all exercises with correct form.

E. Training Safely

- a. Start out slowly and build up progressively over a period of time.
- b. Use correct lifting technique at all times when training.
- c. Wear athletic shoes and appropriate clothing for the activity. Use weightlifting gloves, straps, or chalk whenever there is a risk of slippage.

F. Training Correctly

- a. Use a good grip.
- b. Always lift from a stable position.
- c. Keep the weight close to your body.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- d. Use leg muscles, not the lower back, when lifting a weight from the ground.
- e. Lift in a smooth, controlled fashion.
- f. Exercise through a full range of motion.
- g. Exhale as the weight passes through the "sticking point", the most difficult part of the lift, and inhale during the recovery phase. **Do not hold your breath.**
- h. Ensure bars are evenly loaded, outside collars and locks are secure.
- i. When returning a barbell to a rack (squat, bench press), rest the bar on both sides of the rack before releasing.
- j. Use a spotter (assistance) when needed in the execution of an exercise, when a weight is heavy, lifting overhead, lifting over the body, when inexperienced with a weight or exercise, or when loss of balance may occur.
- k. Adjust bench height, lever arm, and weight for body size and ability before lifting.
- l. Maintain regular training days.
- m. Do not train if ill.
- n. Train with a partner.
- o. Stretch between weight training exercises whenever muscles feel overly tight.

Conversely, the program is designed so that all students can complete every set (if administered correctly). Some will achieve muscular failure before their classmates. These students actually get the most from the workout. **Inability to perform a given number of repetitions during a workout does not constitute failure to meet a training**

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

standard. (PT Level 1, 2, and 3 tests and the Rescue Swimmer Fitness Test are the only evaluations).

STRENGTH TRAINING EXERCISES

PRESENTATION

1. Squats

- a. Address the bar while it rests on the rack. Place the bar across the back of the shoulders just below the neck. Place the hands equal distance from the center of the bar and comfortable distance from the shoulders. Hold the chest up and out and pull the shoulder blades together.
- b. Place the hip under the bar, isometrically contract the back and lift the bar upward off the rack.
- c. With the aid of a spotter step back and clear of the rack.
- d. Position feet flat on the floor between hip and shoulder width apart, toes outward 15-30 degrees, eye level and looking straight ahead.
- e. Downward movement: When stable begin the downward motion by flexing at the knees and hip, lowering the body until the top of the thighs are parallel to the deck. There should be no pause in the down position.

Keep feet flat on the deck throughout the exercise.

DISCUSSION POINT

- f. Upward movement: Push into the floor with the feet while extending the knees and hips at the same rate so that the torso to floor angle remains the same.
- g. Stand up to the starting position and repeat the movement for the prescribed number of reps.

Note

Keep the back isometrically contracted. The back should never bow forward. There should be no bouncing at the bottom. The lift should be smooth, controlled and calculated.

2. Deadlifts

- a. Address the bar with feet wider than shoulder width apart, sumo style.
- b. Flex at the hip and knees lowering the butt keeping the back isometricly contracted, flat and at approximately 45 degree to the deck. Grasp the bar with hands equal distance for the center of the bar and the hands inside the knees, palms to the back.
- c. Arms should remain extended, elbows rotated slightly out with shoulders pulled back and ahead of the bar.

RELATED INSTRUCTOR ACTIVITY

Pronated or Alternated Grip may be used.
Alternated Grip: One hand is pronated, the other supinated.

(Supinated Grip: Underhand with palms facing up)

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- d. Begin by pressing the feet into the floor extending the knees and hips while maintaining the shoulders and hips a constant relative position to each other and the back in a constant angle with the floor.
- e. Continue to push with the legs extending the knees and hips so the bar will pass the knees. As the bar passes the knees begin to extend the back until standing completely erect, (legs and back extended) pull the shoulders back only slightly. Do not over exaggerate this movement.
- f. Decelerate the bar to the ground by doing the lift in reverse.
- g. Relax and re-address the bar repeat for the prescribed number of reps.

Note

Do not allow the back to bow. Control the bar all the way to the floor maintaining the back isometrically contracted, flat and at approximately 45 degree to the deck.

3. Military Press

- a. Stand or sit with feet hip width apart. Bar should be resting in the rack. Grasp bar with a grip so that the forearms are perpendicular to the deck and equal distance from the center of the bar.

DISCUSSION POINT

- b. (IF STANDING) Un-rack the bar by allowing it to rest on the anterior shoulder/upper chest then stand up under the bar and step back, clear of the rack.
- c. Press bar straight up to arms extended position, keep the chin tucked in and down to avoid striking the bottom of the chin.
- d. Lower the bar to chest smoothly and controlled repeat for the prescribed number of reps.

Note

Avoid bowing the back. The back should remain straight and isometrically contracted for stability.

4. Bent Over Row

- a. Address the bar standing feet hip width apart and grasp the bar equal distance for the center of the bar with a wider than normal grip. Lift the bar from the floor using the dead lift technique to a fully erect posture.
- b. Flex at the knee and forward at the hips, with a slight forward lean, so the torso is at a 45-degree angle with the floor.
- c. With the arms fully extended, the bar should hang so that it will not hit the knees.

RELATED INSTRUCTOR ACTIVITY

DISCUSSION POINT

- d. Pull the bar to the bottom of the chest with the elbows pointed outward, slight Pause.
- e. Return to start position with arms full extended in a controlled and deliberate way, repeat motion for the prescribed number of reps.

5. Bench Press

- a. Lay on bench with head, shoulder blades and hips touching bench. Feet flat on the floor. There should be minimal or no arch in the low back.
- b. Take bar with a closed/pronated grip at a width so that the forearms are perpendicular to the deck and hands equal distance for the center of the bar.
- c. Raise the bar from the rack to an arm extended position over the face.
- d. Lower bar to chest at the nipples, the bar should make contact with your body but allow only a slight pause.

RELATED INSTRUCTOR ACTIVITY

Closed Pronated Grip:
Finger and thumb are wrapped (closed) around the bar. The Pronated, Supinated, and Alternated Grip are examples of a "Closed Grip". **For safety reasons, always use a closed grip.**

DISCUSSION POINT

- e. Press the bar up and forward (toward the head) in a slight arcing movement ending at the start position, repeat movement for prescribed number of reps.

6. Seated Row

- a. Seated, with knees slightly bent, holding the handle with both hands, arms extended upper body erect.
- b. Pull the shoulder blades together.
- c. Pull cable handle inward toward bottom of rib cage.
- d. After making contact with the lower ribs extend the arms out again smoothly and controlled to the start position. Repeat movement for prescribed number of reps.

NOTE

The upper body should remain erect with little or no forward and backward rocking at the hips.

7. Triceps Press Down

- a. While standing with a pronated grip on a straight or V shaped bar, press the bar down to the start position. Elbows are at the sides of the torso and flexed at a 90 degree angle.

RELATED INSTRUCTOR ACTIVITY

pronated grip: Overhand with knuckles facing up.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- b. Begin the exercise by pressing the bar down extending the arms while keeping upper arm stationary and against the sides of the torso.
- c. Return the bar to the start position. Elbows at 90 degrees. Repeat movement for prescribed number of reps.

8. Incline Press

- a. Lay on the bench with the head, shoulder blades and hips touching the bench. Feet flat on the floor. There should be minimal or no arch in the lower back.
- b. Grasp the barbell with a closed/pronated grip. Lower the bar until it touches the upper chest. Pause momentarily and press upwards.

NOTE

Can be performed with dumbbells as well.

- c. Lay on bench with head, shoulder blades and hips touching bench. Feet flat on the floor. There should be minimal or no arch in the low back.
- d. Grasp the dumbbells with a closed/pronated grip. Lower the dumbbells until they are at chest level. Pause momentarily and press upwards.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

9. Dumbbell Curls

- a. Stand holding dumbbells by thigh, palms inward and arms extended.
- b. Flex the elbow, bring the forearm toward the same side shoulder. While progressing through the movement, supinate the forearm so the lift finishes palm facing the shoulder and the arm is fully flexed.
- c. Lower dumbbells to start position by extending, smoothly and controlled, the forearm to the fully extended position with arms at the side and palms inward. Repeat movement for prescribed number of Reps.

If weight or bending at the hips is required to raise the weight, too much weight is being used.

10. Leg Press

- a. Sit in the machine with the head, shoulder, lower back, and hips pressed against the pads.
- b. Place feet on the platform between hip and shoulder width apart with toes outward 15-30 degrees. Grasp the support handles and extend hip and knees to an almost fully extended position. (knees should be slightly bent) Do not forcefully extend the knee.

Forcefully extending the knees will cause the knee to lock-out and possible Hyperextension

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- c. Remove the support mechanism and grasp the seat handles again.
- d. Allow the hips and knees to slowly flex and lower the foot platform until the knee angle is less than 90 degrees.
- e. Forcefully extend the legs and hips pushing the platform to the leg extended position, do not forcefully lock out the knee. Repeat movement for prescribed number of reps.
- f. Upon completion of exercise replace the supports and exit the machine.

11. Lat Pulls

- a. While seated at this exercise machine grasp bar with wide grip. Pull the bar down to the top of the sternum, with only a slight backward lean. Maintain correct body position throughout exercise keeping the torso erect.

EVALUATION

DISCUSSION POINT

Perform and Pass a level 1, a level 2, and a level 3 PT test.

Perform and Pass the Rescue Swimmer Fitness Test per reference (1).

Note to instructors the PT level examinations are not to evaluate a students overall fitness level. They are designed to test the student's ability to perform a level 1, 2, or 3 PT. Instructors shall stretch students using the calisthenics stretch set. Once completed Instructors shall have students form up in two lines facing each other. Rank one will perform an exercise then rank two will perform the same exercise before moving on to any other exercises. Instructors are to ensure that correct form is performed.

Exercises will consist of the following;

	<u>Level</u>	<u>1</u>	<u>2</u>	<u>3</u>
Pull-ups		3	4	5
Lunges		15	18	20
Regular width push-ups		25	30	35
Bent knee sit-ups		35	45	50
Wide arm push-ups		25	30	35
Crunches		25	30	35
Flutterkicks		25	30	35
Tricep push-ups		15	20	25

Each set of exercises are to be performed with-in two

RELATED INSTRUCTOR ACTIVITY

Recognize the student achieving the highest point total.

DISCUSSION POINT

minutes at the students own pace, Instructors are not to dictate the pace of any exercise during a PT level evaluation. Students are to do the exercises in accordance with the procedures outlined in this lesson plan. They are to do only the number of exercises listed above for each level and once a student has reached the correct count on an exercise he/she shall stand up and wait for further instruction. As soon as all students are standing in one rank the next rank should begin the exercise immediately. Extended breaks between one rank and the next performing exercises should be kept to a minimum and breaks between exercises should be short and no more then one minute.

PT examinations shall not be performed on a day immediately following a scheduled PT day, but shall be scheduled for a day following a non-PT day.

If a student is unable to reach any count doing an exercise correctly as outlined in this lesson then they shall be marked down as a failure and retested the following day, if the test failure is followed by a holiday the re-test shall be conducted on the next training day.

ASSIGNMENT

None.

RELATED INSTRUCTOR ACTIVITY