

Deep Sport Conditioning
Presented by
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Athletic Training

Athletic training involves a multi-dimensional approach—targeting the traditional goals of fitness (aerobic endurance, muscular strength and joint flexibility) with an equal focus on the functional aspects of human performance (balance, coordination, speed and agility).

Learning Objectives

Review the scientific principles of deep water training and understand the differences between gravity assisted/resisted exercise and gravity-neutral exercise.

Learn creative and effective methods to blend human performance training (balance, coordination and agility) with aerobic endurance and muscle conditioning.

Learn how to create, set-up and teach sport-specific conditioning drills to challenge all the systems in the body.

Research & Benefits

Research supports that deep water exercise, when performed at the proper intensity and duration, will produce favourable health benefits and is a viable training option for maintaining health and improving physical fitness.

(AEA Aquatic Fitness Professional Manual)

Research Review

- Interval Training - Fluctuating cycles of work and rest allow for greater volume of work in a shorter time.
- Circuit Training - Alternating muscle conditioning emphasis based on biomechanical balance achieves higher work load.
- Resistance Training - Builds & maintains muscle mass, boosts metabolism, improves bone and joint health.

Intensity Variables

- Force and Acceleration
- Drag (streamline vs broad)
- Levers (short vs long)
- Hand & Wrist positions
- Frontal Resistance (travel + assist vs resist)
- Buoyancy (elevation & propulsion)
- Cadence & Music

Intensity Variables 1

- Overload
 - Use equipment - buoyant and drag
 - Manipulate surface area
 - Increase force (muscular effort)
- Inertia
 - Stop and start travel
 - Engage core to resist tipping (streamlining)

Intensity Variables 2

- Acceleration
 - Use explosive moves
 - Elevation - power pops & sculling
- Action / Reaction
 - Cue direction of force (muscular effort)
 - Use core to stabilize, responding to force and load of limbs moving against H2O resistance

Muscular Effort

- Teaching INTENSITY in Class:
- LOW - Cue "soft & easy" (30-50%)
- MODERATE - Cue "move more water"- "push harder" - (50-70%)
- HIGH - Cue "use more power and force" - "make white water" (70-90%)
- Use surface area
- Include What, How & Why in your cueing

Measuring Intensity

- Heart rate monitors
- Palpating heart rate
- Rate of Perceived Exertion (Borg Scale)
- Talk Test

- Teach and use it every day
- Engage students in feeling and understanding both effort & intensity

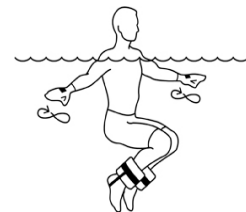
Deep Water Skills

Sculling
- for balance and control

Awareness
- role of the core stabilizers to maintain alignment and posture

Sculling

Tuck & Hold

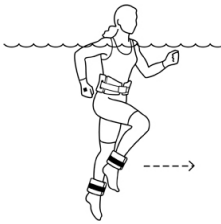


Advanced Exercises

- RUN / Rotator Cuff Sweep
- RUN / Steep Climb
- RUN / Power Shoulder Press
- X-C Ski Overstride
- Straddle Run / Paddle Pull
- Straddle Run / Incline Climb
- Tuck & Boogie
- Shuffle

RUN

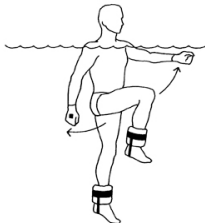
Travel FORWARD - 5% *body lean*



A line drawing of a person in athletic wear running forward. The person's torso is tilted slightly backward from the vertical, and their arms are in a running motion. A dashed arrow points to the right, indicating the direction of travel.

STEEP CLIMB

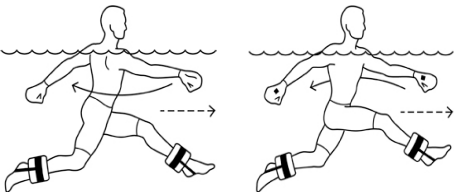
- Travel FORWARD
Power Shoulder Pump



A line drawing of a person in athletic wear performing a steep climb. The person is leaning forward with one leg raised and bent at the knee, as if pushing off. Arrows indicate the movement of the arms and legs.

X-COUNTRY SKI

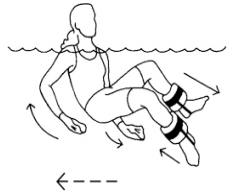
Overstride / Travel FORWARD



Two line drawings of a person in athletic wear performing X-country ski overstride. The first drawing shows the person in a forward-leaning position with one leg extended forward. The second drawing shows the person in a similar position but with the other leg extended forward, illustrating the overstride motion. Dashed arrows indicate the direction of travel.

TUCK and BOOGIE

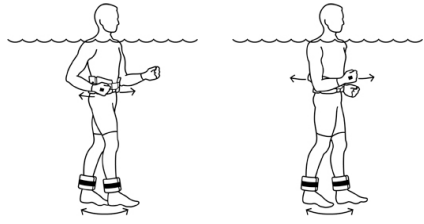
Travel Back



A line drawing of a person in athletic wear performing a tuck and boogie exercise. The person is leaning backward with their arms and legs tucked. A dashed arrow points to the left, indicating the direction of travel.

SHUFFLE

Arms Pump at Sides



Two line drawings of a person in athletic wear performing a shuffle exercise. The person is standing upright with their arms extended horizontally to the sides. Arrows indicate the movement of the arms and feet.

Workout Segments

- #1 WARM-UP SET 8-10 min
 - On the Track / Off the Track
 - Aerobic Endurance - Running on the Track
 - Muscular Strength - Strength Sets Off the Track
- #2 CHANGE UP SET 8-10 min
 - All On the Track
 - Aerobic Endurance - Running on the Track
 - Active Recovery - Easy Laps on the Track

Workout Segments

- #3 SPRINT INTERVAL SET 8-10 min
 - On the Track / Off the Track
 - High Intensity Training - Sprints On the Track
 - Active Recovery - Stationary Off the Track
- #4 SPORT-CROSS SET 8-10 min
 - All On the Track
 - Conditioning and Balance - Navigate Obstacles
 - Speed & Agility - Cadence Training

Workout Segments

- #5 WARM DOWN SET 8-10 min
 - All On the Track
 - Active Recovery Ease Down
 - Dynamic Lower Body Stretching

Rules of Engagement

- Train within limits
- Use progression
- Time precisely
- Rehearse for success
- Repeat to enhance results

Your Role as Coach

- Give your students the power
- Involve them in fun ways
- Keep their eye on the prize
- Motivate, coach & correct
- Praise their successes
- Notice the individual

To the Pool

- 1st - Choose buoyancy equipment
 - Belt only
 - Belt + Mini Cuffs
 - Mini Cuffs only - ?
 - HYDRO-FIT Cuffs - MAXIMUM Workout
- 2nd - Put on webbed gloves
 - Regular WAVE WEBS
 - WAVE MITTS