

Learning Objectives

Review the scientific principles of deep water training.

Understand the differences between gravity assisted/resisted exercise and gravity-neutral exercise.

Learn techniques for developing postural awareness, balance and coordination in the buoyant environment.

Explore deep water training options.

- Interval Training Resistance Training
- Circuit Training Non-linear Patterns

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 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

Elements of Change

- Stationary vs Travel
- Change direction
- Change plane of movement
- Change lever length
- Change force / cadence
- Change surface area
- ALL are *transitions*

Deep Water Skills

Sculling

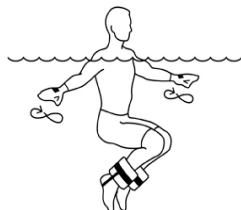
- for balance and control

Awareness

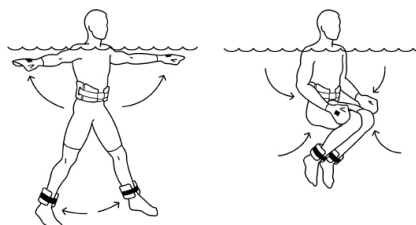
- role of the core stabilizers to maintain alignment and posture

Sculling

Tuck & Hold



TUCK JACKS



Advanced Exercises 1

- RUN / Power Shoulder Press
- RUN / Rotator Cuff Sweep
- RUN / Steep Climb
- RUN / Single Power Shoulder Press

RUN

Travel - FORWARD / Rotator Cuff Sweep

Advanced Exercises 2

- SIT KICK / Shoulder Press Travel - F
- SIT KICK / Shoulder Scoop Travel - B
- SIT KICK / Rotator Cuff Sweep Travel - F
- SIT KICK / Chest Sweep Travel - B
- SIT KICK / Reach & Rotate - Stationary
- TUCK JACKS / Chest Sweep Travel - B
- TUCK JACKS / Sweep Back - Travel - F

SIT KICK

Scull

Advanced Exercises 3

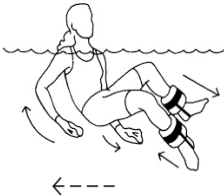
- X-C SKI / Rotator Cuff Sweeps
- X-C SKI / Travel - F
- X-C SKI / Travel - B
- X-C SKI HOLD / Travel - F
- X-C SKI HOLD / Travel - B
- SHUFFLE
- TUCK & BOOGIE

X-COUNTRY SKI

Alternate Sweep / Travel Back

TUCK and BOOGIE

Travel Back



Sample Interval - 1

- Build Up Block
 - Stationary Work Interval Low intensity 30 secs
 - Travel BACK Interval Moderate 30 secs
 - Stationary Work Interval Moderate 30 secs
 - Travel FORWARD Interval High intensity 30 secs

- Work to Recovery Ratio = 3 to 1
- Considerations for Biomechanical Balance?

Sample Interval - 2

- Pyramids
 - Stationary Work Interval Low intensity 30 secs
 - Stationary Work Interval Moderate 30 secs
 - Stationary Work Interval High intensity 30 secs
 - REPEAT - *in reverse order*

- Work to Recovery Ratio = 4 to 1
- Considerations for Biomechanical Balance?

Sample Interval - 3

- Circuit Wave
 - Stationary Work Interval Low intensity 30 secs
 - Free-Form Travel Interval Moderate 60 secs
 - Stationary Work Interval High intensity 30 secs
 - REPEAT the Set 3 X

- Work to Recovery Ratio = 4 to 1
- Considerations for Biomechanical Balance?

Sample Interval - 4

- Circuit-Joint Resistance Training
 - Interval - 1 30 secs Short lever/upper body
 - Interval - 2 30 secs Long lever/lower body
 - Interval - 3 30 secs Long lever/upper body
 - Interval - 4 30 secs Short lever/lower body

- Muscular Endurance Training Set
- Considerations for Biomechanical Balance?

Equipment Options

- WAVE BELT Buoyancy Belt
- WAVE BELT with Mini Cuffs
- Mini Cuffs - only ?
- HYDRO-FIT Cuffs
- Webbed Gloves
- Hand Buoys