



Course Title: **Aquatic Options 1**
Special Populations and Post Rehab Fitness Training

Produced by: **Fitness Learning Systems**
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Course Type: **e-Learning Home Study**

Credit hours: AEA 5.0, ACSM 5.0, ATRI 0.5, NFPT 1.0, NCSF 2.5,
YMCA 5.0, NSPA 5.0, COPS-KT 0.5

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Monique is the founder and president of The Personal Health Trac in Venice, Florida. She is an international presenter, training specialist for the Aquatic Exercise Association, and co-author of The Aquatic After Care Training Manual. As a certified medical exercise specialist, post rehab specialist and personal trainer, Monique designs both land and water exercise programs to fit her client's needs.

Judi Powers MS Clinical Exercise Physiology

Judi is the corporate wellness specialist at MidMichigan Medical Center in Midland Michigan. She creates exercise programs for transitional clients from physical therapy and cardiac rehabilitation. Her teaching resume includes training specialist for Aquatic Exercise Association, American College of Sports Medicine, Aerobics & Fitness Association, and Fitness Resource Associates for past 22 years.

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Laurie is the assistant director of operations for the Aquatic Exercise Association, an AEA training specialist and a Bender Method master trainer. She is the co-author of a book on special populations & post-rehab aquatic fitness and enjoys traveling internationally to share her unique and personally developed aquatic training methods.

Course Summary:

This course is the first module of a two-part series. The information presented in this series is the resource material used in the Aquatic Options: Special Population & Post

Rehab Fitness Training Certificate course.

Aquatic Options was specifically designed for aquatic fitness professionals, Personal Trainers, Physical Therapy Assistants, Occupational Therapy Assistants, Recreational Therapists, and any other professional working with special populations and post rehab individuals in the aquatic environment.

This course will review important fitness training guidelines and help you better understand how to integrate progressive aquatic fitness exercises for shoulder, knee and hip orthopedic considerations and low back pain.

Objectives:

After completing this course you will:

1. Learn and understand professional responsibilities associated with Standard of Care and Risk Management when working with special populations and post rehab clients.
2. Identify exercise principles for cardiorespiratory, resistance, and flexibility training.
3. Describe aquatic support stances for resistance and flexibility training.
4. Understand the difference between open and closed chain exercises.
5. Learn how to monitor intensity in the aquatic environment including an understanding of aquatic heart rate responses, objective and subjective measures of intensity, and the affects of medication on resting and exercise heart rates.
6. Review shoulder, vertebral column, hip, and knee anatomy.
7. Identify, list, and describe exercise goals, recommendations, movements to avoid, and specific aquatic exercises for orthopedic conditions for the shoulder, vertebral column, hip, and knee including:
 - Shoulder impingement
 - Rotator cuff
 - Low back pain
 - Sciatica
 - Total hip replacement
 - Total knee replacement
 - Meniscal injury and patellofemoral syndrome
 - Anterior cruciate ligament conditions

Outline:

Getting Started
Professional Decision Making
Standard of Care
Aquatic Therapy vs. Aquatic Exercise

Risk Management:

- Emergency Action Plans
- Environmental Issues
- Medical Issues and Precautions

Fitness Training Guidelines

- Aquatic Support Stances for Resistance and Flexibility Training
- Choosing Appropriate Exercises: Closed Chain versus Open Chain
- Heart Rate Response to Exercising in Water
- Measuring Intensity in the Aquatic Environment :
 - Objective Measures of Intensity
 - Subjective Measures of Intensity

Heart Rate and Medications

Aquatic Options for Orthopedic Conditions

The Shoulder:

- Shoulder Anatomy Review
- Shoulder Impingement
- Rotator Cuff
- Program Goals
- Movements to Avoid during Exercise
- Exercise Recommendations
- Introduction to Upper Extremity Exercises
- Upper Extremity Resistance Training Exercises:
 - Scapular Retraction & Depression
 - Poolside Wall Push Away
 - Shoulder Abduction & Adduction
 - Transverse Shoulder Abduction & Adduction
 - External (lateral) Shoulder Rotation
 - Internal (medial) Shoulder Rotation
 - Pendulum
 - Aquatic Row
 - Elbow Flexion & Extension
 - Upper Extremity PNF D1 Flexion- Extension Pattern
 - Upper Extremity PNF D2 Flexion- Extension Pattern

Upper Extremity Static Stretch Exercises:

- Cervical Stretch
- Anterior Shoulder Stretch
- Posterior Shoulder Stretch
- Upper Back Stretch
- Internal Shoulder Rotator Stretch
- External Shoulder Rotator Stretch
- Triceps Stretch
- Biceps and Supinator Stretch
- Pronator Stretch
- Supinator Stretch
- Wrist Flexor and Extensor Stretch

The Vertebral Column:

- Vertebral Column Anatomy Review
- Low Back Pain

Sciatica

Program Goals

Movements to Avoid during Exercise

Exercise Recommendations

Vertebral Column Resistance Training Exercises:

- Single Leg Cycle
- Hip Flexion & Extension
- Knee Flexion & Extension
- Single Leg Press
- Aquatic Row
- Hip Flexion & Extension using Rubberized Resistance
- Knee Flexion & Extension using Rubberized Resistance
- Single Leg Press using Rubberized Resistance
- Aquatic Row using Buoyant Equipment
- Shoulder Abduction & Adduction using Buoyant Equipment
- Diagonal Chest Press using Buoyant Equipment
- Single Arm Stir using Buoyant Equipment
- Upper Extremity PNF D2 Flexion- Extension Pattern
- Lower Extremity PNF D1 Flexion- Extension Pattern
- Lower Extremity PNF D2 Flexion- Extension Pattern

Vertebral Column Static Stretches:

- Side Trunk Stretch
- Low Back Stretch

The Hip:

Hip Anatomy Review

Total Hip Replacement (THR)

Program Goals

Movements to Avoid

Exercise Recommendations

Total Hip Replacement Resistance Training Exercises:

- Mini Squat
- Terminal Knee Extension
- Aquatic Cycling
- Hip Flexion and Extension
- Hip Abduction and Adduction
- Single Leg Mini Squat
- Terminal Knee Extension using Buoyant Equipment
- Hip Flexion and Extension using Buoyant Equipment
- Hip Abduction and Adduction using Buoyant Equipment
- Lateral Step Up

Lower Extremity Static Stretches:

- Hip Figure Four Stretch
- Hip Flexor and Quadriceps Stretch
- Hamstrings Stretch
- Gastrocnemius Stretch
- Anterior Tibialis Stretch

The Knee:

Knee Anatomy Review

Program Goals

Exercise Recommendations

Total Knee Replacement (TKR) or Total Knee Arthroplasty (TKA):

Movements to Avoid during Exercise

Exercise Recommendations

Total Knee Replacement Resistance Training Exercises:

- Mini Squat
- Terminal Knee Extension
- Aquatic Cycling
- Single Leg Press
- Single Leg Mini Squat
- Plantar Flexion
- Knee Flexion (with hip neutral) using Buoyant Equipment
- Lower Extremity PNF D1 Flexion- Extension Pattern
- Lower Extremity PNF D2 Flexion- Extension Pattern

Lower Extremity Static Stretches:

- Hip Figure Four Stretch
- Hip Flexor and Quadriceps Stretch
- Hamstrings Stretch
- Gastrocnemius Stretch
- Anterior Tibialis Stretch

Meniscal Injury and Patellofemoral Syndrome (PFS):

Movements to Avoid during Exercise

Exercise Recommendations

Meniscus and PFS Resistance Training Exercises:

- Mini Squat
- Terminal Knee Extension
- Aquatic Cycling
- Hip Flexion and Extension
- Hip Abduction and Adduction
- Plantar Flexion
- Single Leg Mini Squat
- Terminal Knee Extension using Buoyant Equipment
- Hip Flexion and Extension using Buoyant Equipment
- Knee Flexion and Extension
- Knee Flexion (with hip neutral) using Buoyant Equipment
- Knee Extension (with hip flexed) using Buoyant Equipment
- Lateral Step Up
- Hip Abduction and Adduction using Buoyant Equipment
- Lower Extremity PNF D1 Flexion- Extension Pattern
- Lower Extremity PNF D2 Flexion- Extension Pattern

Lower Extremity Static Stretches:

- Hip Figure Four Stretch
- Hip Flexor and Quadriceps Stretch
- Hamstrings Stretch
- Gastrocnemius Stretch
- Anterior Tibialis Stretch

Anterior Cruciate Ligament (ACL):

Movements to Avoid during Exercise

Exercise Recommendations

ACL Resistance Training Exercises:

- Mini Squat
- Terminal Knee Extension
- Hip Flexion and Extension
- Knee Flexion and Extension
- Plantar Flexion
- Aquatic Cycling
- Single Leg Press
- Lateral Step Up

Lower Extremity Static Stretches:

- Hip Figure Four Stretch
- Hip Flexor and Quadriceps Stretch
- Hamstrings Stretch
- Gastrocnemius Stretch
- Anterior Tibialis Stretch

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