Table of Contents

**Introduction**: Benefits of an Aquatic Therapy Program
- Physiological Benefits
- Psychological Benefits
- Summary

**Part I: Designing an Aquatic Therapy Program**

*Chapter 1. Applying Hydrodynamics to Aquatic Therapy*
- The Physical Properties of Water
- Using Buoyancy to Achieve Various Positions
- Using Buoyancy to Grade Exercises
- Using Water's Density and Viscosity to Alter Resistance
- Using Curvilinear and Angular Movements to Grade Exercises
- Using Curvilinear Motions to Improve Movement Efficiency
- Using the Physical Laws of Motion
- Summary

*Chapter 2. Using Water Depth to Enhance Movement*
- Early Treatment
- Intermediate Treatment
- Late Treatment
- Summary

*Chapter 3. Incorporating Pool Equipment to Facilitate Exercise*
- Buoyancy Assistance Devices
- Buoyancy Support Devices
- Stabilization Devices and Methods
- Resistance Training Equipment and Methods
- Endurance Conditioning Equipment
- Summary

*Chapter 4. The Six-Phase Plan of Care*
- Format for Sessions
- Phase I: Assessment and Early Treatment
- Phase II: Strengthening and Local Muscular Endurance
- Phase III: Balance, Coordination, and Cardiovascular Conditioning
- Phase IV: Task-Related and Sport-Simulated Skills Development
- Phase V: Transitional Aquatic Therapy
- Phase VI: Maintenance and Fitness
- Markers: When to Progress the Client
Part II: Implementing the Six-Phase Plan of Care for the Lower Extremities

Chapter 5. The Pelvis, Hip, and Thigh
- Contusions to the Iliac Crest
- Gluteal Strain
- Quadriceps Strain
- Hamstrings Strain
- Adductors Strain
- Degenerative Joint Disease of the Hip

Chapter 6. The Knee
- Anterior Cruciate Ligament Sprain
- Medial Collateral Ligament Sprain
- Meniscal Injuries
- Chronic Anterior Knee Pain
- Degenerative Joint Disease of the Knee

Chapter 7. The Lower Leg, Ankle, and Foot
- Achilles Tendon Strain
- Gastrocnemius Strain
- Acute Ankle Sprains
- Avulsion Fracture of the Upper Tibia With Lateral Malleolus Fracture
- Tibia-Fibula Fracture
- Achilles Tendinitis
- Chronic Anterior Leg Pain, Stress Fractures, and Plantar Fasciitis

Chapter 8. Exercises for the Lower Extremities
- Walking Patterns (Shallow Water)
- Stride Walking (Deep Water)
- Cycling (Deep Water)
- Squats (Shallow Water)
- Lunges (Shallow Water)
- Unilateral Hip Flexion and Extension (Shallow Water)
- Hip Abduction and Adduction (Shallow Water)
- Bilateral Abduction and Adduction (Deep Water)
- Internal and External Hip Rotation (Shallow Water)
- Hip Circles (Deep Water)
- Lower Extremity PNF Diagonals
- Knee Flexion and Extension (Shallow Water)
- Knee Flexion and Extension (Deep Water)
- Ankle and Foot Exercises (Shallow or Deep Water)
- Toe Raises (Shallow Water)
- Heel Rock (Shallow Water)
- Bench Stepping (Shallow Water)
Part III: Implementing the Six-Phase Plan of Care for the Upper Extremities

Chapter 9. The Shoulder

- Rotator Cuff Tendinitis and Impingement Syndrome
- Postsurgical Decompression or Rotator Cuff Repair
- Adhesive Capsulitis
- Acute and Recurrent Glenohumeral Dislocation
- Acromioclavicular Joint Sprain
- Sternoclavicular Sprain and Fracture of the Clavicle, Scapula, or Humerus

Chapter 10. The Elbow, Wrist, and Hand

- Injuries to the Elbow
- Fractures and Sprains of the Wrist and Hand

Chapter 11. Exercises for the Upper Extremities

- Shoulder Circumduction (Shallow Water)
- Shoulder Flexion and Extension (Shallow Water)
- Shoulder Lateral Abduction and Adduction (Shallow Water)
- Shoulder Horizontal Abduction and Adduction (Shallow Water)
- Shoulder Internal (IR) and External Rotation (ER) (Shallow Water)
- Blackburn Shoulder Exercises (Shallow or Deep Water)
- Wand Exercises (Shallow or Deep Water)
- Scapular Motions (Shallow Water)
- Upper Extremity PNF Diagonals
- Elbow, Forearm, Wrist, and Hand Exercises (Shallow Water)
- Vertical Sculling Patterns (Shallow Water)
- Horizontal Sculling Patterns (Shallow or Deep Water)
- Swimming Strokes (Shallow or Deep Water)
- Sport-Simulated and Task-Oriented Skills
- Upper Extremity Stretching Exercises (Shallow Water)
- Stretching for the Elbow Flexors and Extensors

Part IV: Implementing the Six-Phase Plan of Care for the Spine

Chapter 12. The Lumbar Spine

- Diagnostic Classification of Activity-Related Low Back Pain
- Patient Classification
- Treatment
Chapter 13. The Thoracic and Cervical Spine

Outline:
- Thoracic Spine Pain
- Cervical Spine Pain

Chapter 14. Exercises for the Trunk and Neck

Outline:
- Early Trunk and Neck Motions
- Cervical and Lumbar Traction (Deep Water)
- Pelvic Stability and Trunk Exercises (Shallow and Deep Water)
- Proprioceptive and Endurance Activities

Part V: Managing Aquatic Therapy Programs

Chapter 15. Risk Management and Safety Planning

Outline:
- Understanding Legal Responsibility and Terminology
- Safety in Pool Design
- Signage and Safety Markings
- Safety and Rescue Equipment
- Pool Maintenance
- Other Facility Concerns
- Staff Training
- Participant Evaluation and Screening
- Handling Emergencies

Chapter 16. Designing an Aquatic Therapy Facility

Outline:
- Building a New Pool
- Design Elements of an Aquatic Therapy Pool
- Special Pool Features
- Pools for Small Spaces
- Adapting a Traditional Pool for Therapeutic Use

Appendix A. Health/Fitness Form for Aquatic Therapy
Appendix B. Aquatic Skills Checklist
Appendix C. Guidelines for Progressive Resistance Exercise (PRE) Training
Appendix D. Guidelines for Cardiovascular Conditioning
Appendix E. Guidelines for a Self-Stretching Program
References
Suggested Readings
Index
About the Author