Aquatic Therapy and Rehabilitation Industry Standards

A multidisciplinary committee of aquatic therapy professionals has created Standards for the Aquatic Therapy and Rehabilitation Industry. The project was completed over a two-year period, with written and oral input from therapists across the US and Canada.

The committee was made up of representatives from various disciplines including Physical Therapy, Occupational Therapy, Kinesiotherapy, Recreation Therapy, Athletic Training, Exercise Physiology, Aquatic Exercise, Massage Therapy, Physical Education and Adapted Aquatics. In addition, representatives of therapy management, the YMCA, the Arthritis Society, aquatic safety, aquatic and therapy academics, the legal profession and the Canadian therapy industry served on the committee to add their perspective to the project.

The goal of the Standards Committee was "to create standards for aquatic therapy and rehabilitation practitioners that, if these base criteria are met, will demonstrate the knowledge to provide clients with safe aquatic therapy and/or rehabilitation."

The committee began by developing this definition: "Aquatic Therapy and Rehabilitation is the use of water and specifically designed activity by qualified personnel to aid in the restoration, extension, maintenance and quality of function for persons with acute, transient, or chronic disabilities, syndromes or diseases."

After the definition was finalized, these standards were developed:

I. Aquatic therapy and rehabilitation practitioners should have knowledge of Movement Mechanics and Science (anatomy, physiology, kinesiology and biomechanics) including knowledge of the cardiovascular, respiratory, circulatory, nervous, muscular and skeletal systems and their collective interactions; knowledge of basic anatomy, physiology and kinesiology concepts; knowledge of basic health care terminology; and knowledge of body terms, positions and movements.

II. Aquatic therapy and rehabilitation practitioners should have knowledge of aquatic principles including variations to movement quality using aquatic and physics concepts correctly, knowledge of how to choose equipment based on client need and goals, and knowledge of practical skills in aquatic therapy and rehabilitation.

III. Aquatic therapy and rehabilitation practitioners should have knowledge of basic principles and methods used in aquatic therapy and rehabilitation including indications, contraindications, precautions and opportunities for aquatic therapy and/or rehabilitation; knowledge of the client evaluation process; and knowledge of the treatment and prevention components.
IV. Aquatic therapy and rehabilitation practitioners should exhibit professional responsibility, including the proper education, certification, and/or license and training or their equivalent; knowledge of the allied health field; and knowledge of legal, ethical practices.

V. Aquatic therapy and rehabilitation practitioners should demonstrate health and safety consciousness by maintaining current certifications and training; they should be familiar with supervisory guidelines and possible emergencies; they should be able to maintain an overall risk management program, and personal and client safety.

VI. Aquatic therapy and rehabilitation practitioners should have knowledge of applicable regulations and legal considerations; comply with all applicable codes and laws relating to aquatics, therapy and rehabilitation; know and apply the limits of practice as they relate to base competencies within the medical system; and generally know basic reimbursement factors.

Full definitions of each standard are available below.

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AQUATIC THERAPY
AND
REHABILITATION

STANDARDS
FOR
THE
INDUSTRY

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STANDARDS FOR THE AQUATIC THERAPY AND REHABILITATION INDUSTRY

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I. Aquatic therapy and rehabilitation practitioners should have knowledge of Movement Mechanics and Science (anatomy, physiology, kinesiology and biomechanics) including knowledge of the cardiovascular, respiratory, circulatory, nervous, muscular and skeletal systems and their collective interactions; knowledge of basic anatomy, physiology and kinesiology concepts; knowledge of basic health care terminology; and knowledge of body terms, positions and movements.

They should be able to apply basic anatomy, physiology and kinesiology concepts including but not limited to Cardiorespiratory/circulatory venous return central venous pressure pulmonary blood flow physiology maximal myocardial oxygen consumption cardiac output oxygen consumption stroke volume

Neuromuscular/skeletal planes/axes levers articulations muscle balance physiological principles physical fitness components principles of training joint range muscular contractions central and peripheral nervous systems changes major postural deviations (including consideration of general landmarks) and potential injury proper body alignment (static and with movement in and out of the water)

They should be able to use basic health care terminology including but not limited to basic references and standards basic structure (prefixes, suffixes, abbreviations and acronyms) of medical terminology terminology pertinent to disease conditions encountered in the Aquatic Therapy and Rehabilitation setting

And they should be able to describe body terms, positions and movements including but not limited to anterior / posterior / superior ventral / dorsal / lateral / medial / supine / prone sagittal / frontal (coronal) / transverse / multiplanar / anatomical position flexion / horizontal flexion / extension / horizontal extension / hyperextension / agonist / antagonist
abduction / adduction / horizontal abduction / horizontal adduction /
circumduction
rotation / opposition / dorsiflexion / plantar flexion
supination / pronation / inversion / eversion / elevation / depression
concentric / eccentric / inferior
proximal / distal

II. Aquatic therapy and rehabilitation practitioners should have knowledge of
aquatic principles including variations to movement quality using aquatic and
physics concepts correctly, knowledge of how to choose equipment based on client
need and goals, and knowledge of practical skills in aquatic therapy and
rehabilitation.

they should be able to apply variations to movement quality using aquatic and
physics concepts correctly including but not limited to

resistance
drag forces frontal area/bow wave surface tension
turbulent (resistant) flow laminar (streamlined) flow viscosity
eddy drag skin friction tail suction
Bernoulli’s principle

buoyancy
specific gravity Archimedes principle buoyancy resisted
force absorption buoyancy assisted buoyancy supported
center of gravity center of buoyancy relative density
suspended moves rebound moves

acceleration
mass speed force

fluid properties
hydrostatic pressure specific heat thermal conductivity
refraction Pascal’s law

physics concepts relating to water
action vs. reaction leverage range of motion
traction inertia momentum

they should be able to choose equipment based on client need and goals by
knowing the indications and contraindications of general aquatic equipment
being familiar with the principle underlying selected equipment
being familiar with equipment rationale and protocols
they should know practical skills in aquatic therapy and rehabilitation such as
role of positioning
specific functional biomechanics
body alignment
breath control

III. Aquatic therapy and rehabilitation practitioners should have knowledge of
basic principles and methods used in aquatic therapy and rehabilitation including
indications, contraindications, precautions and opportunities for aquatic therapy
and/or rehabilitation; knowledge of the client evaluation process; and knowledge of
the treatment and prevention components.

describing the indications, contraindications, precautions and opportunities
for aquatic therapy and/or rehabilitation through but not limited to
the basic pathologies and conditions and their response to immersion
the effects of hydrophysics on bone density; circulation; muscle tone and balance; the
visual, auditory and tactile senses; urine output and spasticity
the application of hydrophysics for treatment
the utilization of patient position changes to vary treatment effects
the positive lifestyle change enhancement (recreational, social, fitness) and appropriate
community based referrals

describing the client evaluation process, including but not limited to
clinical and aquatic assessment of client situation
functional improvement goals for both water and land
program development
treatment and intervention prioritization related to functional activity needs of the client

they should be aware of treatment and prevention components including but not
limited to
the purpose of each activity
the quantification of short term and long term goals
the procedures, equipment, frequency, duration and intensity of treatment
the referral to other professionals in treatment program as appropriate
listing examples of suggested protocols and/or treatment techniques for the identified
dysfunction
IV. Aquatic therapy and rehabilitation practitioners should exhibit professional responsibility, including the proper education, certification, and/or license and training or their equivalent; knowledge of the allied health field; and knowledge of legal, ethical practices.

they should have the proper education, certification, and/or license and training and continually expanding knowledge

they should understand the allied health field including
the ability to make effective and timely referrals as defined by each discipline's professional organization

they should follow legal, ethical practices including
respecting confidentiality
complying with laws and regulations
practicing informed consent, non-discrimination, beneficence ("do no harm"), and fiduciary responsibility to the consumer
acknowledging patient concerns, rights, and responsibilities
reasonable and appropriate consumption of resources
appropriate documentation

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V. Aquatic therapy and rehabilitation practitioners should demonstrate health and safety consciousness by maintaining current certifications and training; they should be familiar with supervisory guidelines and possible emergencies; they should be able to maintain an overall risk management program, and personal and client safety.

they should have current certifications and training to demonstrate professionalism with certification by a national organization recognized in their discipline, in the field of aquatic therapy and an emergency certification.

they should have the ability to maintain personal safety and client safety including awareness of immersion time, thermoregulatory issues, transfers, entry and exit, equipment and body positioning, and communication avenues.

they should have knowledge of supervisory guidelines including surveillance issues and requirements, precautions and contraindications, infection control policies, and understanding of bioethics.
they have responsibility to recognize emergencies and precursors to emergency situations including the knowledge to perform facility evaluations and daily inspections with regards to safety, water chemistry, air and water temperatures, humidity, and pool closure factors.

they should understand and implement an overall risk management program including legal issues, rescue plan, extrication options, ADA and OSHA requirements, state/local codes, and an Emergency Action Plan (EAP) written in compliance with guidelines.

VI. Aquatic therapy and rehabilitation practitioners should have knowledge of applicable regulations and legal considerations; comply with all applicable codes and laws relating to aquatics, therapy and rehabilitation; know and apply the limits of practice as they relate to base competencies within the medical system; and generally know basic reimbursement factors.

they should comply with all applicable codes and laws relating to aquatics, therapy and rehabilitation by
meeting the standards of care from both the aquatic and therapy/rehabilitation professions
being covered by corporate, facility and/or individual personal liability insurance
knowing the plan of facility operation including outlined policies and procedures with defined structure, process and outcome criteria
citing the department of health regulations (city, county, state) regarding pool and therapy pool facility requirements
following state practice guidelines regarding activity restricted to a specific profession
having medical information forms for physician referral

they should know and apply the limits of practice as they relate to base competencies within the medical system with a plan for continuity of care through collaboration with other professionals stating limits of professional qualifications in knowing legal limits, operating within those limits, and referring to other professionals when necessary regarding "best practice" treatment plan within a health care continuum

they should know basic reimbursement factors including but not limited to which services are generally private pay and which are reimbursable how to document outcomes terminology for Managed Care, PPO's, HMO's, medicare, workman's compensation and per diem reimbursements how to determine competitive and reasonable rates for private pay clients
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The Standards and Steering Committees utilized the following as their definition of Aquatic Therapy and Rehabilitation:

*The use of water and specifically designed activity by qualified personnel to aid in the restoration, extension, maintenance and quality of function for persons with acute, transient, or chronic disabilities, syndromes or diseases.*

These standards are designed to separate the aquatic therapy practitioner from land-based therapists and from aquatic fitness professionals.

These standards should allow all practitioners in the field to bring themselves to a base level of knowledge in all six categories. Practitioners with different backgrounds will find themselves above or below standards in different categories. For instance, a Physical Therapist practicing in a clinic may fall short in the "Aquatic Principles" or "Health and Safety" categories where an Adapted Aquatics instructor practicing in the schools may fall short in "Principles and Methods Used in Aquatic Therapy."

Practitioners in some disciplines will have more extensive knowledge in specific categories. Each discipline will continue to specialize and have specific discipline standards, licenses, credentialing, and certifications.
Conforming to Standards does not make a practitioner an aquatic therapist.

The Standards and Steering Committees members are listed on the previous pages.

THE AQUATIC THERAPY & REHAB INSTITUTE, INC.

The Aquatic Therapy & Rehab Institute, Inc., is a nonprofit educational organization dedicated to the professional development of health care professionals involved with aquatic therapy. ATRI offers continuing education courses at conferences and workshops that will advance the knowledge and skills of the aquatic therapist.

ATRI provides information to the public on aquatic therapy topics.

ATRI works with organizations whose members are health care professionals to serve them in the area of aquatic therapy.