

ORGANIZATION NEWS

Information/Education Page

Aquatic Exercise for People With Spinal Cord Injury



What is aquatic exercise?

Aquatic exercise is any water-based movement as therapy or exercise in a community or personal pool. Swimming; aerobic, strengthening, and balance training; Ai Chi; or Zumba in water can be beneficial for individuals with spinal cord injury (SCI).

What are the benefits of aquatic exercise?

For people with SCI, aquatic exercise provides advantages over land exercise programs. Individual and group workouts can occur easily in water, and family and friends are able to participate. Most importantly, water allows freedom of movement restricted by gravity during land exercise.

Water naturally supports your body weight, allowing you to move body parts that are difficult for you to move on land. You may also be able to walk or run in the water even if on land you use a wheelchair for mobility. Water pressure (hydrostatic) improves body awareness by signaling sensory receptors as well as reduces swelling. Warm water helps with muscle spasms, promotes relaxation, and may give pain relief. If you work hard in the water doing aerobic exercise or strength training, cooler water is better. If aquatic exercise seems right for you, more information is needed before you get in a pool.

Precautions and contraindications

You should check with your doctor or therapist before starting any exercise program including aquatic activity.

Precautions (what may stop you from aquatic exercise)

- Heart or lung conditions
- Unstable heart rate or blood pressure
- Incontinence: if your bowel and bladder program are inconsistent
- Severe/chronic ear infection (not a problem if head remains out of the water)
- Braces, assistive devices: no plaster casts, with fiberglass a water-tolerant liner is needed

(continued)

- Pregnancy: water temperature should be below 90°
- Anxiety about being in the pool
- Open skin areas: may be able to be covered by bio-occlusive dressing; ask a therapist for help with this decision
- Lines and tubes: tracheostomy, percutaneous endoscopic gastrostomy, supra pubic tube

Contraindications (do not try aquatic exercise)

- Uncontrolled seizure activity
- Fear of being in the water
- Fragile medical condition that places you at risk while in the aquatic environment

Planning for a pool session—Things to think about

- Blood pressure: If your blood pressure runs low, you will need to be careful when exiting the pool. The water will apply pressure to your body and maintain your blood pressure, and your blood pressure may fall as you exit the pool. To avoid a drop in blood pressure, you may want to wear compression stockings on your legs if you use them regularly. You should also exit the pool slowly to allow your body to adjust.
- Bowel care: You need a regular, reliable bowel routine. If you experience bowel incontinence routinely, you should *not* participate in aquatic therapy/exercise. If your bowel program does not result in predictable bowel movements, talk to your health care team about solutions.
- Skin integrity: Do not enter the pool if your skin is open or cut, including pressure ulcers. Some small open skin areas may be covered with bio-occlusive dressings. Contact your therapist to determine whether you can engage in aquatic therapy/exercise with a skin opening or with medical devices such as indwelling catheters, colostomies, or intravenous therapies. Moisture will make your skin more likely to break down, so change out of your swimming clothing immediately after exiting the pool and dry off completely. Check your skin after swimming to make sure there are no new skin issues.
- Respiratory function: Being in the pool can improve your respiratory function, but it can also make breathing more difficult during exercise, depending on your injury level. If you have a tracheostomy, pool therapy is contraindicated in most cases.

How can I locate an accessible pool?

Many community pools are easily accessible by individuals with SCI. There are things to think about to get into the pool more easily. Call ahead and ask questions to avoid potential issues.

- **Building accessibility:** Choose a pool with an accessible parking area from which you can travel to and from the pool and changing area easily. Be aware of the hours the building and pool facilities are open.
- **Changing areas:** Change into dry clothes after getting out of the pool because wet skin is more prone to skin breakdown. Is there an area where you can get out of your wheelchair to change? If you require a caregiver who is of the opposite sex, is there a private changing area available?
- **Personal care:** If you need assistance with your personal care, bring this person to the pool with you.
- **Pool lifts:** Is there a lift to enter and exit pool? If so, what is the weight capacity? Many community pools found in gyms, hotels, and recreational facilities offer pool lifts (fig 1). Some pool floors can be raised and lowered for entry and exit. Identify a backup power supply or exit plan in the event of power outage.
- **Pool personnel:** Only consider pools with professional lifeguards on duty. Also, some pools offer fitness professionals leading exercise classes or swim lessons.
- **Equipment:** What equipment is available? Kickboards, waist belts, aqua barbells, and leg cuffs are available at many community pools. You should bring your own water shoes or socks (to protect your feet from scrapes) and goggles if you need them (fig 2).
- **Pool temperature:** Some people with SCI experience difficulty regulating their body temperature. For this reason, the preferred water temperature is 87°F to 89°F (thermoneutral) for active



Fig 1 Pool accessibility lift.



Fig 2 Aquatic exercise equipment.

therapy and 90°F to 92°F for individuals who are unable to heat their own body.

Water safety screening

Although aquatic exercise is beneficial, water safety is the most important issue to consider. It is best to try aquatics for the first time with a therapist who can teach you basic water skills to keep you safe.

Water safety activities include:

- holding your breath for 30 seconds
- rolling from floating on your stomach to your back
- standing up in the pool after floating horizontally
- blowing bubbles without swallowing water
- treading water for 20 to 30 seconds
- returning to the wall without assistance
- using the wall, ladder, or ledge to keep your head out of the water

Resources for providing more information about aquatic therapy/exercise

- Aquatic Physical Therapy Section of the American Physical Therapy Association website (www.aquaticpt.org) provides contact information on skilled aquatic practitioners as well as frequently asked aquatic questions/answers.
- The Model Aquatic Health Code (www.nspf.org/content/state-county-and-country-codes) outlines codes/guidelines to make pools healthier and safer.

Source

The information provided is based on research evidence whenever available.

Authorship

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