

# Aquatic Exercise for Older Adults

Engagement in physical activity is an important part of living a healthy lifestyle. We all know it, we've all heard it.



Despite this knowledge, nearly 80 percent of American adults are not meeting the standards for aerobic and muscle strengthening activity (*Physical activity guidelines for Americans*, 2018). Older adults should be striving for 150 minutes of *moderate-intensity aerobic* activity, 75 minutes of *vigorous aerobic* activity, and at least 2 days of muscle-strengthening activities (*Physical activity guidelines for Americans*, 2018). For older adults, the prevalence of inactivity for ages 65 to 74 years was 26.9% and 35.3% for those older adults 75 years of age and older (Watson et al., 2016). If the importance of physical activity is widely known, why are so many older adults living sedentary lifestyles?

## Barriers to Engagement

Often times, there are barriers to engagement in physical activity. If these barriers aren't addressed by health care professionals, then older adults can get stuck in a sedentary pattern. Two of these barriers are pain and lack of balance. Remaining sedentary can also lead to isolation from others and feelings of depression, which causes a person to have even less motivation to engage in exercise.

Pain can stem from a number of different conditions, such as osteoarthritis, rheumatoid arthritis, type 2 diabetes, cancer treatments, and normal wear and tear of muscles and joints. Balance issues can be caused

by a lack of physical activity, leading to weakness in the core and lower leg muscles. Activities like walking, jogging, dancing, biking, and weight-lifting can often exacerbate pain or be avoided entirely due to an adult's fear of falling. Not all hope is lost, however! Aquatic exercise classes, often called water aerobics, address these barriers. The classes are a multicomponent physical activity— meaning it includes aerobic, muscle strengthening, and balance training— that can alleviate pain and allow older adults to improve balance without fear of falling on a hard surface and getting injured. They are also group classes which allows for comradery and socializing among older adults.

## Healing Properties of Water

A majority of the literature on the benefits of aquatic exercise has focused on older adults with arthritis; therefore, that will be the main focus of the benefits outlined below. According to a 2020 systematic review, the “weight-relieving properties of water” allow for pain relief, easier joint movement, reduction in muscle stiffness, and muscle relaxation for people with osteoarthritis (Zampogna et al., 2020). Aquatic exercise significantly reduces pain levels and increases dynamic balance for older adults with knee and hip osteoarthritis (Zampogna et al., 2020).

What exactly are these properties of water that make it so beneficial? One property is buoyancy. Buoyancy is an upward force that acts in the opposite direction of the force of gravity, which means the further one's body is submerged underwater, the more of their body weight that is offloaded (Gangaway, 2010). When a person is standing waist deep in

water, 50 percent of their body weight is offloaded, and at shoulder depth, it increases to 85 percent (Gangaway, 2010). Buoyancy decreases compression stress on joints, which provides pain relief during exercise.

Another property is the 3-dimensional drag force, meaning forces are acting on the moving limbs from all 3 movement planes (Gangaway, 2010). This requires increased muscle coordination in order to move limbs in the desired direction through the water. Another factor is the temperature of the water. Warmer water temperatures increase the amount of stretch in body tissue which allows for greater range of motion (Gangaway, 2010).

These same properties are beneficial for improving balance control. The 3-dimensional resistance of the water challenges balance control from several different directions and, if the patient were to lose their balance, the water provides a soft-landing (Gangaway, 2010). This greatly reduces the risk of injury. The water allows for people who have struggled with traditional exercise to move with ease.

## **A Time to Socialize**

In addition to the physical benefits of aquatic exercise, this form of exercise has a social component that can increase motivation for and adherence to physical activity. A 2017 qualitative study on the benefits of aquatic exercise classes for older adults found that these classes provided older adults with social support and the opportunity to socialize (Mobily & Lenartz, 2017). Starting a new activity is difficult but sticking with it is often even harder. For older adults engaging in aquatic exercise classes, the

social support aspect was crucial to the initiation and continuity of the exercise (Mobily & Lenartz, 2017).

The connection between exercise adherence and social cohesion is not a new concept, but I think it works particularly well for aquatic exercise. Before becoming an occupational therapist, I worked as a swim instructor and lifeguard for nearly a decade. People tend to feel vulnerable getting into the water. Swimsuits reveal more than our everyday clothing and the water is a completely different environment since most of our daily activities are land-based. I've both observed and taught aquatic exercise classes for older adults and know that the social aspect was the main motivator for many. Feelings of isolation, loneliness, and depression are common as people age, and aquatic exercise classes are one way for older adults to gain social connectedness.

## **Achieving Occupational Engagement**

Aquatic exercise is a safe way for older adults experiencing pain and balance issues to achieve functional physical activity. A reduction in pain, increase in muscle strength and range of motion, and improvement in balance will allow older adults to engage in their occupations more easily. For example, showering (which one should do after being in a pool!) can be done independently when all of these areas improve. Range of motion is necessary for reaching up to wash hair, down to wash the lower body and reaching for shampoo, conditioner, and soap. Balance is necessary to remain standing while shifting one's center of gravity to reach for shower supplies, leaning head back to wash hair, and leaning forward to wash the

lower body. A reduction in pain will make it easier for a person to stand for an extended period of time in the shower.

Physical therapists can also help patients improve their physical functioning. They help patients develop an exercise plan to improve movement and reduce pain, so both the occupational therapist and physical therapist could recommend aquatic exercise to their patients. Physical therapists would supplement the aquatic exercise with land-based exercises to improve strength and mobility.

## Where do I go?

Now that the benefits of aquatic exercise have been addressed, one needs to be able to find a class! Most people don't have a pool readily available to them. The YMCA is a great space for these classes because they offer all different levels of difficulty and membership costs are often low. Below are links to a variety of facilities in the Lower Michigan area.

### **Coleman Young Community Center**

<https://detroitmi.gov/departments/parks-recreation/community-recreation-centers/coleman-young-community-center>

2751 Robert Bradby Dr. Detroit, MI 48207  
(313) 628-0995

### **Boll Family YMCA- Downtown Detroit**

<https://ymcadetroit.org/boll/>

1401 Broadway, Detroit, Mi 48226  
(313) 309-9622

## **Metro Detroit YMCA (multiple locations)**

<https://ymcadetroit.org/detroit-ymca-locations/>

Classes available:

<https://ymcadetroit.org/wellness/group-exercise/water-fitness/>

## **Huron Valley Recreation & Community Center**

<http://www.hvs.org/activities/hvrce/pools--fitness/>

*Lakeland High School Pools & Fitness Center:*

1630 Bogie Lake Road  
White Lake, MI 48383  
(248) 676-2341

*Milford High School Pools & Fitness Center:*

2380 S. Milford Road  
Highland, MI 48357  
(248) 676-2346

## **Ann Arbor YMCA**

<https://www.annarborymca.org/classes/senior/swimming/>

400 West Washington Street  
Ann Arbor, Michigan 48103  
(734) 996-9622

## Equipment

Some of the facilities above offer equipment for free to be used during these classes. If you would like to buy your own, here are some items that can enhance the workout.

### Water Dumbbells/Weights

These dumbbells add extra resistance during exercise!



<https://www.swimoutlet.com/p/sporti-aquatic-fitness-medium-dumbbells-water-weights-8168490/?color=210>

<https://www.walmart.com/ip/Trademark-Innovations-Aquatic-Exercise-Dumbbells-For-Water-Aerobics-Set-of-Two-in-Blue/52403256>

### Pool Noodle

These can be bought for a very low price and are used for stretching exercises.

<https://www.walmart.com/ip/Coast-Athletic-Famous-Foam-Pool-Noodles-4/604078544>





## **Water Aerobics Exercise Belt**

This belt allows you to float with your legs off the pool floor. It can be used for running in place or to allow more resistance training for your legs through the water.

[https://www.amazon.com/Flotation-Equipment-Resistance-Adjustable-Accessory/dp/B07PVPRJ4S/ref=pd\\_lpo\\_21\\_t\\_2/140-3381421-5235550?encoding=UTF8&pd\\_rd\\_i=B07PVPRJ4S&pd\\_rd\\_r=b468fc7b-a8b7-478c-9b60-f922280578dc&pd\\_rd\\_w=R6ErM&pd\\_rd\\_wg=mjYJN&pf\\_rd\\_p=7b36d496-f36](https://www.amazon.com/Flotation-Equipment-Resistance-Adjustable-Accessory/dp/B07PVPRJ4S/ref=pd_lpo_21_t_2/140-3381421-5235550?encoding=UTF8&pd_rd_i=B07PVPRJ4S&pd_rd_r=b468fc7b-a8b7-478c-9b60-f922280578dc&pd_rd_w=R6ErM&pd_rd_wg=mjYJN&pf_rd_p=7b36d496-f36)

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Zampogna, B., Papalia, R., Papalia, G. F., Campi, S., Vasta, S., Vorini, F., Fossati, C., Torre, G., & Denaro, V. (2020). The role of physical activity as conservative treatment for hip and knee osteoarthritis in older people: A systematic review and meta-analysis. *Journal of Clinical Medicine, 9*(4), 1-21. doi:10.3390/jcm9041167

Locations:

<https://detroitmi.gov/departments/parks-recreation/community-recreation-centers/coleman-young-community-center>

<https://ymcadetroit.org/boll/>

<https://ymcadetroit.org/detroit-ymca-locations/>

<https://ymcadetroit.org/wellness/group-exercise/water-fitness/>

<http://www.hvs.org/activities/hvrce/pools--fitness/>

<https://www.annarborymca.org/classes/senior/swimming/>

Equipment:

<https://www.swimoutlet.com/p/sporti-aquatic-fitness-medium-dumbbells-water-weights-8168490/?color=210>

<https://www.walmart.com/ip/Trademark-Innovations-Aquatic-Exercise-Dumbbells-For-Water-Aerobics-Set-of-Two-in-Blue/52403256>

<https://www.walmart.com/ip/Coast-Athletic-Famous-Foam-Pool-Noodles-4/604078544>

[https://www.amazon.com/Flotation-Equipment-Resistance-Adjustable-Accessory/dp/B07PVPRJ4S/ref=pd\\_lpo\\_21\\_t\\_2/140-3381421-5235550?encoding=UTF8&pd\\_rd\\_i=B07PVPRJ4S&pd\\_rd\\_r=b468fc7b-a8b7-478c-9b60-f922280578dc&pd\\_rd\\_w=R6ErM&pd\\_rd\\_wg=mjYJN&pf\\_rd\\_p=7b36d496-f36](https://www.amazon.com/Flotation-Equipment-Resistance-Adjustable-Accessory/dp/B07PVPRJ4S/ref=pd_lpo_21_t_2/140-3381421-5235550?encoding=UTF8&pd_rd_i=B07PVPRJ4S&pd_rd_r=b468fc7b-a8b7-478c-9b60-f922280578dc&pd_rd_w=R6ErM&pd_rd_wg=mjYJN&pf_rd_p=7b36d496-f36)