

# Benefits of Aquatic Management for Treating Arthritis and Joint Replacement

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## Healing Properties of Water

Many arthritis and joint replacement patients are prohibited from a land-based exercise program due to pain. Aquatic therapy offers this group relief and better outcomes through several of water's intrinsic properties:

### Buoyancy

Water's buoyancy assists in de-weighting patients' body mass, decreasing joint stress and making it easier and less painful for patients suffering from arthritis or joint replacement surgery to exercise. Water levels may be adjusted to create the ideal environment for patients and help them work through a program at various support levels.

#### Height of Water to Patient

C7, T1

Xiphoid Process

Umbilicus

#### De-weighting Achieved

90%

70%

60%

Buoyancy also assists range of motion by naturally bringing the injured part toward the surface of the pool.

### Hydrostatic Pressure

Aquatic therapy utilizes hydrostatic pressure to decrease swelling and improve joint position awareness and posturing. Postural corrections can be accomplished with less effort and discomfort.

### Temperature of Aquatic Environment

With a thermal neutral temperature of 89-92 degrees (recommended), patients experience muscle relaxation and vessel vasodilation, resulting in an increase of blood flow to the injured areas and earlier healing. Warm water also stimulates body awareness, balance and trunk stability.



### Viscosity

The viscosity (drag) an aquatic environment provides is an excellent source of resistance for strengthening. Patients can improve mobility, strength and function rapidly during the healing process.

### Adjustable Water Levels

In an aquatic environment, the effects of viscosity, buoyancy and hydrostatic pressure can be altered to personalize an environment for each patient and their weight-bearing status thus allowing patients to work gradually through a transition to full load-bearing land-based activity.

***"Our patients begged us to let them keep coming, even after their programs were complete. So we created a wellness program. It's been a big positive for our practice." - Kurt Stork, PT***

## Improved Outcomes

Water therapy offers patients a much higher satisfaction rate than land-based therapy alone and offers clinic owners higher reimbursement rates. Furthermore, because of post-patient interest in continuing aquatic therapy, some clinics have chosen to create new programs founded on the aquatic workout, enhancing community visibility and increasing ROI.

***“The mental component for our patients of walking without assistance—engaging in ‘normal’ activity so quickly—gave them that boost of confidence they needed to heal.”***

## Research Support

A 2012 Archives of Physical Medicine and Rehabilitation study suggests improved outcomes for post-operative aquatic management of TKA/THA patients. The study found that patients who got in the water early (within 1-2 weeks of surgery) experienced better pain control, better motion and earlier results at 6 months, 1 year and 2 year marks.\*

## Improved Patient Morale

Improvement of patient morale and confidence is established by providing a positive medium in which to function. In the water, patients are challenged beyond their limits of stability on land without the fear of falling as in land-based training. High-definition cameras underneath the surface of the pool allow patients and therapists to constantly monitor gait, view heel strikes and push offs, adding interest and confidence for patients.



## Improved Satisfaction/Increased Compliance

With a 98.8% satisfaction score, water therapy offers patients a much higher satisfaction rate than land-based therapy and offers clinic owners higher reimbursement rates.

## Increased Revenue for Clinic

Because of post-patient interest in continuing aquatic therapy, some clinics choose to create new programs, charging a monthly fee and offering classes and seminars centered around aquatic workouts. These programs result in enhanced visibility in the community, a clinic “community” of post-patients who network and refer others to the clinic, and increased ROI.

***“Instead of canceling appointments due to pain, patients are eager to attend sessions—even scheduling extra sessions—because they experience pain relief during sessions. The clinic receives virtually NO cancelations due to pain.”***

\*Archives of Physical Medicine and Rehabilitation, “Early Aquatic Physical Therapy Improves Function and Does Not Increase Risk of Wound-Related Adverse Events for Adults, After Orthopedic Surgery: A Systematic Review and Meta-Analysis,” Elizabeth M. Villalta, BPhys, Casey L. Peiris, Bphys, 08 August 2012.