

# Wave Goodbye to Pain: A Literature Review of Aquatic Therapy's Impact on Orthopedic Conditions

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## BACKGROUND

Aquatic therapy is widely recognized for its benefits in neurological rehabilitation, but growing evidence shows its effectiveness in treating a variety of orthopedic conditions.

### Benefits:

- Gravity-minimized environment
- Reduces pain
- Enhances physical function
- Improves overall quality of life
- Fosters social interaction
- Provides emotional support
- Improves mental well-being

### Supports treatment of:

- Osteoarthritis
- Low Back Pain
- Rheumatoid Arthritis
- Rotator Cuff Repair
- Fibromyalgia
- ACL Reconstruction
- Ankylosing Spondylitis

## STUDY PURPOSE

This literature review aims to expand the information available regarding NAU DPT's aquatic exercise program to include evidence on the benefits of aquatic therapy for patients with orthopedic conditions.

## MATERIALS AND METHODS

### Search Strategy:

- PubMed
- "aquatic therapy" AND "orthopedics"
- Filters Applied:
  - PDF Free Full Text
  - 2018-2024
  - Systematic Reviews
  - Meta-Analyses
  - Randomized Controlled Trials

56 articles found, 12 chosen for review

## RESULTS

56 articles found, 12 chosen for review.

### These articles supported:

- Osteoarthritis (x3)
- Fibromyalgia (x3)
- Rheumatoid Arthritis (x1)
- Low Back Pain (x3)
- Rotator Cuff Repair (x2)
- ACL Reconstruction (x2)
- Ankylosing Spondylitis (x1)

### Conclusion of Results

#### Reduction of Joint Impact:

- Osteoarthritis
- Rheumatoid Arthritis
- Low Back Pain
- Ankylosing Spondylitis

#### Decrease Edema, Increase ROM Gains, Improve Proprioception:

- Rotator Cuff Repair
- ACL Reconstruction



#### Promote Blood Flow Circulation and Nervous System Relaxation, Enhance Sleep Quality:

- Fibromyalgia

#### Decrease in Depressive Symptoms:

- Rheumatoid Arthritis

	Ma et al.	Song et al.	Wang et al.	Rivas Neira et al.	Rodriguez-Huguet et al.	Wang et al.	Perez-Sousa et al.	Peng et al.	Ma et al.	Wang et al.	Cikes et al.	Dufournet et al.	Hajouj et al.	Pipino et al.	Wang et al.
	Osteoarthritis			Fibromyalgia			Rheumatoid Arthritis	Low Back Pain			Rotator Cuff Repair	ACL Reconstruction		Ankylosing Spondylitis	
↓ pain	X	X	X	X	X	X	X	X	X	X		X	X	X	X
↑ ROM	X											X		X	
↑ function	X	X	X		X	X		X	X	X	X	X	X	X	X

## DISCUSSION AND CONCLUSION

The findings of this literature review highlight the benefits of aquatic therapy for musculoskeletal conditions.

- Reducing pain
- Improving mobility
- Enhancing quality of life

Despite these advantages, **accessibility and awareness remain barriers**, enhancing online resources can help bridge the gap between research and practice, ensuring that clinicians and patients are well-informed.

**Future research** should explore long-term outcomes of aquatic therapy and strategies to improve accessibility and integration into standard physical therapy practice.

## CLINICAL RELEVANCE

Expanding the NAU DPT aquatic exercise program offers an opportunity to **improve access in Flagstaff** to low-impact rehab for individuals with orthopedic conditions.

- Integrates evidence-based interventions into local clinical practice
- Supports pain reduction and functional mobility

Joint pain and fatigue is increased in **high altitudes**, leading to increased exercise difficulty, NAU DPT's aquatic program supports low-impact rehab for these individuals.

## REFERENCES

