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. **2013: A systematic review and a meta-analysis.**

Finding: The results from this systematic review provide evidence from 8 controlled trials, with 287 participants, that there was no increased risk of wound-related adverse events for subjects undertaking aquatic physical therapy in the early postoperative period after orthopedic surgery compared with land-based therapy.

Finding: When compared with standard land-based physical therapy, aquatic therapy resulted in a significant improvement on measures of ADL. Improvement in ADL has also been noted after participation in an aquatic therapy program in older adults with arthritis. This is a clinically significant finding because the ability to perform ADLs with less pain and difficulty is a major priority for the older population with arthritis.

Finding: There was no significant difference between the aquatic group and the land-based group in terms of swelling or edema; however, both groups demonstrated an improvement in swelling over time, suggesting that early mobilization in either an aquatic environment or a land environment will result in reduced swelling via the pumping action of the involved muscles and that the possible expected hydrostatic effects of immersion may be counteracted by the dilation of vessels due to the water's warm temperature. In 1 trial, circumferential measurements were taken at 4 locations and averaged to obtain the edema measurement while the other 3 trials used 1 measurement closer to the knee joint. When this trial was removed from the analysis, aquatic physical therapy [did result] in significantly reduced edema.