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## Improved functional capacity, pain and vascular function after swimming and cycling training in patients with osteoarthritis

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Osteoarthritis (OA) is the most common form of arthritis and is the leading cause of disability in older adults. The main cause of OA is unknown, but one of the major risk factors is sports injury, because no cure is currently available for OA, the treatment plan has focused on reducing pain and improving function while minimizing adverse effects. Although the American College of Rheumatology has recommended that aerobic exercise be included in OA treatment plans, arthritis and its associated joint pain and stiffness act as a significant barrier for those attempting to perform land-based weight-bearing activities. Additionally, unsubstantiated dogma still exists that increased physical activity results in greater wear-and-tear in already-affected joints remains a substantial concern for osteoarthritis patients. Thus, swimming appears to be the ideal form of aerobic exercise for middle-aged and older patients with OA. The minimal weight-bearing stress facilitated by the buoyancy effects of water is an important element for patients afflicted with OA that exhibit orthopedic hip and knee problems. Additionally, swimming is characterized by a reduced heat load when participants are surrounded by water. Because of these excellent traits of water-based exercise, swimming has been widely recommended for the treatment of OA. Surprisingly, however, there is limited evidence to support the efficacy of swimming exercise training in patients with osteoarthritis, as only one study has been completed to test this hypothesis.

### Biography

Mohammed Alkatan is an assistant professor at Public Authority for Applied Education and Training-Department of Physical Education and Sports in Kuwait. He received a M.S. in exercise science and wellness at Old Dominion University and a PhD in exercise Physiology at the University of Texas at Austin. His research interests in investigating pharmacological and lifestyle interventions (particularly physical activity) prevent and treat age-related chronic diseases including cardiovascular disease, cancer, hypertension, type-2 diabetes, cognitive impairment and obesity. Furthermore, he is interested in the beneficial effects of habitual exercise on public health.

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