

Injuries may be Avoided if People were More Aware of Their Posture

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Introduction

Swimming training, like other solo and cycle sports (such as running, cycling, and rowing), necessitates thousands of repetitions of the same gestures every day, straining swimmers' muscles, joints, and tendons in daily routines [1]. Due to their involvement in recent and trendy open water competitions, swimmers have been known to engage in at least two training sessions per day, six (or even seven) days a week [2], sometimes not even stopping during their summer vacations.

Swimming coaches continue to undertake huge mileage sessions, often at intensities lower than those employed in competition, despite the availability of several warnings from well-known researchers [3, 4]. "The more the better," they argue, stating that swimmers must acquire unique physiologic qualities that can only be achieved in the water, as well as a "feeling for the water." We will focus in this Editorial on the new contributions that a therapist may adopt to minimise the considerable amount of overuse injuries produced by extra-repeated motions and incorrect posture, since we have been warning against this training philosophy throughout our academic (and coaching) lives.

Body motions are mostly determined by the location of musculoskeletal components that control muscle activity. Muscle synergies are influenced by both self-organization processes and restrictions imposed on the neuromusculoskeletal system (e.g. environmental) [5]. The sacrum, hip, and spine are functionally linked by muscular, fascial, and ligamentous connections that extend to the limbs and brain [6]. It has also been proposed that excessive stress in particular body regions may be communicated to distant sections of the musculoskeletal system, resulting in overload and functional limitations [7]. As a result, if swimmers continue to maintain an excessive muscle tone, the space between their bones may narrow, resulting in chronic articular compression, which causes a limited range of motion, inflammation, and discomfort.

Even if understudied, the additional repetitive actions in competitive swimming cause fatigue due to misuse of structures, resulting in musculoskeletal system failure [8]. His modifications to myofascial tensional integrity (also known as tensegrity) will limit the efficacy of movement. Therapists may utilise myofascial manual therapy as part of a main therapeutic strategy to relax constricted fascial tissue and rebalance its tensegrity. It is recommended to reprogram movement patterns in a small number of treatments (typically up to three), beginning with a better knowledge of agonist and antagonist muscle coordination. We support training that teach swimmers how to regulate antagonist muscle eccentric contractions.

We recommend that swimmers maintain a range of motions, enabling joints to build mobility rather than increasing muscle flexibility, for better functional control. Activities requiring remote articulations that control each other should be prioritized above analytical exercises with significant weights. It is widely known that the horizontal posture of the trunk throughout the four traditional swimming methods (front crawl, backstroke, breaststroke, and butterfly) is critical for boosting performance [9] and minimizing lower back, groyne, and shoulder discomfort caused by joint compression. Maintaining this posture, however, requires the ability to hold the

thighs in flexion while preventing extension. As a result, swimmers should learn how to maintain hip retroversion while moving their thighs correctly, maintaining their spine horizontal at or above the water line. Maintaining a horizontal spine at or above the water level is the right technique to swim.

We advocate encouraging workouts that involve constant hip retroversion, whether standing, supine, or ventral decubitus, to achieve this body behaviour control. Four crucial stages should be included in his workout planning:

learn to coordinate the spine, hip retroversion, and thigh flexion positions; practice this proprioceptive work in a variety of movements while maintaining hip retroversion; transfer this pattern when performing various swimming techniques; and move quickly but correctly while maintaining swimming technical patterns. Both the team therapist and the coach should design and apply the whole task.

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