

SWIMMING AND KAYAKING: HOW DO THEY IMPACT DENTAL PROFESSIONAL'S MUSCULOSKELETAL HEALTH?

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Dental professionals are prone to unique muscle imbalances that can be exacerbated by certain sports. This article will target key components and exercises that will help dental professionals prevent injury in the two activities discussed below. For complete injury prevention information, please reference Dr. Eric Shamus' book: "Sports Injury Prevention and Rehabilitation". Always consult a doctor before embarking upon a new exercise regimen.

Swimming

One of the most popular sports in the world, swimming would seem to be an ideal choice for recreation for the dental professional: minimal joint stress, rhythmic and aerobic. Yet, certain strokes can worsen existing imbalances unique to dental professionals. The most common swimming stroke is the crawl stroke (shown at left), involving alternating overhead arm movement and head rotation. To understand the implications of the musculoskeletal demands of the crawl stroke, one must understand the etiology of a rotator cuff muscle imbalance. [Click here to read more.](#)

As the hand enters the water, the shoulder is internally rotated (a direction that already tends to be tight in most dental professionals). The water resistance further increases loads on the pectoralis muscle and internal rotators, making them tighter and stronger. These should be stretched as part of regular regimen, not only for swimmers, but dental professionals as well (Fig. 1). As the arm leaves the water to go overhead, it is externally rotated, with no resistance. This is how a typical muscle imbalance in the rotator cuff in dental professionals may be worsened. Specific endurance strengthening of the external rotators of the shoulder must be targeted. An example of one exercise is using a Theraband to provide resistance (Fig. 2). Internal rotators should be stretched using a towel behind the back.



Fig. 1 Pectoralis Stretch

Fig. 2 External Rotation Exercise

Fig. 3 Trunk Rotation Stretch

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Good trunk rotation is essential for dental professional who perform the crawl stroke. During breathing, the head and shoulder must lift out of the water. Poor trunk rotation causes excessive neck and shoulder rotation. Dental professionals tend to have poor flexibility rotating

away from the patient. (For a right-handed operator, this is rotation to the right.) Developing excellent trunk rotation range of motion should be a focus for dental professionals who swim (Fig. 3).

Kayaking

Shoulder injuries are at the top of the list when it comes to kayak/canoeing injuries, making this a risky sport for dentists and hygienists. Since the rotator cuff stabilizers are heavily worked, they must be well-conditioned to avoid injury. Dental professionals who wish to safely paddle should make the external rotation exercise and pectoralis stretch (above) a part of their exercise regimen, as well other shoulder stabilizing exercises. The Thoracic/shoulder stretch (below) will help with good flexibility.



Thoracic & Shoulder Stretch
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Ensure that the shoulder is in its safest position with proper hand placement. Hold the paddle overhead, with elbows bent at 90 degrees (the 'hold up', or surrender position). Both hands should be evenly placed, with an equal distance between the hand and blade. It may be helpful to mark this hand position on your paddle. Incorporate proper body mechanics and reduce shoulder strain by slightly rotating the trunk when planting the paddle forward in the water in front of you.