

SWIMMING NATATION CANADA SPORTS SCIENCE AND MEDICINE NEWSLETTER NO. 2



Hello Practitioners,

I hope your holidays were excellent and your programs are back in full swing. From the results of the fall racing schedules, it appears that many of the Canadian swimmers raced consistently, effectively and were healthy. These are key measure for us in the sport science and medicine roles; keep them healthy to train and race effectively. Great job.

The two articles I previously reviewed were focused on screening and workloads. Perhaps they sparked some thoughts or even some practical adjustments to your training or treatment approaches. More so, I hoped they initiated some discussions amongst your IST, colleagues and coaches. The articles reviewed in this newsletter springboard off of the previous two. One is an older article (2009) that dives into specific screening of the shoulder and the other looks at some factors that impact swim speed.

As with the goal of all these newsletters, I wish to stimulate thoughts, ideas and discussions to better tackle this amazing sport we all work in.

Keep up the great work at your respective programs.

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Article Review No. 1: *Reliability and Diagnostic Accuracy of 5 Physical Examination Tests and Combination of Tests for Subacromial Impingement.* Lori A. Michener, PhD, PT, ATC, Matthew K. Walsworth, MD, PT, William C. Doukas, MD, Kevin P. Murphy, MD (2009)

Subacromial impingement syndrome (SAIS) is a commonly diagnosed condition in swimming. Michener et al investigate the reliability and diagnostic validity of five common physical examinations tests of the shoulder indicated for suspected SAIS. The authors compared Neer, Hawkins, Jobe (empty can), external rotation resistance and painful arc tests to surgical diagnosis. Their findings suggest that painful arc, external rotation resisted and Jobe have the most clinical utility as individual tests. However, utilizing all 5 tests with a cut point of 3-positive resulted in the most valid indication of SAIS.

Practical Considerations: What tests are you using to screen for suspected SAIS? Do your clinical outcomes reflect the diagnostics revealed in imaging or surgery? How can you utilize battery of shoulder tests for suspected SAIS in your practice or daily training environment?

Article Review No. 2: *Heated jackets and dryland-based activation exercises used as additional warm-ups during transition enhance sprint swimming performance.* McGowan, C. J., Thompson, K. G., Pyne, D. B., Raglin, J. S., & Rattray, B. (2015).

Swimming competitions have strict timelines and logistical hurdles that can limit warm up protocols to specific facility areas, times and accessibility. Due to these constraints, swim (pool) warmup can become ineffective due to prolonged time before racing and decreased core temperature. Courtney et al investigate the utilization of heated jackets and dryland based exercises to attenuate the decrease of core temp. The authors conclude that the utilization of both heated clothing and dryland, as well as dryland alone, resulted in improved swim performances. They attribute this to the maintenance of elevated core temp and possibly a post activation potentiation effect.

Practical Considerations: Are your swimmers effectively maximizing their warm up? Do they have a strategy to adapt to meet logistics? Do they minimize their time between warm up and racing; as well as attempt to maintain their elevated core temperature post warm up?