Notice of the Final Oral Examination
for the Degree of Master of Science

of

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BA (University of California-Berkeley, 2015)

“The Effects of a Dryland Activation Protocol During the Transition Phase on Elite Swimming Performance”

Department of Exercise Science, Physical and Health Education

Thursday, March 21, 2019
12:00pm
McKinnon Building
Room 179

Supervisory Committee:
Dr. Kathy Gaul, Department of Exercise Science, Physical and Health Education, University of Victoria (Supervisor)
Dr. Lynneth Stuart-Hill, Department of Exercise Science, Physical and Health Education, UVic (Member)

External Examiner:
Dr. Jason Bradenburg, Faculty of Health Sciences, University of Fraser Valley

Chair of Oral Examination:
Dr. John Burke, Department of Biochemistry and Microbiology, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

The purpose of the present study was to determine the effect of including a dryland activation during a 30-minute transition phase time between pool warm-up and competition on elite swimming performance. Previous research has shown the benefits of shorter transition times, or transition times that include dryland activation, improve swimming performance. Nine elite swimmers from the High-Performance Centre Victoria, 2 males and 7 females (18.7 ± 4.3 yrs), completed two testing sessions separated by one week, consisting of a 30-minute traditional (TRAD) or dryland (DL) transition phase followed by a 200-metre time-trial (TT). The swimmers swam the TT in their primary 200m event. Both transition phases were identical through the first 20-minutes but for the next 10 minutes, swimmers either sat quietly for 10 minutes (TRAD) or completed a 5-minute dryland activation 5 minutes pre-TT (DL). The dryland activation consisted of 2 sets of 40 seconds of jumping jacks and 6 explosive burpees completed self-paced but within a 5 minute time limit. Core temperature ($T_{core}$) and Heart Rate (HR) were measured throughout the entire testing sessions. TT performance was significantly faster ($p < .010$) following DL (130.61 ± 10.46 secs) compared to TRAD (131.71 ± 11.08secs), an improvement of 0.84%. The third 50m split was also significantly faster ($p < 0.18$) following DL (34.83 ± 4.28secs) compared to TRAD (35.47 ± 4.47secs). Heart rate was significantly elevated following the dryland activation compared to the same time in TRAD (134 ± 22 vs. 84 ± 13bpm, $p < 0.001$). There were no significant differences in $T_{core}$ between the two transition phase conditions. The results from this research support the inclusion of a dryland activation during the transition phase of elite swimming competitions. As the smallest of differences can influence final placing at international level swimming competitions, the small gains found in the present study may have considerable implications for optimal swimming performance.