

$\dot{V}_{O_{2peak}}$ ,  $53.4 \pm 7.6 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ ) randomly consumed either a high glycemic index (HGI), a LGI, or placebo (PLA) beverage ~30 min prior to sleep and 7-9hrs before a morning exercise trial. Resting energy expenditure (REE) was assessed prior to exercise. The exercise trial included a warm-up, three 3-min incremental workloads (IET) at 55%, 65%, and 75% peak oxygen consumption, a 3-min recovery, and then a 5km treadmill time trial (TT). Physiological responses were assessed prior, during, and post-exercise. **RESULTS:** No significant differences were found in blood glucose (BG) between PLA, HGI, or LGI at any time. Although there was a trend for significance with LGI CHO promoting higher fat utilization than HGI CHO at rest ( $p=0.076$ ), condition had no significant effect on IET CHO utilization (PLA,  $64.43\pm 20.18$ ; HGI,  $54.52 \pm 18.10$ ; LGI,  $52.30 \pm 26.24\%$ ) or fat utilization (PLA,  $46.02 \pm 20.02$ ; HGI,  $36.13 \pm 17.95$ ; LGI,  $49.10 \pm 24.65\%$ ). There was no effect of condition on GID at any point ( $p > 0.05$ ). There was no effect of condition on 5km TT within subjects (PLA,  $23.1 \pm 3.7$ ; HGI,  $23.1 \pm 4.1$ ; LGI,  $22.6 \pm 3.2$  minutes).