Cold-water immersion has become a common and popular post-exercise intervention that is thought to be effective by accelerating muscle recovery after intensive exercise. Unfortunately, it has not been established how cold-water immersion can acutely affect the recovery of skeletal muscle function following sprint-interval exercise. Previous evidence has proposed that increased oxidative stress induced by sprint-interval exercise causes depressed submaximal force generation called prolonged low-frequency force depression (PLFFD). It is hypothesized that reducing skeletal muscle temperature may be beneficial by decreasing oxidative stress which ultimately decreases intramuscular ROS production and the extent of PLFFD. In the current study, PLFFD was examined in the dorsiflexors of five healthy males by measuring torque from evoked stimulation at both low- (8 Hz) and high- (100 Hz) frequency before, immediately after and 24h post-skeletal muscle fatigue. The sprint-interval exercises involved 2-6 sets of 30 second bouts of all-out isotonic dorsiflexion contractions at 20% of the maximum voluntary contraction (MVC) torque load until the 8:100 Hz torque ratio was 30%. A crossover design was implemented with the right or left leg randomly assigned to either the treatment condition (30 minutes of cold-water immersion at 5 °C immediately following exercise) or the control condition (room temperature recovery- placebo). The results of this study showed that PLFFD (8:100 Hz) was observed at 24h post-exercise but no difference was seen in the extent of PLFFD in the placebo vs. cold-water immersion treated leg. These preliminary results do not show any benefit of cold-water immersion on the recovery of skeletal muscle function from fatigue induced by sprint-interval exercise.