INTRODUCTION
Approximately 4 to 7 percent of workers are exposed to potentially harmful levels of WBV in Canada, the United States, and some European countries (Bovenzi, 1996a). Exposure to vibration is known to cause certain physiological responses. However, there is still a lack of understanding on how these responses tax the neuromuscular system. The objective was to investigate whether exposure to vibration along with exercise induces measurable changes to a task requiring detailed kinaesthetic feedback and ii) to determine the neuromuscular origin and nature of these changes.

METHODS
A series of velocity matching tasks were performed at the knee using three different velocities (30º/s, 90º/s and 120º/s), before and immediately after 45 min of randomly applied vibration exercise protocols (Standing, Standing with vibration, Squatting and Squatting with vibration @ 3.5 Hz) in 12 healthy subjects. For velocity matching errors, the between-subject factors that were chosen to be evaluated are as follows: Condition (1 Squat, 2 Standing, 3 Squatting with vibration, 4 Vibration), Direction (flexion/extension), Speed (30º/s, 90º/s, and 120º/s) and Time (PRE, POST).

RESULTS
There was no main effect found between exercise conditions, Speed or Time. However there was a significant difference between directions (F=6.66, P = .027). The results also yielded significant interactions between Speed * Direction (F=5.515, P =.025), Condition * Speed * Direction (F=10.266 Sig=.006), and Condition * Speed * Time (F=4.682, P =.041).

DISCUSSION & CONCLUSIONS
Although the vibration frequency used in this study was well below the frequency thought to stimulate muscle spindles, we see an effect on movement sense. This outcome requires further investigation but, given the vibration frequency, could have important implication for industrial workers. These results support (Allen & Proske, 2006), indicating that sense of movement is not susceptible to fatigue. It seems that sense of effort and velocities of movement also have a definitive influence on movement matching performance. To conclude, it seems that a wide variety of vibration intensities could have an effect on kinaesthesia via different mechanisms. The use of low frequency vibration indicates that movement sense can be altered by more than disturbances to muscle spindles.

REFERENCES