

**PATHOKINESIOLOGY LABORATORY
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ABSTRACTS FROM PUBLISHED MANUSCRIPTS (2004 – 2005)

Comparison of energy expenditure and propulsion characteristics in a standard and three pushrim-activated power-assisted wheelchairs.

Lighthall Haubert L, Requejo PS, Newsam CJ, Mulroy SJ. *Top Spinal Cord Inj Rehabil* (In Press)

Pushrim-activated power-assisted wheelchairs (PAPAWs) reduce the demands of manual wheelchair (WC) propulsion by providing additional force with release of the pushrim. This study compared the energy expenditure and propulsion characteristics in individuals with spinal cord injury propelling their own WCs and three commercially available PAPAWs. We hypothesized that PAPAWs would reduce energy expenditure and enhance propulsion characteristics, depending upon the delivery of power-assistance and user ability. PAPAWs reduced the rate of oxygen consumption for most subjects; however the PAPAW that maximized self-selected propulsion velocity and minimized oxygen cost varied. Results of this study would benefit WC users when considering a PAPAW.

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