
For people with tetraplegia, PAPAW’s reduce the energy demands, stroke frequency, and overall joint ROM when compared with traditional manual wheelchair propulsion.


PAPAW can be a viable mobility option for individuals with tetraplegia, which can provide independent mobility especially for outdoor activities. A user’s preference, lifestyle, physical conditions, transportation issues, and environmental factors should be considered in prescribing such a device.


Primary outcomes showed that most participants perceived positive experiences including access to new and different activities. Secondary evaluations indicated that the unit was cumbersome and prohibitive for some to use because of the difficulties with transportation in and out of the vehicle and battery life. Most people felt the PAPAW’s provided more independence and social opportunities.


Push phase shoulder muscle activity was decreased in the PAPAW compared with standard pushrim wheelchair, indicating a reduction in demands when propelling a PAPAW.


Use of PAPAW’s by persons with paraplegia and tetraplegia having shoulder pain significantly lowers energy cost responses and perceived exertion compared with manual wheelchair propulsion while significantly increasing the distance propelled.

Traditional and common forms of mobility include manual and power wheelchairs. There are times when an individual still desires manual mobility but complications of self propelling begin making manual propulsion difficult which often reduces participation in meaningful activities. To address the limitations of manual and power mobility, the power activated power assist wheels were introduced (PAPAWS) [6]. Although the PAWPAW’s offer mechanical assistance, they still require the user to stroke the push rims to activate the motors. In order to keep the wheelchair moving, the user must continue to stroke the wheels as they would if they were propelling a traditional manual wheelchair. Compared to manual wheeling, PAPAW’s require less user strength and endurance to propel which is useful on uneven terrain and carpeted surfaces. (1, 3) The PAWPAW’s also require less energy demands (5) and decreased shoulder pain (7). Although studies have shown the positive impact of reduction of secondary complications, it is important to consider lifestyle and transportation options. PAPAW’s can be difficult to disassemble and costly with repeated battery replacement. (4). If careful consideration of an individuals home environment and overall life circumstances is reviewed, the PAPAW can be a reasonable solution to supplement manual wheelchair mobility.