

Manual Wheelchair Skills

Propulsion

- The most energy efficient way to push a wheelchair is using a semicircular propulsion technique.
- A semi-circular push stroke is where the hand falls below the push rim during recovery phase
- Use long smooth strokes to decrease the number of times you need to push.
- Other common propulsion patterns include a single looping over propulsion, double looping over propulsion or arcing pattern
- Contact with rim should start at the back of wheel during the upward phase of the push to minimise stress on shoulders

Wheelchair skills

Spotter strap

A spotter strap can be used to safely assist and teach wheelchair skills. This strap is attached a secure part on the frame of the wheelchair, such as a rigidiser bar.

Video

- [Spotter strap: attachment to rigid-frame wheelchair - YouTube](#)

Self-Propulsion

Forwards

Video

- [Rolls Forward | Wheelchair Skills Test Version 5.2 \(WST 5.2\) - YouTube](#)

Backwards

Video

- [Rolls Backward | Wheelchair Skills Test Version 5.2 \(WST 5.2\) - YouTube](#)

Turning

Videos

- [Rolls Backward | Wheelchair Skills Test Version 5.2 \(WST 5.2\) - YouTube](#)
- [Turns While Moving Forward | Wheelchair Skills Test Version 5.2 \(WST 5.2\) - YouTube](#)
- [Turns While Moving Forward | Wheelchair Skills Test Version 5.2 \(WST 5.2\) - YouTube](#)

Ramps

Ascending

Videos

- [Ascends Steep Incline - YouTube](#)
- [Wheelchair skills - Going up and down slopes - YouTube](#)

V1 Effective: August 2022 Review: August 2023

Descending

Video

- [Descends Steep Incline - YouTube](#)

Lifting castors (preparation for door lips/gutters)

Videos

- [Gets over obstacle: stationary method - YouTube](#)
- [Get over obstacle: transient caster pop - YouTube](#)

Backwheel balance

Stationary

Video

- [Performs Stationary Wheelie | Wheelchair Skills Test Version 5.2 \(WST 5.2\) - YouTube](#)

Forwards and backwards

Video

- [Wheelie forwards and backwards - YouTube](#)

Turning

Video

- [Turns in place in wheelie position - YouTube](#)

Gutters

Small gutter (ascend)

Video

- [Ascends low curb: momentum method - YouTube](#)

Large gutter (ascend)

Video

- [Ascends high curb - YouTube](#)

Ascending a gutter with assistance

Video

- [Ascends high curb: caregiver assistance - YouTube](#)

Small gutter (descend) forwards

Videos

- [Descends low curb - YouTube](#)
- [Handling Curbs in a Wheelchair - Bing video](#)

Large gutter (descend)

Video

- [Descends high curb - YouTube](#)

Descending a gutter with assistance

Video

- [Descends High Curb: Caregiver Assistance - YouTube](#)

Stairs

Videos

- [how to climb a set of stairs on your wheelchair - YouTube](#)
- [Ascends and Descends Stairs - YouTube](#)
- [Craig Hospital Wheelchair Skills: Two-Person Assist Going Up and Down Stairs - YouTube](#)

Escalators and high-level skills

Video

- [What Next - Wheelchair skills - YouTube](#)

Fall from wheelchair

Video

- [Falling backward: recommended method - YouTube](#)

Top and tail lift

Video

- [Two-person Transfer from Floor to Wheelchair - YouTube](#)

Wheelchair raise

Video

- [How to return to upright after a fall in your wheelchair - YouTube](#)

Outcome Measure

Queensland Evaluation of Wheelchair Skills

- [PA Hospital | HIMS | Health Informatics Unit | Forms Management - Form 2268: Spinal Injuries Unit Queensland Evaluation of Wheelchair Skills \(QEWS\)](#)

Reference and Resources

Reznik, J., Simmons, J. (2020). Rehabilitation in spinal cord injuries (1st ed.). Elsevier Health Sciences.

Gollan, E., Harvey, L., Simmons, J. *et al.* Development, reliability and validity of the queensland evaluation of wheelchair skills (QEWS). *Spinal Cord* **53**, 743–749 (2015). <https://doi.org/10.1038/sc.2015.82>[Wheelchair Skills Program](#)

Wheelchair configuration for optimal propulsion: Agency for Clinical Innovation. (n.d.). Retrieved from <https://aci.health.nsw.gov.au/networks/spinal-cordinjury/spinal-seating/module-9/wheelchair-configuration-for-optimal-propulsion>

[Education in Motion | Sunrise Medical](#)