

RECLINE: CLINICAL INDICATORS

Written by: **MICHELLE L. LANGE, OTR/L, ABDA, ATP/SMS**

Recline is a feature found on many adaptive strollers and power wheelchairs and some manual wheelchairs. Recline opens the seat-to-back angle, up to 180 degrees. Recline may be used in combination with elevating legrests or tilt in space.

Many wheelchair frames allow the seat-to-back angle to be changed to meet an individual's positioning needs. This is a tool adjustment. Recline also changes the seat-to-back angle, but without tools and with the intention to be changed throughout the day to meet specific clinical goals.

MANUAL RECLINE

Manual reclining wheelchairs are typically designed for dependent mobility and offer little frame adjustment for growth or to meet specific seating requirements. Elevating legrests are usually part of these configurations. These recline systems do not include shear reduction.

Some manual and power wheelchair bases, which do include frame adjustments and growth, do offer a manual reclining back option. These do not usually recline fully.

POWER RECLINE

Power wheelchairs offering power recline typically include shear reduction technology and provide full 180 degree recline, essentially placing the client in a supine position. Shear reduction is accomplished when the back slides down during recline and slides upward when the client returns to an upright position. This movement allows the client to better remain in alignment with the support surfaces. Shear reduction systems cannot completely eliminate shear forces between the client and the seating system.

CLINICAL INDICATORS

By significantly opening the seat-to-back angle, certain tasks are facilitated including catheterization, access to G-tube or other medical ports, diapering and changing clothes. Transfers are not always practical out in the community, and so recline can eliminate the need to transfer to accomplish these tasks.

Recline redistributes pressure from the buttocks and posterior thighs to the posterior trunk and head, resulting in decreased pressures throughout. In combination with tilt in space, maximum pressure relief can be achieved in high-risk areas.

Medically, recline can be used to address orthostatic hypotension, seen in some clients with spinal cord injuries. In this condition, blood pressure can suddenly drop and recline can facilitate blood flow back to the head. In autonomic dysreflexia, there is a sudden increase in blood pressure, often triggered by a constricted bladder or constipation. Recline may alleviate these symptoms, though the head does need to remain elevated above the rest of the body.

As with tilt in space, recline can provide a position of rest to provide fatigue and post-seizure management. Gravity can assist with trunk and head control. A partial recline can also provide an improved position for swallow, visual regard, or functional tasks – particularly if the head is now upright and balanced at this seat to back angle.

Recline is an important technology in wheeled mobility and should be considered when making equipment decisions.

CONTACT THE AUTHOR

Michelle may be reached at
MICHELLELANGE1@OUTLOOK.COM

REFERENCES:

DICIANNO, B. E., LIEBERMAN, J., SCHMELER, M. R., SOUZA, A. E. S. P., COOPER, R., LANGE, M., ... & JAN, Y. K. (2015). REHABILITATION ENGINEERING AND ASSISTIVE TECHNOLOGY SOCIETY OF NORTH AMERICA'S POSITION ON THE APPLICATION OF TILT, RECLINE, AND ELEVATING LEGRESTS FOR WHEELCHAIRS LITERATURE UPDATE. *ASSISTIVE TECHNOLOGY*, 27(3), 193-198.



Michelle Lange is an occupational therapist with more than 30 years of experience and has been in private practice, *Access to Independence*, for over 10 years. She is a well-respected lecturer, both nationally and internationally and has written numerous texts, chapters, and articles. She is the co-editor of *Seating and Wheeled Mobility: A Clinical Resource Guide*, editor of *Fundamentals in Assistive Technology, Fourth Edition*, NRRTS continuing education curriculum coordinator and clinical editor of *DIRECTIONS*. Lange is a RESNA Fellow and member of the Clinician Task Force. Lange is a certified ATP, certified SMS and is a senior disability analyst of the ABDA.