

Achieving Optimal Toilet Positioning for People with Disabilities

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The way many therapists view toileting has undergone a sea change—and brought a previously overlooked aspect to the fore.

For a child with multiple physical challenges, toileting has often been regarded as a nuisance, an interruption, an added burden. New thinking about health and disability, however, has recast toileting as a critical intervention and an opportunity to teach meaningful skills. These skills, happily, are within reach for nearly every child. Provided with the right environmental modifications and positioning aids, most children can improve toileting skills to experience increased community participation and independence levels.

Building on the Child's Strengths

In 2001 the World Health Organization introduced a new framework for classifying health and disability: the [International Classification of Functioning, Disability and Health](#) (ICF). Rather than focus on the limiting factors of a disability, the ICF considers what the individual is capable of doing. Within this framework, the goal of intervention is to build on the individual's current level of functioning, increasing participation in activities of daily living and engagement with the wider community.

In cases where the disability imposes constraints on body functions or structures, the ICF advocates external supports to overcome the constraints. Also known as contextual factors, external supports range from environmental modifications to the use of adaptive equipment and personal support systems.

These contextual factors can make a particularly big difference in toileting. As therapists, we need to ask how we can best facilitate the ability of children with disabilities to use the toilet for effective bowel and bladder elimination. We also need to provide opportunities for active participation and increased independence in our clients' toileting routines.

The Importance of Position

In the Western world, sitting on a raised toilet is considered normal. According to recent research, however, this positioning may not be the best or most natural for elimination; instead, the "squatting posture" is recommended.¹ Squatting relaxes the puborectalis muscle, straightens the rectum, and works with gravity for faster, easier, and more complete elimination.^{1,2} In cultures that practice this positioning (and from studies of people in the West who have adopted this natural method), there is significantly less incidence of constipation and bowel diseases.^{1,3,4}

This research validates the practices of earlier eras. Before the middle of the nineteenth century, chair-like toilets were reserved for royalty and people with disabilities.¹ Everyone else used the squatting posture to perform their bodily functions.

Many children with physical disabilities, of course, may never achieve any type of positioning for toileting without significant and appropriate supports. For them, sitting on a toilet is often more achievable than the squatting position. Nevertheless, we can use what we



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know about ideal positioning to help these children. Before we do, however, it is essential to consider the challenging step that takes place before toileting: transfer.

Meeting the Transfer Challenge

Transfers on and off the toilet are central to the toileting routine and help build independence. Ironically, in the past, many parents discontinued their child's toilet training routines precisely because lifting their child onto the toilet became too strenuous.⁵ But a child can learn to participate in transfers on and off the toilet. With children who are non-ambulatory or minimally weight-bearing, a vertical changing table or padded table can help them with a pull-to-stand transfer and body-weight support while caregivers adjust the clothing and roll a commode in from behind. The transfer to the toilet can thus be used as an opportunity to practice the skills of sit-to-stand and weight-bearing at the same time. This reflects the ICF's concept of improving activities and participation levels and reduces the manual lifting done by the caregiver.

Giving children opportunities to practice and participate in toileting transfers, if begun early enough, results in improved performance over time.⁶ The MOVE® Hygiene & Toileting Training is an educational opportunity for special education teachers, physical and occupational therapists, and parents that addresses this very concept.⁶ (Contact [MOVE® International](#) to learn more about upcoming trainings.)

Positioning Goals for Children with Disabilities

The next step after transfer involves toilet positioning. Adaptations are usually necessary to accommodate deformities, muscle tone, and lack of postural control while ensuring that the child is stable, comfortable, and positioned in the best possible way for effective elimination. Without optimal positioning, children with disabilities may not be able to completely empty their bowel and bladder, putting

them at an increased risk for urinary tract infections, constipation, and other complications.⁷

Providing a feeling of stability on the toilet is key to this process.⁷⁻⁹ If children are well positioned and balanced in sitting, they will also be relaxed, which allows the abdominal muscles to relax.^{9,10} If children are continuously fighting to maintain an upright posture on the toilet, they will be unable to relax and concentrate on the toileting task at hand.^{9,10} Sue Bettison, PhD, Dip Ed, noted that this feeling of "instability" may be one of the primary reasons children with severe disabilities resist sitting on the toilet.⁸ The use of adaptive toileting chairs can help create an environment of stability and allow a child to comfortably maintain balance without fear of falling off the toilet.^{5,7-10}

What constitutes an effective adaptive toileting chair? The recommended basics include a firm base of support with the feet planted, a good back support, and a grab bar or other handhold in front.⁸⁻¹⁰ As with active sitting, a forward positioning of the shoulders and upper extremities (as when holding on to or leaning against an anterior support) facilitates better head and trunk control and stability.¹⁰⁻¹³ Moreover, the lower extremities should be positioned in such a way that the knees are slightly higher than the hips, thus facilitating better bowel and bladder elimination.^{10,14,15} This positioning most closely mimics the ideal and natural squatting position. For children with extensor tone or poor postural control, additional seat-to-back angle adjustments or other external support systems may be necessary.

In addition to feeling stable and relaxed on a toilet, the child also needs to feel comfortable. Children with disabilities often need more time to complete the toileting task.⁷ Nancie R. Finnie, in her book **Handling the Young Child with Cerebral Palsy at Home**, notes that because of their physical disabilities, children with cerebral palsy will take longer to find their balance on the toilet, relax, and then understand what is expected of them.¹⁰ Therapists working in school-based settings report that children with disabilities may sit anywhere from five to 45 minutes in

order to fully empty their bowel and bladder. Obviously, with extended toileting sessions like this, comfort is key. This comfort can be provided via padding on weight-bearing surfaces or contoured supports.

Equipment Deficiencies

Despite the importance of positioning and comfort, it has typically been difficult to find equipment that adequately meets these requirements. Literature on adaptive positioning toilet systems, although limited,⁵ has consistently indicated a lack of appropriate and accommodative equipment for children with disabilities.^{5,9,16,17} Ostensjo et al., in looking at the use of assistive devices, environmental modifications, and everyday activities in 95 children with cerebral palsy, noted that parents of the children mostly reported the “need of a more appropriate aid” when describing their child’s toileting or bathing equipment.¹⁷ This perhaps explains why the researchers noticed that bathing and toileting equipment were most often abandoned in the home. At the same time, the majority of these children were still using briefs and laxatives after the age of four, indicating that the difficulty in finding an effective toileting chair was a barrier to healthy bowel and bladder elimination.¹⁷

In another study, Pivato interviewed parents about the toileting habits and needs of their children who had high degrees of physical challenge. The majority of respondents reported that they had discontinued their child’s toileting routines because of a lack of appropriate supportive seating arrangements.⁵ This carried over into a lack of toileting supports in the community and school. Lifting and transferring children onto the toilet was frequently reported as another hurdle to toilet training.⁵ The researchers concluded that if the right equipment were available, and lifting and transfers could somehow be made easier, more people with severe disabilities would have better chances at becoming toilet trained.⁵

Conclusion

The new view of toileting as an opportunity is a welcome development for children with disabilities, who can use toileting to enhance their skills, independence and participation in the community. The key to maximizing toileting-as-opportunity is to make toileting easier and more effective, which requires attention to improved methods of transfer and positioning. Adaptive toileting chairs can facilitate both—yet the design of such chairs has, until recently, fallen short in optimizing the child’s position and comfort. With proper technique and proper equipment design, most children with disabilities can learn effective toileting and thus achieve more fulfilling, independent lives.

[Please refer to the addendum on page 5 of this document, for an example of achieving optimal positioning with adaptive hygiene and toileting equipment.]

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References

1. Isbit J. "Health benefits of the natural squatting position. Nature's Platform." Available at: http://www.naturesplatform.com/health_benefits.html Accessed September 2013.
2. Rad S. Impact of ethnic habit on defecographic measurements. *Archives of Iranian Medicine*. 2002; 5(2):115-7.
3. Dimmer C, Martin B, Reeves N, et al. "Squatting for the prevention of haemorrhoids." *Townsend Letter for Doctors and Patients*. 1996; 159:66-70.
4. Burkitt DP. "Hiatus hernia: is it preventable?" *Am J Clinical Nutrition*. 1981; 34:428-31.
5. Pivato E. "Breaching the last frontier: dignity and the toileting issue for persons with multiple and severe disabilities." *Developmental Disabilities Bulletin*. 2009; 37(1):153-64.
6. Bidabe DL. *MOVE Hygiene and Toileting Program*. Bakersfield, CA: Kern County Superintendent of Schools; 2009.
7. Sansome A. "Bladder and bowel management in physically disabled children." *Paediatrics and Child Health*. 2011; 21(10):454-58.
8. Bettison S. *Toilet Training for Children with Autism or Intellectual Disabilities: Developmental Information and Practical Procedures*. <http://www.childrenshabilitation.com/toilet-training.pdf> Accessed May 2013.
9. Lee DF, Ryan S, Polgar JM, et al. "Consumer-based approaches used in the development of an adaptive toileting system for children with positioning problems." *Physical and Occupational Therapy in Pediatrics*. 2002; 22(1):5-24.
10. Finnie NR. *Handling the Young Child with Cerebral Palsy at Home*. 3rd ed. Woburn, MA: Butterworth-Heinemann; 1997: 173-9.
11. Stavness C. "The effect of positioning for children with cerebral palsy on upper-extremity function." *Physical and Occupational Therapy in Pediatrics*. 2006; 26:39-53.
12. Myhr U, von Wendt L. "Improvement of functional sitting position for children with cerebral palsy." *Dev Med Child Neurol*. 1991; 33:246-56.
13. Dunaway A, Snyder S, LaRosa ME. *Adaptive Toileting for Children Who Have Cerebral Palsy*. Tucson, AZ: Therapy Skill Builders; 1998.
14. Harris D, Gilpin M. *Toilet Teaching with Your Child: A Parent's Guide*. London, ON: Thames Valley Children's Treatment Center; 1994.
15. Miezio PM. *Parenting Children with Disabilities: A Professional Resource for Physicians and Guide for Parents*. New York, NY: Marcel Dekker, Inc; 1983.
16. Rigby PJ, Ryan SE, Campbell KA. "Effects of adaptive seating devices on the activity performance of children with cerebral palsy." *Arch Phys Med Rehabil*. 2009; 90:1389-95.
17. Ostensjo S, Carlberg EB, Vollestad NK. "The use and impact of assistive devices and other environmental modifications on everyday activities and care in young children with cerebral palsy." *Disabil Rehabil*. 2005; 27(14):849-61.

Achieving Good Toilet Positioning with the Rifton HTS

To meet the need for a good adaptive hygiene and toileting system, the product designers at Rifton created the HTS. Drawing on input from hundreds of therapists around the world, they included features to meet all the needs outlined in this article. The following chart provides details on these features and benefits:

Key Features of the Rifton HTS

Benefit	Description
Optimal Toilet Positioning	<p>With the footboard adjusted for well-supported feet, tilt-in-space slightly posterior, backrest tilting trunk slightly forward and good anterior support, the HTS achieves an ideal forward-leaning toileting position.</p> <p>An adjustable footrest provides the recommended base of support for the feet and can be raised to position the knees slightly higher than the hips if appropriate for better elimination.</p> <p>An anterior support into which a client can lean or brace their upper extremities adds stability and comfort.</p> <p>A combination of accessories such as laterals and hip guides can add stability.</p> <p>The backrest angle adjustment and tilt-in-space allows clients with severe disabilities and presentations of hypotonia and spasticity to be positioned well and comfortably allowing for relaxation and improved elimination.</p> <p>Generous leg troughs encourage optimal abduction.</p>
Comfort	<p>The weight-bearing surfaces of the HTS are contoured and padded with polyurethane foam allowing a child to sit with comfort for longer toileting sessions.</p>
Transfer	<p>Transfer to and from the HTS is facilitated through the tilt-in-space feature. By tilting the chair anteriorly and moving the footboard back, a client can be assisted with transfers into and out of the toileting position.</p> <p>Armrests can be removed if a lateral transfer is preferred.</p>
Hygiene	<p>A unique open-back toilet seat option makes hygiene care much easier, while the client is still seated.</p> <p>An improved splash-control deflector accessory reduces mess and spray.</p>
Community Use	<p>The HTS can be used with a portability base. This base along with the HTS toilet seat can be packed into a canvas tote bag and taken on family excursions, providing increased opportunities for participation within the community.</p>
Growth	<p>The HTS is designed to accommodate growth.</p> <p>Adjustments for seat depth, backrest height and commode height are easy and tool-free.</p>



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