

DURABLE MEDICAL
EQUIPMENT MANUAL FOR
**LACTATION AND
PARENTING**

FOR INDIVIDUALS
WITH SCI/D

2026 EDITION



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American Spinal Injury Association Durable Medical Equipment Manual for
Lactation and Parenting for Individuals with SCI/D

2026 Edition

We thank those who gave time and effort to this project for sharing their expertise willingly to enhance the lives of those with spinal cord injury or dysfunction. We would also like to thank all of the contributors to past versions of this manual.

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CHAPTER 1: LACTATION AND FEEDING

INTRODUCTION

Parenting can be a daunting task for any new parent. For individuals with mobility, strength, or dexterity impairments, additional equipment or home modifications may be needed to ease caregiving in the newborn period. This manual outlines some options for enhanced accessibility for the care of a newborn.

The information provided in this manual on types of equipment are not intended to be prescriptive but rather to help guide people on the types of adaptations or equipment that are readily available. Many of the products or adaptations shown are not specific to individuals with SCI/D but can be readily adapted for use in this population.

The pictures and website links that are utilized in this manual are NOT intended to be representative of every piece of equipment available, nor are they meant as an endorsement or advertisement for any specific brands, models or products. They are meant to be only an illustration of that category or type of equipment. The market is ever changing and new products will become available over time.

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SECTION 1: ANATOMY

The breast is innervated from nerves derived from the T1 – T5 level of the spinal cord. Therefore, if the level of spinal cord injury is at or above T5, it may interfere with both the let-down reflex and milk ejection (the two components of breastfeeding).

While women with SCI may experience many of the same breastfeeding challenges as able-bodied women, the level and completeness of the injury can significantly affect lactation. Potential challenges include a suppressed milk-ejection reflex or latching difficulties if nipple sensation is altered. Additionally, compromised upper limb function can make it difficult to position the infant or maintain a secure latch. Physical limitations in hand function may also lead to incomplete breast emptying, increasing the risk of clogged ducts and mastitis. For those with higher-level injuries (generally T6 or above), there is also an increased clinical risk of autonomic dysreflexia during breastfeeding, which requires prompt intervention when symptoms arise.

Milk production and Milk let down

Current literature indicates that individuals with spinal cord injuries above T6 report higher incidences of insufficient milk production and ejection, alongside an increased risk of autonomic dysreflexia during breastfeeding [1]. Consequently, the duration of exclusive breastfeeding is often shorter for this group compared to those with injuries at or below the T6 level. Lactation strategies may include direct breastfeeding, expression via a breast pump, or supplementing with formula as needed.

Expression and Let down Considerations

The use of herbal supplements, such as fenugreek, or dopaminergic medications to enhance milk supply should

occur strictly under medical supervision. These interventions may increase the risk of engorgement and mastitis if expression frequency is not appropriately adjusted to match the increased supply. Therefore, their use should be managed by a physician or a certified lactation consultant.

SECTION 2: BREAST PUMP

Breast milk may be expressed using either manual or electric suction pumps. For individuals who primarily or exclusively pump, or who combine pumping with direct breastfeeding, it is important to verify insurance coverage before purchasing durable medical equipment (DME). Many DME providers can fulfill prescriptions for double electric breast pumps, depending on their inventory and the inclusion of appropriate ICD-10 coding. A letter of medical necessity can also be provided by your health care provider if needed.

Breast pumps come in many different types and may fit into more than one category (for example, hospital-grade, closed-system, or double electric). The information below explains what each type of pump means and highlights important things to think about when choosing and using a pump. This information is meant to help make informed choices and should be considered along with the individual's needs, abilities, and recommendations from the healthcare provider, rehabilitation team, and/or lactation consultant.

While suction strength varies by model, hospital-grade pumps—typically defined by a vacuum strength of 300 mmHg or higher—are generally preferred. These units are typically more effective at establishing and maintaining milk supply, ensuring thorough breast emptying, and mitigating the risk of clogged ducts and mastitis. Consequently, selecting appropriate equipment is a critical consideration for successful lactation management and risk reduction.

Pump Type	How It Works	Considerations
Manual Pump	Hand-operated lever or squeeze handle creates suction to breast to express milk	• Low cost • Portable and lightweight • Quiet • No batteries or power needed • Requires repetitive hand motion • Can be tiring for those with weak grip strength
Single Electric Pump	A motorized pump expresses milk from one breast at a time	• Less physical effort and more efficient than manual pumps • Adjustable settings • Some have large, easy buttons to press • Requires power source or may have a re-chargeable battery
Double Electric Pump	A motorized pump that expresses milk from both breasts simultaneously	• Faster sessions, save time • More efficient milk removal • Reduces overall pumping burden • Typically, more expensive • Can use with a hands-free pumping bra to hold flanges in place • Additional parts that require cleaning
Wearable/ Hands-Free Pump	Small, motorized breast pumps that fit directly into the bra	• Allows mobility during pumping • No need to hold flanges, fits into a bra • May have lower suction than traditional pumps • Some are controlled via Bluetooth/cell phone for those with limited hand dexterity • Considerate how many parts and if it is easy to assemble/clean
Battery-Powered Portable Pump	Electric pump powered by rechargeable battery	• Portable • Reduced hand effort • May be less powerful than hospital-grade options
Hospital-Grade Pump	High-performance electric pump designed for frequent use or establishing milk supply	• Powerful and efficient • Often more comfortable and customizable settings • Many have programmable settings so may require less adjustments
Open-System Pump	No barrier between milk collection kit and pump motor	• May cost less • More parts that require cleaning • Greatest risk of milk entering tubing/motor
Closed-System Pump	Barrier prevents milk from entering tubing and motor	• Easier hygiene management (less cleaning of tubing and overall maintenance) • Less risk of contamination

How a Hands-Free Pump Works

Example: Willow® or Freemie®



Inside the Bra Cup

1



Pump sits inside the bra cup
The motor unit fits discreetly inside the bra.

2



Flange seals around the nipple
The soft flange creates a gentle seal to express milk.

3



Milk collects in the container
Milk flows into the container and stays securely inside the bra.



Key Benefits

- Discreet and wearable inside a nursing or pumping bra
- Allows you to pump while working, caring for baby, or doing light tasks
- No tubes outside your clothing—just a small cord to the remote

Manual Pumps

Manual pumps require significant hand dexterity to operate, either by the individual or caregiver, and often require a prolonged effort. Therefore, they are not recommended for routine use but may be useful in urgent situations (e.g., when an electric pump is not working or during a power outage).

Silicone suction pumps use sustained suction to express milk and can augment milk expression on the opposite breast during active breastfeeding, due to the let-down reflex. It is important to note that this method does not provide active nipple stimulation and should not be used as the primary means of milk expression. It is intended only as a supplemental option.





Breast Pump Attachments

It is recommended that breast pump flanges be professionally fitted by a certified lactation consultant to ensure an optimal fit. During electric pump use, the elasticity of the areola may necessitate adjustments in flange size mid-session or the use of a flange insert to accommodate smaller nipple diameters.

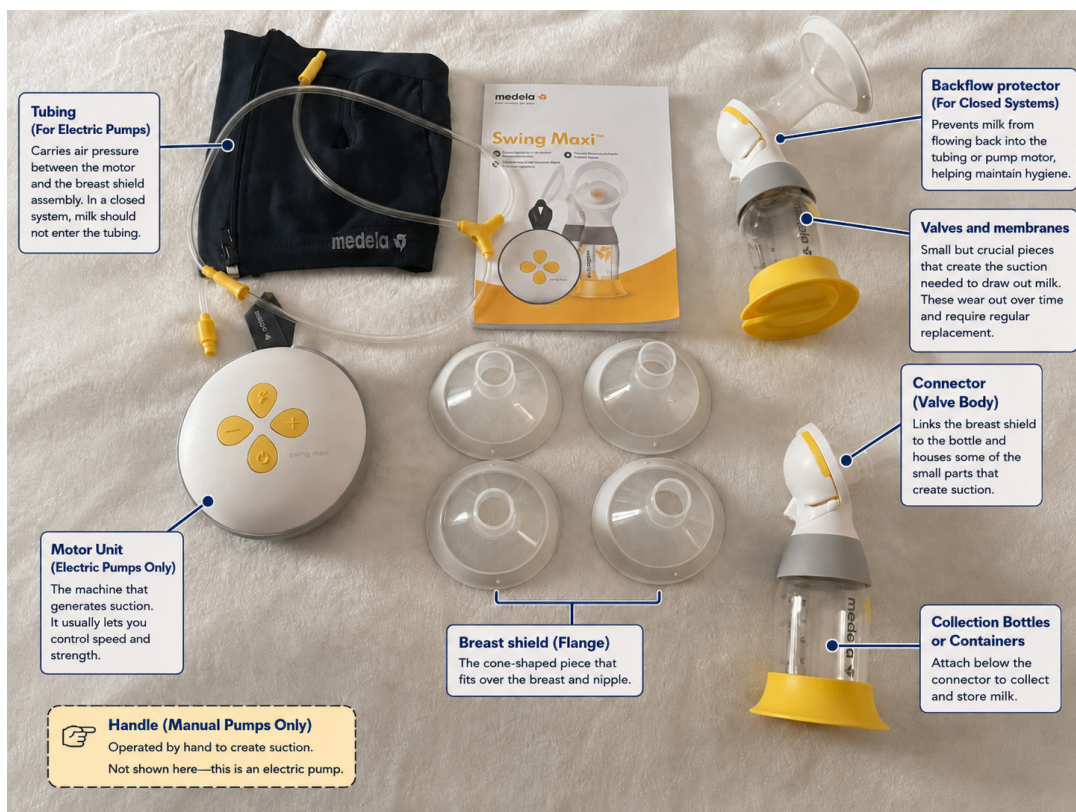
It is important to note that individuals with spinal cord injury may have diminished sensation to the breast area, making it difficult to detect an improper fit or physical discomfort. The use of a mirror is recommended to monitor nipple and breast tissue stretch during expression. This visual assessment is essential to help prevent injuries to the area, such as excoriation and bleeding, and to ensure overall safety and effectiveness during the pumping process.

Breast Pump Parts

A breast pump—whether manual or electric—is composed of several parts that work together to express and collect milk.

Main Components of a Breast Pump

- **Breast shield (Flange):** The cone-shaped piece that fits over the breast and nipple.
- **Connector (Valve Body):** Links the breast shield to the bottle and houses some of the small parts that create suction.
- **Valves and membranes:** Small but crucial pieces that create the suction needed to draw out milk. These wear out over time and require regular replacement.
- **Backflow protector (For Closed Systems):** Prevents milk from flowing back into the tubing or pump motor, helping maintain hygiene.
- **Tubing (For Electric Pumps):** Carries air pressure between the motor and the breast shield assembly. In a closed system, milk should not enter the tubing.
- **Motor Unit (Electric Pumps Only):** The machine that generates suction. It usually lets you control speed and strength.
- **Handle (Manual Pumps Only):** Operated by hand to create suction.
- **Collection Bottles or Containers:** Attach below the connector to collect and store milk.



Optional or Additional Parts

- Power Source (Battery Pack or AC Adapter for Electric Pumps)
- Milk Storage Bags (for transferring and storing milk)
- Cooler Bag/Ice Packs (for transport)
- Nipple Cushions or Inserts (for better fit and comfort)

It’s important to note that many of these parts can wear out over time and should be replaced regularly to maintain proper suction, hygiene, and overall performance.

Pump Part	Replacement Frequency
Valves	2 – 8 weeks
Membranes	2 – 8 weeks
Duckbill Valves	4 – 12 weeks
Backflow Protectors	3 – 6 months
Tubing	3 – 6 months
Flanges	Every 6 months (or as needed)
Connectors	Every 6 months (or as needed)
Milk Collection Bottles	When chipped, cracked, or leaking

To maintain proper alignment, breast pump flanges can be secured using a specialized pumping bra. These garments are available in various designs, including options for all-day wear or styles specifically intended for use during milk expression, often featuring a front-zipper closure for ease of access.

For individuals with limited hand function, or for those unable to hold pump components independently, breastfeeding bras can provide a hands-free system with a traditional pump or with wearable pumps which are inserted into the bra. Although some users may need assistance with the initial positioning, a hands-free system can offer greater independence by allowing the use of mobility aids—such as wheelchairs or walkers—during pumping sessions.



When using a hands-free system, the flange may be positioned correctly in the bra insert at the start of a pumping session; however, as milk collects and adds weight to the container, it can shift unintentionally. Ongoing visual checks—either with a mirror or with assistance from another caregiver—are recommended to help prevent nipple or areolar trauma.

Adaptive undergarments designed for individuals with limited hand dexterity are also available.



Clogged ducts, and or prodromal symptoms of mastitis

Lactational dysfunction can occur in women with spinal cord injuries. This may include complications such as clogged milk ducts, low milk supply, a reduced or absent let-down reflex, and breast engorgement. [i]

A blocked milk duct often presents as one breast feeling more swollen than the other, sometimes accompanied by a low-grade fever and unusual fatigue occurring 1–2 days before a palpable lump develops in the breast. In individuals with spinal cord injuries above T6, these symptoms may also be associated with signs of autonomic dysreflexia. A decrease in milk supply can indicate impaired milk flow within a specific area of the breast.

Therapeutic ultrasound (TUS), combined with gentle lymphatic massage, may help resolve blocked milk ducts. Ultrasound gently warms the breast tissue, which may help improve milk flow. Some evidence suggests it can assist in resolving clogged ducts and may help disrupt bacteria accumulation contributing to the blockage.

A typical treatment plan may include 2–8 sessions, depending on the clinical response. During each session, a trained clinician applies an ultrasound device on the affected area for approximately 8–10 minutes, using small circular motions. If the blockage is closer to the nipple, the device may be applied directly to that area. The same ultrasound equipment commonly used for musculoskeletal treatments can be used for this purpose.



Increasing the frequency of breastfeeding or pumping is important to help clear a blocked milk duct and improve milk flow. When breastfeeding, try positioning the baby so their chin points toward the area that feels blocked, as this can help drain it more effectively. For example, a blockage in the lower outer part of the breast (around the 7 o'clock position) may improve with a “football hold.”

Football hold, also called the clutch hold, is a breastfeeding position where the baby is held along the parent's side, on the same side as the breast being used. The baby's body is tucked under the parent's arm, with the baby's feet pointing toward the parent's back. The parent supports the baby's upper back, shoulders, neck, and head with the same-side arm and hand while bringing the baby close to the breast for latch. Pillows, rolled towels, a wheelchair tray, or other supports may be used to bring the baby up to breast height so the parent does not have to lean forward.



As a clogged duct or mastitis improves, the expressed milk may appear saltier or contain small clumps. It may be helpful to strain the milk before bottle-feeding to prevent clogging the nipple. These clumps can also accumulate in breast pump parts, so it's important to clean and sanitize all equipment carefully to maintain proper function and hygiene.



Figure 3. Filter milk before placement in bottle with tea leaf filter

Oral lecithin capsules may be recommended for women who experience frequent blocked milk ducts. Lecithin may help reduce milk thickness, which can lower the risk of recurrent clogged ducts. A commonly suggested dose is 1,200 mg taken four times daily.



When treating mastitis or a breast abscess, your healthcare provider may prescribe antibiotics such as nafcillin, amoxicillin–clavulanate (Augmentin), doxycycline, trimethoprim, clindamycin, or vancomycin , guided by local resistance patterns of bacteria in your community and the severity of the infection.

Therapeutic ultrasound, as described above, is generally considered safe to use while taking antibiotics.

While many foods are marketed to help promote lactation, the best way to promote lactation is to have proper caloric intake, drink to thirst to avoid dehydration, and for frequent/ effective milk removal to keep up a milk supply and prevent clogged milk ducts.

Breast Milk Bags for storage

Breast milk storage bags are designed for safe collection, storage, and freezing of expressed breast milk. Use a new , sterile bag each time and label it with the date and time of expression. Do not overfill the bag, as milk expands when frozen and may cause leaks or tears. Store milk according to recommended temperature guidelines, and avoid refreezing thawed milk. Always inspect bags for leaks or damage before use, and discard any compromised containers.

Nipple Cream

Nipple cream may be used during breastfeeding to help soothe dryness, soreness, or irritation of the nipples. Apply a small amount after feeding, as needed. Choose products that are safe for breastfeeding and do not require removal before the next feeding, unless directed otherwise by your healthcare provider.



SECTION 3: ASSISTANCE WITH POSITIONING OF INFANT DURING BREASTFEEDING

Many different types of breastfeeding pillows are available to help position both the baby and the individual for comfortable breastfeeding. Some are simple U-shaped pillows that wrap around the body to help keep the baby in place. Others include waist straps that secure the pillow around the individual for added stability. Certain designs also feature adjustable headrests or additional support cushions to assist with positioning. Additional positions can include side laying or laying down propped up on a wedge or pillow.

No single breastfeeding pillow works for everyone, and some individuals may prefer to use standard pillows instead. Support should be tailored to the individual's needs. An occupational therapist can help trial different positions and types of support.



SECTION 4: BOTTLE OPTIONS

Whether using a breast or bottle, feeding the baby is an important time for bonding and bottle-feeding can be performed by any caregiver. Bottles can be used with either expressed breast milk or with formula. There are many options for bottle-feeding options available that accommodate limited hand function. Bottles come in all different shapes and sizes which can be easier to hold or position. They also have different nipple sizes to accommodate babies of different

ages and for those who do a combination of bottle and direct breast feeding.

Bottle holders can be worn around the caregiver's neck to allow completely hands-free feeding. This can free both hands to help stabilize the baby, which is especially helpful for individuals with limited arm or hand function.



Simple silicone handles to hook onto bottles, as well as straps that loop over the palm, can be purchased to make holding a bottle easier. In addition, U-cuffs can be utilized with adaptations to hold a bottle for individuals with limited hand function.

Bottle holders designed for use without a caregiver are not recommended due to the risk of choking. Infants should be supervised during all feeding sessions.

SECTION 5: FORMULA FEEDING

In addition to ergonomic bottles and bottle positioning devices described above, some commercially available products can warm bottles and mix formula. While these can be used by anyone, they may be especially helpful for individuals with limited hand function or decreased temperature sensation, as they help ensure that formula is properly mixed and heated to an appropriate temperature. Some devices now include Wi-Fi capability and can be operated via a mobile app.



babybrezza.com

Online Resources and Videos:
Additional resources and videos can be found online to help guide breastfeeding.

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CHAPTER 2: CHILD CARE EQUIPMENT

FOREWORD

Meeting a child’s physical needs while managing limited or impaired mobility can present unique challenges. However, the use of adaptive equipment, modified environments, and creative problem-solving can significantly improve a parent’s ability to care for their child safely and effectively.

A multidisciplinary clinical team is essential in this process:

- **Occupational Therapists (OTs):** Assist with adaptations for daily activities such as feeding, changing, bathing, and bonding.
- **Physical Therapists (PTs) and OTs:** Provide guidance on balance and mobility when transporting an infant, operating a stroller, or selecting childcare furniture that ensures the ergonomic safety of both parent and child.
- **Physiatrists:** Evaluate physical and functional requirements to optimize task performance and address any emerging pain or related medical concerns.

While many adaptive products are commercially available, some may require custom fabrication. Rehabilitation centers with specialized seating clinics, 3D printing capabilities, or rehabilitation engineering services can often develop custom equipment tailored to an individual’s needs.

The following sections provide an overview of both commercial and custom solutions designed to support safe interaction and caregiving. It is important that any equipment modifications comply with national child safety standards. Parents are also encouraged to consult their pediatricians with any specific concerns regarding childcare or safety.

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SECTION 1: CHILD CARE PREPARATION

Prior to childbirth, individuals may engage in targeted therapy to simulate and refine essential childcare tasks. Weighted dolls allow for realistic practice of lifting and transferring an infant into carriers, strollers, cribs, or high chairs. These simulators can also be useful when visiting retailers to evaluate the ergonomics and compatibility of different products before purchase.

Therapeutic sessions may also focus on the following areas :

- **Daily Care Tasks:** Practicing dressing, undressing, diapering, and swaddling to improve efficiency and comfort.
- **Equipment Mastery:** Developing proficiency in putting on and taking off infant slings and harnesses, both with and without simulated weight.
- **Functional Movement Patterns:** Home exercise programs can target fine motor skills—such as manipulating tabs, zippers, and snaps—while using free weights or dolls to practice maintaining stability when reaching beyond the base of support.
- **Adaptive Strategies:** Explore specialized techniques and equipment, including adaptive or customized changing tables, cribs, and play areas, to support individuals with limited hand function. Learn how to organize and modify your home environment to make childcare supplies, such as bottles, diapers, and wipes, more accessible and easier to use.

SECTION 2: SLEEPING

The American Academy of Pediatrics (AAP) and the Centers for Disease Control and Prevention (CDC) have established comprehensive guidelines to ensure safe infant sleep environments. Key recommendations include:

- **Sleep Positioning:** Infants should always be placed on their backs to sleep in a dedicated space, independent of other individuals.
- **Approved Sleep Surfaces:** Use only a crib, bassinet, or portable play yard equipped with a firm, flat mattress and a tight-fitting sheet.
- **Environment Clearance:** The sleep area must remain free of loose blankets, pillows, soft toys, bumper pads, or other soft bedding materials.

It is imperative that all parents and caregivers, regardless of physical ability, follow these clinical standards to prevent risk of injury to their infant. Be advised that drop-side cribs

have been prohibited in the United States since 2011 and in Canada since 2016 due to safety concerns.

Bassinets and co-sleepers

Bassinets and bedside sleepers are suitable for newborns until they begin to roll over or sit upright—typically around 3 to 5 months of age, or upon reaching a weight of 15–25 lbs. It is important to follow the specific weight limits and developmental milestones provided by the manufacturer.

Compared to standard cribs, which often require more reach and have lower mattress positions, bassinets are generally higher and shallower. These design features can make it easier to lift or place a baby, especially for parents with limited reach.

For context, standard crib rails are typically about 30–34 inches high, with adjustable mattress levels for safety, while bassinets often sit at a more accessible height of about 30–40 inches. This can reduce how far a parent needs to bend forward.

Bedside sleepers (co-sleepers) offer the added benefit of keeping the baby close, which can support bonding and make breastfeeding easier from a reclined or side-lying position. These units can be placed directly against the adult bed, allowing the parent to maintain eye-level interaction with the infant.

When selecting a co-sleeper, ensure the height matches the bed frame and mattress so the surfaces are level. Also, ensure that the placement does not block safe movement into or out of the bed.





Some co-sleepers have a convertible option that allows them to be used either as a co-sleeper or as a freestanding bassinet. When attached to the bed, the side rail is removed; when used independently, the fourth side can be attached.



Other useful features for bassinets may include wheels, which allow a baby to be moved without lifting them in or out of the sleep surface. Bassinets with wheels should have locks that can be engaged whenever the baby is asleep.

Other bassinets, such as the HALO (shown here), have a collapsible side rail that folds down when pressure is applied, allowing easier access when placing the baby in and out of the bassinet without needing to lean over the side. In addition, the HALO bassinet has a swivel feature that allows it to rotate over the side of the bed, providing easier access for breastfeeding or face-to-face bonding directly from the bed surface.



Some portable cribs (also known as PlayYards or Pack and Plays) have a bassinet and/or changing table option, which can be used in different settings as the baby grows.



Examples: Graco Pack and Play on the Go Play Yard

Portable bassinets, Moses baskets, and infant carriers often feature integrated handles or straps that make transport safer for individuals with limited trunk stability or hand function. In some cases, these devices are designed to rest securely on a user's lap, allowing for more stable positioning. These designs can also help people with limited hand use or use of only one arm lift the baby, while still keeping the baby's head supported.

The use of a portable bassinet can also significantly reduce strain on the lower back by minimizing the need to bend forward deeply. Many of these products are compatible with elevated stands or bases, allowing the unit to be positioned at an accessible height when stationary and eliminating the need to reach down to floor level.



Cribs or Play yards (portable cribs) are needed once a baby grows out of the size and weight limits of bassinets or co-sleepers.

Cribs

Gated cribs allow either part or all of the front of the crib to slide or swing open, while remaining securely latched to prevent harm to the baby. Openings may be manual or powered/electric. Cribs can be adapted at home or purchased already adapted. Some examples include the PediLift and Gerdy Cribs. These electric modified cribs can be expensive though some will work with your insurance to see if there is partial coverage.



Note: Drop side cribs are not recommended. They have been banned in the United States as of 2011 and in Canada as of 2016.



Traditional cribs can be used and are often easier to access when the mattress is set at a higher level for younger infants or when the crib has shortened legs. Foam padding on the edge rails of the crib can also help provide cushioned support when lifting the baby in and out.

Play Yards

There are many play yard options that come with detachable side panels for improved access when picking up children. One such example is shown below:



In addition, some play yards can be placed directly on the floor and have side openings which can allow access and play at floor level, such as the Lotus Everywhere Travel Crib.



SECTION 3: DRESSING

Diaper Changing

Changing a diaper and dressing an infant requires a flat surface. A baby changing pad or topper can be placed on almost any level surface. Surfaces that are at an appropriate height for an individual to comfortably reach are essential for safe diapering and dressing. For wheelchair users, roll-under options can allow for easier and safer access to the changing surface. Always ensure the baby is safely secured on the chosen flat surface. Consider using straps to secure the baby or non-slip material under the changing mat to prevent it from slipping or sliding.

Tables or desks can be converted to a changing station easily with placement of a commercially available pad, tray, or changing table topper. Adjustable height tables can allow for more or less leg clearance depending on wheelchair height. The tray must be secured properly to ensure a safe workspace. In this example, the tray was secured to the base to prevent movement.



Wall-mounted changing tables can either be made or purchased commercially. The advantage of wall-mounted tables is that they can be adjusted to the desired height to accommodate different wheelchair heights or standing individuals. Some models also fold up when not in use, saving space in smaller rooms. Use of these tables must follow manufacturers guidelines to ensure proper installation and safe weight limits. Some adjustable height tables can even include a small sink to assist with washing.

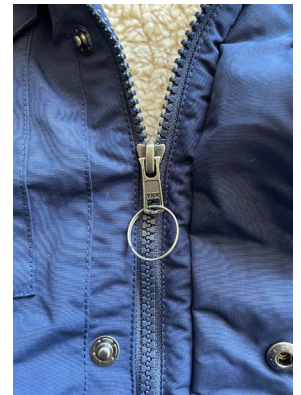


In addition to a pad or tray on top of the flat work surface, a lazy Susan can be used to assist with repositioning the baby during changing and dressing. As with all equipment, it is essential to ensure that all components are securely attached to the base or surface. Diaper selection may also ease with caregivers putting the diapers on and off. Some brands make a pull up as small as 12 months which may be easier than a traditional tab closure.

Clothing/Swaddling

Often, the same surface used for diaper changing can also be used for dressing the infant. Additional considerations for dressing include the choice of clothing and clothing closures. Closures on sleep sacks, onesies, swaddle wraps, and other garments are available in a variety of commercially produced options, and they can also be sewn or adapted at home.

Traditional swaddle blankets are flat pieces of cloth which require wrapping and tucking around the baby. Some swaddle blankets now come with Velcro, magnetic, or zipper closures, which may be easier to open and close around the baby. Further adaptations can be explored with an occupational therapist to trial or build.



For products with zippers, key rings can be added (as can be seen in the image on the left) to make zipping up and down easier for those with limited hand dexterity. Simple soft loops can also be added and serve a similar function.

If the clothing has buttons, they can either be enlarged or replaced with magnets or Velcro.



Additionally, many clothing lines now offer garments with built-in adaptive features such as magnets, snaps, Velcro, or loop closures. Magnets, in particular, are easy to close (see images below) when brought close together, which may be helpful for individuals with limited dexterity. Although easy to use, magnets must be securely fastened within the clothing, and caution should be taken, as they may pose a swallowing risk if they become loose. You may also consider one-piece items of clothing to allow for ease of dressing especially during early ages.

SECTION 4: BATHING

Bathing of small infants or newborns can be done in a sink. Sink-based infant inserts such as PUJ or Blooming Bath allow individuals to bathe an infant in any sink they can roll under or approach.



Deeper sinks, such as farmhouse sinks, may offer the easiest access and more support for positioning. Alternatively, obtaining a small wash basin that can be placed on an adjustable height changing table can allow for an accessible bathing option.

Blow-up bathtub inserts which can be used to help position the baby and allow for less water depth for safety. These inserts can be placed inside a standard tub or on any other stable surface, as long as all sides are supported. Some also have a built-in thermometer that changes color when the

water is too hot. These inserts should only be used once a baby can sit up independently and maintain head control.

The ideal temperature for baby bath water is approximately 98.6–100.4°F (37–38°C). For individuals with altered sensation it is recommended to use a thermometer to test the water temperature to ensure it is safe for the baby. Some thermometers display temperature, while others react to the water temperature to reveal the word “HOT” when too warm.

Examples:

Floating Duck Thermometer

Floating Star Thermometer



Grooming

Grooming an infant may require the use of adaptive devices with larger or built-up handles to help improve grip.

Infant nail clippers tend to have a wider, more ergonomic handle (shown here) to improve control, given the small nail bed. Electric trimmers can be another option if hand strength is limited.





Adaptive cuffs and holders, sometimes referred to as universal cuffs, help individuals with limited dexterity or grip strength use items without solely relying on their grip. Adjustable straps wrap around the user's hand, and a pocket can hold items such as toothbrushes, hair brushes, utensils, and many other similar objects.

Foam tubing is an easily accessible, high density, soft foam that can be used to build up handles of everyday use items

Pictures courtesy of: thewrightstuff.com



Some nasal aspirators can be used by individuals with limited hand function, unlike traditional bulb suction devices they can use either mouth suction or they can be electric and operated with a switch.

HOW A NASAL ASPIRATOR WORKS

Helps clear your baby's stuffy nose



STEP-BY-STEP: HOW IT WORKS

-  Place the large tip against the outside of the nostril to create a seal.
-  Use the mouthpiece to apply gentle, steady suction.
-  Mucus is drawn into the collection chamber while the disposable filter helps block mucus and germs from reaching the hose and mouthpiece.
-  Replace the filter after use and wash the large tube.

PRODUCT ANATOMY



- nostril tip**
Wide tip rests against the outside of the nostril.
- collection chamber**
Holds mucus that is drawn out.
- filter**
Helps block mucus and germs from reaching the hose and mouthpiece.
- hose**
Transports air and mucus to the chamber.
- mouthpiece**
For gentle, controlled suction by the caregiver.

Example: Devices such as the NoseFrida nasal aspirator may be easier to operate for individuals with limited hand function.
<https://frida.com/products/nosefrida>

SECTION 5: TRANSPORT

For individuals with limited upper extremity strength or those who require their hands free to operate a manual or power wheelchair, wearable slings and carriers offer a functional alternative to traditional strollers.

A wide variety of commercially available carriers feature integrated fasteners and adjustable waist straps to ensure secure positioning and accommodate shifts in the center of gravity. These designs often include adjustable straps or integrated hoods to provide essential neck support for the infant, ensuring both safety and ergonomic comfort for the parent.

The information on page 19 explains common types of baby carriers, how they work, and things to think about when choosing and using one. Babywearing can help keep the baby close while keeping hands free, but the best carrier will depend on the individual's needs, abilities, and daily routines. This information is meant to help make informed choices and should be used along with training, individual assessment, and recommendations from your healthcare, rehabilitation, or other qualified professionals.

Some sling carriers like the one below, come “pre-tied” and may be easier to don and doff than wraps that require hand-tied knots.



It is important to note the truncal stability of the individual, as well as how the change in center of gravity with a baby in a carrier may affect mobility. A physical or occupational therapy session can help individuals determine how to safely put on and take off the carrier and place the baby in and out of it.

Lap belts or ties are another option for individuals to secure a baby who is developmentally ready to sit upright in their lap, providing additional support during wheelchair movement.



Example: <https://www.primobaby.com/products/primo-lapbaby>

Type of Baby Carrier	How It Works	Considerations
Ring Sling	A long piece of fabric threaded through rings and worn over one shoulder. The baby can be carried on the front or hip.	• Lightweight and portable • Quick to adjust, useful for short carrying periods. • Uneven weight distribute may increase shoulder strain or impacted trunk control/balance
Wrap Carrier	A long piece of fabric wrapped and tied around the body to support the baby in various positions.	• Highly customizable fit • Excellent newborn support • Distributes weight across both shoulders and trunk more evenly • Has multiple steps to put on, requires dexterity and coordination
Meh Dai (Mei Tai)	A fabric panel with shoulder and waist straps that are tied around the caregiver/parent.	• Structured like a carrier but flexible like a wrap • Good weight distribution • Requires tying multiple straps which may be affected by reduced hand function
Soft Structured Carrier (SSC)	An ergonomic, buckle-style baby carrier featuring padded waistbelts and shoulder straps	• Supportive, comfortable for longer wear • Distributes weight evenly • Buckles may be difficult with reduced hand function
Front-Pack Baby Carrier	The baby is carried against the caregiver's chest, typically inward-facing and sometimes outward-facing.	• Allows easy visual monitoring and soothing of the baby • Often easier to use than wraps • Front positioning may affect wheelchair access, transfers, trunk control, and posture
Hip Carrier	Supports the baby on one side of the body, often using a seat-like platform or simple carrier.	• Easy to put on and remove • Convenient for older infants and toddlers • Creates asymmetrical loading at the pelvis which may impact balance/trunk stability
Back Carrier/Backpack Carrier	The Baby is carried on the caregiver's back using either a soft carrier or framed backpack-style carrier.	• Comfortable for older infants and toddlers and frees the front of the body. • Generally not recommended for wheelchair users because the wheelchair's backrest creates a dangerous physical barrier that may crush or suffocate a child positioned on your back
Hybrid Carrier	Combines features of wraps, slings, and structured carriers.	• Can offer a balance between comfort, support, and ease of use • Accessibility features will vary by brand

Strollers can be difficult, but not impossible, to manage while using a wheelchair. For individuals with good upper body strength and balance, a stroller can be pushed with one hand and is generally easier to control if it has a single U shaped handle rather than two separate handles. A power add-on device for the wheelchair can further assist pushing a stroller. This should be practiced initially without the baby in the stroller and can be done with a wheelchair skills therapist.



A connection can be made between a wheelchair and a stroller through a rehabilitation engineering clinic or with a commercially available product to allow hands-free operation.

Example: Products such as the Coast Rider Stroller Connector from Dream On Me can link a stroller to a wheelchair Coast Ride Stroller Connector from Dream on Me



ATTACH TO A WHEEL CHAIR



Coast Rider Stroller Connector | Dream On Me

Car Seats

Car seats are available that rotate, allowing the child to be placed into the seat from the front or side. This reduces the reach required to secure the child into the seat. They may even be able to rotate out to reduce the reach required to remove the baby. Example: Baby Jogger City Turn <https://www.babyjogger.com>



Some car seats also double as a stroller, so that the baby does not have to be removed from the car seat. Example: <https://www.doona.com/>

Devices are also available to assist with opening car seat buckles for individuals with limited hand strength or dexterity. One example is the Unbuckle Me device, which reduces the force needed to release car seat buckles.



Selecting the appropriate car seat should be based on the vehicle's dimensions, the infant's size, and the parent's specific functional needs. Occupational therapy sessions can be helpful in identifying a model that optimizes ease of use.

All car seats must meet national safety standards and be installed strictly according to the manufacturer's instructions. For additional support, many local police or fire departments offer free certified car seat inspections and installation assistance to ensure the restraint system is properly secured.

Indoor Safety

Indoor safety requires thoughtful planning for every family, but parents with a spinal cord injury (SCI) or those who use a wheelchair may benefit from additional adaptations that improve accessibility, reduce fall risk, and support safe infant and toddler care. The goal is to create a home that allows everyday childcare tasks to be completed safely while minimizing unnecessary transfers, reaching, or carrying. As babies become toddlers and more mobile, home modifications should be paired with clear, consistent safety rules to help protect both the parent and child.

Home Environment

- Keep frequently used baby supplies (diapers, wipes, bottles, clothing, medications) within easy reach at accessible heights.
- Store supplies in multiple locations throughout the home to reduce unnecessary trips.
- Maintain clear, uncluttered pathways to support safe wheelchair mobility and reduce tripping hazards for ambulatory caregivers. Whenever possible, maintain pathways that are at least **36 inches wide** to allow comfortable wheelchair maneuvering while keeping pace with an active child.
- Ensure adequate lighting throughout the home, particularly for nighttime feedings, diaper changes, and transfers.
- Swap out thick rugs for low-pile carpeting or smooth hardwood to prevent casters from getting stuck when rushing to reach a child. (National Institutes of Health) (www.virtuallabschool.org)

Safe Baby Equipment

- Choose cribs, bassinets, and changing tables that can be safely accessed from a wheelchair or seated position. Adaptive or side-opening cribs may reduce lifting demands.
- Use sturdy changing surfaces with raised edges or safety straps (used appropriately and under direct supervision) to help prevent falls during diaper changes.
- Select infant seats, swings, play yards, and other baby equipment with accessible heights that minimize awkward lifting.
- Ensure all baby equipment is stable, assembled correctly, and meets current safety standards.

Safe Baby Handling and Transfers

- Plan how the baby will be transferred between the crib,

stroller, floor, changing area, and caregiver before routine care begins.

- Use adaptive carrying devices or transfer techniques recommended by an occupational or physical therapist when appropriate.
- Avoid carrying the baby while performing wheelchair or standing transfers unless the technique has been practiced and determined to be safe.
- If balance, strength, or hand function is limited, consider transporting the baby in a stroller, wheeled bassinet, or infant seat instead of carrying them over longer distances.
- Never leave a baby unattended on elevated surfaces, even for a moment.

Babyproofing

- Secure furniture, televisions, and large appliances to the wall to prevent tip-over injuries as children begin pulling to stand and climb.
- Cover electrical outlets and keep electrical cords out of the child's reach.
- Lock cabinets containing medications, cleaning supplies, and other hazardous materials.
- Install safety gates when appropriate, ensuring they do not interfere with wheelchair access. Extra-wide, pressure-mounted gates that can be opened from a seated position may be especially helpful for restricting access to kitchens, stairways, or other hazardous areas.

Wheelchair-Specific Safety Considerations

As infants become toddlers, additional precautions can help reduce injuries related to wheelchair mobility and improve supervision.

- Apply soft padding or foam edge guards to wheelchair footrests and other rigid frame components to reduce the risk of injury if a child bumps into the wheelchair.
- Teach children early that wheelchair wheels are “no-touch” zones. Consistent verbal cues, visual reminders (such as brightly colored stickers on the wheel rims), and routine reinforcement can help establish safe boundaries.
- Create a designated ground-level play area using play yards or portable fencing where the child can play safely while remaining within the caregiver's line of sight and reach.
- Whenever possible, arrange furniture to minimize blind spots behind or alongside the wheelchair and allow sufficient space for quick maneuvering if a child moves unexpectedly.

Teaching Safety Boundaries

As children become more mobile and independent, environmental modifications should be paired with consistent behavioral expectations.

- Teach simple household safety rules, such as staying within designated play areas, avoiding wheelchair wheels, and waiting before approaching during transfers.
- Use consistent verbal reminders and positive reinforcement to establish safe routines.
- Review household safety expectations regularly as the child's developmental abilities change.

Individualized Planning

Every parent with a spinal cord injury (SCI) has different strengths and challenges with movement, balance, feeling, and getting around. An occupational therapist can help you find tools, equipment, and new ways to care for your baby safely and independently. They can work with you to find solutions that fit your needs and your baby's needs as they grow.

Outdoor Safety

When navigating outdoor environments with an ambulatory child, it is essential for parents with mobility or balance impairments to stay close and prevent the child from entering hazardous areas. In some instances, a child may move more quickly than a parent using a wheelchair or may be able to access terrain that is not wheelchair-accessible.

To reduce the risk of a child wandering or outpacing a parent, assistive tethers such as safety backpacks with integrated handles, child safety leashes, or wrist link cuffs can be used. These tools provide a physical connection that helps keep the child within a safe, reachable distance, compensating for differences in speed or environmental accessibility.



Using products such as leashes or wrist cuffs that are adjustable can allow a wheelchair user to propel or control their wheelchair while still staying connected to their child, particularly when crossing streets or navigating other potentially hazardous environments.

SECTION 6: FEEDING

For information on bottle or breastfeeding, see Chapter 1, Section 3: Feeding, page 9.

Seating for Feeding

When a baby is old enough to begin eating solid foods, they will need a physical place to sit. High chairs may be difficult to access from a wheelchair due to their height and base design. High chairs are available in various heights, with different levels of adjustability and footprints. It is advisable to trial a weighted doll with different high chairs to determine which options best match an individual's abilities. Safe lifting techniques can also be practiced with a therapist before lifting the baby into the chair.

Hook-on high or travel high chairs can attach to the side of a table or counter and may be more accessible for wheelchair users than a traditional floor-based high chair as there are no legs to block close access.

For example, products such as the Fast Table Chair from Inglesina attach directly to the table edge and may improve access.

<https://inglesina.ca/products/fast-table-chair>



Some clip-on or speciality seats swivel and rotate, which can reduce the strain associated with lifting and twisting for individuals who have difficulty with these movements. A rotating seat allows for easier positioning of the baby. Alternatively, a detachable tray may improve reach and positioning, making it easier to transfer the baby in and out of the high chair.

When selecting a high chair, it is essential to evaluate the unit's footprint and leg configuration to ensure the caregiver can achieve sufficient proximity.

Models such as the Stokke Tripp Trapp High Chair feature a streamlined front design with recessed supports, allowing a wheelchair user to pull directly up to the chair. Additionally, the available infant attachment positions the child at an accessible height, facilitating easier transitions and minimizing the reach required. This elevated positioning also keeps the infant at eye level with a seated adult, promoting optimal engagement, feeding, and social interactions.

Example: <https://www.stokke.com/USA/en-us/high-chairs/tripp-trapp/TT01.html>



Feeding Accessories

Holding baby spoons can be challenging for some caregivers due to their small size and thin handles. Adaptive equipment, such as universal cuffs, can help secure a spoon for individuals with limited hand function. Some baby spoons are designed with built-in loop handles, which may provide a more secure and comfortable grip for individuals with limited dexterity.

Silicone squeeze feeding spoons are another adaptive option, allowing pureed food to be dispensed directly onto the attached spoon. Their larger grip area and flexible silicone design make them easier to hold using a gross grasp.

Plates and bowls that suction to the table are a great option for feeding, as they help keep the dish in place and make it easier to scoop food without sliding. An alternative is using a piece of Dycem on the table, which can also help stabilize dishes.

Adaptive bibs can also make mealtimes easier. Bibs with magnetic closures eliminate the need to fasten snaps or ties and are often easier to put on and remove with limited hand function. Bibs with pull loops or large fabric tabs can also improve grip, making them easier to adjust or remove independently.

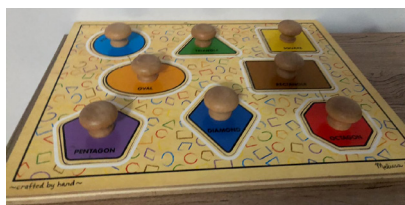
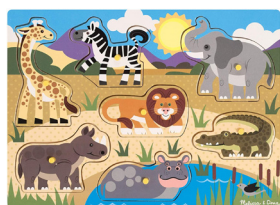


Toys and Playtime

Various strategies and specialized equipment can help facilitate meaningful interaction with an infant. For newborns and infants who are not yet sitting independently, elevated attachments, such as the **Stokke Tripp Trapp Newborn Set**, can position the baby at eye level for a seated parent or caregiver. As the child grows, an adjustable high chair can provide a stable, elevated seating option for play, feeding, and social interaction while allowing the caregiver to remain at a comfortable working height. Roll-under tables or desks can also serve as accessible play surfaces. A standard bed may provide a safe, stable area for supervised floor-time activities when appropriate.

Toys and educational materials can also be easily modified to accommodate limited hand function:

- **Tactile Page-Turners:** Affixing low-tech solutions like tongue depressors or foam tabs to book pages can assist with page turning.
- **Ergonomic Positioning:** Using book stands or angled play surfaces can support toys, reducing the need for constant manual stabilization



Cabinet knobs, loops, or keychain rings can also be added to toys to allow for easier grasp and manipulation. Below is an example of an adapted puzzle:

Handy tips (general care mom and baby)

Below are some additional tips and tricks provided by clinicians and individuals with SCI/D to ease pregnancy and caregiving:

Parenting

- **Convenient Pacifier Storage:** Keep a spare pacifier tucked within your clothing to maintain its warmth and scent. This allows for an immediate replacement if the primary pacifier is dropped, minimizing baby's distress and avoiding the need for disruptive searches. Pacifier clips can also be used to attach them to the baby's clothing or to your own clothing.
- **Nutritional Preparedness:** Pre-cut fruits and vegetables (or delegate this task to a support person) and store them in accessible containers. Maintaining consistent hydration and nutrition is vital for postpartum recovery and energy management, particularly when mobility is limited by childcare responsibilities or physical recovery.
- **Orthopedic Support:** Utilize triangle foam wedges for versatile positioning. They provide vertical support for sitting upright, a slight incline to mitigate acid reflux during rest, or elevation under the knees to alleviate hip discomfort and spasms.

OTHER ONLINE RESOURCES

<https://sciparenting.com/tips-tricks/>

<https://curemedical.com/parenting-advice-for-wheelchair-users/>

<https://www.christopherreeve.org/todays-care/living-with-paralysis/lifestyle/adaptive-tools-for-independence-tools-and-techniques-for-parenting-a-baby/>

<https://disabledparenting.com/>



