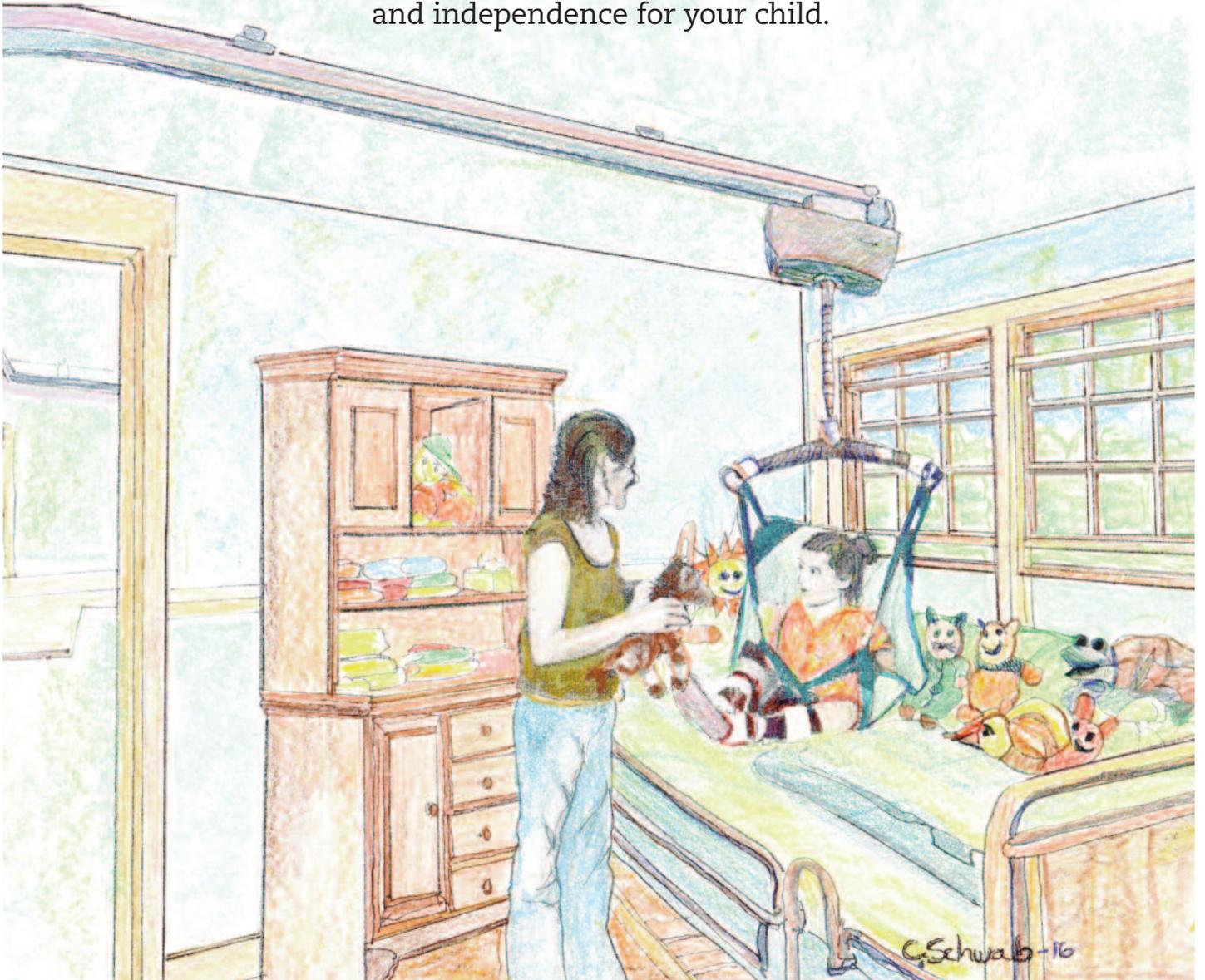


# THE ACCESSIBLE HOME EP'S ANNUAL ISSUE

Good habits can start when your child is young at home, so why not get acquainted with automated mobility lifts that can ease stress and promote safety as well? The goal here is to nurture self-determination and independence for your child.



# CAN I GET A LIFT HERE?

BY CHARLES M SCHWAB, ARCHITECT; ILLUSTRATIONS PROVIDED BY CHARLES M. SCHWAB

It can be difficult for us adults to imagine, but try if you can: your stellar child will be growing up in a time when the ultimate *automated mobility lift* will take the form of an *automobile*. Some of us might, before too long, be using pre-programmed or remote controlled automobiles. When you think about it, these are just other terms for mobility lifts.

Now, I know the idea of your child who currently uses a wheelchair (WC) growing up and “driving away” terrifies you. This is about helping you at home with mobility lift use, not causing you more stress. Nonetheless, your child may one day be able to swing a wheelchair into an automobile with the help of a lift and get a ride around town to self-drive, give or take a few buttons or voice prompts. Wow, how times continue to rapidly change!

I think that’s exciting and so might your child. What do you think? The concept of high access will continue to redefine itself and evolve as we enter into a time when travel is more inclusive and many will be able to achieve high (cross-town & county) mobility that is safe, pre-programmed or remote controlled.

In this article however, we will explore mobility lift use within the home itself and its ability to take us to the departure point of “swinging” into the hands free automobile of the future. These in home units can also work with a hand-held remote.

### What’s the point of using mobility lifts anyway?

The point of this study is to explore means by which you can *safely assist* your child when transferring from the wheelchair to perform activities of daily living. *The process of moving between activities can be as big a deal as the activity itself*. Space is needed to perform these tasks. This is why ADA parking stalls are wider. You as parents may already know this if your child is already grown, if not, I hope this information will help prepare you for a safe and a stress-less life when performing these operations.

Good habits can start when your child is young at home, so why not get acquainted with automated mobility lifts that can ease stress and promote safety as well? The goal here is to nurture self-determination and independence for your child. Self-determination is defined by psychologists as being able to go where and when you want and do what you want to do. This is an important determinant of personal growth and self-realization for your child.

Mobility lifts can assist with common activities of daily living and child play when he wants to roll on the floor and play with toy trains and cars, or she wants to play with the doll house or have a tea party with the other kids. A mobility lift can help to more easily achieve these play goals. Research shows that helping your child to become mobile or keeping them mobile longer, has both short and long term benefits. It is known that when children, or anyone, remains immobile, they can suffer rapid reduc-

tion of skeletal structure and muscle strength.

The primary goals during use of mechanical lifts are safety when transferring, emotional support and physical support for your child. Safety and injury prevention for the parent or caregiver is another huge benefit.

### More Child Unstructured Playtime!

Maybe one of the largest benefits of using mobility lifts to assist with movement through the home and transfers is the fact that it can save precious time and aggravation. You as parents, have probably noticed (especially as your child grows) that performing activities of daily living with children who use wheelchairs, takes longer than for kids that do not use them.

Valuable saved time can be re-directed towards more noble pursuits! Unstructured playtime is necessary and valuable for the development of children,

especially in the first seven or eight years of life, since play is a child’s work, time shifted from other daily tasks toward child unstructured play and child development, is a high value trade-off. See *EP* magazine July 2015 “Indoor Play Away Room” and *EP* July 2014, “Outdoor Free-Play.”

Children who use wheelchairs will progress through the stages of youth as do other children. The stages consist of: infant, toddler, childhood, preadolescence and adolescence. Most children may not need mobility lift assistance until they are toddlers or over 35-50 pounds, as recommended for parents by the Centers for Disease Control (CDC). Every child’s aspirations and needs will change over time as they develop. Allowing your child to move independently as best he or she can, will be a positive force helping them develop and grow through life’s stages with a more positive self-image. Providing independence of movement with a ceiling lift for example, may be one way to assist with personal growth. “Kids will be kids.” I think we can all agree on that, and anything that helps a child develop is a big plus.

### First Things First: Assessing Your Child’s Physical Abilities

Children’s abilities are different and there is no common or typical lift product that will work optimally for everyone. Someone with MS may have enough muscle strength to move through the air and hold themselves up in the sling independently, while someone with MD may not be able to support themselves, even with assistance. An Occupational Therapist (OT) and, perhaps with the help of a Pediatrician, should always assess the child to determine the appropriate lift type for you and your child, keeping in mind your child life stages and thus the lift’s adaptability. For example your child may be very little now and not need a self-remote, but as your child grows the lift may need to allow that.

This risk assessment should be performed to identify the best

Research shows that helping your child to become mobile or keeping them mobile longer, has both short and long term benefits.



WALL LIFT

equipment required to safely transfer or transport (from room to room) and then properly reposition your unique child. Different movements require different strength abilities of the child and may result in different modifications to a home depending on the selected lift type. The assessment is based on feedback about pain and discomfort, child personal care needs and the perceptions of risks and priorities.

The child assessment is similar to adults in that it should include at least:

- a) Ability to cooperate (this may change with time)
- b) Ability to understand and follow instructions
- c) Study trunk and head control range of motion and pain
- d) Ability to turn in bed
- e) Ability to balance while sitting in an upright position
- f) Hip and leg strength

All of the above at a minimum should be evaluated.

The OT or Pediatrician will have the tools and experience needed to assess these specific body functions. Many or all of these functions may change as your child grows, this is the challenge. It's almost similar to aging in place, for oldsters, in that your planning for the future (as best you can) now.

### Three Different Kinds of Mechanical Home Lifts:

1) A **ceiling lift** is a mechanical device that consists of a track mounted on the ceiling, or on overhead tracks mounted on standards, and then a motor moves along the track. With the use of a sling within which the child reclines, the parent or caregiver uses a hand controlled remote to motor-lift and transfer the child, or slide manually (if you don't want to use the remote) along the track. The child can then be safely and comfortably moved along

the track from a bed to a chair or onto the toilet or into the shower or tub for example.

There is also the task of sliding the sling under the child prior to lifting. This can sometimes be a challenge if the parent or caregiver (maybe Grandparent at times) is strength impaired and the child does not have sufficient arm strength. This is another reason the OT assessment is so important.

Success with ceiling lifts will be more directly related to the home's architecture as far as:

a) Ceiling structure and heights

b) Door headers; they can block the track but this can be accommodated for.

c) Room size, available space adjacent your child for you or caregiver within the room adjacent

Different movements require different strength abilities and may result in different modifications to a home depending on the selected lift type.

the activity area. There needs to be enough space for you to help.

d) Storage availability for the slings, Closets nearby are necessary or slings get tossed on the floor and result in clutter and tripping hazard for ambulatory helpers. There are slings for transport and slings for toileting as well that have a hole in the seat bottom.



ROLLING FLOOR LIFT

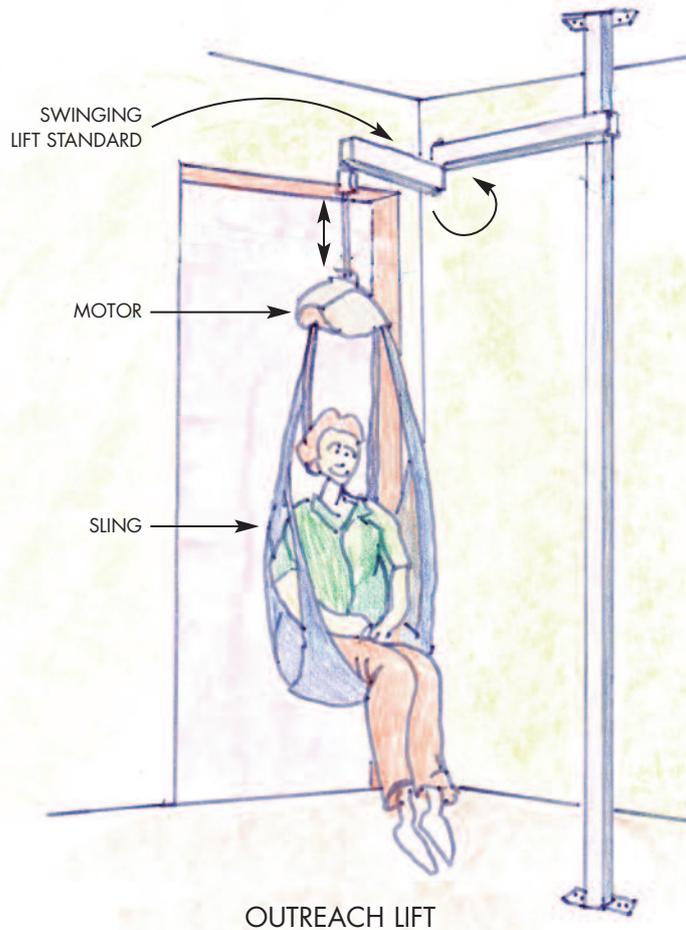
e) Electrical requirements of the lift and battery that needs an outlet to recharge.

Dropped ceilings in the bathroom can be difficult for ceiling lift installation as ceiling height must be sufficient so the lift and sling apparatus has room to work. Ceiling tracks can curve but not be cut on that curve and they can be easily lengthened to your specific needs, if along a hallway. Some systems have "T" intersections allowing the user to navigate anywhere within the home.

Ceiling lifts therefore are more easily installed in new homes but can be utilized in a remodel or major home modification. For all of these reasons it is a good idea to involve a professional architect who specialized in access, better yet home access, especially if the system is used throughout the house.

The benefits of ceiling or stationary wall lifts are many when compared to rolling floor models, we will discuss both shortly. Those benefits include:

- a) They will be out of the way, leaving floor space free and not in the way of anyone else and possibly being a safety concern in and of themselves.
- b) Using ceiling lifts reduces the time for a bed-to-chair transfer significantly compared to floor lifts.
- c) Ceiling lifts reduce the physical and



movement from place to place. These types may be all that is needed if your home is mostly wheelchair accessible and your child can roll around, barrier free. You could locate one at the bed and one at the toilet for example, so long as your child can roll to the W.C. down the hall and through the bathroom door opening. But these do not move.

3) **Outreach** by Mobility Lift™ is a specific product brand. Here a lift motor hangs on a 2.5" x 2.5" pole. The pole has two outstretching arms that pivot out in a scissors like motion, providing access in an 8 foot wide swinging arc. The actual portable lift motor unit that hangs from the pole can be purchased from any of several manufacturers. The pole supports the outreaching arms that hold the actual motor lift that carries your child in the transfer sling. The advantage of this type is that by attaching the pole to any ceiling and floor only requires four screws

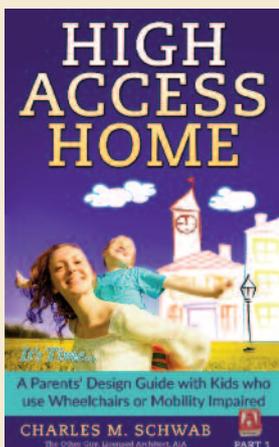
at the top and four screws at the bottom.

This is a good unit for an apartment, as disruption is minimal and the entire system is portable. This is one case when buying a used motor, and making it more affordable (than a ceiling lift) is a possibility because professional installation is not needed with this lift type. With the other types installation is specialized and cer-

static overload on the caregiver.

- d) When using ceiling lifts, the caregiver is able to stay closer to the child providing reassurance and comfort.
- e) The ceiling lift can overcome the issues of changes in floor level and thresholds.

2) **Stationary lifts** attach to a wall that can assist only with transfers but not



**HIGH ACCESS HOME  
A PARENTS' DESIGN GUIDE**

is being offered FREE on July 23-24 at [www.highaccesshome.com](http://www.highaccesshome.com)

Sign up to the email list to receive your free e-book July 23-24. The book includes design chapters as well as specific children financial home design resources, product resources, and featured room safety guidelines. Our goal is to giveaway at least 100,000 e-books.

A main goal of this series is to emphasize inside and outside spaces with home interaction consisting of play as well as activities of daily living. Proper site design and vertical access

design is sometimes necessary to move and live in a multi dimensional world. Guidance with home design that is safe and efficient for mobility use can result in more time to focus on your child.

Charles M. Schwab, The Other Guy, Licensed Architect, has specialized in designing both accessible and universal homes for over 20 years. He has completed this **High Access Home** book series specifically for parents who have kids with specific disabilities. This is first in the series with a focus on design for mobility. The series is designed to aid those who seek solutions with new homes and remodel for accessibility.

## PARENT TAKEAWAYS A PARENTS' DESIGN GUIDE

*Is a Lift Right for your  
Family and Child Safety?*

### 1) Is your child growing over 35 pounds and becoming heavy?

Is moving him or her becoming noticeably more difficult? Are you spending more and more time with wheelchair transfers? These are a probable signs that it is time to utilize mechanical lifts at home.

### 2) Has your child almost fallen off a transfer board?

Or is the board seemingly awkward, if you have heretofore been using one? Transfers can be a safety hazard and this episode is another warning that a lift may be necessary.

### 3) Are the turning diameters at doorways and hallways too restrictive for your child's wheelchair?

A mechanical lift does not require turning of a wheelchair to move through space.

### 4) Does your child complain that they are not able to move about in the home as they wish?

Remember, a child's ability for self-determination will help them move through the stages of childhood growth.



tainly not handyman work. The “mobility Lift™ can be the best choice to use in the garage when transferring into that remote controlled automobile in the future I mentioned earlier.

## The Non-mechanical Rolling Lift Alternative

Alternative lifts are rolling Hoyer™ or similar brand lifts that roll along the floor. These can help make transfers and also use a sling, but they may be unable to lower a child to the floor for example and can be in your way as they consume floor space. This can actually cause them to be a safety hazard for the rest of the family. You will need a smooth floor surface and carpeting can be a problem. Rolling lifts do not use a vertical lift motor. They are hydraulic hand controlled or hand-pumped, up and down. Storage space is required for harness and sling storage with all mechanical lift systems. There are slings for child transport and slings for toileting and showering as well.

## Installation Process of a Ceiling Lift System

Once the assessment is made, **in the case of a new home**, meet with the OT consultant and architect all together in a pre-design group meeting. For a new house, the ceiling trusses can be designed accordingly when the loads and location of those loads are known ahead of time.

**In the case of an existing home** structure, follow the same process as above then contact a product supplier or installer locally and arrange to have them meet at your home. If a ceiling lift is determined to be the best choice, the major companies have trained professionals that will physically get up into the ceiling roof structure to review it. The fact that some lift companies will do this during the product selection process is a real benefit and will help determine rough costs. Be sure to inquire in advance what companies are willing to visit your home.

If a room-to-room lift is used, door

headers may need to be cut and re-designed for a railing to pass through. The installer and designer will review the existing electrical system and determine how suitable it is and what needs to be done in your particular home.

There may need to be an architect involved, or maybe not. Lifts themselves can carry from 400 to 1000 pounds, not a problem for child use. It is the ceiling structure holding the lift that we are concerned with here, determining if a mechanical ceiling lift is the best product choice.

The idea is to safely transfer your child, help them be more independent, and in the process saving time to spend on more enjoyable pursuits.

## The Bottom Line

Used ceiling lifts can be purchased but I would discourage their use as many ceiling lift manufacturers will not guarantee them unless they are installed by an approved installer. Professional install is best for your own safety and liability. The ceiling lift is not a do-it-yourself project but the Outreach product can be owner installed. The list prices vary widely and are constantly changing. These will vary per product, your home plan and total system needs.

The idea is to safely transfer your child, help them be more independent and save parents and child time in the process to spend on more enjoyable pursuits. •

*(Excerpted from the author's book.*

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## ABOUT THE AUTHOR:

Charles M. Schwab is a licensed architect who has specialized in designing both accessible and universal homes for over 20 years. He has completed a home design book series, specifically for parents who have kids with disabilities who seek knowledge of new homes and remodels for high access. The first e-book in the multi-disability series is titled: High Access Home, A Parents' Design Guide for Kids who use Wheelchairs, Part 1 will be available free of charge July 23-24 so sign up now up at [www.HighAccessHome.com](http://www.HighAccessHome.com) to learn more and to obtain your free copy.