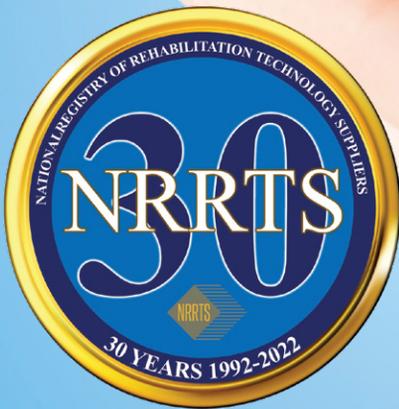
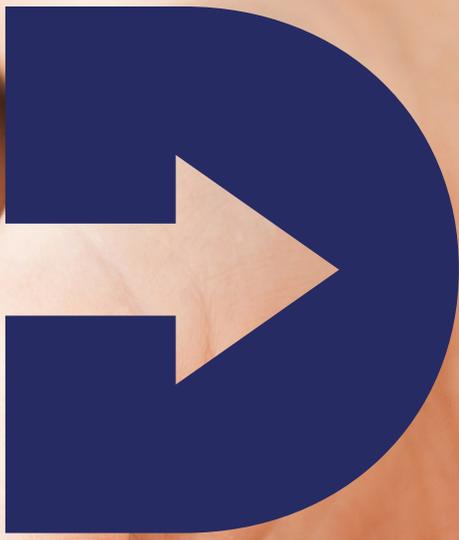


DIRECTIONS



**CLIENT- AND FAMILY-
CENTERED CARE:
LET'S TALK ABOUT IT!**

Page 36

RESPIRA

High performance ventilated backrests.

Available Summer 2022



Passive ventilation through padding and cover, with active ventilation via optional lithium-ion fan.

Perforated gel memory foam or Stimulite® padding.

Silver thread covers eliminate fungi, bacteria and viruses.

The lightest, coolest and most ventilated alloy backrest available.



SPORT

Stimulite™ padding with Spacetex silver cover.



BOLT ACTION MOUNTS

Stainless Steel locking with 360 degree adjustment.



COMFORT

Perforated gel memory foam with stretch 3D mesh cover.

Zing

Portable



Standing made possible
anyplace, anytime.

zingstanders.com

AltimateMedical

IN THIS ISSUE

6 FROM THE NRRTS OFFICE
What in the World?

8 LIFE ON WHEELS
Matt Plummer: Designer, Dad
and MDA Board Member

10 CLINICALLY SPEAKING
A Passion for Assistive Technology

12 NOTES FROM THE FIELD
Carla Carrico: Patient and Proactive

16 CRT UPDATE
Early Summer Update

18 CLINICIAN TASK FORCE
'Don't Tell Anyone I Did This Chair'

**26 CLINICAL PERSPECTIVE
CEU ARTICLE** 
AAC: On the Go, Powered Up
and Ready to Roll!

36 CLINICAL EDITORIAL
Client- and Family-Centered Care:
Let's Talk About It!

38 REHAB CASE STUDY
AAC on the Move: A Case Study on
Power Wheelchair Integration

42 WEESIE'S WORLD
What Would Simon Do?

44 RESNA
Make an Impact on Your Profession

**46 REIMBURSEMENT &
CLINICAL ISSUES**
What Does a Supplier Need to Know?

50 DIRECTIONS CANADA
How has COVID-19 changed
the CRT Industry?

IN EVERY ISSUE

52 | New NRRTS Registrants

53 | New CRTS® and Former Registrants

54 | Renewed NRRTS Registrants

Back Cover | Charter Corporate Friends of NRRTS,
Corporate Friends of NRRTS, Association Friends of NRRTS

FROM THE EDITOR-IN-CHIEF

NRRTS DIRECTIONS Vol 3 is filled with excellent content. We hope you enjoy reading this valuable publication and will learn from the articles. Subscribe to future issues at www.nrrts.org/directions

Amy Odom, BS

ADVERTISERS

ALTIMATE.....	PAGE 3
AMYLOR.....	PAGE 5
ATLAS.....	PAGE 43
CLINICIAN TASK FORCE.....	PAGE 17
ETAC.....	PAGE 7
MK BATTERY.....	PAGE 45
PRIME ENGINEERING.....	PAGE 55
RIDE DESIGNS.....	PAGE 20
STEALTH.....	PAGE 51
SYMMETRIC DESIGNS... INSIDE FRONT COVER	
US REHAB.....	PAGE 13

THE OFFICIAL PUBLICATION OF
The National Registry of Rehabilitation Technology Suppliers
VOLUME 2022.3 | \$5.00 USD

The opinions expressed in DIRECTIONS are those of the individual author and do not necessarily represent the opinion of the National Registry of Rehabilitation Technology Suppliers, its staff, board members or officers. For editorial opportunities, contact Amy Odom.

DIRECTIONS reserves the right to limit advertising to the space available. DIRECTIONS accepts only advertising that furthers and fosters the mission of NRRTS.

NRRTS OFFICE

5815 82nd Street, Suite 145, Box 317, Lubbock, TX 79424
P 800.976.7787 | www.nrrts.org

For all advertising inquiries, contact Bill Noelting at бноelting@nrrts.org

EDITOR-IN-CHIEF
Amy Odom, BS

CLINICAL EDITOR
Michelle Lange, OTR, ABDA, ATP/SMS

EDITORIAL ADVISORY BOARD
Andrea Madsen, ATP, CRTS®
Annette Hodges, MA, BS
Michelle Lange, OTR, ABDA, ATP/SMS
Weesie Walker, ATP/SMS

DESIGN
Reace Killebrew - Hartsfield Design

COVER CONCEPT, DESIGN
Weesie Walker, ATP/SMS

PRINTER
Craftsman Printers, Inc.



ALLTRACK P3 SERIES

SMALL BUT MIGHTY! **A NEW PEDIATRIC NARROW BASE OPTION**



N2221 Highlights :

- 21" Base width, 14" drive wheels
- Group 22 batteries
- STFH as low as 15.5"
- Standard 6.5 mph motors
- Patented dual-action suspension



Like and follow us on Social Media



WHAT IN THE WORLD?

Written by: **GERRY DICKERSON, ATP, CRTS®**

This is late spring 2022, and we are still discussing COVID-19! As I write this president's message, I'm listening to local New York City talk radio and a discussion about masks. My head is spinning as they report the use of masks on airplanes. Mask on, mask off, mask on again! No mask on the plane; however, depending on the airport, you might need a mask, or maybe not. Then, there is the incident with "Iron" Mike Tyson! I stare into a world I do not recognize.

Plans are moving along for this year's virtual CRT Congressional Fly-In. Sept. 14 is the day to mark on your calendar. Register early and encourage everyone you know to register, too!

For this message, with this year's CRT Congressional Fly-In, I looked back at DIRECTIONS, Volume 2, Spring 2008. Once again, the more things change, the more they stay the same. Cara Bachenheimer discussed the Medicare program's launch of competitive acquisition. In her article, Bachenheimer stated, "With CMS' imminent release of its winning bidders and bid prices in the first ten metropolitan areas, and its scheduled July 1 start date for the bidding process in the next 70 metropolitan areas, we will have meaningful data about the real effects of the program."

I didn't need to look at the data as I watched good, family-run businesses, dedicated to serving their customers, close their doors one by one. Hundreds, if not thousands of jobs lost. Consumer care altered forever. People I see every day for CRT are complaining about the level of "service" for standard Durable Medical Equipment. They wait months and months for repair of hospital beds, patient lifts and their K001, K002 or K003 manual wheelchairs. Competitive Bidding drove the reimbursement to such a low point, these chairs barely last five months, let alone the five-year reasonable useful lifetime, RUL in Medicare speak. Competitive Bidding was successful in driving down costs, but more importantly, it drove care out of the equation.

Consumer advocate, Selene Faer Dalton-Kumins, passionately wrote, "Shortly after being diagnosed, I was taught one who has talents and capabilities and who has been given life and sufficient breath is

I WAS TAUGHT ONE WHO HAS TALENTS AND CAPABILITIES AND WHO HAS BEEN GIVEN LIFE AND SUFFICIENT BREATH IS OBLIGATED TO SPEAK OUT FOR THOSE WHO CANNOT.

obligated to speak out for those who cannot." In describing her speeches regarding advocacy, Faer Dalton-Kumins went on to say, "I talked about laws regarding disability, the exceptionally high cost of equipment and medical care, and the ongoing and enormous obstacles encountered. I described the loss of life and unrealized potential that resulted at times from disease or injury, and at other times from ignorance and the inattentiveness of society."

Powerful words! We all need to be like Faer Dalton-Kumins. Speak up for the consumers who you serve. Speak up for yourself. Those of us who work in the provision of Complex Rehab Technology (CRT) are caring and compassionate people capable of changing people's lives with CRT interventions. Don't say, "I'm too busy, I don't have time to advocate." If we don't advocate for change, you might have more time on your hands than you expected.

'Til next time,



CONTACT THE AUTHOR

Gerry may be reached at
GDCRTS@GMAIL.COM



Gerry Dickerson, ATP, CRTS®, is a 40-plus year veteran of the Durable Medical Equipment and Complex Rehab Technology industries. Dickerson, president of NRRTS, works for National Seating & Mobility in Plainview, New York. Dickerson is the recipient of the NRRTS Simon Margolis Fellow Award and is also a RESNA fellow. He has presented nationally at the RESNA conference, ISS and the National CRT conference and is a past board member of NCART.

etac[®]

Creating Possibilities



Little Wave Arc

Ahead of the Curve

Keeping parents in mind, the Little Wave Arc is the best solution for kids who have complex mobility needs and require a tilt-in-space chair. Its patent-pending Arc Tilt System results in effortless repositioning with a shorter, more maneuverable wheelbase. Arc is the lightest pediatric folding tilt-in-space wheelchair. Additionally, Ki built in plenty of growth and offers unique programs for growing kids. Cool colors and style options available make each chair as unique as the child riding it.

Lightweight, durable and ready to grow with you – the Little Wave Arc is Better By Design!



For more information please contact or visit: | 1-800-981-1540 | www.kimobility.com

MATT PLUMMER: DESIGNER, DAD AND MDA BOARD MEMBER

Written by: ROSA WALSTON LATIMER



Matt Plummer, graphic designer

Diagnosed with spinal muscular atrophy, a form of muscular dystrophy, at the age of 2, Matt Plummer has many positive memories of the influence the Muscular Dystrophy Association (MDA) had on his life. “The MDA was an important part of my life and a tremendous support to my parents. We relied on them a great deal when I was growing up,” Plummer said. “The MDA provided funding for mobility equipment and access to specialists and neurologists. They provided treatment that I needed.” Plummer has

good memories of his time spent at MDA summer camp. “Those camps allowed me the opportunity to do so many things I didn’t think were possible. That experience had a profound and positive impact on my life.”

Now, Plummer can help the 70-year-old organization continue its mission of helping children and adults living with muscular dystrophy as well as other diseases. “I am honored to have recently been elected to the board of directors of the Muscular Dystrophy Association,” Plummer said. “I met Dr. Donald Wood, when we worked together at Odessa College in Odessa, Texas, prior to him being CEO and president of the Muscular Dystrophy Association. We connected through my diagnosis and his background with neuromuscular research. After becoming CEO and president of the MDA, Dr. Wood invited me to join the MDA Research and Care Committee to provide insight from my experiences living with muscular dystrophy. Following that, I was elected to the board of directors. Given the influence MDA has had on my life, it is a wonderful opportunity to serve in this way. It provides me a way to pay back in a small measure for all they had done for me while helping support children, families and adults living with neuromuscular disease.”

Plummer is a graphic designer and brand manager for The University of Texas Permian Basin (UTPB). “I work remotely from our home in Fort Worth,” Plummer said. “My primary responsibilities are graphic design projects and maintaining the look and integrity of the overall brand for the university. I ensure everything is consistent, and our message and brand are clear.” While his work with UTPB is full time, Plummer enjoys working on freelance projects in the evenings and on weekends. “Recently, I’ve been designing wine labels for vineyards in the Lubbock and Dallas/Fort Worth areas,” Plummer said. “A problem solving/creativity balance applies to that work. There are many guidelines for designing specifically for products like wine and alcohol. I consider this freelance work a hobby. I enjoy stretching my creative muscles.”

Plummer believes his design work and creativity are approximately 50% talent and 50% problem-solving. He credits his life experiences as an individual with a disability for preparing him for this work. “I wouldn’t be the same person I am without living a life with a disability. It has molded me in many ways,” Plummer said. “My life, of course, has some negative aspects, but there are so many positives! One of the biggest things I’ve taken from living with a disability is I developed into a problem solver. I constantly had to think ahead. If I were going to a friend’s house, I would anticipate whether there would be stairs and, if so, how would I navigate them. If there was a steep driveway, I would think ahead about how I would handle that. There were many things, because of my disability, I had to consider in advance. Things a kid without a disability wouldn’t give a second thought. It wasn’t always easy, but I believe it made me a stronger person and taught me patience. I know I’m a better father because of these experiences. This ability comes into play in my everyday life when it comes to avoiding simple obstacles and in my work.”

As often happens, as a teenager, Plummer didn’t have any idea what career he might pursue. “I wasn’t doing well my sophomore year in high school. I lacked drive and direction,” Plummer said. “I was told I needed to choose an elective, and my two choices were theater or music. I couldn’t play an instrument, so I chose theater, which was terrifying to me because I was very introverted.” Again, as often happens, a wise, caring teacher turned things around for the student.



Artwork by Matt Plummer.



Charlotte Plummer walking the neighborhood with her dad, Matt Plummer.



Bethany, Matt and Charlotte Plummer



The Matt Plummer family celebrating Halloween.

“Vonya Eudy was our theater teacher. She would not excuse me from any responsibility because of my physical disability. If I told her I couldn’t do something, she found another way for me to do it or found something else I could do. That was the most positive experience I could have as a young person. She pushed me and didn’t allow me to just go through the motions. I realized, with the right attitude, I could do just about anything. From that point on, I was hooked and decided to pursue theater, teaching specifically, as a profession.”

Plummer pursued his interest in theater and received a Bachelor of Science degree in Theatre Education from Texas A&M University – Commerce. “One semester during my undergrad studies, I answered an open call to help with promotion and marketing design for our children’s show and was successful with the project,” Plummer said. “They kept asking me to help and that experience led to a job in an on-campus shop that provided design and printing services to the campus and community. From volunteering one time, I found my first ‘real’ job and changed my career path to graphic design.”

“Throughout my life, I have experienced positive support from others that helped me have the curiosity and the courage to move forward,” Plummer said. “That support began at home. My parents worked incredibly hard to make sure I had everything I needed. I was just another kid to my younger sister, my older brother and many cousins. No one treated me differently. Growing up, I held myself to the same standard as those around me without a disability. They weren’t asking for help, so I did as much as possible

without asking. In reality, I needed to realize there is no shame in asking, nor is it a burden on someone who wants to help you. That fear of asking for help was a significant barrier I didn’t overcome until I was older. I believe that is something anyone with a disability must get past at some point. It isn’t easy to ask for help, and it isn’t something you want to do, but may be the way to achieve something new or find a way to do something you couldn’t accomplish otherwise.

Plummer has been married to his wife, Bethany, for seven years, and the couple has a 2-year-old daughter. “Charlotte was born just a couple of weeks before the pandemic hit, so we’ve had an interesting two years,” Plummer said. “Looking back, we realize how lucky we were to spend that much time with her and have that much influence on her at such a young age.” Plummer considers being a father “the best thing that has ever happened to me. We have a great time together, and for me, it is incredible to see how we interact. Charlotte doesn’t see my disability and always wants to ride in my lap while we drive around in my wheelchair in the neighborhood. Bethany and I couldn’t be happier!”

CONTACT

Matt may be reached at MATTPLUMMERDESIGNS@GMAIL.COM



Matt Plummer (www.mattplummerdesigns.com) is a graphic designer and brand manager for the University of Texas Permian Basin in Odessa, Texas, and a freelance graphic designer. He is a graduate of Texas A&M University – Commerce in Commerce, Texas, with a Bachelor of Science in Theatre Education and received a Master of Fine Arts Design from Texas Tech University, Lubbock, Texas. The designer trained and interned with the Second City – Chicago and Cirque du Soleil in Las Vegas. Plummer has received awards for his scenic, marketing, and sound designs from the Southwest Theatre and Film Association, United States Institute for Theatre Technology, National Council for Marketing & Public Relations, and the Kennedy Center American College Theater Festival. His is a featured artist in the internationally published “Ghostbusters: Artbook.”

A PASSION FOR ASSISTIVE TECHNOLOGY

Written by: ROSA WALSTON LATIMER

Students in the Occupational Therapy Department of Western Michigan University (WMU) benefit greatly from the diverse experience of Cara Masselink, their associate professor. “I first became interested in occupational therapy as a freshman at Michigan State University,” said Masselink, who has a



Cara Masselink and her AQHA stallion, High West Winds.

doctorate in interdisciplinary health sciences. “I was thinking pre-vet, but then I worked at Beekman Therapeutic Riding Stable and grew interested in hippotherapy. Western Michigan University had a graduate certificate in hippotherapy at the time, so I changed my major to occupational therapy and switched to WMU! Unfortunately, the certificate program ended just before I graduated in 2003.”

Masselink’s first job as an occupational therapist was at a nursing home in Centerville, Tennessee, that also had a contract with Tennessee Early Intervention Services. “I enjoyed treating people at both ends of the age spectrum! Other positions in outpatient pediatrics, private pediatrics, home health, inpatient rehab and acute care led me to a job at Mary Free Bed Rehabilitation Hospital in the assistive technology department. I soon fell in love with assistive technology and the independence it enables.”

WOULD YOU DESCRIBE YOUR CURRENT WORK RESPONSIBILITIES AND VOLUNTEER OPPORTUNITIES?

I teach and conduct research in the Doctor of Occupational Therapy program at WMU. Primarily, I teach the assistive technology and theory content and lead research groups. Our goal is to increase access to technology and equipment that enables participation and engagement in occupations for people with physical, cognitive and/or psychosocial deficits, especially advocating for those within vulnerable populations.

In addition to my responsibilities at the university, I am the executive director of the Clinician Task Force. I am constantly inspired by this group’s amazing work to advocate for access to and quality service provision of seating and mobility equipment. The members are passionate for their clients to

have and use appropriate wheelchairs and understand the intricacy and details that make big differences in function and health. I am grateful daily for the opportunity to facilitate this group that makes such a significant impact on the industry.

I volunteer as consultant with Disability Advocates of Kent County, a Center for Independent Living that has an amazing occupational therapy program, prolonging aging-in-place through adaptive equipment and home modifications.

WHAT ARE SOME THINGS THAT HAVE CHANGED SINCE YOUR CAREER BEGAN?

I have definitely experienced personal growth. I graduated from my university experience with a Bachelor of Science in Occupational Therapy, surely I would never return to school. However, after working in an assistive technology department and advocating for individual client needs, I was motivated to look at the systems that caused the need for so much advocacy. I returned to school for my Master of Science in Occupational Therapy and then my Doctor of Philosophy in Interdisciplinary Health Sciences with a desire to produce research to make a difference. Although these are “things” I did, the experience taught me to be more intentional in my efforts and reflect with an intent to grow, a skill I am so thankful I have learned.

Along the same lines, I have seen the impact we can make on policy when the stakeholders in wheelchair seating services come together. I am really excited to see the Centers for Medicare and Medicaid Services recognize the contribution of clinicians and insight on policies for seating and mobility equipment. I believe we are on the cusp of Medicare recognizing power standing systems and power seat elevation systems for their role in managing the medical needs of wheelchair users, which would be incredible progress.

WHAT IS YOUR FAVORITE PART OF THE WORK YOU DO?

There are so many things that are my favorite! In my work at WMU, I love seeing the students recognize the impact of the seated position on a person’s health and function and how the various wheelchair bases and accessories relate. I also love seeing the students utilize



The Masselink family, Easter, 2022: (l to r) Travis, Adalynn, Sadie, Keely, Jase, and Cara



Cara Masselink (r) with her Western Michigan University research group at a poster presentation April 2022 for a study titled "The Impact of a Dynamic Stander on Health and Function of a Person with Chronic Spinal Cord Injury."

theory in their clinical practice, providing holistic and client-centered services. Relationships with students are particularly precious to me and leading them in research leads to so many "light bulb" moments that are fun to watch.

Working with the Clinician Task Force, I can collaborate with many brilliant people. Hearing

their ideas and giving a hand in implementing them is probably my favorite part of my work with this organization. Additionally, the nerdy part of me enjoys increasing the rigor of policy contributions and increasing the quality and access to educational materials for quality Complex Rehab Technology (CRT) practice when I can.

WHAT KEEPS YOU ENGAGED IN YOUR WORK?

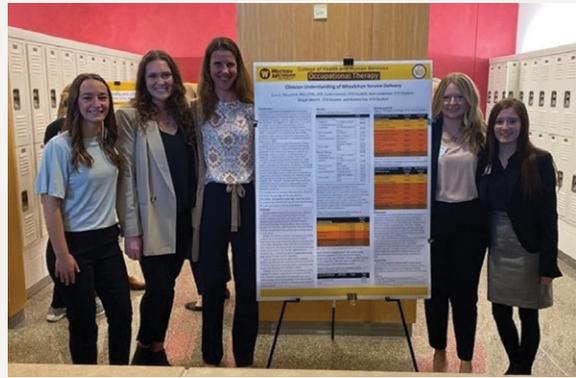
The primary thing keeping me engaged is the people I work with. It's not always easy to get personal projects done, but working with these individuals helps me maintain my priorities. Patients' stories are amazing and inspire me to encourage continued efforts toward appropriate mobility equipment provision.

IS THERE SOMEONE WHO HAS PARTICULARLY INFLUENCED YOU PERSONALLY AND PROFESSIONALLY?

First and foremost, I have been influenced by my relationship with Jesus. Reading through the gospels and learning about Jesus' life taught me I can stand up for what I believe in and showed me how to advocate for people in vulnerable positions. In my career, there have been so many positive influencers I'm worried about leaving someone out. Still, a few people who have influenced my career strongly include Matthew Scholtens, the rehab engineer I worked with at Mary Free Bed; Linda Shuster, my advisor in the PhD program; Cathy Carver, the previous Clinician Task Force executive director; and Rita Stanley, a CRT advocate and policy expert. Their support and guidance have been very formative.

TELL US ABOUT YOUR FAMILY AND WHAT YOU ENJOY DOING WHEN YOU AREN'T WORKING.

I am married to an excellent man named Travis, and we have four great kids: Adalynn, 14; Keely, 12; Jase, 10; and Sadie, who is 7,



Cara Masselink (third from left) with her Western Michigan University research group at a poster presentation April 2022 for a study titled "Clinician Understanding of Wheelchair Service Delivery."

soon to be 8. We live between Grand Rapids and Kalamazoo, Michigan, and have many horses, dogs, cats and chickens to keep life interesting!

In my "downtime," I ride horses and run. We enjoy trail riding, barrel racing, camping with the horses and trying new activities. I run for leisure and mental health and try to get out a couple of times a week. I also love to watch my kids play sports. Soccer, basketball, swimming, theater and equestrian team keep us busy year round!

FINALLY, WOULD YOU SHARE SOME ADVICE FOR SOMEONE JUST BEGINNING IN YOUR FIELD?

I tell my students to find their passion area. Although mine is assistive technology, theirs might be hand therapy, and that's awesome! Then, get curious when you experience clinical frustrations. Ask questions and follow up, and see where it leads you to make an impact!

CONTACT

Cara may be reached at CARA.MASSELINK@WMICH.EDU



Cara Masselink, PhD, OTRL, ATP, is an associate professor at Western Michigan University in the Occupational Therapy department. She has published articles on assistive technology and co-authored a textbook chapter, in addition to presentations at local and national conferences. Masselink is also an AOTA, MiOTA, and RESNA member.

CARLA CARRICO: PATIENT AND PROACTIVE

Written by: ROSA WALSTON LATIMER



Matthew and Carla Carrico, on vacation in San Diego, California.

Carla Carrico, B.S. in Kinesiology, ATP, CRTS®, is a senior sales representative with HME Home Health in Richmond, British Columbia. Carrico and her husband, Matthew, have two daughters: Holly, 7 years old, and Sasha, 4 years old. “Our girls are beginning to have their own activities, so we spend time with fun things such as soccer, ballet and gymnastics after work and on weekends. We live in the city of Vancouver and like to be car-free as often as we can and enjoy taking walks and riding our bikes. Matthew and I like to travel and are looking forward to traveling with the girls.”

Carrico’s career in complex rehab began almost two decades ago when, after working in the kinesiology field for several years, she faced a crossroads in her career. She considered going back to school. “I couldn’t decide what to do but seriously thought about going into nursing and had been accepted into a program,” Carrico said. “At the same time, I also looked at medical and pharmaceutical sales jobs. I happened to apply for a job as a rehab equipment specialist with a local company, not knowing much about what that would be.” Carrico was offered the job and decided to give it a try. “If I didn’t like the work, I could go back to school. Seventeen years later, I’m still here!”

WAS THERE SOMETHING THAT DREW YOU TO THIS FIELD?

I was looking for a challenge and a career that offered more financial growth opportunities. Sales was a challenge for me, and I didn’t know if I would like it. However, I consider this work “soft sales” because you must be knowledgeable and, instead of selling a product, you develop relationships with therapists and clients. At the end of the day, there isn’t a question of whether a client needs the equipment but whether they are confident in your ability to provide them with the best choices. It is essential to gain their trust.

TELL US ABOUT YOUR CURRENT RESPONSIBILITIES WITH HME HOME HEALTH.

I am currently a senior sales representative. I have experience with the whole gamut of rehab equipment – adult populations,

geriatrics, long-term care and lots of complex rehab. I’ve always worked some with pediatrics, but now I am almost entirely focused on that population. I am the pediatric clinical trainer, a sales role and a leadership role. I guide our pediatric sales team regarding training and ongoing education. We work with Sunny Hill Health Center for Children, Vancouver’s rehab facility for kids at BC Children’s Hospital. We also work with individual families and local child development centers for pediatric needs. Eighty percent of my time now and for the past two or three years has been spent on pediatrics.

DO YOU FIND PEDIATRICS MORE CHALLENGING OR REWARDING THAN YOUR OTHER WORK AS AN ATP?

Lots of each! Working with families with children with disabilities can present a stronger emotional experience, which can bring some challenges that require special attention. For various reasons, some



Carla Carrico, B.S. in Kinesiology, ATP, CRTS® (r) presenting a donation of backrests to Debbie Field, OT, at the University of British Columbia’s Occupational Therapy Department.

families are not as prepared for the probable trajectory of their child's life. I'm a mother, so I understand the difficulties of caring for your children and finding the best solutions. Pediatric equipment is interesting and challenging. It is unique, with many intricate details. Certainly, when I see a child excited to be in their standing frame or taking their first steps, those heartwarming moments make me happy that I'm doing this work. This experience goes way beyond selling something that has no emotional attachment. Seeing the positive changes in our clients' lives makes this career very rewarding.

WHO IS SOMEONE THAT HAS BEEN A MENTOR TO YOU OR INFLUENCED YOUR CAREER?

I have been fortunate to have many who have served as a mentor or helped me become more efficient in my work. I would say, at my first job in the industry, everyone in the company was a mentor. I worked with a group of very skilled individuals, and we were well-trained, but I also had great resources to answer questions and help me problem-solve. I've learned a great deal from skilled technicians. They may be in the background day-to-day, but they are invaluable in helping get equipment set up. From the beginning of my career, I worked with an owner and manager who were supportive and helped me realize a true sense of purpose in the industry. Our focus was not on selling a certain amount of equipment. The emphasis was on being the best in your responsibilities, and the sales would come. I continue to apply those principles every day with each client. I've also worked with many very skilled therapists who were great collaborators. Through these positive relationships, I have learned to be patient and proactive in looking for solutions for my clients.

My affiliation with professional organizations has also positively influenced my career. I've been a RESNA ATP since 2008. It is important to be at the top standard of a sales representative. In Canada, it has been a challenge through the years to keep up with education credits, but that has always been important to me. Now, with NRRTS having a more significant presence in Canada, we have access to exceptional resources and educational standards. I believe this will increase the level of professionalism in our industry across the board.

It is essential to keep current in this industry to serve our clients' needs in the best possible way. Even if you have been doing this work for a long time, there is always a new lesson to be learned.

WHAT CULTURAL CHANGES HAVE YOU OBSERVED IN YOUR PEDIATRIC CLIENTS?

Parenting is different than when I grew up. However, I haven't noticed that necessarily affecting our work with clients, except perhaps now both parents are more engaged in decision making. I have seen kids who have grown up with technology and screens, and they adapt very quickly to equipment such as power chairs. The learning curve for kids who are capable cognitively is remarkable. They are very comfortable with and interested in new technology. Also, other children are more accepting of a child using complex equipment. We recently delivered a power



Carla Carrico and her daughter, Holly, at Queen Elizabeth Park, Vancouver.

CONTINUED ON PAGE 14

Attention All CRT Equipment Providers and Users!

Delays in wheelchair repairs have led many patient advocate groups to latch on to the Right to Repair movement, but this issue could lead to serious consequences for patients attempting to repair their own wheelchairs. It is essential that authorized technicians perform all equipment repairs—properly.

Non-certified technician tries to replace a wheelchair joystick

Joystick installed improperly, short-circuiting the electronics

Power wheelchair stops working...completely

Wheelchair user is left immobile



Contact U.S. Rehab to learn how the CRT industry can address this issue and work toward a better solution.



U.S. ★ REHAB®
A Division of VGM & Associates



THAT SENSE OF PURPOSE KEEPS ME GOING ON A DAY-TO-DAY BASIS.



(l to r) Corrinne Carriere, Carla Carrico, Elaine Antoniuk and Jessica Presperin Pedersen at HME Home Health Equipment Expo.

CARLA CARRICO ...
(CONTINUED FROM PAGE 13)

chair to a 10-year-old child at school. The other students were excited, and some said they wished they had a power chair, too. They don't see the power chair as abnormal but as a cool thing.

DO YOU HAVE ADVICE FOR SOMEONE CONSIDERING A CAREER AS AN ATP?

This is a challenging industry, but if you feel you have qualities that mesh well with this work, give it a try. I believe if you want a sales-type career but also enjoy helping people, this is a great choice. You will be impacting the lives of your clients positively. That sense of purpose keeps me going on a day-to-day basis. You will undoubtedly have hectic times with stress and perhaps doubt your ability to meet the challenges. However, when you see a client realize more independence or a family happy with their child's progress, you are reminded why you are doing this work.

Be organized and detail-oriented. Listening is important! You don't necessarily need to be an extrovert, but you do need to have the ability to communicate easily and connect with others. Empathy is vital. Not everyone who is getting equipment wants it. Clients are often facing difficult, life-changing situations. It isn't always a happy scenario, so you have to be able to read people and be empathetic.

You will quickly know if this work is for you. There are many opportunities for professional growth and learning. I have never been bored at my job as an ATP, and positive reinforcement through feedback renews my energy and commitment.

CONTACT

Carla may be reached at
CARLA.CARRICO@HMEBC.COM



Carla Carrico's daughter, Sasha, assisting the HME Home Health pediatric team with hands-on training and education.



Carla Carrico, B.S. in Kinesiology, ATP, CRTS®, is a senior sales representative and pediatric clinical trainer with HME Home Health in Richmond, British Columbia. The company also serves Vancouver Island and will be opening two new offices soon.



NRRTS Registration ensures and demonstrates a commitment to education, quality, ethics & advocacy.

AS A NRRTS REGISTRANT, I AM:

- Part of a collaborative community of like-minded people that reaches across the entire industry.
- Up to date on CRT issues and industry news.
- Current and well-informed with quality education at my fingertips.
- Part of the only organization dedicated to the support and advancement of CRT Suppliers.
- Recognized as a professional CRT Supplier.

JOIN THE ONLY ORGANIZATION SUPPORTING THE PROFESSIONAL CRT SUPPLIER AT [HTTPS://BIT.LY/3VJMTHT](https://bit.ly/3VJMTHT)



EARLY SUMMER UPDATE

Written by: **DON CLAYBACK**, EXECUTIVE DIRECTOR OF NCART

VIRTUAL CRT CONGRESSIONAL FLY-IN

Save the date! NCART and NRRTS proudly announce this year's CRT Virtual Congressional Fly-In will be held on Sept. 14. This annual Complex Rehab Technology (CRT)-focused advocacy event keeps the CRT community connected with Capitol Hill and creates an opportunity for CRT stakeholders to talk with Congress about ongoing issues that are impacting access.

We will be holding the fly-in virtually and are excited everyone will be able to deliver important CRT access messages to their Members without leaving their homes or offices. We are also happy to report there will be NO COST to participate. Registration information and other details will be available shortly.

Please save the date in your calendar and plan to join your fellow CRT advocates for a day of educating Congress and sharing the needs and benefits of CRT access with your Representatives and Senators.

OFFICE OF INSPECTOR GENERAL REPORT IDENTIFIES INAPPROPRIATE MEDICARE ADVANTAGE DENIALS

On April 27, 2022, the Office of Inspector General (OIG) issued a report entitled "Some Medicare Advantage Organization Denials of Prior Authorization Requests Raise Concerns About Beneficiary Access to Medically Necessary Care."

The OIG describes the focus of their investigation as follows: "A central concern about the capitated payment model used in Medicare Advantage is the potential incentive for Medicare Advantage Organizations (MAOs) to deny beneficiary access to services and deny payments to providers in an attempt to increase profits. Although MAOs approve the vast majority of requests for services and payment, they issue millions of denials each year, and the Centers for Medicare and Medicaid Services' (CMS) annual audits of MAOs have highlighted widespread and persistent problems related to inappropriate denials of services and payment. As enrollment in Medicare Advantage continues to grow, MAOs play an increasingly critical role in ensuring that Medicare beneficiaries have access to medically necessary covered services and that providers are reimbursed appropriately."

The report contains the results of their claims review and identifies a key takeaway as MAOs are inappropriately denying prior authorization and payment requests that meet Medicare coverage rules. The OIG attributes this to the MAOs: (1) using clinical criteria not contained in Medicare coverage rules; (2) requesting unnecessary documentation; and (3) making manual review and systems errors.

As a result of their findings, the OIG recommended CMS take these actions: (1) issue new guidance on the appropriate use of MAO clinical criteria in medical necessity reviews; (2) update its audit protocols to address the issues identified in this report, such as MAO use of clinical criteria and/or examining particular service types; and (3) direct MAOs to take steps to identify and address vulnerabilities that can lead to manual review errors and system errors. CMS concurred with all three recommendations.

This OIG study draws attention to important issues (requesting of unnecessary information and inappropriate denials) that impact CRT funding on a national level with many payers. While the report focused on Medicare Advantage plans, we will be using it in our advocacy work to improve coverage at all payer levels.

A copy of the full report can be found at www.oig.hhs.gov by searching OEI-09-18-00260.

PARTIAL EXTENSION OF CRT TELEHEALTH OPTION

Recent legislation passed by Congress has extended current COVID-19 telehealth flexibilities permitted during the Public Health Emergency (PHE) for an additional 151 days after the PHE ends. In addition, Department of Health and Human Services Secretary Xavier Becerra has extended the PHE through at least July 15. This means physical and occupational therapists will be permitted to provide CRT telehealth services to their clients until at least later this year.

While this extension provides people with disabilities who use CRT additional time, it is still important advocates reach out to their Members of Congress to request physical and occupational therapists be permanently designated as authorized telehealth practitioners to ensure continued access to CRT when in-person visits are not an option.

Congress is currently reviewing various telehealth bills, and Members need to ensure whatever legislative language is passed, it retains these CRT telehealth options. Rather than allowing these proven flexibilities to expire, Congress must make these CRT telehealth policies permanent.

Please help get that message to your Members of Congress by taking 5 minutes and going to www.protectmymobility.org and sending the prepared email. Thanks for your assistance in protecting access to CRT for people with disabilities.

POWER SEAT ELEVATION AND STANDING COVERAGE

Advocacy work continues to get CMS to move forward in their process of establishing Medicare coverage for power seat elevation and standing systems for power wheelchairs.

ITEM Coalition members and initiative stakeholders have re-engaged our congressional champions to seek additional outreach to CMS to ask that this coverage request be made a priority. As a result, Sens. Tammy Duckworth, D-Ill., Bob Casey, D-Pa., and Marsha Blackburn, R-Tenn., along with Rep. Jim Langevin, D-R.I., have scheduled calls with CMS Administrator Chiquita Brooks-LaSure to discuss this issue. We thank them for their continued leadership and hope their encouragement will get CMS to move forward expeditiously to the next step in their review process.

NATIONAL CRT AWARENESS WEEK

We will be holding this year's National CRT Awareness Week from Aug. 15 to Aug. 19. This annual event is designed to allow suppliers, manufacturers, clinicians and consumers to collectively share and promote a better understanding of CRT across the country. That understanding includes the people who use it, how it is prescribed and provided, the benefits it brings, and why access is so important.

Last year over 100 organizations and thousands of individuals participated across the country by sharing stories, writing articles, posting videos, holding webinars and broadcasting podcasts. It was great to see everyone come together to share the CRT message. We look forward to having even more organizations and individuals participate this year. Stay tuned for more details.

BECOME AN NCART MEMBER

NCART is the national advocacy association of leading CRT suppliers and manufacturers dedicated to protecting CRT access. To continue our work, we

depend on membership support to take on important federal and state initiatives. If you are a CRT supplier or manufacturer and not yet an NCART member, please consider joining. Add your support to that of other industry leaders. For information visit the membership area at www.ncart.us or email dclayback@ncart.us to set up a conversation.

CONTACT THE AUTHOR

Don may be reached at
DCLAYBACK@NCART.US



Don Clayback is executive director of the National Coalition for Assistive and Rehab Technology (NCART). NCART is national organization of Complex Rehab Technology (CRT) suppliers and manufacturers focused on ensuring individuals with disabilities have appropriate access to these products and services. In this role, he has the responsibility for monitoring, analyzing, reporting and influencing legislative and regulatory activities. Clayback has more than 30 years of experience in the CRT and Home Medical Equipment industries as a supplier, consultant and advocate. He is actively involved in industry issues and a frequent speaker at state and national conferences.

Unbiased
Therapist
Passionate

Experienced

Consumer First

Respected

Best Practice

Advocacy

Seating and
Mobility

Serve
Educate

Specialist

Engaged

Assistive
Technology

 Clinician Task Force

Learn more at
www.ClinicianTaskForce.us



“DON'T TELL ANYONE I DID THIS CHAIR”

Written by: AMBER WARD, MS, OTR/L, BCPR, ATP/SMS, FAOTA, AND PENNY POWERS, MS, PT, ATP

One of the most frustrating things about providing seating and wheeled mobility services is when the relationships between the following do not add up:

- Client desires.
- Client medical and functional needs.
- Therapist and supplier evaluation results.
- Client and caregiver preferences and opinions.
- Funding and other resources available equipment within constraints.

As “experts” in the field with years of experience and research to back us, we justifiably recommend products to assist, support and provide comfort for clients. The client is an “expert” in their own body, needs and what they need to be functional. The caregivers and other team members may understand what has worked in the past. What happens when the needs and goals of each member of the team do not match up, much less with the equipment we consider appropriate? Who makes the decisions, and what is the decision-making process?

The Human, Activity and Assistive Technology (HAAT) model notes the interaction between these factors and the context in which the factors exist (Cook, Polgar, & Encarnação, 2020). Figure 1 provides a visual representation of the model's components as a reminder. This model makes sense when one considers the complicated factors involved in the evaluation process and the attempts to “get it right.” Unfortunately, when any part of the model does not receive adequate consideration and “buy in,” the chances of the equipment working for the client decrease dramatically. In these cases, the SWM evaluation process can turn into a fight for control and the working relationship may become strained or fractured.

In the idealistic phase of our seating and mobility career, we wanted a client to have the best posture, the most effective pressure redistribution and the product that would match the mat evaluation findings — all with an amazing outcome. In those days, however, the client's voice may not have been fully heard, because as the experts in SWM, of course we knew best. This unfortunately led to poor outcomes — for example, power chairs that became furniture and were never used and clients sitting in the “old” chair and cushion

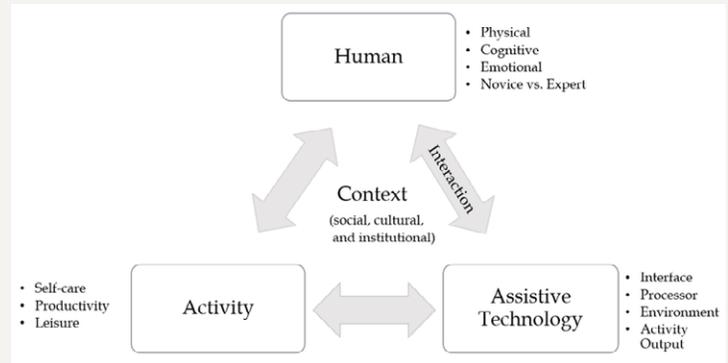


FIGURE 1 The HAAT Model

to maintain their functionality and comfort. It can take a while to realize there is no right or best equipment solution — just the one that maintains the interaction of the HAAT model components and ultimately works functionally for the client given the environment and lifestyle.

Let's delve into some of the reasons for the potential mismatch between the well-meaning team, the available product, the opportunities or constraints of the environment, and the medical needs of the client. Here are some common examples:

CHANGING FROM A PWC WITH NO POWER SEATING TO A COMPLEX PWC WITH POWER SEATING

This transition can be a challenge, as scooters or basic power wheelchairs can seem simpler to control, “smaller and less bulky,” less stigmatizing and weigh less for transport. The job of the team is to help clients consider the options available through trials in the clinic and at home with consideration of all the factors, limitations and resources. Clients may feel and acknowledge the benefit of power seating but not fully realize the impact of seat-to-floor height or weight of the chair on day-to-day functionality. Make sure to spend adequate time understanding how daily tasks may change with the new equipment. If someone is needed to help the client and caregivers with changed transfers and other safety issues, consider home health therapy. A trial in the home environment may prove to be a good investment and move the decision making toward the best outcome.

CHANGING FROM A SLING SEAT AND/OR BACKREST TO MORE SUPPORT

Certain clients maintain this configuration for a long time, even with other options available. It may seem, from the outside, like an

uncomfortable and unsupportive solution; however, the client may have every surface and task in their home set up exactly to this seating. Any change to a different seat-to-floor height or from swing-away legrests to center mount foot platform can mean the difference between staying in their home and moving to a nursing home. Consider the impact of any change on the functional needs of the client and help clients weigh the pros/cons of changes before a final recommendation is made.

“OLD” PRODUCT IS NO LONGER AVAILABLE, AND/OR SAME (BUT NEW) PRODUCT DOES NOT FEEL THE SAME.

After many years of use, a cushion will be completely conformed to the client’s body and anything new may feel strange, less comfortable and decrease function. Sometimes a power wheelchair model the client has used for many years is no longer available and an alternative must be found. Take your time with this – once choices are narrowed down, allow the client to take home a demo to try in their own environment for a reasonable amount of time.

INSURANCE SAYS AN ITEM IS COVERED, BUT THE ITEM COST IS MORE THAN THE CODE REIMBURSES

This situation is a difficult one for all involved. The supplier wants to make the client happy, and it can be difficult to find an acceptable, financially feasible solution. Keep communication open — perhaps there is a way to make up the cost in another part of the chair? Is alternative funding available? Help clients and caregivers understand how the system works and channel that potentially negative/frustrated energy into advocacy.

IT CAN TAKE A WHILE TO REALIZE THERE IS NO RIGHT OR BEST EQUIPMENT SOLUTION — JUST THE ONE THAT MAINTAINS THE INTERACTION OF THE HAAT MODEL COMPONENTS AND ULTIMATELY WORKS FUNCTIONALLY FOR THE CLIENT GIVEN THE ENVIRONMENT AND LIFESTYLE.

DISAGREEMENT BETWEEN CLIENT AND CAREGIVER WHEN ONE HAS MORE “POWER” IN THE SITUATION

Sometimes, the client wants equipment not practical for their medical needs or the caregiver wants the client to switch from a power wheelchair to a manual wheelchair for transportation needs. This can be an extremely challenging experience. Consider who is “in charge” of the medical decision making for the client. If it is the client, then weight needs to be given to their preferences as with any competent adult. Sometimes, equipment trials will help clarify these needs. Alternative solutions can be found to remove barriers, such as with transportation constraints, so both the client and caregiver concerns are addressed. It is important to focus on identified goals and build consensus.

SCOOTER OR BASIC/CONSUMER POWER WHEELCHAIR IS POTENTIALLY AN INAPPROPRIATE CHOICE TO MEET CLIENT MEDICAL NEEDS AND DISEASE PROGRESSION OVER TIME

The public, especially in the United States, often views scooters and more basic mobility options as more of a tool rather than a necessity. In the clinic when considering a complex power wheelchair, you may hear “But that chair is so big!” or “It’s much more than I need.” The team has a very important job of “normalizing” the equipment, demonstrating value, showing customizability and other benefits. The benefits must outweigh the perceived losses for some clients and caregivers. For clients with progressive disorders who do not want to switch to a complex chair, consider a group three complex power wheelchair base with a captain’s seat as a possible option with long-term flexibility as a compromise.

Ultimately, not every seating and wheeled mobility evaluation and final product recommendation will be what each team member envisions, but hopefully, it is exactly what the client needs to be healthy and satisfied with the decision, meet their medical needs, and be functional in all environments. The more we all work to facilitate the team working in harmony with

CONTINUED ON PAGE 20



JAVA



Stability when you need it most!
 The RIDE JAVA cushion and the RIDE JAVA
 back-support paired together helps decrease
 long-term skin risk and aids in sitting stability for
 improved functional performance.
ridedesigns.com



"DON'T TELL ANYONE I DID THIS CHAIR"
 (CONTINUED FROM PAGE 19)

equal attention to all the HAAT components, the better the outcomes. If possible, perform trials of equipment both in the clinic and the home and consider longer trials with a loaner or demo. Consider reframing what you might perceive — instead of “They are being stubborn,” consider the client may be “really worried about the outcome.” Listening with the intent of understanding and empathizing can be very effective. Communication is the key.

CONTACT THE AUTHORS

Amber may be reached at
AMBER.WARD@ATRIUMHEALTH.ORG

Penny may be reached at
PENNY.POWERS@VUMC.ORG

REFERENCE:

COOK, A. M., POLGER, J. M., & ENCARNACÃO, P. (2020). ASSISTIVE TECHNOLOGIES: PRINCIPLES AND PRACTICE (5TH ED.). ST. LOUIS, MO: ELSEVIER.



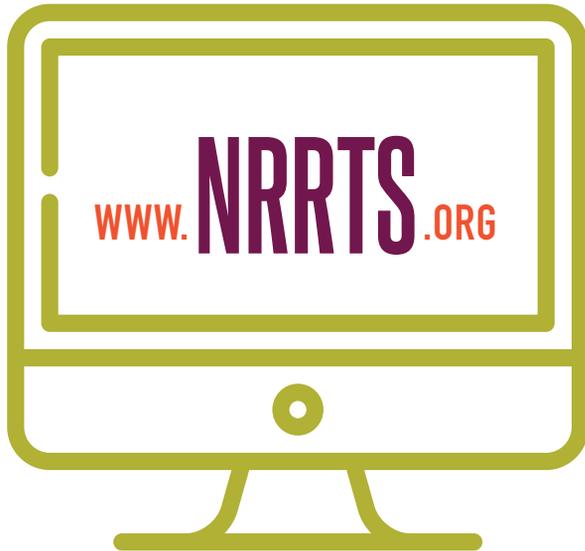
Amber Ward has been an occupational therapist for 27-plus years with inpatient rehabilitation, outpatient with progressive neuromuscular diseases, and in a wheelchair seating clinic. She is an adjunct professor in the Occupational Therapy Assistant and Master of Occupational Therapy programs at Cabarrus College of Health Sciences, in addition to working in the clinic full-time. She received her ATP in 2004 and SMS in 2014. She is the author of numerous articles and book chapters, as well as speaking and presenting locally, regionally, nationally, and internationally. As a part of the Clinician Task Force, she most recently ended her term with the executive board and remains an active member.



Penny J. Powers, MS, PT, ATP, is a Level IV physical therapist at Pi Beta Rehabilitation Institute at Vanderbilt University Medical Center. She is a graduate of Russell Sage College and received a Master of Science from Northwestern University. She attained her ATP certification in 2004. Powers practices in the Adult Seating and Mobility Clinic at Vanderbilt University Medical Center. Her practice involves specialty seating for a diverse adult population. Powers serves as adjunct faculty at Belmont University, and she holds membership in APTA, RESNA, and the Clinician Task Force. Powers is a Friend of NRRTS.

NRRTS|CE

CONTINUING EDUCATION WORTH THE INVESTMENT



THESE LIVE WEBINARS
ARE AVAILABLE AFTER THE
PRESENTATION DATE IN THE
ON-DEMAND LIBRARY.



JULY 19, 2022, AT 7 PM ET

Better Clinical Decisions by Knowing the "Why"

Speaker: Allison Baird, OTR/L, ATP

Intermediate Level, Seating and Positioning, ATP/SMS Prep Content

As ATPs we routinely evaluate pelvis, spine and trunk posture during our seating evaluations. Are we always connecting our evaluation to the seating prescriptions that will optimize client participation in their preferred activities? In this course, we will review pelvic, spine and trunk posture. We will then explore the connection between body position and participation in various mobility related activities of daily living.

LEARNING OUTCOMES:

- Participants will be able to describe the features of the pelvis, spine and trunk that we are evaluating in the mat evaluation.
- Participants will be able to identify the influence of the pelvic position on daily activities.
- Participants will be able to identify the influence of trunk/spine position on daily activities.

For more information, visit the website www.nrrts.org



AUGUST 23, 2022 AT 7 PM ET

Power Wheelchairs: Thinking Beyond the Standard Joystick

Speaker: Kathy Fisher, B.Sc.(OT)

Sponsored by Invacare

Intermediate Level, Seating and Positioning, ATP/SMS Prep Content

Power wheelchair technology has developed to allow a personalized driving experience to maximize a client's ongoing functional potential. For many clients a basic joystick is not sufficient to meet their needs in all environments due to limitations in strength, coordination and fatigue. Many alternative driver controls exist but

how do you as a clinician make the best recommendation? This session will highlight these innovations and will present the options based on assessment considerations.

LEARNING OUTCOMES:

- Participants will be able to describe five assessment considerations in determining potential driver control access.
- Participants will be able to list five programming parameters that effect the functioning and performance of proportional and non- proportional driver controls.
- Participants will be able to list three statements illustrating the clinical rationale for selection of driver controls.



AUGUST 25, 2022 AT 11 AM ET

Evaluation and seating interventions for clients with supra-pelvic scoliosis.

Speaker: Bart Van der Heyden, PT and Sam Hannah, seating specialist

Sponsored by Symmetric Designs

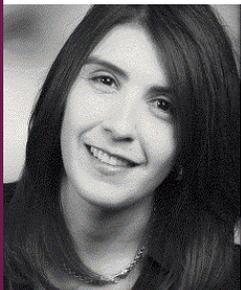
Intermediate Level, Seating and Positioning, ATP/SMS Prep Content

The newly proposed technique focusing on the evaluation of supra-pelvic scoliosis will be introduced. The aim is to provide data from the supine position on the plinth that can be used 1:1 in the build of a seating system. The outcomes produced are distance measurements, ROM including multiple segments interactions with improved efficiency and outcomes. As part of the face and content validation process, an overview of this novel assessment will be presented and an outline on how you can be involved in the validation process will be given. To illustrate this technique, an intervention using the Free Form Seating kit from Symmetric Designs will be shown.

LEARNING OUTCOMES:

- The participant will be able to identify how you can be part of the content and face validation process of newly proposed Mechanical Assessment Tool (MAT) focusing on the supine part of the MAT evaluation.
- The participant will be able to list at least three measurable outcomes of this novel MAT assessment.
- The participant will be able to list at least three benefits of this novel MAT evaluation compared to the classic MAT evaluation.





SEPTEMBER 13, 2022 AT 7 PM ET

Technology and Reimbursement: How Can We Make Them Work Together?

Speaker: Claudia Amortegui, MBA

Intermediate Level, Funding and Public Policy

Less than 15 years have passed since the first iPhone was introduced. It started a revolution in the world of cell phones. For most, they are a necessity to everyday life. The features have continued to improve throughout the years. How is it that the technology for something so basic has grown exponentially, but in the world of Complex Rehab Technology (CRT) our technology seems to be stunted in many ways? Funding seems to always be the culprit. Not knowing if something will be reimbursed and for how much places a big wall in front of innovation. In this course, we'll discuss how clinicians, ATPs, manufacturers and providers can help overcome this issue. There are many factors that involve everyone; it's time to learn.

LEARNING OUTCOMES:

- Participants will be able to describe at least three key elements in the funding of new CRT technology.
- Participants will be able to identify the language needed when justifying new technology in order to obtain proper reimbursement.
- Participants will be able to compare documentation to understand what would be considered for coverage vs. likely denials.



OCTOBER 19, 2022 AT 11 AM ET

The Pelvic-Spine Connection: The Key to Positioning and Function

Speaker: Tina Roesler, PT, MS, ABDA

Beginner/Intermediate Level, Seating and Positioning/Medical Terminology, ATP/SMS Prep Content

The wheelchair and seating evaluation has become a very specialized process that focusses on matching the most appropriate equipment with the client's postural and functional requirements. But often it has a strong focus on the equipment itself. A properly fitting wheelchair can increase a user's function within the environment physically and socially and can improve overall quality of life. On the contrary, a poor fitting wheelchair and sitting posture can negatively affect the user's health. An important aspect to proper fitting is to understand the biomechanics of the pelvis and spine and how they integrate to promote stability and function in the seated client. Back to basics.

LEARNING OUTCOMES:

- Participants will be able to identify spinal and pelvic landmarks crucial to seated posture.
- Participants will be able to describe changes to spinal and pelvic anatomy as it pertains to development.
- Participants will be able to describe how external seating and positioning devices can influence posture and mobility.



DECEMBER 6, 2022 AT 7 PM ET

The Mat Exam

Speaker: Kelly Waugh, PT, MAPT, ATP

Intermediate Level, Seating and Positioning, ATP/SMS Prep Content

The mat exam is one of the most important components of a Wheelchair Seating and Mobility Assessment. This webinar will provide the basics on this critical hands-on part of the physical assessment: What is it, who does it, when is it done, and why? After an introduction covering these key questions, we will review basic mat exam methodologies highlighting the significance of joint range of motion findings for wheelchair prescription. A summary will review how to translate supine range of motion values into the three primary body and seating system angles useful for seating prescription.

LEARNING OUTCOMES:

- Participants will be able to describe what the mat exam is and its purpose.
- Participants will be able to identify what movement of the pelvis typically results when there is a limitation in hip and knee joint flexibility that is not accommodated (i.e., the limb has been moved beyond its end range).
- Participants will be able to state the correct corresponding values when translating hip flexion, knee extension and ankle dorsiflexion range of motion into the relevant body segment and seating system angles.



DECEMBER 7, 2022 AT 11 AM ET

Ready to Play: Positioning to Facilitate Active Participation for Young Children with Physical Disabilities

Speaker: Angie Kiger, M.Ed., CTRS, ATP/SMS

Intermediate Level, Seating and Positioning, ATP/SMS Prep Content

A day in the life of a young child typically includes pre-school, playdates with friends, mealtime with family, bath time, etc. Having the opportunity experience the quintessential aspects of childhood is vital for every child's overall growth and development. However, making those everyday experiences happen for a child with physical disabilities can be difficult.

During this one-hour session, common obstacles young children with physical disabilities may experience when it comes to being able to participate, the potential negative impacts of not participating, and strategies to facilitate activity participation will be discussed. Are you ready to help children play?

LEARNING OUTCOMES:

- Participants will be able to list three reasons why providing young children with physical disabilities with equipment to facilitate active participation is important for overall growth and development.
- Participants will be able to explain three strategies for implementing at least two pieces of positioning and/or mobility equipment into a young child's daily routine.
- Participants will be able to list both clinical and functional benefits of three different pieces of positioning and/or mobility equipment for young children.



DECEMBER 8, 2022 AT 3 PM ET

Support Surfaces

Speaker: Linda Norton, B.Sc.OT, MSc.CH, PhD, OT Reg(ONT)

Intermediate Level, Seating and Positioning, ATP/SMS Prep Content

Therapeutic support surfaces are a critical component of pressure injury prevention and management. Knowledgeable complex rehab technology suppliers who can apply the latest research and standard terminology to the client's circumstances are in a unique position to have a positive impact on the client's health. Following a brief review of the applicable terminology, principles and best practices, participants will learn how

to compare support surfaces from different manufacturers to choose the features that would benefit a specific client. Using a case-based approach, participants will explore applying research and best practices to the client's situation to determine the best options.

LEARNING OUTCOMES:

- Participants will be able to describe the key support surface definitions and best practice recommendations.
- Participants will be able to compare different products from different manufacturers in a clinically relevant way.
- Participants will be able to apply best practices and product comparisons to several case studies to determine the best option for the client.



In a time of drastic change, it is the learners who inherit the future. We appreciate our learners' willingness to adapt to the ever-changing sphere of Complex Rehab Technology, even before COVID hit our world.

We have over 100 on-demand webinars and CEU articles in our library that cover a variety of topics on seating and positioning, medical terminology, ethics, funding and best business practices.

The education program awarded over 1,356 CEUs from August 2019 to August 2020 — that equals 13,560 hours of education!

The numbers are proof that we are meeting one of our education objectives at NRRTS — to bring you quality education at an affordable price. Registrants receive education at no cost, as a benefit. FONS pay half-price and others only \$45 per course!

We've made access to education affordable, and NOW even easier for our learners!

NRRTS is accredited by the International Association for Continuing Education and Training (IACET). NRRTS complies with the ANSI/IACET Standard, which is recognized internationally as a standard of excellence in instructional practices. As a result of this accreditation, NRRTS is authorized to issue the IACET CEU.

IACET CEUs are accepted by NRRTS for the RRTS® and CRTS® credentials and by RESNA for the ATP and SMS certification renewal. The National Board for Certification in Occupational Therapy Inc. (NBCOT) accepts the IACET CEUs as PDUs for the American Occupational Therapy Association (AOTA). State occupational and physical therapy associations also accept IACET CEUs for license renewal.

AAC: ON THE GO, POWERED UP AND READY TO ROLL!

Written by: KATHERINE CLARK, MOT, OTR/L, ATP, AND EMILY RAYBURN, MA, CCC-SLP



NRRTS is pleased to offer another CEU article. This article is approved by NRRTS, as an accredited provider, for .1 CEU. After reading the article, please visit <http://bit.ly/CEUARTICLE> to order the article. Upon passing the exam, you will be sent a CEU certificate.

INTRODUCTION

Consumer technology has opened the doors to integrating many aspects of our lives on a single device. Using technology has become an expectation to navigate the world around us. Before cellphones and 5G Wi-Fi, using a device at the table in a restaurant would have stuck out like a sore thumb, but now we use our cellphones for GPS to navigate to the restaurant, look up a menu and share pictures or videos. Children and adults who could not use their voices to communicate were stuck with assistive technology that drew even more attention to their impairments. These individuals relied on augmentative and alternative communication (AAC) to engage with others, take part in daily activities and meet their needs. Augmentative and alternative communication refers to all the ways one might supplement impairments of speech, often by way of equipment, tool and/or strategy (American Speech-Language-Hearing Association, 2021). Speech generating devices (SGDs, sometimes referred to as communication devices) provide a means of alternative spoken communication, and, as consumer technology is so commonplace, blend in better than ever before. Just as our cellphones have integrated with the world around us, AAC has as well. SGDs can connect with a cellphone, email, social media accounts and even a power wheelchair. For individuals with diagnoses causing impairments in both physical movement and communication, integrating the communication device and power wheelchair can streamline these technologies for more functional use. Deciding whether to integrate these technologies is a complex puzzle with many pieces, and it takes a team approach to see the big picture and put it all together.

IT TAKES A TEAM

Assembling a team is the first step when evaluating the best options for people using AAC and requiring integration with other technology such as their power wheelchair. The team includes:

the client, family members or caregivers, a speech language pathologist (SLP), occupational therapist (OT), physical therapist (PT), complex rehab supplier, educators and/or manufacturers of the recommended equipment (Beukelman & Mirenda, 2013). The speech language pathologist's role is to evaluate the individual's current communication needs and abilities and determine what language system will best support the communicator. However, selection of a suitable language system is dependent on the client being able to access it. Depending on the practice setting and the skill set, this is where either or both occupational therapy and physical therapy may be involved. They assess seating and positioning requirements, mount specifications, access needs for the SGD and drive control, and many other factors influencing the setup and integration of the client's AAC device and power wheelchair.

Throughout the evaluation process, each part of the human activity assistive technology (HAAT) model is thoroughly evaluated by the team, and the context and interaction of these components considered (Elsahar et al., 2019; Cook & Polgar, 2015). Human factors such as a client's current level of communication, cognitive, sensory, operational and physical abilities are assessed.

FOR INDIVIDUALS WITH DIAGNOSES CAUSING IMPAIRMENTS IN BOTH PHYSICAL MOVEMENT AND COMMUNICATION, INTEGRATING THE COMMUNICATION DEVICE AND POWER WHEELCHAIR CAN STREAMLINE THESE TECHNOLOGIES FOR MORE FUNCTIONAL USE.

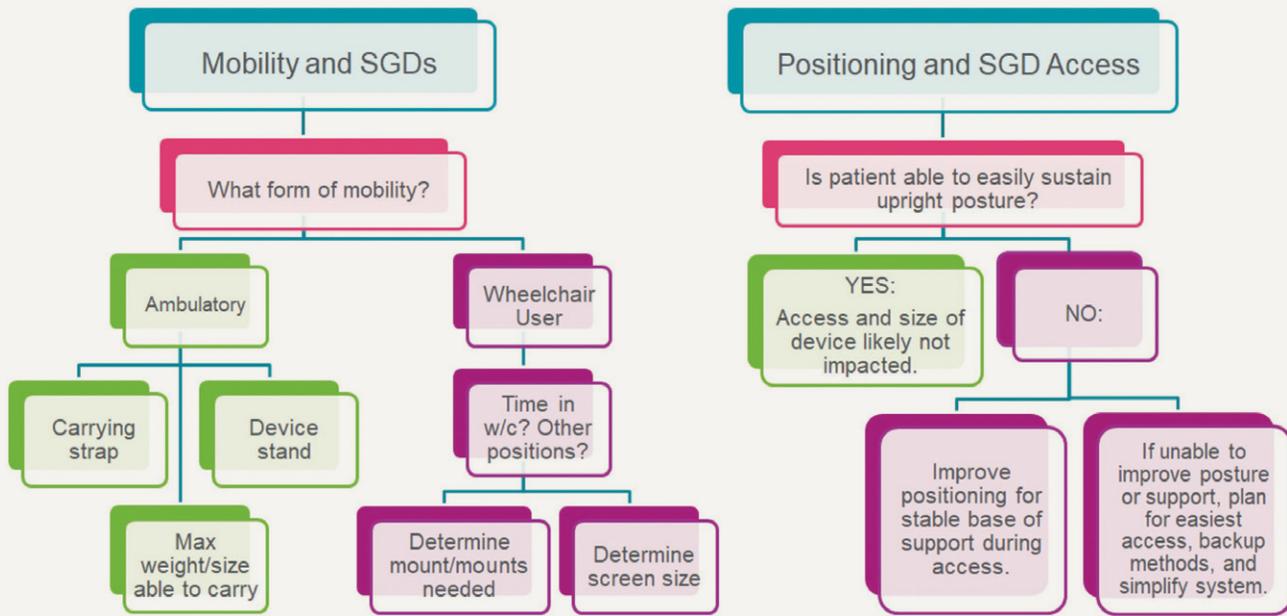


FIGURE 1 Mobility and Positioning Considerations

Activity demands and routines are discussed with the client, family and caregivers to determine current and future language needs, and how an AAC device will be used (Beukelman & Mirenda, 2013; O’Neill & Wilkinson, 2020). Use of a multidisciplinary approach incorporates each team member’s unique expertise and perspectives throughout this complex process — achieving the best outcomes.

EVALUATING POSITIONING AND MOBILITY

When evaluating access and considering integration of technologies, assessing a client’s positioning and mobility comes first. If the client is not well-positioned, they will be unable to function optimally – including accessing assistive technology (Lange, 2018; Watanabe, 2017). A stable base of support facilitates ease and consistency of accessing the SGD and power wheelchair controls throughout the day. If the client’s wheelchair does not provide the support needed to achieve a consistent, repeatable posture each time the client gets in his or her chair (Fager et al., 2019; O’Neill & Wilkinson, 2020), access will be compromised. While postural stability is indeed crucial, functioning in a wide range of activities and environments requires movement and flexibility. We must strike a balance between postural support and the right degree of dynamic positioning and adjustability within the wheelchair for best access and participation (Lange et al., 2021). Mobility and alternative positioning needs must also be considered, as these greatly impact mounting systems that will best fit client needs (see Figure 1), as well as practical access methods and potential for integration of the SGD and power wheelchair controls

(Cook & Polgar, 2015; Lindstrom Drescher, 2009; O’Neill & Wilkinson, 2020). Evaluating the age, state of repair, functionality and flexibility for growth and change of the current power wheelchair and SGD is also key. If changes are planned for either of these assistive technologies now or in the near future, we must be cautious in our choice making to ensure integration is possible with both current and future systems. While power wheelchairs and AAC devices have so many options for customization during programming and set-up (Lange, 2018; Morgan, 2018), there are still some that may “talk” better with each other.

EVALUATING ACCESS NEEDS AND PLANNING FOR INTEGRATION

When evaluating whether access for the current SGD and power wheelchair are functioning optimally, there is much to consider. Access is dependent not only on the client’s motor skills, but also on psychosocial, cognitive, sensory and operational skills – all of which are required to understand access method operation and successfully use the AAC system (O’Neill & Wilkinson, 2020). A variety of direct and indirect access methods are possible, typically starting with direct, alternative direct and finally indirect methods of AAC access as

CONTINUED ON PAGE 28



AAC ON THE GO ...
(CONTINUED FROM PAGE 27)

noted in Figure 2 (Cook & Polgar, 2015; Lindstrom Drescher, 2009; Elshahar et al., 2019). Similarly, Lange (2018) describes a hierarchy of most efficient drive controls, starting with proportional controls (such as standard and alternative joysticks) that give 360-degree movement and control of speed, then moving to digital controls (such as switch arrays and switch scanning), which are typically limited to three to four directions and a set speed. For both SGDs and power wheelchairs, typically, access using a client's hands is the first site considered. If hand use is not practical, access options using the head would be trialed for a client with limited controlled movement. If head use is not practical, other body sites such as legs and feet are explored. For example, the client in Figure 3 presented with upper extremity contractures and limited reach, however, her arms were still her most consistent movement – she could pull her arm back and access a switch behind her elbow. The optimal access site and method should be controlled, repeatable and the most efficient possible (Cook & Polgar, 2015; Lindstrom Drescher, 2009; Watanabe, 2017). For clients with limited motor control using alternative drive methods, integration or interfacing of these drive controls (by connecting them to allow



FIGURE 3 AAC device switch scanning access, with switch behind elbow.

use of a single access method for both the wheelchair and the SGD) can streamline the setup and increase functionality and efficiency (Lange, 2018). When you have something important to say or somewhere to go, you should be able to do it quickly!

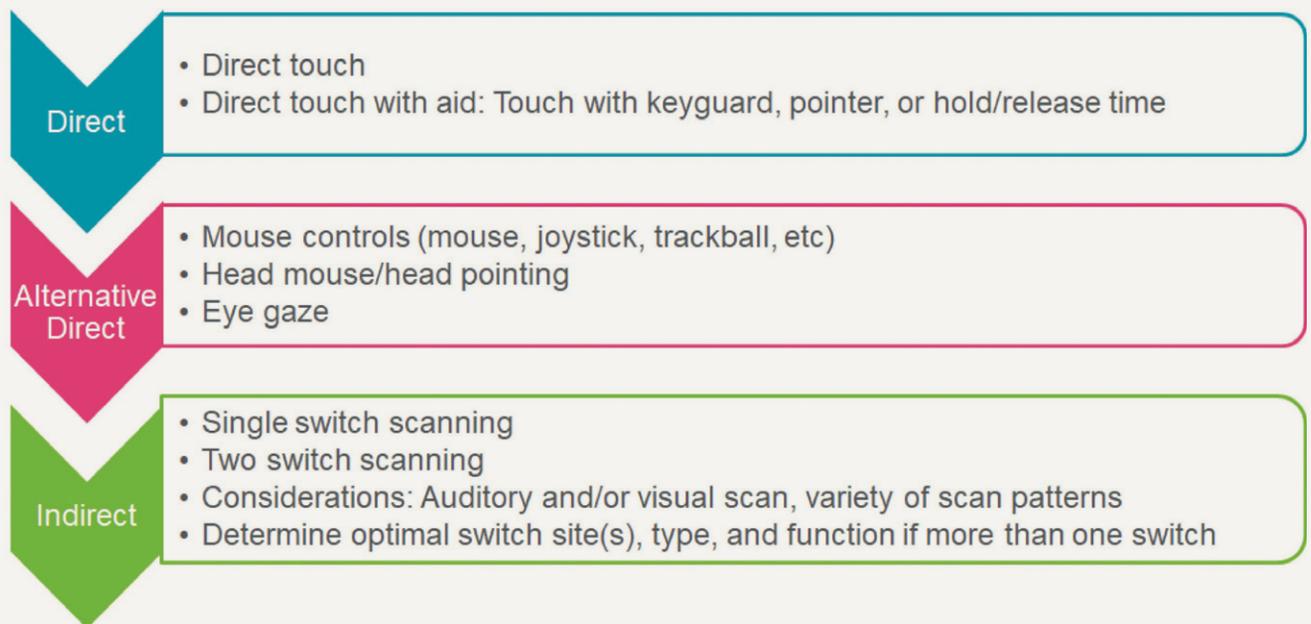


FIGURE 2 Access Method Hierarchy

TO INTEGRATE OR NOT TO INTEGRATE?

There are many types of drive controls and scenarios where integration with AAC access is possible and should be considered (see Figure 4). The importance of integrating power wheelchair controls with a communication device, and with many other assistive technologies, is something that Priscilla and Emma know a lot about. Priscilla is a feisty 5 year old with a genetic diagnosis of CHRNA1-related congenital myasthenic syndrome, which is characterized by muscle weakness that worsens with physical exertion. Emma is a 21-year-old college student, preparing to graduate with a degree in design, who has a diagnosis of spinal muscular atrophy type I. Both Priscilla and Emma have worked for years with their occupational therapist, Beth McCarty, (personal communication, March 2022) to determine when to integrate or not. They currently rely on integrated assistive technology systems to allow them to drive, communicate and achieve the greatest level of independence and participation possible.

JOYSTICK CONTROL – WHEN TO INTEGRATE?

If the client is using a joystick to drive a power wheelchair, the therapist must evaluate whether the precision of joystick control is adequate for accessing an SGD. Many pros and cons are weighed when considering integration of drive controls and AAC access, as outlined in Figure 4.

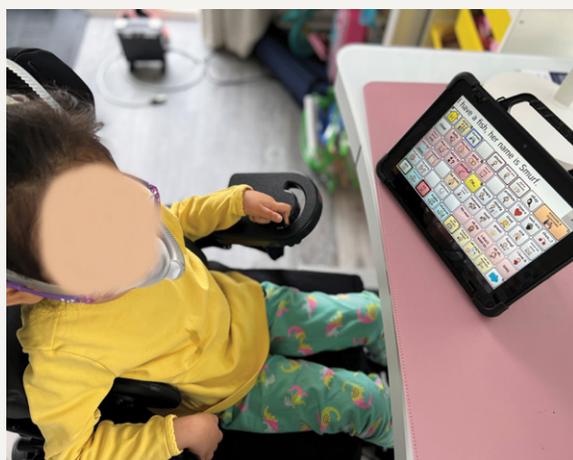


FIGURE 5 Client accessing AAC device via mouse emulation through Switch It Versa Guide compact joystick

Integrate? Yes!

If the client drives with a specialty joystick or a joystick at an alternate site due to limitations or fatigue with reaching and fine motor control (Watanabe, 2017; Kiger, 2019a, June 28; Kiger, 2019, August 31), integration of the drive control for AAC access may be extremely helpful. It may be beneficial to integrate use of a specialty joystick because 1) it allows the client to have a direct and proportional means of SGD access, 2) the joystick is already setup in the optimal position for access, and 3) it allows the client to access this mouse control and SGD from a position that is more supported as needed to sustain access throughout the day (Lange, 2018). Integration has certainly been beneficial for Priscilla and Emma.

Priscilla has a Sunrise Medical Zippie ZM-310 PWC. She uses the Compact Joystick Versa Guide Proportional Drive Control by Switch It, as well as two micro lite switches for mode and power that are placed on her tray. The Space Disk Hand Tray and adjustable swing-away mount, offered through Sunrise, was used to position her drive control and hand to provide adequate support for access. For communication, Priscilla has a Saltillo ChatFusion 10 SGD and uses the WordPower 60 basic page set. Due to her diagnosis and growing communication needs as she entered school, direct selection with a keyguard was no longer functional as she could not reach all the required vocabulary. Her SGD was initially chosen for its mouse access capability for use in the future, as needed. When it was time to integrate her power wheelchair joystick for mouse control of her SGD, it was decided that Bluetooth connection for integration was optimal for several reasons. Bluetooth would allow Priscilla to use her joystick for AAC access when it was mounted on her wheelchair or placed on a table surface when needed. Additionally, due to her use of specialty drive controls, the electronics and display already had built in Bluetooth capabilities. With programming, the Bluetooth feature was turned on and a mode set-up for Bluetooth connection. Once the wheelchair was paired with her SGD, Priscilla was able to use her mode switch to toggle into Bluetooth mode, then her joystick to control her AAC device via mouse emulation (see Figure 5).

Emma has driven a power wheelchair since she was 1 ½ years old. Her fierce need for independence at an early age was the driving force behind integrating her assistive technology. Emma presents with minimal active movement of her index finger and requires significant support for all her postural needs. Currently Emma is using a Quantum Edge power wheelchair and drives with an HMC mini proportional joystick (watch Video 1 via QR code). Since her first power wheelchair, Emma has used this mini proportional joystick with

CONTINUED ON PAGE 30



AAC ON THE GO ...
(CONTINUED FROM PAGE 29)

FIGURE 4

**DRIVE CONTROL: JOYSTICK, ALTERNATIVE JOYSTICK
AAC ACCESS: MOUSE EMULATION (PROPORTIONAL)**

PROS

- Less fatiguing, greater endurance for clients with upper extremity/fine motor deficits.
- Client stabilizing arm for joystick access may increase accuracy for mouse vs. touch.
- Increased accuracy to more/smaller targets = less navigation demands, increased efficiency and larger amount of language.
- Streamlines access — joystick already in ideal placement.
- Cost savings — Wheelchair electronics may already have Bluetooth mouse capability standard.
- Increased control allows variety of options for language program setup (single word, phrase based and keyboard) = more robust language to meet client needs.
- Using joystick nudge/command on drive control to click increases accuracy/efficiency of mouse access and no added cost.

CONS

- Need alternate access outside of wheelchair.
- May decrease efficiency to toggle modes to mouse control vs. direct touch access with supports (keyguard, hold times, etc.).
- Increased cognitive load and operational skill needed to toggle between driving and mouse.
- Mouse requires more careful graded fine control of joystick than for driving. Targeting may be challenging for users with fine motor deficits.
- Driving and mouse control are two different skills and do not inherently translate.
- Could negatively affect target size, and subsequently efficiency, and amount of language on SGD if targeting is not precise.
- Dwell click slows access. Adding switch to click adds cost and increases hardware/setup but increases accuracy/efficiency vs. dwell. Client must be able to access switch without inadvertently moving cursor.

**DRIVE CONTROL: JOYSTICK, ALTERNATIVE JOYSTICK
AAC ACCESS: MOUSE EMULATION (DIGITAL/DIRECTIONAL)**

PROS

- Less fatiguing, greater endurance and allows more controlled/accurate access for clients with upper extremity/fine motor deficits.
- Streamlines access — Joystick already in ideal placement, rather than adding switches.
- If using digital/directional control for mouse to toggle through choices, less precise targeting is needed than with a proportional joystick mouse control.
- May allow more targets per page than with a traditional proportional mouse for a client with fine motor deficits. More targets = less navigation, possibly increased speed, and increased amount of language.
- Using joystick nudge/command in drive control to click increases accuracy/efficiency of digital mouse access and no added cost.
- Would benefit from phrase-based language programs to increase the efficiency of sentence building, and use of pre-programmed messages.

CONS

- Need alternate access outside of wheelchair.
- May decrease efficiency to toggle modes to mouse control, vs. direct touch access with supports (keyguard, hold times, etc.) if able.
- Increased cognitive load & operational skill needed to toggle between driving & mouse.
- Possibly added cost and peripherals needed to integrate this for digital output rather than proportional mouse emulation.
- Driving and mouse control are two different skills, and do not inherently translate.
- Lack of proportional control limits speed of accessing targets in all quadrants on screen.
- Other alternative direct access methods, such as eye gaze or head mouse give proportional control and may be more accurate/efficient.
- May limit efficiency of accessing language embedded in folders/layers within a system
- Keyboard and single word sentence building could be fatiguing & time consuming due to amount of navigation through the display.

FIGURE 4

**DRIVE CONTROL: HEAD ARRAY, MULTIPLE SWITCH ARRAY
AAC ACCESS: MOUSE EMULATION (DIGITAL/DIRECTIONAL OR PROPORTIONAL)**

PROS

- Head array/switch array already in ideal placement, this streamlines set-up and access.
- Options available for both digital and proportional mouse emulation, depending on head/switch array type and electronics.
- If using digital/directional control for mouse to toggle through choices, less precise targeting is needed than with proportional mouse control.
- Allows for more targets per page and alternate direct access despite motor limitations. More targets= less navigation, possibly increased speed and increased amount of language.
- Using built-in switches in head/switch array to click increases accuracy/efficiency of mouse access and no added setup.
- Would benefit from phrase-based language programs to increase the efficiency of sentence building and use of pre-programmed messages.

CONS

- Need alternate access outside of wheelchair.
- May decrease efficiency to toggle modes to mouse control, vs. using separate AAC access.
- Increased cognitive load and operational skill needed to toggle between driving and mouse.
- Mouse requires more careful graded control of head/switch array than for driving.
- Targeting may be challenging for clients with motor deficits.
- May require added hardware and cables for interfacing = increased cost (digital version).
- Driving and mouse control are two different skills, and do not inherently translate.
- If using digital mouse emulation, lack of proportional control limits speed of accessing targets in all quadrants on screen.
- Other alternative direct access methods (eye gaze, head mouse) may be more accurate/efficient. Could use head array switch for eye gaze or head mouse “click”.
- May limit efficiency of accessing language embedded in folders/layers within a system.
- Keyboard and single word sentence building could be fatiguing & time consuming due to amount of navigation required.

**DRIVE CONTROL: HEAD ARRAY, MULTIPLE SWITCH ARRAY
AAC ACCESS: SCANNING**

PROS

- Streamlines access- Head array or drive switches already in ideal placement for access, rather than adding other switches.
- Use established, consistent motor pattern and access site for multiple purposes.
- Use of well-developed motor planning patterns and customizing options for timing, scan patterns and use of multiple switches can increase speed of access and amount of language available.
- Access method does not typically restrict visual field for driving and during social interaction, such as eye gaze access does.
- Would benefit from phrase-based language programs with significant pre-programmed messages, due to increased navigation demands and less efficient indirect access.

CONS

- Need alternate access outside of wheelchair.
- Increased cognitive load and operational skill needed to toggle between driving and AAC scanning access.
- Requires added hardware and cables for interfacing — increased cost.
- Use of head/switch array for driving and switch scanning access on an SGD are different skills and do not inherently translate.
- Lacks proportional control to directly access a target. Waiting through scan pattern is often less efficient.
- Other AAC alternative direct access (eye gaze, head mouse) typically more efficient if able. Though for a fast scanner, may be more efficient than mouse control via existing head/switch array.
- Keyboard and single word sentence building could be extremely limited and time consuming due to indirect access, amount of time needed for scan and navigation demands.



AAC ON THE GO ...
(CONTINUED FROM PAGE 31)

FIGURE 4

**DRIVE CONTROL: SWITCH SCANNING
AAC ACCESS: MOUSE EMULATION (DIGITAL/DIRECTIONAL)**

PROS

- Switches already in ideal placement, this streamlines set-up and access.
- Use established, consistent motor pattern and access site for multiple purposes.
- May allow for more targets per page on SGD despite motor limitations. More targets = less navigation and increased language.
- Would benefit from phrase-based language programs with significant pre-programmed messages, due to decreased efficiency of indirect scanning access.

CONS

- Need alternate access outside of wheelchair.
- Decreased efficiency due to toggling between modes.
- Increased cognitive load and operational skill needed to toggle between switch driving and mouse control of AAC through switches.
- Increased complexity of setup may be intimidating to caregivers providing support.
- Typically decreased efficiency compared to multiple switch array drive, or AAC alternative direct access (eye gaze, head mouse).
- Switch scan for directional control of driving and for mouse emulation are two different skills and do not inherently translate.
- Requires added hardware to allow wheelchair electronics and AAC devices to integrate.
- In attendant control/standby mode, drive control may not be usable for AAC access.
- May limit efficiency of accessing language embedded in folders/layers within a system
- Keyboard and single word sentence building would be fatiguing and time consuming due to the amount of navigation through the display.

**DRIVE CONTROL: SWITCH SCANNING
AAC ACCESS: SCANNING**

PROS

- Switches already in ideal placement, this streamlines set-up and access, particularly if very limited number of switch sites.
- Use established, consistent motor pattern and access site for multiple purposes.
- Use of well-developed motor planning patterns and customizing options for timing, scan patterns and use of multiple switches can increase speed of access and amount of language available.
- Would benefit from phrase-based language programs with significant pre-programmed messages, due to decreased efficiency of indirect scanning access.

CONS

- Need alternate access outside of wheelchair.
- Decreased efficiency due to toggling between modes.
- Increased cognitive load and operational skill needed to toggle between switch driving and switch scanning control of AAC.
- Increased complexity of setup may be intimidating to caregivers providing support.
- Typically decreased efficiency vs. multiple switch array drive, or AAC alternative direct access (eye gaze, head mouse).
- If needing to use separate mode switch, may be more efficient to use separate switches for AAC and drive control.
- Requires added hardware to allow wheelchair electronics and AAC devices to integrate.
- In attendant control/standby mode, drive control may not be usable for AAC access.
- Keyboard and single word sentence building could be extremely limited and time consuming due to indirect access, amount of time needed for scan and navigation demands.

**DRIVE CONTROL: EYE GAZE
AAC ACCESS: EYE GAZE**

PROS

- Integration allows direct AAC access, and independent driving when limited or no movement.
- Eye gaze technology used for years in AAC has advanced greatly in accuracy.
- Eye gaze technology from many current AAC devices can now be used for drive control with added peripherals and software.
- Use of eye gaze access provides direct, proportional AAC access, and use of a switch or blink click optimizes speed and accuracy.
- Variety of options for language program set up, such as single word, phrase based or keyboard sentence building due to increased controlled visual targeting on the screen.
- New dwell free keyboard options can increase efficiency for keyboard access.

CONS

- Technology issues affect the ability both to independently drive and communicate.
- Set-up of eye gaze technology for AAC access outside of wheelchair requires greater caregiver proficiency.
- Decreased efficiency due to toggling between modes.
- Increased cognitive load and operational skill needed to toggle between eye gaze driving and eye gaze control of AAC.
- Does not work well outdoors. Primarily indoor mobility.
- Set-up of eye gaze must be precise for accuracy. Caregivers providing support must be comfortable with trouble shooting complex set-up, as needed.
- Decreased accuracy of calibration could limit size/number of targets on AAC page, keyboard access and/or access to language on sides or corners.
- Potential for eye strain, fatigue and dryness.

FIGURE 4: Considerations for integration of drive controls and AAC access

a custom lightweight Styrofoam ball for a handle, which provides better surface contact and stability than the standard handle, to drive using her index finger and thumb. Emma previously trialed the Micro Glide, but it was not as successful. She preferred the familiarity of the HMC mini, as well as the feedback and control she felt with the movement of this joystick. She currently uses her joystick setup with the built-in power wheelchair Bluetooth connection to access her computer and phone (watch Video 2 via the QR code), for backup access to her SGD when not using eye gaze, and even to control her Kinova Robotic Arm for a variety of activities such as playing fetch with her dog (watch Video 3 via QR code) or for cooking (watch Video 4 via QR code). She uses two micro lite mono jack switches to select her power wheelchair modes and turn the power on and off. All her devices are accessed by activating her mode switch, then using her joystick to select the desired Bluetooth mode to access each device.

Integrate? No!

For a client with great upper extremity control, and good fine motor skills for targeted reaching, direct access should be possible and mouse emulation is not indicated. Some clients who are proficient power wheelchair drivers do not have the refined level of control

required to navigate dozens of choices on an SGD display using mouse emulation.

When Priscilla first got her power wheelchair, integration was initially a “no.” She and her family preferred she use her hands for direct access with a keyguard for as long as possible. Additionally, Priscilla was still mastering her driving skills, so it was not the time to integrate yet. It is typically best to allow a client to master use of each device before integrating control.

Emma, despite integrating many of her technologies, was also a “no” for integrating the joystick as her primary AAC access method. Emma has a Trilogy SGD by Control Bionics, which she accesses via eye gaze and the NeuroNode switch (watch Video 5 via QR code). Eye gaze access with use of the NeuroNode switch for selection was far easier and efficient for Emma than using mouse emulation through her joystick to control her SGD. Just because the joystick can be integrated does not mean it always should.

CONTINUED ON PAGE 34



IN A TIME OF EVER-EXPANDING WAYS TO COMMUNICATE WITH FAMILY, FRIENDS AND THE WORLD AROUND US, AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC) GIVES A VOICE TO PEOPLE WHO MIGHT OTHERWISE HAVE LIMITED OPPORTUNITIES TO BE HEARD, UNDERSTOOD AND SOCIALLY ENGAGED.

AAC ON THE GO ...
(CONTINUED FROM PAGE 33)

EYE GAZE CONTROL – WHEN TO INTEGRATE?

Eye gaze has existed for many years as an AAC access method but is a relatively new option as a drive control. On the positive side, this technology has allowed clients independent mobility who were unable to drive a PWC in the past.

Integrate? Yes!

As a driving method, eye gaze uses existing technology, which has been refined for many years in AAC devices to provide both communication and mobility. Many eye gaze SGDs can also be used as a digital drive control with some added peripherals and programming. This client may not have another means of communicating or driving, and integration is required to provide both.

Integrate? No!

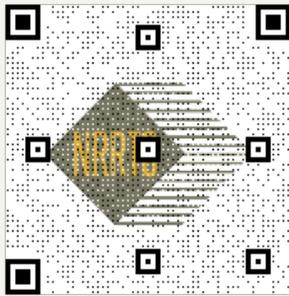
As exciting as this technology is, there are certainly drawbacks to consider. For example, eye gaze drive does not work well outdoors (Koch Fager et al., 2019), which limits mobility primarily to indoor environments. Additionally, the technology and software used is complex for both the client and their caregivers. There is a high cognitive load for the client to effectively use this access method for both driving and communication. Caregivers must set-up the technology precisely and troubleshoot any errors to allow accurate and effective use.

Emma is excellent at using eye gaze access on her SGD; however, integration was a “no” for many reasons. Being limited to driving primarily in indoor environments was a significant factor, as was her ability to use other more efficient proportional drive controls. While Emma is starting to have more difficulty at times using her joystick as her condition progresses, eye gaze is still not likely to be the preferred method of drive control. Emma continues to work with her occupational therapist, Beth McCarty (personal communication, March 2022) to evaluate other options, including switch drive methods due to her familiarity with a variety of switch uses and potential for integration with the numerous devices she uses.

Many pros and cons must be considered in any of these scenarios, and multidisciplinary team communication and collaboration is required to determine the best access set-up for both the wheelchair and the AAC device. To integrate, or not to integrate ... that is the question!

CONCLUSION

In a time of ever-expanding ways to communicate with family, friends and the world around us, augmentative and alternative communication (AAC) gives a voice to people who might otherwise have limited opportunities to be heard, understood, and socially engaged. Just as consumer technology continues to advance, assistive technologies to integrate AAC devices and power wheelchairs have also advanced dramatically. More capabilities are being streamlined, and we must give ample attention when integrating complex assistive technology systems for best outcomes and functionality in the daily lives of each client. For many people who have both a speech and mobility impairment, integration can provide success for communication on the go!



Scan the QR code to watch the following videos:

Video 1: Emma walking her dog while driving her power wheelchair.

Video 2: Emma using her joystick to access her smartphone.

Video 3: Emma using her integrated robotic arm to play fetch with her dog.

Video 4: Emma using her integrated robotic arm to cook.

Video 5: Emma using eye gaze and the Neuronode switch for AAC access

- MORGAN, A.M. (2018). CHAPTER 12: POWER MOBILITY OPTIMIZING DRIVING. IN LANGE, M. L. & MINKEL, J. (EDS.), SEATING AND WHEELED MOBILITY: A CLINICAL RESOURCE GUIDE (PP. 199–214). SLACK INCORPORATED.
- O'NEILL, T., & WILKINSON, K. M. (2020). PRELIMINARY INVESTIGATION OF THE PERSPECTIVES OF PARENTS OF CHILDREN WITH CEREBRAL PALSY ON THE SUPPORTS, CHALLENGES, AND REALITIES OF INTEGRATING AUGMENTATIVE AND ALTERNATIVE COMMUNICATION INTO EVERYDAY LIFE. AMERICAN JOURNAL OF SPEECH-LANGUAGE PATHOLOGY, 29(1), 238-254.
- WATANABE, L. (2017, OCTOBER 1). A HIERARCHY OF DRIVING CONTROLS: WHERE TO START & HOW TO PROCEED WHEN ASSESSING POWER CHAIR OPTIONS. MOBILITY MANAGEMENT. RETRIEVED MARCH 11, 2022, FROM [HTTPS://MOBILITYMGMT.COM/ARTICLES/2017/10/01/DRIVING-CONTROLS.ASPX](https://mobilitymgmt.com/articles/2017/10/01/driving-controls.aspx).

REFERENCES

- AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION (N.D.). AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (PRACTICE PORTAL). RETRIEVED SEPTEMBER 28, 2021, FROM [WWW.ASHA.ORG/PRACTICE-PORTAL/PROFESSIONAL-ISSUES/AUGMENTATIVE-AND-ALTERNATIVE-COMMUNICATION/](http://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/).
- BEUKELMAN, D. R., & MIRENDA, P. (2013). AUGMENTATIVE AND ALTERNATIVE COMMUNICATION: SUPPORTING CHILDREN AND ADULTS WITH COMPLEX COMMUNICATION NEEDS. PAUL H. BROOKES PUB.
- COOK, A. M., & POLGAR, J. M. (2015). ASSISTIVE TECHNOLOGIES: PRINCIPLES AND PRACTICE (4TH ED.). ST. LOUIS, MO: ELSEVIER/MOSBY.
- ELSAHAR, Y., HU, S., BOUAZZA-MAROUF, K., KERR, D., & MANSOR, A. (2019). AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC) ADVANCES: A REVIEW OF CONFIGURATIONS FOR INDIVIDUALS WITH A SPEECH DISABILITY. SENSORS, 19(8), 1911.
- KIGER, A. (2019A, JUNE 28). POWER WHEELCHAIR DRIVE CONTROLS, PART 1: PROPORTIONAL VS. NON-PROPORTIONAL | SUNRISE MEDICAL. SUNRISE MEDICAL (US) LLC. RETRIEVED NOVEMBER 3, 2022, FROM [HTTPS://WWW.SUNRISEMEDICAL.COM/EDUCATION-IN-MOTION/BLOG/JUNE-2019/POWER-WHEELCHAIR-DRIVE-CONTROLS-PROPORTIONAL-NON](https://www.sunrisemedical.com/education-in-motion/blog/june-2019/power-wheelchair-drive-controls-proportional-non)
- KIGER, A. (2019A, JULY 31). POWER WHEELCHAIR DRIVE CONTROLS, PART 2: NON-PROPORTIONAL | SUNRISE MEDICAL. SUNRISE MEDICAL (US) LLC. RETRIEVED NOVEMBER 3, 2022, FROM [HTTPS://WWW.SUNRISEMEDICAL.COM/EDUCATION-IN-MOTION/BLOG/JULY-2019/NON-PROPORTIONAL-POWER-WHEELCHAIR-DRIVE-CONTROLS](https://www.sunrisemedical.com/education-in-motion/blog/july-2019/non-proportional-power-wheelchair-drive-controls).
- KIGER, A. (2019, AUGUST 31). POWER WHEELCHAIR DRIVE CONTROLS, PART 3: PROPORTIONAL | SUNRISE MEDICAL. SUNRISE MEDICAL (US) LLC. RETRIEVED NOVEMBER 3, 2022, FROM [HTTPS://WWW.SUNRISEMEDICAL.COM/EDUCATION-IN-MOTION/BLOG/AUGUST-2019/PROPORTIONAL-POWER-WHEELCHAIR-DRIVE-CONTROLS](https://www.sunrisemedical.com/education-in-motion/blog/august-2019/proportional-power-wheelchair-drive-controls).
- KOCH FAGER, S., FRIED-OKEN, M., JAKOBS, T., & BEUKELMAN, D. R. (2019). NEW AND EMERGING ACCESS TECHNOLOGIES FOR ADULTS WITH COMPLEX COMMUNICATION NEEDS AND SEVERE MOTOR IMPAIRMENTS: STATE OF THE SCIENCE. AUGMENTATIVE AND ALTERNATIVE COMMUNICATION, 35(1), 13-25.
- LANGE, M. L., CRANE, B., DIAMOND, F. J., EASON, S., PRESERIN PEDERSEN, J., & PEEK, G. (2021). RESNA POSITION ON THE APPLICATION OF DYNAMIC SEATING. ASSISTIVE TECHNOLOGY, 1-11.
- LANGE, M. L. (2018). CHAPTER 11: POWER MOBILITY ALTERNATIVE ACCESS METHODS. IN LANGE, M. L. & MINKEL, J. (EDS.), SEATING AND WHEELED MOBILITY: A CLINICAL RESOURCE GUIDE (PP. 179–198). SLACK INCORPORATED.
- LANGE, M. L. (2018). CHAPTER 13: POWER MOBILITY ADVANCED APPLICATIONS. IN LANGE, M.L. & MINKEL, J. (EDS.), SEATING AND WHEELED MOBILITY: A CLINICAL RESOURCE GUIDE (PP. 215–235). SLACK INCORPORATED.
- LANGE, M. (2015, JANUARY 26). CONTROLLING A SPEECH GENERATING DEVICE THROUGH A POWER WHEELCHAIR. UNIVERSITY OF PITTSBURGH, DEPARTMENT OF REHABILITATION SCIENCE AND TECHNOLOGY. RETRIEVED FEBRUARY 6, 2022, FROM [HTTPS://RSTCE.PITT.EDU/RSTCE_WEBINAR/2015/ISS/ISS2015HANDOUTS/IC60_HANDOUTS.PDF](https://rstce.pitt.edu/rstce_webinar/2015/ISS/ISS2015HANDOUTS/IC60_HANDOUTS.PDF).
- LINDSTROM DRESCHER, P. (2009). CHAPTER 4-ASSISTIVE TECHNOLOGY FOR ACCESS TO COMPUTERS. RETRIEVED FROM [HTTP://WWW.WATI.ORG/WP-CONTENT/UPLOADS/2017/10/CH4-COMPUTERACCESS.PDF](http://www.wati.org/wp-content/uploads/2017/10/CH4-COMPUTERACCESS.PDF).

CONTACT THE AUTHORS

Katherine may be reached at KATHERINE.EINGLE@CCHMC.ORG

Emily may be reached at EMILY.RAYBURN@CCHMC.ORG



Katherine Clark is an occupational therapist the Perlman Center at Cincinnati Children’s Hospital Medical Center, which is a specialty center designed to address the complex therapy, developmental, assistive technology, and care coordination needs of children, youth, and adults with cerebral palsy and other complex conditions. Clark has spent over 13 years specializing in assistive technology serving this population and is a certified ATP. She has experience in early intervention, Kinesio® Taping, cortical visual impairment, augmentative communication, alternative access controls, computer access, and with a wide variety of adaptive equipment.



Emily Rayburn is a speech language pathologist at the Perlman Center, which is a specialty center designed to address the complex therapy, developmental, assistive technology, and care coordination needs of children, youth, and adults with cerebral palsy and other complex conditions. Rayburn regularly completes assistive technology evaluations, trials and trainings for clients with significant communication needs.



CLIENT- AND FAMILY-CENTERED CARE: LET'S TALK ABOUT IT!

Written by: **TAMARA KITTELSON, MS, OTR/L, ATP/SMS**

Client-, patient- and family-centered care is a buzz phrase these days. No matter what you call them, the people with whom we work are the focus of what we do — whether acquiring their first wheelchair or a veteran rider, our ability to focus the process on the individual and their circle of support can make or break it for all concerned.

In the 1980s I was schooled in this concept as an early intervention therapist. My real training began when my youngest child was born, and I found myself in a parent/professional's no man's land (see Figure 1). In my sparsely populated state, I knew every child with cerebral palsy within a four-hour radius but was unprepared for the transition to having my own. My colleagues were also unprepared and were not sure what to do with me or my daughter when lightning struck too close to home (our office).

I am grateful now for the doorway into a world not everyone can enter and appreciate. Therefore client- and caregiver-centered care is important to me, and why I am sharing "Eight principles

of patient-centered care" adapted to our work in Complex Rehab Technology (CRT).

1. RESPECT PATIENTS' VALUES, PREFERENCES AND EXPRESSED NEEDS

We must draw our clients into shared decision making. While individuals all have unique values and preferences, not all feel comfortable expressing them — especially in the face of "experts" who are viewed as more knowledgeable. Past experiences with medical professionals may have reinforced this feeling.

2. COORDINATION AND INTEGRATION OF CARE

A person may have a new condition requiring CRT or be a veteran rider. But everyone needs coordinated care. Communication with all care team members



FIGURE 1 The author and her daughter, Eleanore.

during the evaluation process can alleviate client anxiety and avoid missing key information. This makes our job easier as this information can positively impact outcomes.

3. INFORMATION AND EDUCATION

Second nature information to us may be foreign to our clients. Even veteran riders may not know the latest option or funding changes impacting them and their equipment choices. Education is more than handing over a pamphlet. Clients can participate fully only when fully informed about the evaluation, funding and procurement process – including how their condition will influence equipment selection and use.

4. PHYSICAL COMFORT

We can influence our clients' experience through the evaluation environment. We can help the person and their circle feel comfortable and relaxed, even if the evaluation location is not ideal.

5. EMOTIONAL SUPPORT AND ALLEVIATION OF FEAR AND ANXIETY

Our work can provoke fear and anxiety in clients, however well hidden, impacting their participation in the evaluation and overall experience. They may be sleep deprived or anxious about their condition, what the future holds, finances and acceptance of the equipment. I, if anyone, should have been prepared to accept my daughter's first wheelchair, but it was a big emotional hurdle.

6. INVOLVEMENT OF FAMILY AND FRIENDS

Caregivers and friends can be "family," in addition to legal relatives, and may understand dynamics others are missing. Include them and their ideas in the process, if possible. Even if

different choices are made in the end (compared to equipment recommendations made without their input), all parties will be more open to future use and care of the equipment. Families are in it for the long haul – comparatively, we are not.

7. CONTINUITY AND TRANSITION

Follow-up visits give opportunity to see how the equipment is working in the natural environment and provide maintenance/repair information. Red flags should trigger check-ins before small problems become big ones — you may have done this at delivery, but so much happens on that day that important information can be forgotten, missed or misunderstood.

8. ACCESS TO CARE

Where I reside, much of the population lives hours away from a CRT supplier and a knowledgeable wheelchair clinic therapist. Yet people must know how to get the help they need when they need it. If distance is an issue, self-sufficiency is crucial. Educate the client and caregivers about monitoring/tightening loose bolts as prevention of bigger problems. Recognizing problems and calling for an appointment early can avoid a mobility crisis that brings life to a standstill.

Team building with clients and families is the way to go — honing these skills has its rewards in relationship building and improved outcomes!

CONTACT THE AUTHOR

Tamara may be reached at TAMARALKA@GMAIL.COM

REFERENCE

[HTTPS://WWW.ONEVIEWHEALTHCARE.COM/BLOG/THE-EIGHT-PRINCIPLES-OF-PATIENT-CENTERED-CARE/](https://www.oneviewhealthcare.com/blog/the-eight-principles-of-patient-centered-care/)



Tamara Kittelson is an occupational therapist and ATP/SMS. She directs Posture 24-7 and Eleanore's Project, promoting 24-hour posture care management and appropriate seating and wheeled mobility provision in low resource settings. She has presented on these topics nationally and internationally. Kittelson works part-time for Moving Mountains Therapy Center in Missoula and has served children and adults in Montana with complex neurodisabilities since 1983. She credits her daughter, Eleanore, born with cerebral palsy and profound deafness, as her best teacher.



AAC ON THE MOVE: A CASE STUDY ON POWER WHEELCHAIR INTEGRATION

Written by: KATHERINE CLARK, MOT, OTR/L, ATP, AND EMILY RAYBURN, MA, CCC-SLP

MEET ANGIE

It is never too late to learn a new skill. This fact could not resonate more than with our friend, Angie, who began her journey at the Perlman Center at 41 years old. She arrived with the team from her residential facility, who saw her enormous potential and turned to the assistive technology resources from the Perlman Center for support. Angie was dependent on a manual wheelchair and caregivers for mobility and did not have a communication device. Angie was very social and understood so much, but her independence to communicate and navigate her environment was limited. However, Angie's smile, drive to communicate and incredible determination to be more independent and engaged in her environment was obvious.

FINDING HER VOICE

Angie was using low-tech eye gaze to look at what she wanted; then a guessing game ensued, using "yes" or "no" facial expressions to confirm her communication intent. She also had been introduced to augmentative and alternative communication (AAC) through trials of static picture symbols and early auditory scanning on an iPad with her speech therapist. Our assistive technology team began evaluating potential AAC access methods. Angie required custom seating due to significant contractures and postural deficits. Direct access was not practical due to significant limitations in Angie's range of motion and control for reaching. We trialed eye gaze access with Angie, however, functionality was inconsistent and sustaining an upright and still head posture proved frustrating. After an initial learning curve and some fine tuning through speech generating device (SGD) programming, Angie took off with auditory switch scanning access. This access method was accurate, efficient and intuitive to Angie. She was able to activate a single switch behind her left elbow accurately and quickly. After activating the switch, Angie could hear an auditory cue for each selection as it was scanned. These auditory cues supported her ability to learn the language and navigate on this new AAC system. After comparing several SGDs, Angie and the whole team decided on the Accent 1400 from Prentke Romich Company (PRC), with a 45-button language program, an AbleNet Big Red switch mounted behind her left elbow, and single switch scanning access using a row column scan pattern and 1.3 second scan speed (see Figure 1). Over the next five years, Angie found her voice, and touched many lives. The video "Angie's New Voice" shows her incredible journey (watch Video 1 via the QR code at the end of the article).



FIGURE 1 Angie using her first communication device, via single switch scanning access, and a switch behind her left elbow.

**OVER THE NEXT FIVE YEARS,
ANGIE FOUND HER VOICE, AND
TOUCHED MANY LIVES.**

A NEW WAY TO MOVE

Seeing the progress with her new SGD and finding independence in communication, the residential facility team continued pursuing greater independence for Angie. With an established switch site at her elbow and an excellent understanding of scanning access using her communication device, Angie began power mobility trials. Her team practiced using her existing switch to learn how to drive a power wheelchair. Through evaluation and trials, they recommended a Quantum Q700 power wheelchair, with custom molded seating system and familiar access using single switch scanning drive control. Angie uses her Big Red switch mounted behind her left elbow to start the scan, then watches on the display in front of her as each directional choice is scanned/highlighted. She then activates her switch when the direction she wants to go is highlighted. She must sustain pressure on the switch for the duration of movement required in that direction. Due to difficulty sustaining pressure on the switch, the power wheelchair was programmed to latch forward

drive. When forward was scanned, Angie could select and continue movement in this direction with a momentary switch activation. To stop, Angie would activate the switch a second time. A third switch activation would resume the scan. Her team has an emergency stop switch to use, as needed, for safety. Angie can also turn to either side after initially selecting that direction and then completes multiple subsequent switch hits to turn incrementally as sustained switch activation is still difficult. Angie enjoys greater independence with her mobility and loves driving around the halls of her residential facility. Currently, she does her best driving in wide-open spaces, and staff continue to work with Angie to refine driving skills for safe navigation of tighter spaces at home.

TIME TO UPGRADE

In 2021, due to the age of her SGD, her skill development, desire for a smaller screen and eligibility for new SGD funding, it was time for Angie to explore AAC and access options that would better meet her current needs and capabilities. Angie preferred sticking with the familiar Accent devices from PRC but was interested in trialing eye gaze again. This new access method initially appeared promising; however, the accuracy of eye gaze proved to be inconsistent and less efficient than switch scanning. Angie was an excellent scanner with great potential to increase her access speed, so alternate scan options were considered. She continued using her elbow switch but advanced to a more efficient scanning method using quarter row/column scan pattern and the fastest scan speed available on her SGD! With this increased speed and Angie's accuracy and consistency using her current communication device and access method, she decided to stick with these familiar options. By continuing with scanning and decreasing SGD size, Angie was no longer hidden behind a bulky computer, and her big smile would bring more communication partners to her side!

TO INTEGRATE OR NOT TO INTEGRATE?

During her AAC evaluation, Angie and the team considered the possibility of integrating her power wheelchair with her AAC device. Angie's team had been plugging and unplugging her switch to change between using her power wheelchair and SGD (as she used the same switch to access each device), which limited Angie's independence in both areas. To make this more seamless and give Angie greater independence to change between driving and using her AAC device, we hoped to set-up Bluetooth integration. Working with her local complex rehab supplier, we found this was not something that could be achieved through programming on Angie's existing drive control. Although her power wheelchair had

CONSIDERING ANGIE'S INCREASED EXPERIENCE LEVEL, HER RECENT IMPROVEMENTS IN AAC ACCESS, AND ONGOING LIMITATIONS WITH DRIVING HER PWC, WE DECIDED THAT FURTHER TRIALS TO EVALUATE ALL DRIVE CONTROL AND INTEGRATION OPTIONS WERE WARRANTED.

Bluetooth capability in the expandable electronics, the output from her power wheelchair was recognized as a mouse control for mouse emulation on her current Accent 1000 SGD. After troubleshooting with representatives from PRC, we determined it was not possible to program the SGD to recognize any of the mouse emulation directional inputs from her power wheelchair as a switch input for scanning. It would take programming an auxiliary mode and the addition of a new input/output module and cable to connect her power wheelchair with her SGD.

Further collaboration with Angie's complex rehab supplier and various manufacturers occurred to review options for cabled versus Bluetooth connection to her SGD. The output module box and output cable connection appeared to be the least expensive option presented and the quickest to receive. Once installed, and the necessary programming of an auxiliary mode on her expandable electronics was completed, Angie would need to learn to scan, not only through directional selections but also Mode. Once Mode was selected, she would choose between driving, seat functions or auxiliary mode on the display. After choosing auxiliary mode, this new module would send the switch signal to her SGD for scanning access. However, we learned with this integration option, Angie would not be able to use her switch through the auxiliary mode for AAC access if her power wheelchair was in attendant control. This was

CONTINUED ON PAGE 40

AAC ON THE MOVE ...
(CONTINUED FROM PAGE 39)

a concern, as Angie requires frequent use of her attendant control for safety and navigating tighter spaces. The Uno Single Switch Scanner with Bluetooth from Adaptive Switch Labs (ASL) eliminated that concern and allowed seamless integration and use even when in attendant control. However, this option was far more expensive, and this new drive control would need to be funded through insurance, rather than out of pocket. While pursuing funding was possible and justifiable, this gave us reason to more thoroughly evaluate this option before moving ahead. If we pursued this new drive control, would this meet Angie’s needs for the next several years? Considering Angie’s increased experience level, her recent improvements in AAC access, and ongoing limitations with driving her power wheelchair, we decided that further trials to evaluate all drive control and integration options were warranted.

Through collaboration with ASL, we were able to obtain their Uno Single Switch Scanner with Bluetooth to trial with Angie. During trials, several pros and cons were uncovered. This drive control would allow for veering (by providing more scanned directions), remove the need for caregivers to plug or unplug cords, and allow Angie to use her switch for AAC access even in attendant control mode. However, the module itself was smaller than anticipated and could possibly be difficult for Angie to see and effectively use. Furthermore, there were still challenges Angie experienced using single switch scanning for her drive control, which impacted her safety and independence. While she certainly understood the drive control and how to operate it correctly, Angie struggled to sustain switch activation and required latch to sustain forward driving. If Angie’s timing was a little off when navigating tighter spaces while using latch, collisions were more likely. Additionally, turning required several switch hits, which was difficult to coordinate and inefficient.

Keeping in mind concerns with use of her existing drive control, we proceeded with evaluating other potential switch access sites. If we could establish additional switch sites, the use of a multiple switch array, rather than scanning, would greatly increase control and efficiency. The team discussed the possibility of adding switches near Angie’s current switch behind her left elbow. However, we were concerned about available space for multiple switches, stable mounting and whether Angie could dissociate movements to use multiple switches at this site. We also considered switch access at Angie’s head but determined this did not seem reasonable due to her long-established head posture and available movements. Though she was able to briefly lift her head and access a switch on the back of her headrest, Angie was unable to sustain switch contact. Angie’s



FIGURE 2 Angie testing out a new drive control - a proximity switch array on a tray.

ability to lift her right arm was limited, so when trialing switches at this site, a tray would be necessary to provide support.

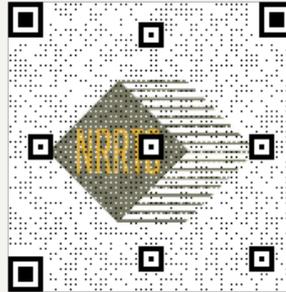
Through collaboration with Angie and her team, we were able to setup and test a proximity switch array on a tray (see Figure 2) (watch Video 2 via the QR code at the end of the article). This was the aha! moment we had hoped for! Angie was a whiz at using the array of proximity switches on the tray by sliding her right arm slightly in each direction to access switches for forward, left and right. She was even able to access an additional mode switch to the right side of the tray with her right arm. Angie and the team were thrilled to go from one switch to five!

THIS WAS THE AHA MOMENT WE HAD HOPED FOR! ANGIE WAS A WHIZ AT USING THE ARRAY OF PROXIMITY SWITCHES ON THE TRAY . . . ANGIE AND THE TEAM WERE THRILLED TO GO FROM 1 SWITCH TO 5!

NEXT STEPS- PLANNING FOR THE FUTURE

After seeing Angie's ability to access a proximity switch array on a tray, we prepared to setup an extended trial of this drive control. In recent sessions, Angie and her multidisciplinary team worked together to determine the best placement of switches under the tray surface, completed the programming necessary to set-up this drive profile on her power wheelchair, and assisted in initial training on use of this drive control (watch Video 3 via the QR code at the end of the article). Now Angie and her team will get to take this system for a spin at home to practice! If they feel this is a better and easier setup, we will move forward with identifying needed components and pursuing funding. We plan to trial options that allow Bluetooth integration of this switch array to her AAC device, so she can use any combination of her new switches and/or her existing switch for scanning on her SGD. Programming will be key during setup to optimize driving and safety. Programming speed, deciding how she will access modes and driving profiles, and possibly using standby mode will all be considered. Although we anticipate Angie will choose familiar scanning access of her SGD, further trials will be needed to assess if mouse emulation or use of multiple switches (two switch scanning) may speed up Angie's communication. If Angie decides to continue with single switch scanning, she will have options. We could integrate to allow use of one of the new proximity switches in her tray, or Angie could choose to use her existing switch site with a smaller AbleNet Jelly Bean switch behind her left elbow exclusively for AAC access.

The simplicity of using separate switches for driving and AAC access may be easier and more efficient. However, integration could simplify the system and reduce the need for additional hardware. Regardless of what she decides, Angie now has options to truly allow her to communicate on the go!



To watch videos of Angie, please scan the QR code.

Video 1: Angie's New Voice

Video 2: Angie's Access Trials – Summary of Tray Array Trial

Video 3: Angie's First Drive

CONTACT THE AUTHORS

Katherine may be reached at KATHERINE.EINGLE@CCHMC.ORG

Emily may be reached at EMILY.RAYBURN@CCHMC.ORG



Katherine Clark is an occupational therapist the Perlman Center at Cincinnati Children's Hospital Medical Center, which is a specialty center designed to address the complex therapy, developmental, assistive technology, and care

coordination needs of children, youth, and adults with cerebral palsy and other complex conditions. Clark has spent over 13 years specializing in assistive technology serving this population and is a certified ATP. She has experience in early intervention, Kinesio® Taping, cortical visual impairment, augmentative communication, alternative access controls, computer access, and with a wide variety of adaptive equipment.



Emily Rayburn is a speech language pathologist at the Perlman Center, which is a specialty center designed to address the complex therapy, developmental, assistive technology, and care coordination needs of

children, youth, and adults with cerebral palsy and other complex conditions. Rayburn regularly completes assistive technology evaluations, trials and trainings for clients with significant communication needs.

WHAT WOULD SIMON DO?

Written by: **WEESIE WALKER, ATP/SMS, EXECUTIVE DIRECTOR OF NRRTS**

This year of our 30th anniversary provides an opportunity to reflect on the mission of NRRTS.

Simon Margolis was the visionary who saw the need for defining best practice in the provision of Complex Rehab Technology (CRT). He gathered input from the CRT industry stakeholders to create the basis of NRRTS.

His inspiration and guidance is embedded in the role of the supplier. His vision was simple: consumer protection for people who rely on CRT. Knowing the supplier is qualified to provide seating and mobility services and is held accountable is important to the client and the clinicians.

HOW DO YOU PROVIDE THE BEST SERVICE?

1. WORK IN YOUR AREA OF EXPERTISE

No faking it here. Never done molded seating? Never installed and programmed a head array? Not sure about the optimal setup for a manual wheelchair? The solution is to work with a colleague who has the needed skill or get the continuing education you need. NRRTS provides a comprehensive library of content on all things seating and mobility.

2. COMMUNICATE, COMMUNICATE, COMMUNICATE

Most complaints from consumers are centered around the lack of communication. Keep your customer in the know by giving them all the information. How long will it take to deliver? What is the cost? What are the coverage issues? What are other options? How will follow-up service be provided? Keeping the customer in the know creates a working relationship that is key to achieving the best outcomes.

3. BE AN ADVOCATE

In the CRT world, there are many examples of people fighting to get coverage for services. Some take years to fight denial after denial. It is exciting on one hand, to see the customer prevail. But, on the other hand, why is there such a long battle to receive the best technology? How does it help the next person who needs this technology? What is the supplier's obligation to support and participate in the struggle? Every CRT supplier is an advocate. That is just part of the job.



Left to right: NRRTS Board Members Thana France, Katie Roberts, Elaine Stewart, Andrea Madsen, Leslie Rigg, Michele Gunn. In 2014, Simon Margolis attended CELA in Washington, D.C. It was his concept to get people involved in advocacy. He is pictured here holding his award acknowledging his leadership and appreciation. Margolis never missed a photo op!

KNOWING THE SUPPLIER IS QUALIFIED TO PROVIDE SEATING AND MOBILITY SERVICES AND IS HELD ACCOUNTABLE IS IMPORTANT TO THE CLIENT AND THE CLINICIANS.

ATLAS TECHNOLOGY

ATLAS ENTERPRISE SOFTWARE

Complete DME/CRT
business operations
management software
www.atlas-vue.com

ATLAS | FIOS

DME/CRT Provider
business coaching and
education
www.atlasfios.com

TeleHealth Clinical Evals

DME/CRT face to face &
LCMP Evaluations

www.telehealthevals.com

ATLAS CLINICAL EVALS SOFTWARE

ATP & LCMP remote &
in-person Evaluations

www.acesevals.com

THE FUTURE BELONGS TO THE EFFICIENT

After 30 years, these three factors are still relevant. NRRTS Registrants represent the best of the best. They channel Simon's vision to provide consumers the best service by being knowledgeable, transparent and an advocate.

What would Simon do?

He would continue to expand his knowledge and skill through continuing education.

He would clearly communicate with CRT consumers on the issues that affect access to appropriate technology.

Simon would register for the NRRTS/NCART CRT Conference Fly-In. He would enlist his customers to register as well. He would make sure that access issues, coverage issues, etc. were understood by all. By working together, changes are possible.

That's what Simon would do.

What will you do?

CONTACT THE AUTHOR

Weesie may be reached at

WWALKER@NRRTS.ORG



Weesie Walker, ATP/SMS, is the executive director of NRRTS. She has more than 25 years of experience as a Complex Rehab Technology supplier. She has served on the NRRTS Board of Directors, the GAMES Board of Directors and the Professional

Standards Board of RESNA. Throughout her career, she has worked to advocate for professional suppliers and the consumers they serve. She has presented at the Canadian Seating Symposium, RESNA Conference, AOTA Conference, Medtrade, International Seating Symposium and the NSM Symposium. Walker is a NRRTS Fellow.



MAKE AN IMPACT ON YOUR PROFESSION

Written by: **ANDREA VAN HOOK, EXECUTIVE DIRECTOR, RESNA**

Can you have an impact on your profession? Yes, you can. By volunteering for RESNA and NRRTS, you can have a tremendous impact on public policy, the profession and industry best practices.

For example, earlier this year RESNA launched the Job Task Analysis survey. Over 330 assistive technology professionals took time out of their busy days to respond to the survey. RESNA's Job Task Analysis (JTA) is the largest research project worldwide related to the body of knowledge for assistive technology. The results of this study are used to verify and update the content to the ATP certification examination blueprint, the pre-requisites to sit for it and the continuing education requirements to maintain it.

The survey results will affect those who become ATPs over the next five years. It will inform their practice, their employers and their different assistive technology industries as to what it means to be a professional – and accountable – certified assistive technology professional and earn the ATP certification.

Exam maintenance for both the ATP and the Seating and Mobility (SMS) Certification is an annual process at RESNA. Every year, volunteers are needed to serve as subject matter experts on various task forces. This work can be time intensive but is usually done in short stints of one or two days. The volunteers who participate find it very interesting and rewarding.

In addition to the volunteers needed for the certification program, you can also make an impact by serving on RESNA and NRRTS committees. In addition to the Professional Standards Board and its subcommittees, there's the RESNA Education Committee, tasked with planning and executing the annual continuing education program; RESNA's Special Interest Groups (SIGs) and Professional Specialty Groups (PSGs), who develop position papers, white papers and share information with each other; the Assistive Technology Standards Board, which works on voluntary consensus standards for a wide range of technologies; the RESNA Government Affairs Committee, which works on policy and advocacy; and a whole host of other committees and special projects.

If you are interested in volunteering, whether for a short project or to serve on a committee, visit RESNA's website, click on "Membership," and navigate to "Volunteer Opportunities." Many RESNA committees welcome nonmembers in addition to members. For example, nonmembers are welcome to join RESNA's International

SIG and the 24/7 Posture Care Management SIG. In addition, RESNA's AT Forum, an online community, is open to all.

RESNA RESOURCES

- Looking for great employees? Need a new job? Check out RESNA's Job Board/Career Center. Jobs are posted from all over the United States.
- RESNA Position Papers summarize current research and best practice on a variety of assistive technology devices. Check out position papers on dynamic seating, seat elevation and ultralight manual wheelchairs. These are very useful for those letters of medical necessity! Look under "Resources" on the RESNA website.

RECERTIFICATION: MAKE IT EASY

Do your part to ensure your recertification paperwork is complete! Send your paperwork to RESNA at least three to five weeks prior to your certification expiration date. We strongly recommend you scan and email your paperwork (including all of your CEU certificates) to certification@resna.org. This speeds up your renewal. Keep in mind missing or illegible information will cause delay.

We offer a free webinar, "The Ins and Outs of ATP Recertification" on the website. Just use the search box on the website to find it. It has tips and advice on how to make the process easy and efficient.

CONTACT THE AUTHOR

Andrea may be reached at EXECCOFFICE@RESNA.ORG



Andrea Van Hook is executive director of RESNA. She has over 20 years of experience in nonprofit association management. She lives and works in the Washington, D.C., area.



Proud Sponsor and Official Battery of the United States Power Soccer Association and TEAM USA National Power Soccer Team

Team USA is Definitely Gellin' Are You?



For daily life or in the heat of Power Soccer, reliable power is paramount. Not all battery technologies perform equally – Only MK Genuine Gel technology can deliver the long life that users, therapists, caregivers and rehab suppliers have come to depend on. Beware of imitations...

Demand the Dependable Power of MK Genuine Gel



800-372-9253 • MKBATTERY.COM

WHAT DOES A SUPPLIER NEED TO KNOW?

Written by: ED BONK, PT, ATP/SMS, CRTS®

When I was first asked by Amy Odom to write this article about Complex Rehab Technology (CRT) documentation: “What does a supplier need to know?” I thought, “What don’t they need to know?” In other words, they need to know everything!

I separated the topics I will review into the following sections:

1. Coverage criteria
2. Documentation requirements
 - a. Basic clinical findings
 - b. Critical clinical findings
3. The Therapist’s perspective
4. Supplier’s perspective – What can we do?
5. Putting it all together

COVERAGE CRITERIA

It is essential ATPs/RTSs have a working knowledge of the coverage criteria for all the CRT items/equipment by all payers that they are credentialled. If they are not knowledgeable, how can they educate therapists they work with, who may not truly understand what needs to be documented?

I like to start with Medicare. They set the standard almost all other payers follow. The first part of the coverage criteria is understanding the Medicare algorithm for mobility assistive devices. It is a good roadmap for therapists to use when writing their assessment to medically rule out less costly, less medically assistive devices. Most other payers use this algorithmic approach to identify the most medically appropriate device.



The algorithm is a hierarchy of assistive devices. Starting with a cane, which is the least costly and least medically assistive, and working upward to the most costly and most medically related, a Group 3 power wheelchair.

The second part of the Medicare coverage criteria is understanding limitations of mobility assistive activities of daily living (MRADLs).

The beneficiary must have a mobility limitation that significantly

impairs his/her ability to participate in one or more MRADLs such as toileting, feeding, dressing, grooming and bathing in customary locations in the home. A mobility limitation is one:

- Prevents the beneficiary from accomplishing an MRADL entirely.
- Places the beneficiary at reasonably determined heightened risk of morbidity or mortality secondary to the attempts to perform an MRADL.
- Prevents the beneficiary from completing an MRADL within a reasonable time frame.

Many state Medicaid's follow this approach but also have other/additional coverage criteria. The ATP/RTS must have a good working knowledge of their state Medicaid's regulations.

DOCUMENTATION REQUIREMENTS

The patient’s clinical presentation should be clearly documented. I like to categorize clinical information into one of two groups:

BASIC CLINICAL FINDINGS

Examples of the basic clinical information would be diagnoses, range of motion, strength, posture, sitting and standing balance, transfers, pain level, ambulation and tone.

CRITICAL CLINICAL FINDINGS

Examples of critical clinical information should be related to how they impact the patient’s mobility. These include: their current equipment, upper extremity range of motion and strength, tonal influences if abnormal, skin integrity and cardio-respiratory status.

- Current equipment – what are they using now and why is it no longer medically appropriate?
- Manual Muscle Testing (MMT) grades should be used, but they should also be clarified. If a patient presents with 4/5 UE MMT throughout, this translates to ‘good’ UE strength. A reviewer at an insurance company might ask, “If they have good upper extremity strength, then why can’t they propel a manual wheelchair?”
- Skin integrity: both the client’s history and current skin compromise.

But, how does a therapist medically rule out a lower level device? It is not enough to say, “Mr. Jones can’t walk.” The medical reasons WHY Mr. Jones can’t walk must be clearly identified for the insurance reviewers to understand why all lower level items are not medically appropriate.

Examples of medically appropriate documentation should include objective and measurable findings.

- Dynamic standing balance rating with a functional comment like, “Client does not have the dynamic standing balance to stand independently without the assistance of a caregiver, therefore they are not able ambulate with a cane or walker to perform the MRADL (get to the bathroom).” This helps medically rule out both a cane and/or walker.
- Cognitive deficits that impair safe, independent use of a manual or power wheelchair.
- Tinetti, Berg or TUG scores to rule out a cane and walker.
- UE Range of motion, grip strength and Manual Muscle Testing to rule out an appropriately configured manual wheelchair.
- Pulse oximetry, heart rate, respirations and blood pressure changes related to lower level item use to participate in an MRADL with a lower level item.
- Timeliness – use functional terms like, “Client experiences multiple episodes per week of incontinence when propelling their standard wheelchair to the bathroom.”
- Pain – but not just on a scale of 0-10, put the pain into perspective with how it affects the patient’s mobility. For example: Do they now need more physical assistance with an MRADL? Have they had to increase their pain medications? When did this pain increase?
- The medical justifications must be patient-centric. By this I mean, “Why does the patient need this device/feature? It is not enough to simply state what the device/feature does, it must be documented:
 - Why can’t the patient utilize a less costly alternative?
 - What will happen if they do not receive the higher-cost device?

- For example: “Tilt is needed to reposition the body to offload pressure on the ischial tuberosities.” The statement is a description of what tilt does but it does not state why the patient needs tilt.

Regarding power seat functions on a power wheelchair, there are specific medical reasons why Medicare will cover these functions. Additionally, we are seeing other payers start to request separate justifications for tilt and recline.

For example: Tilt/recline is beneficial for postural control for an individual with a collapsed kyphosis. Also, tilt is beneficial for pain management but if the patient has Medicare, it is only covered for the following three reasons:

1. The patient is at high risk for development of a pressure ulcer and is unable to perform a functional weight shift; or
2. The patient utilizes intermittent catheterization for bladder management and is unable to independently transfer from the wheelchair to a bed; or
3. The power seating system is needed to manage increased tone or spasticity.

Some state Medicaid and other payers may allow for postural control, pain management or social interaction, but that is why the ATP/RTS must know the payer and the coverage criteria.

THE THERAPIST'S PERSPECTIVE

Therapists have extensive training on how to assess a patient clinically and documenting their findings. Typically, therapists have little training in CRT coverage criteria and documentation requirements over the course of their seven years of education for their DPT or OTD degree. At most they may have covered this topic in a one-time lecture or when a supplier brings in demo equipment to show them the differences between K1 – K5 manual wheelchairs and various power wheelchairs. Therapists only learn about coverage criteria and documentation requirements after they graduate and obtain their license to practice occupational or physical therapy in their state. CRT suppliers are the main resource for therapists to learn coverage criteria and documentation requirements for CRT. This applies to both the base of the device and any accessories/specialty components that need medical justification.

Therapists are also trained to see the potential in a patient. For them to develop a treatment plan for skilled therapy, they must document the client’s potential for improvement. To qualify for most CRT insurance plans, the payers want to see CRT is needed

CONTINUED ON PAGE 48



WHAT DOES A SUPPLIER ... (CONTINUED FROM PAGE 47)

for lifetime use, because the patient does not have the potential to improve. Documenting how a patient functions on their “worst days,” when they are having the most difficulty, how frequent this worst case scenario occurs helps to qualify the medical necessity for the equipment being requested.

Additionally, therapist productivity impacts timeliness of a supplier receiving a completed LMN. Therapists are held to high productivity requirements. These can be 85% to 90%, which means they are expected to be “treating patients” for billable time of 408 – 432 minutes of a 480-minute (8 hour) day. This only leaves 48 – 72 minutes in that eight hours to accomplish their nonbillable activities. Therapists cannot bill the patient’s insurance for documentation time. Medicare uses the term “patient time” for identification of how a therapist should allocate their billing. Therapists would greatly benefit from either a point-of-service documentation process to allow them to document during the evaluation process or a streamlined documentation process that minimizes the time to create an LMN.

SUPPLIER’S PERSPECTIVE – WHAT CAN WE DO?

The first action involves education.

Education of ATPs/RTSs is essential. They must have a working knowledge of the coverage criteria for each payer they contract with to efficiently identify the most medically appropriate CRT item. Intricate knowledge of the Medicare algorithm for mobility assistive equipment is a major part of this education. This is a systematic way to identify the most appropriate device and to know why lower level items are not medically appropriate. They also need to know the documentation requirements: understanding a patient-centered approach to why each accessory/specialty component is required by the patient.

Education of therapists is equally important. The best practice is to educate therapists before or during the evaluation, not weeks after an evaluation has occurred. Suppliers should develop teaching aids/resources to help guide the therapist. The Medicare algorithm shown earlier is a simple example of a teaching aid. Additional teaching aids may include copies of the Medicare LCDs for therapists to review on their own. Providing the therapists, the medical reason for each accessory/specialty component, helps the therapists in understanding

how to document the medical necessity for their patient. For example, there must be documentation why all lower level items are not medically appropriate.

In addition to education, an LMN review process when the LMN is initially received, is also a good way to immediately identify if an LMN accurately reflects the medical necessity of the request. This can be done by the ATP/RTS and the funding specialists for the company versus simply sending an LMN to the payer without looking at it.

PUTTING IT ALL TOGETHER

A supplier should understand all the key points identified above:

1. Provide ATPs/RTSs with good working knowledge of the Coverage Criteria.
2. Employ ATPs/RTSs who understand the documentation requirements — including basic and critical clinical findings — for the insurances they participate.
3. Knowing the importance of documenting medical justification in a patient-centric format.
4. Suppliers need to understand the therapist’s perspective to partner with them to obtain the LMNs in a timely manner.
 - a. Therapists need education on coverage criteria and what needs to be documented to qualify their patient for the equipment. This can be accomplished with various resources and tools to help educate therapists.
 - b. Therapists have productivity standards and cannot bill for documentation time.
 - i. Many therapists complete the LMNs on their own time, after work hours. No one likes to do homework.
5. Suppliers should utilize an LMN review process to review the documentation as soon as it is received to prevent delays in processing the request.
 - a. This can be the ATP/RTS or a funding specialist.

EDUCATION OF ATPS/RTSS IS ESSENTIAL.

Knowing the coverage criteria and documentation requirements for Canada is equally important, because they can vary from province to province with variations in each jurisdiction. The CRT professionals in Canada are really no different than ATPs/RTSSs in the United States. They are charged with educating therapists and physicians in what needs to be documented for coverage.

CONTACT THE AUTHOR

Ed may be reached at

EDWARD.BONK@NSM-SEATING.COM



Ed Bonk graduated from Quinnipiac College with a Bachelor of Science in Physical Therapy. He became an ATP in 2004 and RESNA Seating and Mobility Specialist (SMS) certified in 2010 while working for Hudson Seating & Mobility. In 2014, National

Seating & Mobility acquired Hudson. Bonk's role at National Seating & Mobility includes ATP training and education of therapists throughout the Northeastern United States on Medicare coverage criteria and documentation requirements for patients to receive complex mobility systems. He has lectured at the CT - CONNOTA conference and an upstate New York occupational therapy conference on Medicare requirements for complex rehab equipment. He and his beautiful wife live in Connecticut. They have a daughter, Megan, a son, Ryan, and a gorgeous 2-month-old granddaughter, Lilianna.

MEET YOUR BOARD AND STAFF

NRRTS BOARD MEMBERS

PRESIDENT - Gerry Dickerson, ATP, CRTS®

PRESIDENT ELECT - Carey Britton, ATP/SMS, CRTS®

VICE PRESIDENT - Tom Simon, ATP, CRTS®

TREASURER - Andrea Madsen, ATP, CRTS®

SECRETARY - Jason Kelln, ATP/SMS, CRTS®

US REVIEW CHAIR, DMAC A - Mike Harris, ATP, CRTS®

US REVIEW CHAIR, DMAC B - Doug Crana, ATP, CRTS®

US REVIEW CHAIR, DMAC C - Mike Seidel, ATP, CRTS®

US REVIEW CHAIR, DMAC D - Brian Coltman, ATP/SMS, CRTS®

AT-LARGE DIRECTOR - Tim Robinson, ATP/SMS, CRTS®

AT-LARGE DIRECTOR - David Nix, ATP, CRTS®

AT-LARGE DIRECTOR - Chris Savoie, ATP/SMS, CRTS®

AT-LARGE DIRECTOR - Stefanie Laurence, RRTS®

CA REVIEW CHAIR, REGION A - Darrell Mullen, RRTS®

CA REVIEW CHAIR, REGION B - Michelle Harvey, RRTS®

CA REVIEW CHAIR, REGION C - Bernard "Bernie" Opp, RRTS®

U.S. ADVISORY COMMITTEE

ELAINE STEWART, ATP, CRTS® - Past President

MIKE OSBORN, ATP, CRTS® - Past President

MICHELE GUNN, ATP, CRTS® - Past President

JOHN ZONA, ATP, CRTS® - Past President

DENISE HARMON, ATP, CRTS® - Past President

MIKE BARNER, ATP, CRTS® - Past President

CANADIAN ADVISORY COMMITTEE

SHEILA BUCK, B.SC.(OT), REG. (ONT.)

STEVE CRANNA

MICHELLE HARVEY, BSC HONS OT

MIKE LONGO

LINDA NORTON, M.SC.CH, PHD, OT REG. (ONT.)

JASON KELLN, ATP, CRTS®

NRRTS STAFF MEMBERS

EXECUTIVE DIRECTOR – Weesie Walker, ATP/SMS

DIRECTOR OF OPERATIONS – Amy Odom, BS

DIRECTOR OF EDUCATION – Annette Hodges, MA, BS

DIRECTOR OF MARKETING – Bill Noelting

CONTINUING EDUCATION CURRICULUM COORDINATOR –

Michelle L. Lange, OTR/L, ABDA, ATP/SMS

CONSUMER RELATIONS & ADVOCACY – Andrew Davis

HOW HAS COVID-19 CHANGED THE CRT INDUSTRY?

Written by: JASON KELLN, ATP, CRTS®

The COVID-19 pandemic began 26 months ago, and the world has changed. The Complex Rehab Technology (CRT) industry was like a kite in a hurricane, and we were concerned. Rehab facilities and seating clinics closed. How would equipment be trialed, assessed and delivered to the end users? Who would be able to ensure clients were getting the proper equipment? How would funding be approved? I am sure there are hundreds of more questions.

When asking people what they saw change, I received several responses. Perhaps one of the fastest and most significant changes was the online training several companies offered. These courses included top manufacturers and the NRRTS on-demand library. Companies stepped up and offered excellent courses to ensure the people investing in themselves during the pandemic would be a better resource for their clients when we emerged from the lockdowns.

Another change was the use of online platforms, Zoom, Teams, WebEx, PEXIP and many others to meet with colleagues and medical team personnel to assist with equipment choices. Telehealth also was a big change. There are some who see the benefits. Many different areas can use it successfully in different ways.

I also heard a difficult change of COVID-19 was how to assess the client. Many had clinicians using and noting the benefits of mat assessments. Patience has come from COVID-19. Demo equipment from manufacturers is challenging, and the delivery time on equipment is equally challenging. We appreciate our supply chain and where we obtain our equipment.

We saw virtual conferences and the skillful ability in how those presenters did. We also saw that although we can have a virtual conference, there is a benefit to having a safe conference together with others in the industry. COVID-19 has taught us that we do benefit by sharing knowledge with each other and seeing and touching new equipment.

THE COVID-19 PANDEMIC BEGAN 26 MONTHS AGO, AND THE WORLD HAS CHANGED. THE COMPLEX REHAB TECHNOLOGY (CRT) INDUSTRY WAS LIKE A KITE IN A HURRICANE, AND WE WERE CONCERNED.

COVID-19 has changed the industry. Some things may not return, but I have seen people realize the benefits of having NRRTS Registrants who invested in themselves and continue to be the ones they want to invite in to assist time and their clients.

In Canada, we saw NRRTS launch in the middle of the pandemic. At the time of writing this, we have 279 Registrants in Canada. Everyone from Registrants to business owners to manufacturers saw the benefits to supporting the roll out in Canada. Manufacturers' courses now offer CEUs to help fulfill education requirements.

COVID-19 is a real part of our lives. No one knows when we will completely exit from it. Our industry has adapted and continued, and the resilience shows a passion to do the right thing and do it well.

CONTACT THE AUTHOR

Jason may be reached at
JASON@PHMOBILITY.COM



Jason Kelln, ATP, CRTS® became the first NRRTS Registrant in Canada in 2018. Kelln serves on the NRRTS Canadian Advisory Committee and is secretary of the NRRTS Board of Directors. Kelln works for PrairieHeart Mobility in Regina, Saskatchewan.

NEW NRRTS REGISTRANTS

Congratulations to the newest NRRTS Registrants. NAMES INCLUDED ARE FROM MARCH 12, 2022, THROUGH MAY 17, 2022.

Carlos Roca, RRTS®

Rehab Support Systems
2008 Metropolitan Pl
Pomona, CA 91767
Telephone: 909-392-7884
Registration Date: 03/18/2022

Devin Oliver, RRTS®

Family 1st Medical
8995 Commercial St
New Minas, Nova Scotia B4N3E3
Telephone: (902) 863-8178
Registration Date: 03/28/2022

Olugbemileke "Kola" Pacheco, ATP, RRTS®

Numotion
6350 Regency Pkwy Ste 540
Norcross, GA 30071
Telephone: 404-807-7647
Registration Date: 05/11/2022

Chris Tattersall, RRTS®

Tango Medical
100 Woodside Ln, Unit B103
Fredericton, New Brunswick E3C2R9
Telephone: 506-471-0204
Registration Date: 05/06/2022

Hector David Acevedo, ATP, CRTS®

National Seating & Mobility, Inc.
40 Mellville Park Rd
Plainview, NY 11803
Telephone: 516-833-1797
Registration Date: 04/13/2022

Rachel Mackeigan, RRTS®

HME Mobility & Accessibility
2657 Wilfert Rd #101
Victoria, British Columbia V9B5Z3
Telephone: 250-888-0296
Registration Date: 05/02/2022

Chris Erskine, RRTS®

NSM-Canada
17675 66th Ave Unit 4
Surrey, British Columbia V3S7X1
Telephone: (604) 574-5801
Registration Date: 04/01/2022

Jeanette Howell, RRTS®

Align Home Health Care
111 George St N
Peterborough, Ontario K9J3G3
Telephone: 705-304-2000
Registration Date: 03/30/2022

Rebecca Jones, RRTS®

Motion
101-8255 North Fraser Way
Burnaby, British Columbia V3N0B9
Telephone: (604) 516-0009
Registration Date: 05/10/2022

Christopher Fortune, RRTS®

Southeastern Medical Supply
3615 Century Blvd Ste 1
Lakeland, FL 33811
Telephone: 813-340-1839
Registration Date: 03/23/2022

Kenmakara Sok, ATP, CRTS®

Medical Plus Supplies
4025 W Fuqua St
Houston, TX 77045-6303
Telephone: 713-440-6700
Registration Date: 03/22/2022

BE SURE TO FOLLOW NRRTS ON SOCIAL MEDIA!



CRTS®

Congratulations to NRRTS Registrants recently awarded the CRTS® credential. A CRTS® receives a lapel pin signifying CRTS® or Certified Rehabilitation Technology Supplier® status and guidelines about the correct use of the credential. NAMES LISTED ARE FROM MARCH 12, 2022, THROUGH MAY 17, 2022.

Charles Santiago, ATP, CRTS®
Ability Medical Supply, Inc.
Pompano Beach, FL

Jonathan Jesme, ATP, CRTS®
MedSupply Mobility Solutions
Fresno, CA

Sochetra Kong, ATP, CRTS®
Rehab Medical Inc.
Atlanta, GA

Hector David Acevedo, ATP, CRTS®
National Seating & Mobility, Inc.
Plainview, NY

Kenmakara Sok, ATP, CRTS®
Medical Plus Supplies
Houston, TX

FORMER NRRTS REGISTRANTS

The NRRTS Board determined RRTS® and CRTS® should know who has maintained his/her registration in NRRTS, and who has not.

NAMES INCLUDED ARE FROM MARCH 12, 2022, THROUGH MAY 17, 2022. FOR AN UP-TO-DATE VERIFICATION ON REGISTRANTS, VISIT WWW.NRRTS.ORG, UPDATED DAILY.

Shannon L. Summers, ATP
Indianapolis, IN

Cameron Anderson
Valdosta, GA

Kristina Cusack
Saint John, New Brunswick

Kenneth G. Riffel
Temple, TX

Patrick Pearson
Houston, MS

John Bellingham
London, Ontario

Marianna Ord - Retired
Barrie, Ontario

Alexander Harrison
London, Ontario

Leigh Vance
Niagara Falls, Ontario

Miguel Torres
Farmers Branch, TX

Bonnie Roman
Markham, Ontario

Cheryl DeGlopper
Niagara Falls, Ontario

Justin Look, ATP
Bismark, ND

Scott Baker - Retired
Barrie, Ontario

Rose Titus
Markham, Ontario

Marvelena Green
Dunbar, WV

Jeffrey Alan Tutor, ATP
Bailey, NC

RENEWED NRRTS REGISTRANTS

The following individuals renewed their registry with NRRTS between March 12, 2022, and May 17, 2022.

PLEASE NOTE IF YOU RENEWED AFTER MAY 17, 2022, YOUR NAME WILL APPEAR IN A FUTURE ISSUE OF DIRECTIONS. IF YOU RENEWED PRIOR TO MARCH 12, 2022 YOUR NAME IS IN A PREVIOUS ISSUE OF DIRECTIONS.

FOR AN UP-TO-DATE VERIFICATION ON REGISTRANTS, PLEASE VISIT WWW.NRRTS.ORG, WHICH IS UPDATED DAILY.

Amanda Couper, RRTS®
Amy Askelson, ATP, CRTS®
Andrew Foster, OTR, ATP, CRTS®
Anne L. Kieschnik, ATP, CRTS®
Benjamin Paull, RRTS®
Blaine Hunt, ATP/SMS, CRTS®
Bobbi Mackedanz, ATP/SMS, CRTS®
Bradley Dutkowski, RRTS®
Brent P Fadler, ATP, CRTS®
Brian Griffiths, RRTS®
Brian McGuire, ATP, CRTS®
Calum Nicol, ATP, CRTS®
Carole Newton, RRTS®
Charles Ackerman, ATP, RRTS®
Christel Meisinger, RRTS®
Christi McKim, MS, OTR/L, ATP, CRTS®
Christopher Ford, ATP, CRTS®
Christopher Donald Stasiuk, RRTS®
Christopher E. Bridgeman, ATP, CRTS®
Colleen Oberley, ATP, CRTS®
Corey Hileman, ATP, CRTS®
Cory Vass, RRTS®
Curtis Noble, RRTS®
Cynthia D. Miller-Orahood, ATP, CRTS®
Daniel Pino, OTR, ATP, CRTS®
Daniel L Stephens IV, RRTS®
Daniel P. Swain, ATP, CRTS®
David Bechtel, RRTS®
David Regnier, RRTS®
David D. Russell, ATP, CRTS®
Dearl Scott, RRTS®
Deborah Morgan, ATP, CRTS®
Debra McFarlane, RRTS®
Dekuan Yan, RRTS®
Denise Wilson, RRTS®
Dimitrios Mallios, RRTS®
Doug Ambrusko, ATP, CRTS®
Douglas Praytor, ATP, CRTS®
E. Scott Fillion, ATP, CRTS®
Edward Lai, RRTS®
Edward B. Homan, ATP, CRTS®
Eli Paradis, RRTS®
Erin Scott, RRTS®
George A. Turturiello, ATP, CRTS®
Ira Wall, RRTS®
James Hutchinson, ATP, CRTS®
James Parnell, ATP, CRTS®
James Wiese, ATP, CRTS®
James Brett, RRTS®
Janet Richardson, RRTS®
Janice Lewis, RRTS®
Jason LaTray, ATP, CRTS®
Jason Smith, ATP, CRTS®
Jason Ray Miller, ATP, CRTS®
Jeffrey Lang, RRTS®
Jeffrey Kempel, RRTS®
Jeffrey M. LaRosa, ATP, CRTS®
Jennifer Johnson, PTA, ATP, CRTS®
Jennifer Erickson, RRTS®
Jeremy Adkins, BS, ATP, CRTS®
Jerry T. Mitchell, ATP, CRTS®
Jodi Daniels, RRTS®
Joe C Hill, III, ATP, CRTS®
John Small, ATP, CRTS®
Jon Starich, ATP, CRTS®
Jonathon Sewell, RRTS®
Jose I Lopez, ATP, CRTS®
Joseph Uccello, ATP, CRTS®
Josh Garska, RRTS®
Joshua Jean, RRTS®
Joyce Miodownik, PT, ATP, RRTS®
Juan Carlos Torres, RRTS®
Julie Harkness, RRTS®
Justin Harris, ATP, CRTS®
Kacey Newman, ATP, RRTS®
Kalin Omo, ATP, CRTS®
Katherine Fallon, ATP, CRTS®
Kendall Richards, ATP, CRTS®
Kenneth A. McCallum, ATP, CRTS®
Kevin Percival, RRTS®
Kevin Jones, MS, ATP, CRTS®
Lance C. Guest, ATP, CRTS®
M. Will Olstad, ATP, CRTS®
Matthew Miller, ATP, CRTS®
Matthew C. Traynor, ATP/SMS, CRTS®
Menno Hamm, RRTS®
Michael Bavaro, ATP, CRTS®
Michael Hohler, ATP, CRTS®
Michael Bissonnette, RRTS®
Michael F. Peterlin, ATP, CRTS®
Michele A. Gunn, ATP, CRTS®
Morgan Lundquist, RRTS®
Myles Ferrier, RRTS®
Nick Epp-Evans, RRTS®
Nicole Thomas, RRTS®
Olga Fomina, ATP, CRTS®
Pamela Crutchfield, ATP, CRTS®
Peter Eastman, RPTA, ATP/SMS, CRTS®
Randy Schmitt, ATP, CRTS®
Raymond Filiatrault, RRTS®
Reggio Blackwell, RRTS®
Richard Samay, ATP, CRTS®
Richard Walls, ATP, CRTS®
Richard Demers, RRTS®
Richard J. Wilwohl, ATP, CRTS®
Richard L. Liley, ATP, CRTS®
Robert Proracki, RRTS®
Robert Lyles, ATP, CRTS®
Ron Piper, RRTS®
Ronald Whiting, ATP, CRTS®
Russell Roggenkamp, ATP, CRTS®

Rustom E. Hallett, ATP, CRTS®
 Ryan Jewell, ATP, CRTS®
 Ryan Read, ATP, CRTS®
 Ryan A. Martin, ATP, CRTS®
 Sabrina Saenz, ATP, CRTS®
 Sara E. Warren, ATP, CRTS®
 Sarah Anderson, ATP, CRTS®
 Scott Lopez, OTR/L, ATP, CRTS®
 Shawn Harquail, RRTS®
 Sidney Glover, CAPS, CEAC, ECHM, ATP, CRTS®
 Silvia Cooke, RRTS®
 Simona Cotarla, RRTS®

Sochetra Kong, ATP, CRTS®
 Stephanie Durocher, RRTS®
 Stephen A. Frangione, ATP, CRTS®
 Steve Hubley, RRTS®
 Steven Banh, RRTS®
 Stuart Edge, RRTS®
 Teresa Pyren, RRTS®
 Thomas A. Daddino, ATP, CRTS®
 Thomas O. Henley, ATP, CRTS®
 Tina Madigan, RRTS®
 Trish Couch, ATP, CRTS®
 Valerie A. Pagan, ATP, CRTS®

Victoria Mitchell, RRTS®
 Wayne Gould, ATP, CRTS®
 Wayne VanBrocklin, ATP/SMS, CRTS®
 Wayne Wright, RRTS®
 Wayne Iba, ATP, CRTS®
 Wayne M. Jones, RRTS®
 William Marlatt, RRTS®
 William Alex Borthwick, RRTS®
 William Darcy Bennett, RRTS®
 Zachary Bennett, RRTS®

KidWalk® connections

Like nothing before it – KidWalk encourages key steps through independent hands-free exploration...supporting vital childhood development.

With KidWalk hands free means holding hands...

See where KidWalk can take your child

PRIME  **KidWalk™**
 Dynamic Mobility System

ph. 1.800.827.8263 | fax 1.800.800.3355
www.primeengineering.com | info@primeengineering.com

Visit YouTube and type in KidWalk to see our kids developing, learning, and going places.



5815 82nd Street, Suite 145, Box 317
Lubbock, TX 79424
P > 800.976.7787

FRIENDS OF NRRTS [FONS]

As Corporate Friends of NRRTS, these companies recognize the value of working with NRRTS Registrants and support NRRTS' Mission Statement, Code of Ethics and Standards of Practice.

CHARTER CFONS



CFONS



AFONS

