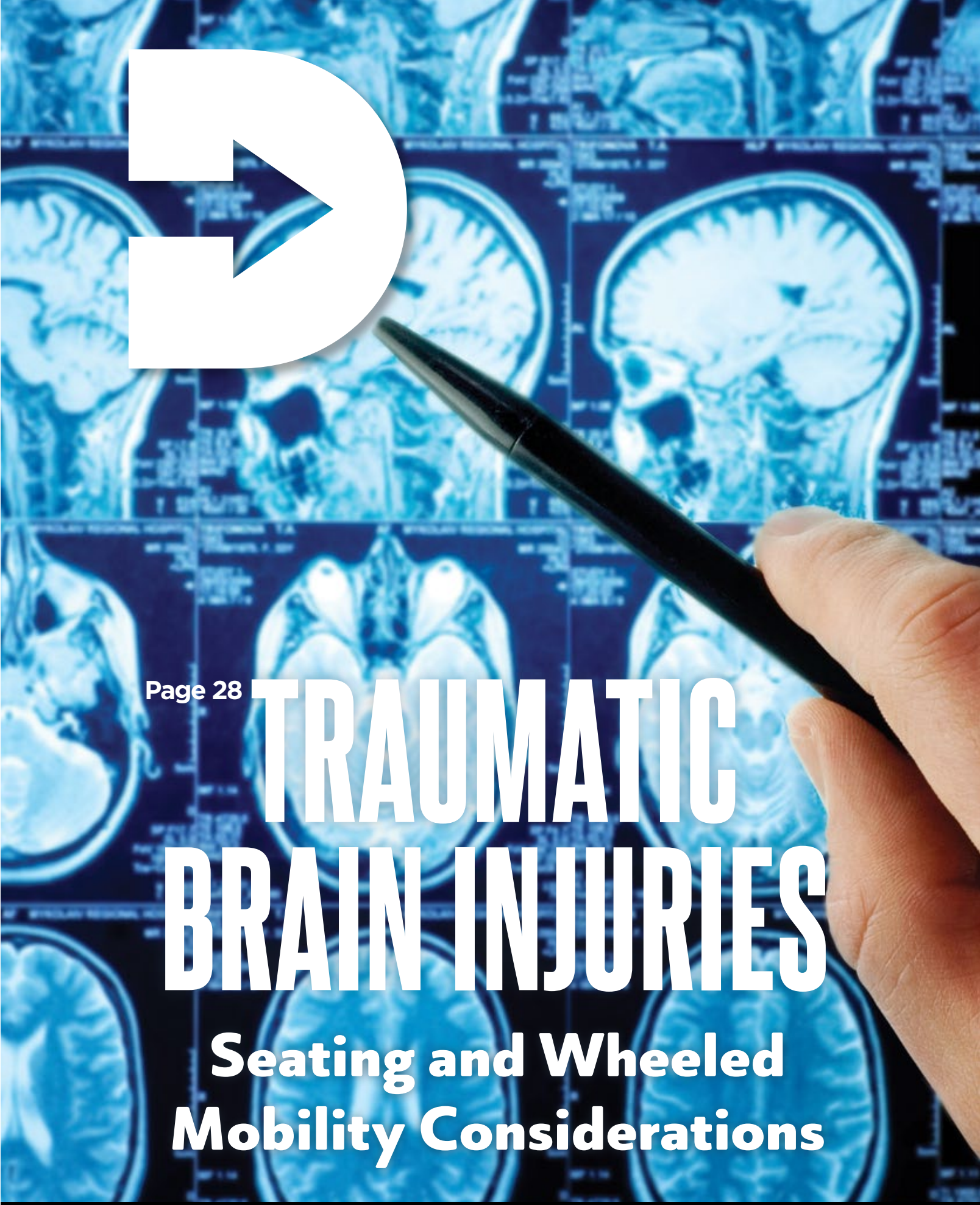

Page 28

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CLAUDIA AMORTEGUI

Amortegui has a Master of Business Administration and more than 20 years of experience in the DMEPOS industry. Her experience comes from having worked on all sides of the industry, including as a DMEPOS Medicare contractor and a supplier, manufacturer and consultant. For many of these years Amortegui has focused on the rehab side of the industry. Her work has allowed her to understand the different nuances of complex rehab versus standard durable medical equipment. This rare combination of industry experiences enables Amortegui and her team at The Orion Group to assist ATPs, referrals, reimbursement staff and funding sources in understanding the reimbursement process as it relates to complex rehab. SEE PAGE 42

MIKE BARNER, ATP, CRTS®

Barner is president of NRRTS. Barner works for the University of Michigan Wheelchair Seating Services in Ann Arbor, Michigan. SEE PAGE 8

ALEXANDRA (ALEX) BENNEWITH

Bennewith is vice president of government relations for United Spinal Association. Bennewith advocates for legislation and regulations regarding disability and health policy at both the federal and state level. She works closely with a range of stakeholders in the durable medical equipment and supplies, prescription drug, public health and disability communities. She graduated from Brandeis University and received a Master of Public Administration from American University. SEE PAGE 24

DON CLAYBACK

Clayback is executive director of the National Coalition for Assistive and Rehab Technology (NCART). He has more than 25 years of experience in the Complex Rehab Technology and Home Medical Equipment industries as a provider, consultant and advocate, and is actively involved in industry issues and a frequent speaker at state and national conferences. SEE PAGE 20

MADELINE DELP

Delp is a consumer advocate who lives in North Carolina. SEE PAGES 10

CINDY DUFF, PT, ATP

Duff has practiced physical therapy for more than 25 years at Denver Health, a level one trauma, safety net hospital. She performs seating and mobility evaluations on patients in the inpatient critical care, acute, and rehabilitation units and is a member of the assessment team in the outpatient wheelchair clinic. SEE PAGE 38

MICHELLE L. LANGE, OTR/L, ABDA, ATP/SMS

Lange is an occupational therapist with 30 years of experience and has been in private practice, Access to Independence, for 10 years. She is a well-respected lecturer, nationally and internationally, and has authored six book chapters and more than 200 articles. She is the editor of "Fundamentals in Assistive Technology, Fifth Edition" and clinical editor of DIRECTIONS magazine. Additionally, she serves as the continuing education curriculum coordinator for NRRTS. Lange is on the teaching faculty of RESNA and a member of the Clinician Task Force. Lange is a certified ATP, certified SMS as well as a Senior Disability Analyst through the American Board of Disability Analysts. SEE PAGE 26

STACY MULLIS

Mullis is the director of Clinical Education for Comfort Company. She graduated from Western University in London, Ontario, Canada, with a Bachelor of Arts in linguistics and Bachelor of Science in occupational therapy and has practiced as an registered occupational therapist for more than 20 years. This led her to pursue an apprenticeship at Care Partners Seating Clinic in Asheville, North Carolina. to advance her skills, and she then obtained her ATP certification. Mullis has been with Comfort Company for four years, and she is passionate about focusing her efforts on educating her colleagues on the principles of seating and positioning. Mullis is a member of NCOTA, Clinician Task Force Executive Board, RESNA, AOTA and is a Friend of NRRTS. SEE PAGE 22

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IN THIS ISSUE

ANDRINA SABET

Sabet is a physical therapist at Cleveland Clinic Children's Hospital for Rehabilitation. Her clinical practice includes infants in the NICU and toddlers through young adults in the Seating and Mobility Clinic. She has presented locally and nationally on positioning and mobility and frequently collaborates with manufacturers regarding product development. SEE PAGE 18

JILL SPARACIO

Sparacio is an occupational therapist in private practice with more than 30 years' experience. She provides occupational therapy services to children and adults with intellectual disabilities and medical fragility, specializing in seating and wheeled mobility. Sparacio presents the clinical application of seating and wheeled mobility throughout North America and internationally. She is a member of the Clinician Task Force and has been actively involved in funding and delivery issues on the state and national levels. SEE PAGE 28

AMBER WARD

Ward has been a treating occupational therapist for 23 years–10 years in inpatient rehabilitation and 13 years as full time occupational therapy coordinator with persons with progressive disorders including the ALS and MDA clinics. She has treated a variety of patients, of all ages and functional levels. She currently is an adjunct professor at the occupational therapy assistant program at Cabarrus College of Health Sciences in addition to working in the clinic. She received the RESNA ATP certification in 2004, the SMS certification in 2014, and became AOTA board certified in physical rehabilitation in 2010. She is a member of the Clinician Task Force. SEE PAGE 22

WEESIE WALKER, ATP/SMS

Walker is executive director of NRRTS. She has more than 25 years of experience as a rehab technology supplier. She has served on the NRRTS Board of Directors, Georgia Medical Equipment Suppliers Board, and the RESNA Professional Standards Board. She has been very involved in advocacy at the state and federal level. SEE PAGE 44

RYAN WILLIAMS

Williams is president of Etac's North American division. He manages the company's Convaid and R82 brands. SEE PAGE 14

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FROM THE NRRTS OFFICE

THANK YOU FOR ALLOWING ME TO SERVE YOU

WRITTEN BY: MIKE BARNER, ATP, CRTS

It's hard to believe this is my last letter as president of your of the NRRTS Board of Directors. I must say time has flown by, and although we have accomplished a lot, we certainly have a long list of things we still need to tackle. However, I want to reassure you the office of the president is being left in extremely capable hands with the incoming president, Elaine Stewart. I'm excited to see Elaine step into this role. For the last several years, I have worked with her on the NRRTS Board of Directors. Seeing her compassion and drive for NRRTS and our industry, I'm confident she will be a strong leader. She is exactly what we need right now.

As I started to prepare for writing this letter, I went back and read the previous letters written. Most of them had to do with advocacy and fighting for our industry and the patients we serve. I would like to think that through those letters I inspired a few to make that extra call or email one more time. Hopefully at least one person picked up the phone or sent an email to tell their story. Even if it were only one person, I would be very satisfied in knowing I inspired someone to act.

If you are reading this article, you are more than likely one of the 20 percent who fights for this industry. Thank you! And please do not stop fighting for those who can't fight for themselves. Yes, some of our patients could but choose not to. That is their choice, but never forget those who truly can't and without YOU, won't have a voice. It's one thing to fight for something you believe in, but I know it is much greater to fight for those who can't. I'm proud to do battle with you!

While reflecting on the past two years, I was thinking about our industry and how many companies have either merged, sold or had to close the doors. Why would this happen so much in an industry that truly helps people with disabilities live better lives? As I was completing the honey-do list, which included pruning the roses and weeding the garden, the thought came to me that maybe our industry was going through this same process. When you prune, you cut back to make the core much stronger. And when you weed, you remove the unnecessary parts that utilize resources. That way, what you've planted and nurtured will produce a much richer and bountiful harvest. Now, maybe it is just the greed of one industry taking from a smaller more vulnerable industry, or maybe we are going through some pruning and weeding to establish the strong for a bountiful harvest for the patients we serve. Hhmmm … at least something to think about.

The other thing that came to me was the memory of some fallen comrades, mentors and friends. I guess after being in this industry for more than 30 years, it is inevitable we experience this phase in life as well. It certainly doesn't make it any easier knowing it is a natural part of life, but I wouldn't trade the time spent with them and the pain experienced saying goodbye to them for anything. The two I knew personally were Van G. Miller and Simon Margolis. There are others, but these men were mentors and friends to me—two legends in this industry. Legends because they will never be forgotten, but more importantly, friends that will be missed dearly. I still keep the copy of DIRECTIONS on my desk that has Simon's picture on the cover (the only person to ever be on a cover of DIRECTIONS). When I glance over at his picture, it gives me the drive to keep fighting as he did until the day he passed away. He truly loved this industry, because of the impact we have on people's lives every day.

I also thought about all the great colleagues and friends I have had the honor to serve with on the NRRTS board. These are extremely dedicated peers who take the time at least once every month and sometimes more, after working 10-plus hours that day to participate in the board of directors meetings where they ensure YOUR registry is moving forward and operating with the highest standards and working to protect your interest as a CRTS® within our industry.

I then started to think about the incredible staff and executive director that NRRTS has and that

I was able to serve with. Annette Hodges does such a great job with our education program that is clearly the leader in the industry with the live and on-demand webinars and many other outstanding programs. Amy Odom keeps us organized and has nurtured the DIRECTIONS magazine into such an impressive publication and again clearly the industry standard for Complex Rehab Technology (CRT) information. And then of course my colleague and trusting friend who lets me drive her pontoon, Weesie Walker. She truly loves this industry, NRRTS and what they stand for, and she fights for YOU on a daily basis. Most outstanding to me is the drive Walker had to successfully obtain our IACET certification for CEUs. This was a huge project and extremely important for the future of NRRTS. Thank you all so much, and I love talking to each of you with those Southern belle accents. You make me proud to be a NRRTS Registrant!

So as I finish my term this month as your president, I finish as I began, humbled by the so many great people I have had the pleasure to serve with and call friends. Now you're not getting rid of me quite yet as I will still serve over the next year as your past president. I promise to keep up the fight for CRT providers and especially those who see the value in being a NRRTS Registrant.

Thank you for being a NRRTS Registrant and allowing me the privilege of serving you.

Respectfully and as always, with boots on the ground,

Michael B.

CONTACT THE AUTHOR
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LIVE BOUNDLESS

WRITTEN BY: ROSA WALSTON LATIMER

It is difficult when talking with 23-year-old Madeline Delp to believe this vivacious, outgoing Ms. Wheelchair North Carolina USA was once a shy, withdrawn girl. When she was 10 years old, Delp suffered a debilitating injury to her spine in an automobile accident. "After the accident I was extremely withdrawn and had low self-esteem," Delp said. "For so many years I didn't want to talk about my injury or the pain I was experiencing not only from my injury but other things that were going on in my life." The young girl who was now using a wheelchair for mobility "put on a brave face and never let anyone in."

About four years after the accident Madeline spent a year at a rehabilitation center in Detroit, Michigan. Those 12 months changed the course of her life. "I originally thought I would be there three months. As I met and interacted with people who were going through the same thing I was, I began to come out of my shell," Delp said. "I threw my energy into recovery and working out. I found a new level of independence and began to recover physically and emotionally. I realized so many others were going through the same things."

As Delp reached the end of her teenage years, she began to consider using videos as a way to reach out to those who were dealing with the same challenges and experiences that she had and to encourage the idea of living a boundless life.

"FOR SO MANY YEARS I DIDN'T WANT TO TALK ABOUT MY INJURY OR THE PAIN I WAS EXPERIENCING NOT ONLY FROM MY INJURY BUT OTHER THINGS THAT WERE GOING ON IN MY LIFE."

"I wanted to present information that I wish I had known earlier–sort of an ode to my younger self," Delp said. "I knew that many others were experiencing feelings that life was over and wondering, 'What do I do now?' I hoped the videos would be a life raft for those needing something to hold on to."

After winning the title of Ms. Wheelchair America North Carolina in 2016, Delp advanced to the Ms. Wheelchair America pageant where she was chosen first runner up.

"As wonderful as the experience was, I had seen this as the platform and opportunity to move forward with my goals, and I was devastated when I didn't win," she said. "Even though I initially felt the loss meant I would lose valuable connections in the advocacy community, many opportunities opened up for me afterward for speaking engagements and advocacy projects. I was able to work with the winner of the pageant in a dynamic way. It is amazing how things work out."

She decided not to give up and entered the Ms. Wheelchair USA North Carolina pageant and became the first contestant to win both of these state titles. She will compete in the Ms. Wheelchair USA national pageant this summer.

The experience of participating in the Ms. Wheelchair pageants brought multilayers of benefits to Delp. "The pageants have really opened up my world and social community," she said. "I've met so many people who I can relate to. These connections are extremely important to me. The pageants helped me develop my ideas into something that will have long lasting value."

Last year she traveled with the 2017 Ms. Wheelchair America title-holder Eliza McIntosh and others to several

Madeline Delp, 10 years old, in Charlotte Rehabilitation Hospital shortly after injuries from an automobile accident.

Ms. Wheelchair North Carolina USA 2017 Madeline Delp at the Biltmore House, Asheville, North Carolina.

"THE PAGEANTS HAVE REALLY OPENED UP MY WORLD AND SOCIAL COMMUNITY. I'VE MET SO MANY PEOPLE THAT I CAN RELATE TO. THESE CONNECTIONS ARE EXTREMELY IMPORTANT TO ME. THE PAGEANTS HELPED ME DEVELOP MY IDEAS INTO SOMETHING THAT WILL HAVE LONG LASTING VALUE."

events in the U.S. as well as a trip to Mexico to work at an orphanage for children with disabilities. "Traveling with this team was an amazing experience," Delp said. "Eliza and I have become close friends, and I was honored to be a bridesmaid in her June wedding."

Delp's graduation in May from the University of North Carolina in Asheville garnered her a standing ovation at the ceremonies when she chose to use braces and a walker to cross the stage to accept her diploma. After graduating with degrees in foreign language and business, Delp is now committing her time and energy to the development of a non profit organization called Live Boundless.

There isn't a hint of the shy, withdrawn young girl now when Delp describes her future plans. "My early idea of a blog video project has developed into a full scale, professionally filmed series," she said. "I realized I needed to take this time to make my goals more solid. Being first runner up in the Ms. Wheelchair America pageant instead of the winner was the best thing for me. This situation has led to something bigger and better."

Rick Guidotti, an award winning fashion photographer based in New York has contacted Delp, and the two are planning for her future participation in Guidotti's Positive Exposure project. The project seeks to redefine how society sees beauty using photography, film and narrative with a focus on those living with genetic, physical, intellectual and behavioral differences.

Delp's Live Boundless non profit will be the foundation for future projects. "As I develop the creative part of videos, I am also considering funding possibilities," she said. "We'll have a fundraising gala in the fall that will include a three-course dinner, entertainment and a presentation to communicate our mission."

Delp, working with a production company, will focus her videos over the next two years on health, daily life, adventure and emotional well-being. "I can remember how it was to feel so alone and clueless during my early experiences with my disability," she said. "I want to provide resources for others that help to limit the fear of not knowing how to adapt."

Using a You Tube model for distribution, the videos will address daily living issues such as self-defense and driving as well as personal topics that can help overcome a past trauma and build confidence. "We'll also present topics that are hard to discuss. For example, statistics have revealed that women in chairs are twice as likely to deal with an abusive relationship."

Delp will also feature organizations in the United States that help people with disabilities learn to sky dive, ski and participate in other sports. "These activities take a lot of courage but help you feel empowered, boundless," Delp said.

(CONTINUED ON PAGE 12)

Madeline Delp exploring the street of Germany and "feeling completely free because of my new experiences!"

Madeline Delp volunteering at an orphanage for children with disabilities in Ensenada, Mexico.

Madeline Delp snowmobiling with "Ski for Light" organization in South Dakota.

Fellow advocates (left) Erika Bogen (Ms. Wheelchair America 2010) and (right) Jesi Stracham with Madeline Delp for a "Wheelie Day."

LIVE BOUNDLESS
(CONTINUED FROM PAGE 11)

As Delp's vision of helping others unfolds, she continues to gain confidence in her work. "I decided to pitch a production company with my idea for the series of videos and they went for it," she said. "That confirmation was wonderful!" Other partnerships Delp has formed as she has worked through the development of Live Boundless are very important to her. "For example, my friend Morgan Norris, who has a spinal cord injury as well, is going to provide strong support and expertise to this project," Delp said. "She will be instrumental in helping to run the nonprofit and we plan for her to have an active part in the filming of the videos. Her input will be valuable."

"I GIVE HER ALL OF THE CREDIT FOR WHO I AM AND FOR SUPPORTING ME WHEN OTHERS DIDN'T. SHE IS MY ROLE MODEL, AND WE ARE BEST FRIENDS. SHE SAVED ME AFTER MY ACCIDENT AND IS ALWAYS CHEERING ME ON AND TELLING ME THAT I CAN DO ANYTHING."

Delp's most ardent partner is her mother, Diana Reid. "I give her all of the credit for who I am and for supporting me when others didn't. She is my role model, and we are best friends. She saved me after my accident and is always cheering me on and telling me that I can do anything," Delp said.

It appears that those words of encouragement have hit the mark as Delp's boundless energy and spirited vision thrust her into a promising future.

CONTACT

Madeline may be reached at madeline13@bellsouth.net.

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INDUSTRY LEADER

ETAC PRESIDENT PUTS ENTREPRENEURIAL SPIRIT INTO PRACTICE

WRITTEN BY: DANETTE BAKER

For Ryan Williams, pursuing a career in health care, specifically hospital administration, seemed like the right path to success. As a college freshman, that was the only path he knew.

Fast forward 23 years. Not only has Williams succeeded as a hospital administrator, he has also built a manufacturing company and launched a technology transfer start-up. Now, Williams is leading Etac's North American division, where he'll manage the company's Convaid and R82 brands. Convaid is a California-based manufacturer of custom-made, compact, adaptive-assisted wheelchairs, primarily focused on the pediatric population; its counterpart, R82, is an international brand of customized options that provide children the ability to participate in daily activities.

Joining Etac, Williams said, was an opportunity to put all of his experiences into leading a company and get back to one of the things he liked most about health care—helping people.

Williams put himself through his hometown college working as a lab technician at Texoma Medical Center, located about 30 miles across the Oklahoma border in Denison, Texas. It was there he discovered a career in health care administration from the example shown by the CEO and a hospital administrator. After a few weeks on the job, Williams proposed the concept of a volunteer program for high school and college students and ended up working alongside the hospital administrator to implement it.

"I kind of just fell into working there, but thought it would be great to expose high school and college students to potential careers in health care," he said. "I thought, 'Wow, this place has tons of good jobs that kids need to know about.'

"That's really what got me interested — seeing all the possibilities but especially the management side of it. I really could see myself doing this for a living."

Williams finished his undergraduate degree at Southeastern Oklahoma State University in Durant, Oklahoma, and then his master's at the University of Oklahoma. Together, those punched Williams' ticket to the Kaiser Permanente Post-Graduate Fellowship Program in California, where for the next five years, he gained working experience in administrative roles at clinics, hospitals and with corporate insurance companies, eventually landing the CEO position for Avera Health System in Sioux Falls, South Dakota.

"I ALWAYS HAD THIS KIND OF ENTREPRENEURIAL EDGE TO ME. I DIDN'T KNOW IF IT WAS PRODUCTS OR BUSINESSES OR SERVICES, BUT I KNEW IT WAS HEALTH CARE BECAUSE THAT WAS WHAT I WAS FAMILIAR WITH AND PASSIONATE ABOUT."

(CONTINUED ON PAGE 16)

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ETAC PRESIDENT PUTS ENTREPRENUEURIAL
(CONTINUED FROM PAGE 14)

From there, Williams would follow his entreprenuial spirit, which led him to the technology side of health care, first at Passy-Muir, a medical device company that manufactured and distributed tracheostomy products, and then to his own start-up, Rymo Medical.

At Passy-Muir, Williams developed a passion for products that assist people who have difficulty swallowing because of illness or disease such as stroke, cancer or Parkinson's. After seven and a half years, he founded Rymo Medical, with a technology licensed from the National Institutes of Health. Williams developed the swallowing product from concept to final design.

"I always had this kind of entrepreneurial edge to me. I didn't know if it was products or businesses or services, but I knew it was health care because that was what I was familiar with and passionate about."

In fact, it positioned him perfectly for the role at Etac. Earlier this year, Williams was searching for a new opportunity—one where his work would more directly impact people with mobility issues, helping them live more normal lives.

"I saw a lot of similarities between this and the work I have done previously. After researching the company, its products and people, this felt like a really good fit."

Williams' first order of business has been to get to know Etac and those they serve. He attended the Abilities Expo in April, where he met with patients and learned about Etac's competition. He also spent a week at the company's headquarters in Denmark and time in the field with the sales team to understand how they work with patients and those who sell the Etac products.

Attending the physical therapy conference in Boston gave him a perspective on how the company interacts with industry professionals. Last, but not least, Williams will look internally to the Etac family. It's important, he said, to get to know people throughout the company, identify their strengths and weaknesses and discover how, together, they can work as a team "taking on challenges" and seeing the rewards of their work.

The greatest challenge for him personally, Williams said, is communication. "For me, it will be different coming into an organization where there's more accountability. In a larger company, there are more steps in decision and approval processes and for making critical decisions. I'm confident building relationships internally and externally will serve to get us where we want to be."

That confidence comes from every experience, starting back in graduate school, where Williams said he has learned from just about everyone he has met. Among them: Dr. Keith Curtis, associate professor of health administration and policy at the University of Oklahoma who Williams said taught him management skills from a dual perspective—in the classroom and from real world experiences; and the trio of Judy Malouf, Judy White and Jan Head, senior managers and mentors at Kaiser Permanente who helped him develop people skills for the workplace.

"All of my success, past and future, is based on what I have learned and then applied; so now I am at a point where it's my turn to mentor others," Williams said.

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ryan@convaid.com

CLINICALLY SPEAKING

SOUPED-UP TOY CARS DELIVER PEDIATRIC MOBILITY

WRITTEN BY: ROSA WALSTON LATIMER

Andrina Sabet PT, ATP, divides her time between the Seating and Mobility Clinic at Cleveland Clinic Children's Hospital for Rehabilitation and as a clinical research project manager at Cleveland State University. At the university, she helps develop modified toy race cars to provide mobility for children, particularly those with Down syndrome. Both opportunities allow Sabet to extend the reach of her work as a physical therapist. "I have worked at the hospital since 1998, but in recent years I am at the university the majority of the time," she said.

For two years Cleveland State University has been a pilot study site for GoBabyGo, an international program that provides opportunity for increased mobility and sociability to kids with disabilities. The program was launched in 2006 by Dr. Cole Galloway at the University of Delaware with colleague Sunil Agrawal. Off-the-shelf toys such as ride-on toy cars are adapted, or to use street language, "souped-up," for use by children with crawling and walking problems.

"Kids with Down syndrome walk one to two years later than their peers," Sabet said. "This delayed mobility creates gaps in the child's ability to socialize, play with toys and enjoy other experiences that occur when a child is moving and exploring."

The average cost of a complete, modified toy car such as the Fisher Price Power Wheel cars (Lightning McQueen and the Lil Quad) is $250 and can be operated by infants as young as six months. In the Cleveland State lab, researchers examined the children's activities aboard the modified cars and assessed videos taken by parents of children driving the cars and moving by themselves with no mechanical assistance. Results showed improvement in mobility and positive trends in cognition, language and fine motor skills. Such activity makes it possible for a child with disabilities to be active and engaged alongside peers rather than being confined to a stroller.

Having completed the GoBabyGo pilot study, Sabet explained that the data collection phase is done, and the project has moved to the task of writing up the data collected. "We are now looking at two new projects," the therapist said. "One project will research in-home, body weight supported systems. These harness systems will free a child's hands for additional exploration and mobility." The second, future project will examine modification of the Fisher Price Wild Thing that is designed for older children. "This will extend possibilities to the preschool and early elementary-aged child. We'll be studying the feasibility and social mobility context of this ride-on toy."

Sabet appreciates the balance of her work at the Children's Hospital and the research at the university. "When I am at the clinic, people come to me. The research allows me to go out into the community and creates an even larger community-based focus on mobility."

She acknowledges there are many issues and opportunities you cannot identify in a lab setting. "As we move our research into the home, we can better determine the challenges and what works on a day-to-day basis. This provides an opportunity for observation that isn't available in a lab. Problem solving has been more effective and it is easier to get to solutions.

"We are also fortunate to work with local community organizations such as GiGi's Playhouse, a play place designed especially for children with Down syndrome and their families and The Upside of Downs, a group that provides advocacy and support for individuals with Down syndrome, as well as Replay for Kids, an organization that adapts toys for switch access.

"We have recently begun to work with the robotics team at St. Edward High School in Lakewood, Ohio," Sabet said. "This is a new partnership that brings a fresh approach to problems that we face in our research. The team members approach problems without the restraints we often have and bring an engineering expertise to our project that certainly doesn't come with a PT license! With the participants in the St. Edward robotics team we are moving forward in a creative and fun way."

The experienced therapist also hopes that further interaction with organizations and the community at large will raise awareness as to how mobility impacts all of us. "We need to be creative in our approach to mobility. Involvement with the community extends this message where it can make a difference."

During the limited free time available to Sabet, she and her family take advantage

of the extensive park system available to them in the Cleveland area. "We like hiking and biking," she said. "I also enjoy outdoor photography."

The family also appreciates exploring new places and different cultures. "We have traveled to Egypt. My brother lives in Germany, and we have spent time with him," Sabet said. "Most recently we were able to go to the Galapagos Islands. My hope is the travel, and experiences that come with it, will encourage us to be more open minded and approach life from a standpoint of openness to other cultures and other ways of doing things."

Sabet recognizes it is easy to get caught up in a routine and lose a relationship to the rest of the world. "Travel allows us to grow and opens our eyes to more diversity; to the many ways to approach life, work and culture. Because of these experiences, I believe my children are willing to try new things such as experiment with food. I can see this happening and believe as they grow it will continue to affect their interactions with other people."

In addition to the benefits of family travel, these trips have also informed Sabet's work experience. "I study many kids and families, and we can get wrapped up in what mobility means and what family means to us," she said. "Travel opens my eyes to different ways to see mobility. Travel keeps me open to new solutions."

Considering the future in her career, Sabet is focusing on pushing for more innovation in the pediatric market for independent mobility options. "Kids have so much untapped potential in the current assistive technology market. One of the interesting things about working with toy companies such as Fisher Price in the research is the target market is the same for both those companies and the DME companies, but the approach is different," Sabet explained. "The toy companies put the child as the center of their product research from the very beginning. I see a distinct difference in the DME industry as it tends to be more adult focused and usually doesn't get involved with kids until the end stage of product development."

Sabet believes the concept of early mobility is gaining traction and the unique merger of research with commercially-produced toy cars is a partnership that will support a growing emphasis on pediatric mobility options.

Andrina Sabet PT, ATP

Andrina Sabet with her twin daughters

GoBabyGo pilot study at Cleveland State University

Pediatric mobility research at Cleveland State University

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CRT UPDATE

BIG WIN FOR ACCESS TO CRT

WRITTEN BY: DON CLAYBACK

We've been saying it all along. The Complex Rehab Technology (CRT) community working together CAN and WILL produce positive changes in policy. It's through CRT stakeholders coming together that we're best positioned to protect and improve access. We saw real evidence of that in the month of June!

On June 23 the Centers for Medicare and Medicaid Services (CMS) announced a policy correction stating it would not use Medicare Competitive Bid Program information to reduce Medicare payment rates for CRT power wheelchair accessories. This was the positive culmination of a two-year battle to avert significant cuts scheduled to go into effect on July 1. CMS' action preserved critical access to this specialized equipment for people with significant disabilities.

This was great news for those who rely on CRT power wheelchairs. If the policy correction had not been made, it would have resulted in CMS inappropriately using Medicare Competitive Bid pricing for "standard" wheelchair accessories to make significant cuts to payment rates for more complex CRT wheelchair accessories. These inappropriate cuts would have caused dramatic decreases in the availability of CRT power wheelchairs.

Unfortunately, the policy correction did not provide a fix for previous Medicare payment cuts to accessories used with CRT manual wheelchairs. But the effort to resolve that issue is not over. We are continuing to work on relief for those cuts as detailed later in this column.

There are lots of thanks to be shared for this major access win. We need to start with thanking Department of Health and Human Services Secretary Tom Price and CMS Administrator Seema Verma for making this needed policy correction. Their acknowledgement and action is greatly appreciated.

We send huge thanks to our CRT Sens. Bob Casey, D-Pa., and Rob Portman, R-Ohio, and Reps. Lee Zeldin, R-N.Y., and John Larson, D-Conn. for their leadership and commitment to protect access for people with disabilities. They led the congressional charge for two years!

Additional thanks go to the other Members of Congress, their staff and the respective committees' staff who also worked hard to resolve this. We particularly recognize the support from Sens. Orrin Hatch, R-Utah; Ron Wyden, D-Ore.; Chuck Schumer, D-N.Y.; Thad Cochran, R-Miss.; and Reps. Cathy McMorris Rodgers, R-Wash.; Greg Walden, R-Ore.; Kevin Brady, R-Texas; Jim Sensenbrenner, R-Wis.; Pat Tiberi, R-Ohio; Diana DeGette, D-Colo.; David Loebsack, D-Iowa; and Joe Crowley, D-N.Y.

Please take a minute to email your Members of Congress and thank them for their help in resolving this issue. We need to build and cultivate these relationships as we certainly have more work ahead.

This policy correction would never have happened without the dedication and collective advocacy work of the whole CRT community! Sincere thanks to all the consumers, disability organizations, clinicians, providers, manufacturers and others who worked extremely hard to produce this outcome.

Special thanks to the following organizations: ITEM Coalition, United Spinal Association, National MS Society, ALS Association, Christopher and Dana Reeve Foundation, Muscular Dystrophy Association, Consortium for Citizens with Disabilities, National Council on Independent Living, Paralyzed Veterans of America, Clinician Task Force, RESNA, NRRTS, AAHomecare, U.S. Rehab and The MED Group.

Through the collective advocacy efforts of the CRT community, Members of Congress and their staff learned that CRT wheelchair accessories are "critical components" that allow the CRT wheelchair to be individually configured to the unique needs and abilities of the person. The June CMS announcement enables these individuals to continue to receive the needed CRT mobility and seating systems.

Appropriate access to CRT benefits everyone. It reduces health care costs and enables people with disabilities to maximize their function and independence. We look forward to building on this win and continuing to protect and improve access to CRT for the children and adults who depend on it.

CRT MANUAL WHEELCHAIR ACCESSORIES

As stated on the previous page, protecting accessories used with CRT manual wheelchairs is still in play. Our congressional champions will be introducing new legislation focused specifically on stopping CMS from using Medicare Competitive Bid pricing to establish payment rates for accessories used with CRT manual wheelchairs. Once the bill is introduced, we will want to secure cosponsors and then work with key members, committees and staff to secure passage.

When the bill is passed, providers will be able to use the current "KU modifier" to secure the same payment amount for a CRT accessory whether it is being supplied with a CRT power or a CRT manual wheelchair. We'll be issuing an NCART Alert as soon as the bill is introduced.

SEPARATE BENEFIT CATEGORY

While we will continue to work on relief for CRT manual wheelchair accessories, we can now increase our congressional outreach to pass the "Ensuring Access to Quality Complex Rehabilitation Technology Act of 2017" and create a Separate Benefit Category for CRT. House of Representatives bill HR 750 is being led by Reps. Jim Sensenbrenner, R-Wis., and Joe Crowley, D-N.Y. As of this writing, HR 750 has 77 cosponsors, but there are an additional 81 cosponsors from last year who have not yet re-signed. We need to pursue them. In the Senate, we expect a companion bill to be reintroduced shortly.

We need CRT stakeholders to be reaching out to their Members of Congress to secure as many cosponsors as we can get. The more cosponsors, the greater chance for our bill to be passed. You can see a current list of "cosponsors by state" at www.protectmymobility.org and use the links there to send an email and make a phone call.

YOU CAN MAKE A DIFFERENCE

We have preached this for years. That the individual voices and actions of CRT stakeholders can be combined and focused to make a difference. Our win on CRT power wheelchair accessories is proof of that. It's through the CRT community coming together that we are best positioned to build on our progress and resolve future CRT access issues. Thanks for your continued involvement, and please stay engaged so we can build on the positive momentum.

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CLINICIAN TASK FORCE

MEETING THE UNMET NEED FOR CRT CLINICAL SERVICES

WRITTEN BY: STACEY MULLIS OT, ATP AND AMBER WARD MS, OTR/L, BCPR, ATP/SMS

Those of us who have an interest in seating and wheeled mobility (SWM) are often passionate about appropriate provision for optimal function, comfort and independence for the end user. Unfortunately, that passion is not always shared by all physical therapists (PTs) and occupational therapists (OTs), and it can be difficult to find therapists who are skilled in providing SWM, or who even have an interest. This often results from lack of education and information, which leads to misconceptions about the provision of SWM in general practice settings as well as in/out of seating clinics.

SWM can and should touch every area of OT/PT practice from pediatrics to geriatrics and every type of disability, but many therapists consider it someone else's job. Since mobility directly relates to all areas of daily function, it is critical that OT and PT practitioners understand SWM concepts, which will allow for optimal functionality and independence of clients, regardless of the practice setting. The evaluation, management, training and provision of SWM is a natural fit for the OT and PT practitioner, even a generalist. OT and PT assistants cannot perform the evaluations but can certainly assist with training, education and integration into the client's life. Mobility, safety and function affect every part of daily living and should be addressed by all. By developing this skill set, therapists can work together with ATPs, RTPs and manufacturers to provide the most appropriate equipment, in a timely fashion. This will mean happier customers, increased safety and function, fewer repairs fewer fixes with the right product the first time, and ultimately increased revenue.

Due to lack of knowledge, time and other constraints, it is often difficult for therapists to pursue further skills in the area of SWM, and many therapists do not understand the need for training and experience in this area. At the same time, there is a significant unmet public need for therapists experienced in SWM to perform evaluations, training and product selection to guide consumers. In many areas, inexperienced clinicians are working with clients for their equipment needs (from necessity, lack of resources or lack of awareness), and the results can be disastrous. From pain, pressure injuries, decreased functional abilities, decreased independence and progression of disabilities for potentially many years, many negative effects from the incorrect equipment can be seen. Even with an experienced ATP or ATP/SMS supplier/manufacturer with an inexperienced therapist or assistant, there may be issues with correct and thorough documentation, fitting and follow-up. The provision of the most appropriate equipment should stem from the clinical knowledge and reasoning from the practicing therapist who can integrate functional and positional needs.

So, what can we all do as SWM professionals to promote increased awareness and ignite excitement in therapists about this area of practice?

First, we need to have a clear understanding of what the generalist OT/PT needs to know about SWM:

- How product selection and fit affect functional independence.
- Basic wheelchair adjustment and maintenance.
- Funding issues, sources and restrictions for various levels of equipment.
- Basic principles of assessment for seating needs.
- Product categories that can meet the seating and mobility goals.
- Resources locally, nationally and internationally to meet client needs.
- Resources locally, nationally and internationally to increase practitioner competence.

Next, we need to understand the practice setting of the therapists we are trying to educate. For example, a home health therapist will face very different challenges in provision of SWM than an inpatient rehab therapist. Some of the specific challenges for the home health therapist may include:

- There is not a mat table to perform an evaluation.
- They do not have easy access to equipment samples to try with patients.
- They may have resistance from branch managers due to

misconceptions of billing for SWM services.

- They often do not have relationships with suppliers who employ rehab technology professionals (RTPs) with an ATP certification.

- Time for documentation, specific templates.

Are you starting to see the challenges? We need to meet these therapists where they are, and address the day-to-day challenges they face if we expect them to truly embrace this area of practice. As we know all too well, therapists often feel over-worked and do not relish the idea of adding to that burden. Often the perception is a therapist should automatically be an "expert" for any seating and positioning needs, and therapists are often scared off from even trying.

There are so many ways we can all contribute to a solution, and if we all play a part, maybe we can make a difference in increasing the supply of skilled, knowledgeable therapists to provide SWM services to clients in need. Following are some ideas. We can each play a part!

1. GENERATE EXCITEMENT

2. REAL VALUABLE, OUTCOMES ARE LIFE-CHANGING

When we share our experiences and the positive outcomes we and our clients have experienced, it can trigger a response in a therapist who generally is motivated by client improvement. We can share the amazing technology that is available and how creative a seating specialist can be when finding innovative solutions. The job is always interesting, challenging and unexpected, and a therapist can be assured that they will always learn something new. It is also an area that is underserved, so it is considered an area of professional expertise that could set a therapist apart.

3. EDUCATIONAL OPPORTUNITIES

Many seating therapists and/or manufacturers have developed educational programs that can be presented live or through webinars that suppliers can utilize to educate therapists in their regions in the basic principles of SWM. Therapists can also be directed to online courses provided by professional organizations and trade associations (RESNA, NRRTS, Academy of Neurologic Physical Therapy, U.S. Rehab and The MED Group), or manufacturers who have on demand options that can be done at their leisure. If you are a regional SWM therapist, offer a shadowing program for generalist therapists. Suppliers/manufacturers can help connect interested therapists to the experts to develop these relationships. Also, as an experienced seating therapist, consider taking fieldwork students to open their eyes to this field of practice. Consider inviting other involved therapists to seating evaluations and talk through the process as you go.

4. EXPERIENTIAL LEARNING

As a SWM professional, consider sharing your skills through hands on interactions. Participate in job fairs, career days and demonstrate the effects of appropriate provision of SWM using case studies and real-life examples. Offer in-services and hands-on training at inpatient rehab, pediatric clinics, and allow them to touch/feel/experience a variety of product options. Consider starting younger than college level, and consider educating high school and middle school students about mobility equipment and who might use it.

5. TEAM UP WITH EDUCATORS

If you live near a local PT/OT school, offer to partner with educators to provide classroom training, bring equipment for hands-on training and introduce them to non-traditional fieldwork placements in the field of SWM. Many educators would welcome assistance with teaching these topics.

6. BECOME AN ADVOCATE

As SWM specialists, we know how difficult it can be to provide the most appropriate equipment in the current health care landscape. Be active in organizations that advocate for the efficient and optimal provision of these services and change the oppressive documentation standards and regulations that have made the appropriate equipment choices difficult to procure. Consider the following organizations which actively advocate for SWM services: Clinician Task Force, NCART, NRRTS, RESNA, and the World Health Organization.

If we care about filling the workforce gap in SWM, we all need to participate in training the next generation. Consider your area of practice and the way that you may be able to contribute with the time, resources and skills you have developed. Let's band together and get a new generation of therapists excited about this field–create a legacy.

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ADVOCACY ALLIANCE

LOBBYING AND ADVOCACY

WRITTEN BY: ALEX BENNEWITH

Lobbying and advocacy work really do border on insanity. This type of work is the very definition of what is Einstein's attributed quote: "Insanity: doing the same thing repeatedly and expecting different results." Well, this June, we finally received some well-deserved different results.

As it has been so many times before, the clock was running out on us again as we had until June 30 to create a fix before a second temporary extension of exempting CRT power chairs from the competitive bidding program expired. Section 16005 of the 21st Century Cures Act became law in December 2016 and delayed, by an additional six months, from December 2016 to June 2017, implementation of Medicare fee schedule adjustments for wheelchair accessories and seating systems when used in conjunction with Complex Rehabilitation Technology (CRT) wheelchairs.

We, of course, have always advocated for protecting all types of CRT due to the customized nature of CRT for a small segment of individuals with significant disabilities such as spinal cord injury, cerebral palsy, spina bifida, multiple sclerosis etc. After pushing for many years, with so many stakeholders in the consumer, clinician, manufacturer and provider sectors, we were finally able to remove power CRT components from Medicare's competitive bidding pricing.

THANKS SO MUCH TO ALL OF UNITED SPINAL'S CORPORATE PARTNERS FOR THEIR SUPPORT OF THE ROLL AND TO HELP US GET AS MANY WHEELCHAIR USERS AS POSSIBLE TO WASHINGTON, D.C., TO MAKE THEIR VOICES HEARD. IT REALLY DID MAKE A DIFFERENCE!

We received the good news from the Centers for Medicare and Medicaid Services, regarding the permanent removal of power CRT components just days after United Spinal's 6th annual Roll on Capitol Hill, June 11-14, 2017. At the Roll, we of course advocated for both CRT bills, HR 1361/S 486, "To amend Title XVIII of the Social Security Act to provide for the non-application of Medicare competitive acquisition rates to complex rehabilitative wheelchairs and accessories" and HR 750, "Ensuring Access to Quality Complex Rehabilitation Technology Act of 2017" in addition to other veterans issues and disability rights issues.

Reps. Lee Zeldin, R-N.Y., and John Larson, D-Conn., introduced the House CRT accessories bill with Sens. Robert Casey, D-Penn., and Rob Portman, R-Ohio, introducing the Senate version. Rep. Jim Sensenbrenner, R-Wis., and Jo Crowley, D-N.Y., introduced HR 750 again for the 115th Congress. Also, Zeldin was a recipient of United Spinal's Outstanding Congressional Leadership Award at our Roll for his leadership on CRT for the last two congressional cycles.

We owe our thanks to all stakeholders, along with our Congressional supporters as well as the Centers for Medicare and Medicaid Services. Thanks so much to all of United Spinal's corporate partners for their support of the Roll and to help us get as many wheelchair users as possible to Washington, D.C., to make their voices heard. It really did make a difference! Power CRT wheelchair users are especially thankful today.

We of course would have liked both manual and power CRT wheelchairs and related components to be carved out of Medicare's competitive bidding program as HR 1361 and S 486 stated, but of course are happy with the victory for power CRT. We now must move our attention to protecting CRT manual wheelchairs from the Medicare program and to helping CRT manual wheelchair users across the country have access to the type of chair and features of their choice.

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MULTIPLE SCLEROSIS

WRITTEN BY: MICHELLE L. LANGE, OTR/L, ABDA, ATP/SMS

Multiple sclerosis (MS) affects 2.3 million people worldwide[1]. It is not contagious or hereditary but is more prevalent in certain areas and two to three times more common in women than men. There is no specific test for MS and the condition can be difficult to diagnose.

DEFINITION:

Multiple sclerosis is named for the multiple areas of scar tissue (sclerosis) that occurs when the myelin sheath is damaged. The nerve may be damaged, as well[2]. Myelin covers nerves (specifically the axon), smoothing and speeding nerve transmission. In MS, damage to the myelin can occur anywhere in the central nervous system (CNS) which includes the brain, spinal cord and optic nerves. This damage is thought to be due to an immune-mediated process in which the immune system responds incorrectly and attacks a specific target or antigen[1]. This target is still unknown. Some viruses have been linked to MS[2].

As no specific test is available for MS, other conditions are ruled out and an MRI may reveal lesions on the brain and spinal cord. Diagnosis is also based on presenting symptoms.

PATHOLOGY:

As damage can occur anywhere and in multiple areas of the CNS, a wide variety of symptoms are possible. Four disease courses have been identified:

• Clinically Isolated Syndrome (CIS): The first episode of neurological symptoms lasts for at least 24 hours. Someone experiencing CIS may or may not develop MS.

• Relapsing-Remitting MS (RRMS): This is the most common type of MS (85 percent) and is characterized by clearly defined "attacks" or neurologic symptoms called relapses or exacerbations, followed by periods of remissions. Symptoms may disappear or continue and become permanent during remissions.

• Primary Progressive MS (PPMS): In this form of MS, worsening neurologic functioning occurs without relapses or remissions.

• Secondary Progressive MS (SPMS): Most people diagnosed with RRMS will ultimately be diagnosed with SPMS, in which a progressive worsening is seen over time.

Initial symptoms are often vision related and occur most frequently between the ages of 20 and 40. Most people with MS have muscle weakness in the extremities, as well as difficulty with coordination and balance. Partial or complete paralysis is possible. Paresthesias may occur, including numbness, prickling and pain. Speech and hearing may be impacted. About half of people with MS have cognitive impairments including issues with concentration, attention, memory and poor judgment[3].

TREATMENT:

There is no cure for MS, but recent medications have been shown to reduce exacerbations and slow physical disability. Not all people with MS take medication. Three forms of beta infusion have been approved for RRMS. Ocrevus is being used for PPMS and for clients who have relapsing forms of MS. Copolymer is a synthetic form of myelin basic protein. Immunosuppressants may be used in people who have chronic or advanced MS. Steroids may be used to reduce inflammation. In people who experience spasticity, various tone reducing medications are often prescribed, including the Baclofen pump[3].

It is also important that the person with MS avoid excessive activity and heat to minimize fatigue[3]. This may impact wheeled seating and mobility recommendations.

MS research is very active and has led to earlier and more accurate diagnosis, improved medical treatments, and a better understanding of this condition.

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RESOURCES:

National Multiple Sclerosis Society
Multiple Sclerosis Association of America
Multiple Sclerosis Foundation


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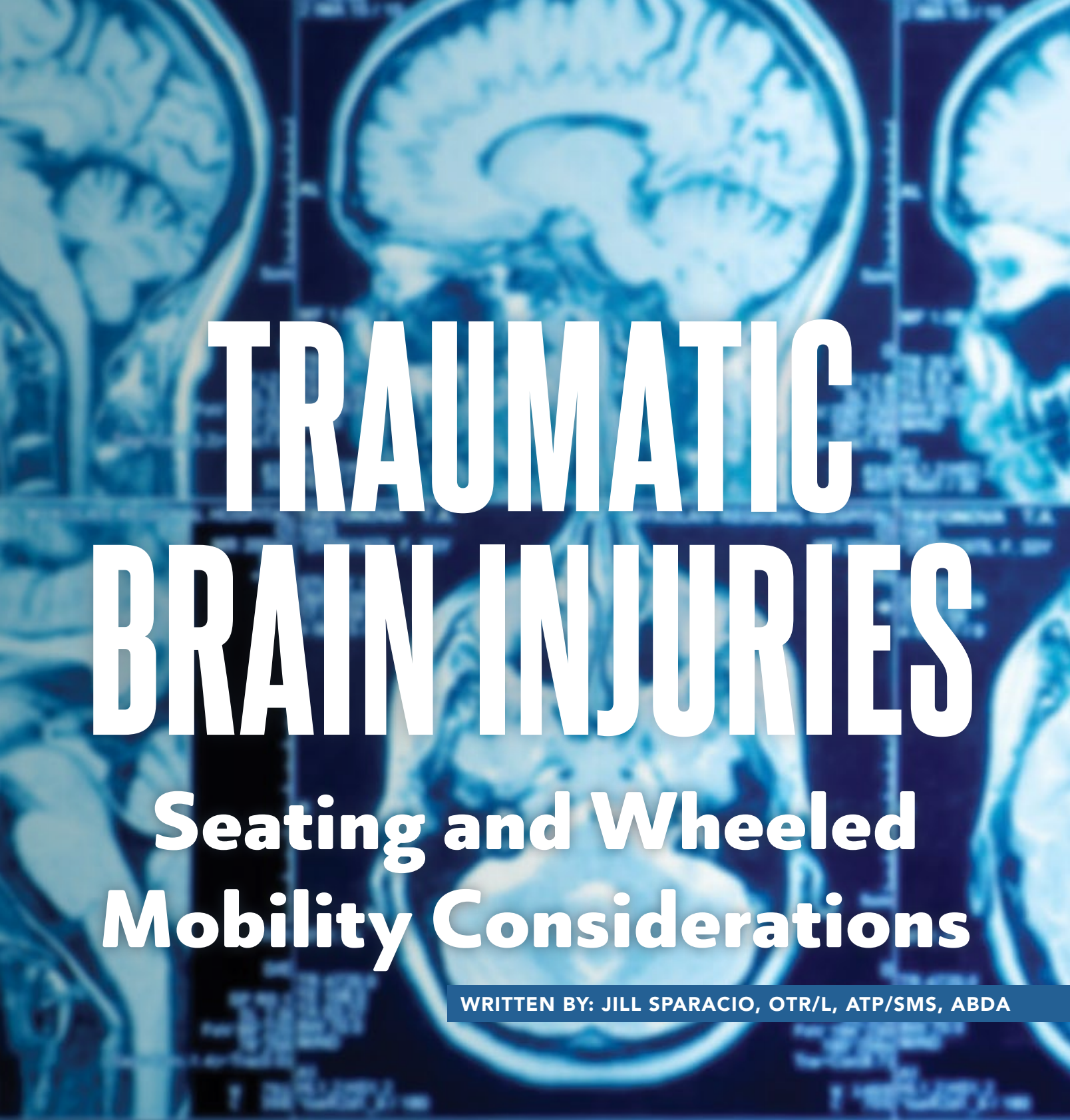

TRAUMATIC BRAIN INJURIES

Seating and Wheeled Mobility Considerations

WRITTEN BY: JILL SPARACIO, OTR/L, ATP/SMS, ABDA

CEU ARTICLE

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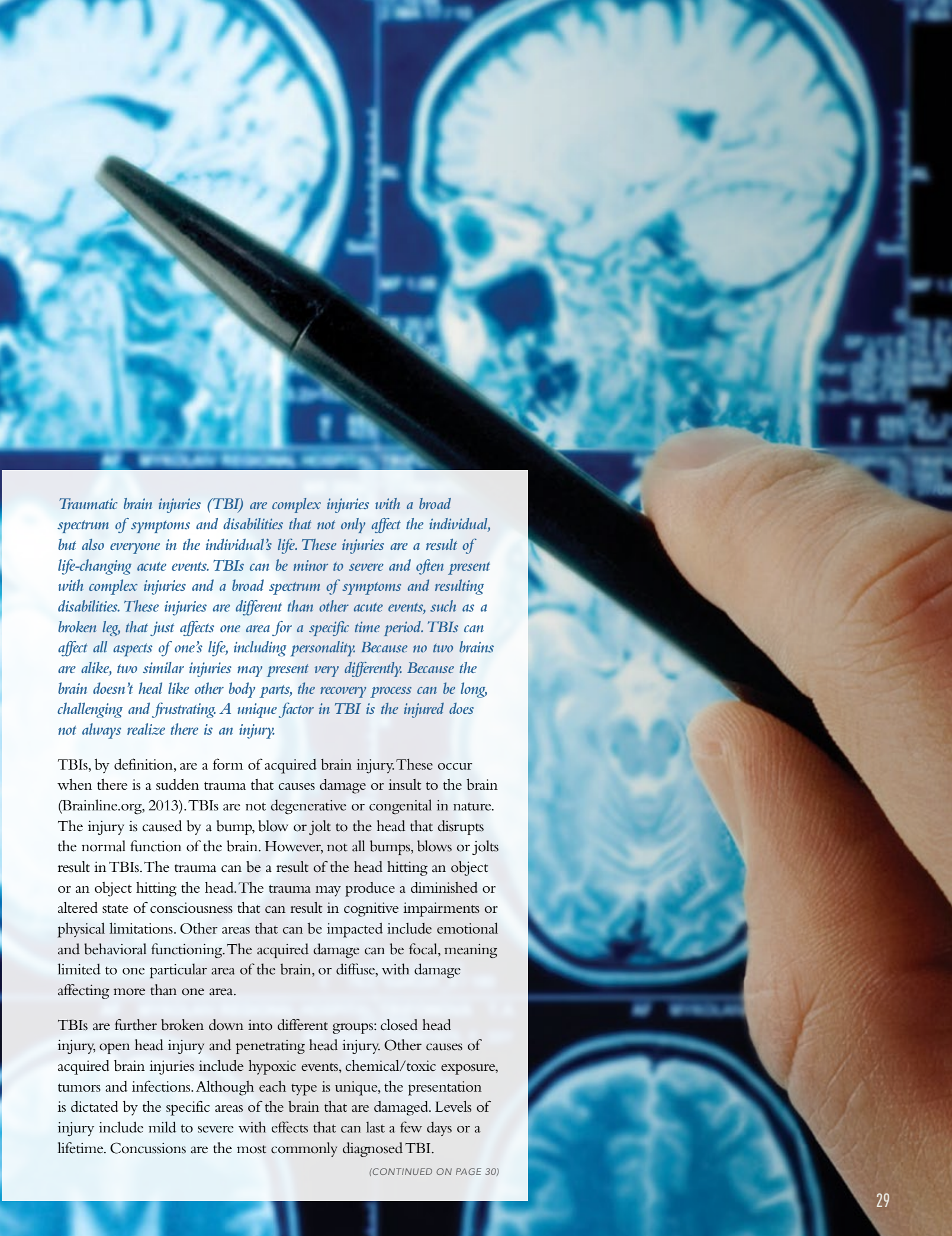

Traumatic brain injuries (TBI) are complex injuries with a broad spectrum of symptoms and disabilities that not only affect the individual, but also everyone in the individual's life. These injuries are a result of life-changing acute events. TBIs can be minor to severe and often present with complex injuries and a broad spectrum of symptoms and resulting disabilities. These injuries are different than other acute events, such as a broken leg, that just affects one area for a specific time period. TBIs can affect all aspects of one's life, including personality. Because no two brains are alike, two similar injuries may present very differently. Because the brain doesn't heal like other body parts, the recovery process can be long, challenging and frustrating. A unique factor in TBI is the injured does not always realize there is an injury.

TBIs, by definition, are a form of acquired brain injury. These occur when there is a sudden trauma that causes damage or insult to the brain (Brainline.org, 2013). TBIs are not degenerative or congenital in nature. The injury is caused by a bump, blow or jolt to the head that disrupts the normal function of the brain. However, not all bumps, blows or jolts result in TBIs. The trauma can be a result of the head hitting an object or an object hitting the head. The trauma may produce a diminished or altered state of consciousness that can result in cognitive impairments or physical limitations. Other areas that can be impacted include emotional and behavioral functioning. The acquired damage can be focal, meaning limited to one particular area of the brain, or diffuse, with damage affecting more than one area.

TBIs are further broken down into different groups: closed head injury, open head injury and penetrating head injury. Other causes of acquired brain injuries include hypoxic events, chemical/toxic exposure, tumors and infections. Although each type is unique, the presentation is dictated by the specific areas of the brain that are damaged. Levels of injury include mild to severe with effects that can last a few days or a lifetime. Concussions are the most commonly diagnosed TBI.

(CONTINUED ON PAGE 30)

TRAUMATIC BRAIN INJURIES
(CONTINUED FROM PAGE 29)

TBI BY THE NUMBERS

TBIs are a major cause of death and disability in the United States (www.cdc.gov), making up 30 percent of all injury related deaths. The number of TBIs has increased drastically, in part due to sports related concussions. In 2013, it was reported that approximately 1.4 million people experience a TBI annually in the United States. Of those, approximately 50,000 people die as a result of their head injury. Over one million people seek emergency medical treatment and 230,000 are hospitalized each year.

Falls are the leading cause of TBIs that require hospitalization and primarily involve the youngest and the oldest age groups. Being struck by or against an object is the second leading cause and makes up 15 percent of TBI related emergency department visits, hospitalizations and deaths. Motor vehicle accidents make up 14 percent of TBIs. Intentional self-harm is the second leading cause of TBI related deaths. TBI related death rates are highest for persons 75 years and older. As a rule, more men acquire a TBI than women.

The cost of TBIs is staggering. Over $76.5 billion are spent annually for the care of individuals with TBIs (cdc.gov). Lifetime costs of a severe head injury can exceed $3 million and a moderate head injury can cost $1 million (Neuroskills.com, 2017).

TYPES OF TBIs

A basic understanding of brain anatomy is required to fully understand TBIs. The brain is part of the central nervous system (CNS), which includes the brain and spinal cord. The brain itself is made up of several lobes or sections. Brain tissue is made up of nerve (neuron) cells that communicate with one to another through long arms or axons. Each brain section has a specific role and function. Although these sections communicate with each other, their function cannot be duplicated by other sections. Therefore, if one area is damaged, another area cannot "take over" for the damaged area, nor can the damaged cells in the CNS regenerate or recover. The area of damage dictates the clinical presentation. To further complicate matters, if an area is not completely damaged, the remaining area may take over for the damaged area.

Surrounding the brain are layers of tissue called meninges. Three layers provide some space as well as protection of the brain tissue: the dura mater, the arachnoid, and the pia mater. These layers provide support, vascularization, hold cerebral spinal fluid and keep unwanted elements (bacteria) outside of the CNS. The dura mater is the outer layer, arachnoid is the middle layer, and the pia mater covers the brain itself. The brain is a self-contained and highly-controlled system that relies on many properly balanced systems to maintain an appropriate environment for function.

TBIs are a type of brain injury and can be classified by etiology (cause). Brain injuries fall into many different categories. These include closed head, open head, deceleration injuries (diffuse axonal injuries), chemical/toxic injuries, hypoxia, tumors, infections and strokes. TBIs fall into the first three categories.

- Closed head injuries occur when the head suddenly and aggressively strikes an object, but the skull remains intact. These can be caused by falls, motor vehicle accidents, etc. The effects can be either focal or diffuse, depending on where the impact occurred.

- Open head injuries include disruption of the skull and dura mater: the force of the "hit" is strong enough, or at just the correct angle, to cause the skull to fracture and the brain tissue to be exposed. These injuries result in focal or specific areas of damage and can be caused by objects that penetrate into the brain tissue. Penetrating head injuries occur when an object moves through the skull and into the brain tissue itself. Damage occurs at the location of penetration, as well as along the course of penetration. Some penetrating injuries include an exit wound, some do not. Examples of penetrating injuries include high-velocity causes, such as gunshot wounds, and low-velocity causes, including knife injuries or bone fragments that are forced inward from an open head injury.

- Deceleration injuries (also known as diffuse axonal injuries) occur when movement of the skull is abruptly stopped. As the deceleration of the movement occurs, the brain tissue moves at a different speed, resulting in direct brain injury due to diffuse axonal shearing, contusion and brain swelling. Inside the skull, the brain experiences movement resulting in compression of the protective layers of the surrounding tissue between the brain and the skull. The axons of the brain tissue are compressed and stretched. This "bouncing" can cause damage throughout the brain. Additional damage can occur as the brain rebounds from the impact (contra-coup injuries). For example, as the brain moves and compresses forward, momentum will cause backward movement, damaging brain matter toward the back of the brain. Examples of this type of injury include concussions and shaken baby syndrome (non-accidental trauma). Effects of this type of injury are usually diffuse, resulting in damage to many areas.

GLASGOW COMA SCALE INTERPRETATION

LEVEL	SCORE	CHARACTERISTICS
Mild	13-15	Minor limitations; potential for full recovery
Moderate	9-12	Benefits from rehab; presents with physical or cognitive impairments that may or may not resolve
Severe	3-8	Coma; no meaningful response; no voluntary activities
Vegetative	<3	Sleep/wake cycles; arousal but no interaction with environment
Persistent vegetative	No score	No arousal
Brain death	No score	

FIGURE 1

• Chemical/toxic injuries result from exposure to insecticides, solvents, carbon monoxide poisoning, lead poisoning or other toxic substances. The chemicals damage the neurons, resulting in the nerve's inability to function properly or at all. Metabolic injuries occur as a result of contact with unsafe chemicals (such as lead) or from the accumulation of chemicals manufactured within the body (such as those excreted from kidney disease).

• Hypoxic injuries result from a lack of blood flow to the brain tissue. Anoxia is a total lack of oxygen while hypoxia is decreased oxygen. Causes of this type of TBI can include respiratory failure, heart attack and exposure to low oxygenated environments.

• The presence of tumors invades brain space which causes damage to, or compression of, brain tissue. Surgical excision of tumors can lead to damage through the pathways the surgeon creates to access the tumor.

• Infections of the brain and the meninges can lead to brain injury. The brain and the meninges are prone to viral and bacterial infections, resulting in encephalitis or meningitis.

• Strokes or cerebral vascular accidents result from either a bleed or a vascular blockage in the brain. The lack of oxygen to the surrounding tissue can result in a brain injury. However, these injuries are defined and characterized differently than other types of brain injuries.

No two brain injuries are similar. Although many commonalities are observed, each presentation is specific and unique to the individual.

CLASSIFICATION TOOLS AND RECOVERY FOR TBIs

Due to the potentially complex presentation of TBIs, different scales have been developed to help identify an individual's level of injury with some projection of recovery. The most commonly used scale is the Glasgow Coma Scale (http://emedicine.medscape.com/article/326510-overview) (see Figure 1). This scale is used to define the severity of a TBI within 48 hours of the injury. Areas evaluated include eye opening, verbal abilities and motor skills. Responses are assigned numbers from 1-6 and simply describe the current condition. The lower the number, the more involved the injury. For example, if an individual does not open his eyes, he receives a score of 1. If his eyes open spontaneously, the score of 4 is assigned. In the verbal area, a score of 1 is assigned if the client makes no sounds, a score of 3 is given for uttering inappropriate words, and an oriented conversation is scored a 5. Following directions accurately for motor responses scores a 6 while a flexion response to painful stimulation scores a 3. No attempts at movement receives a score of 1. The top score is 15 and demonstrates no or minimal involvement, while a score of 3 (the lowest possible) demonstrates a lack of any response.

The potential for recovery is related to Glasgow scores. Recovery is also predicted by the duration of the post-traumatic amnesia; the location and size of contusions, hemorrhages and injuries in the brain; and the severity of other body system injuries sustained at the same time as the TBI.

(CONTINUED ON PAGE 32)

TRAUMATIC BRAIN INJURIES
(CONTINUED FROM PAGE 31)

TBIs are also classified by level of severity, referred to as mild, moderate and severe (http://www.neuroskills.com/education/definition-of-brain-injury.php).

- A mild TBI results in confusion or a loss of consciousness of less than 30 minutes and has a Glasgow Coma Scale score initially of 13-15. Post-traumatic amnesia clears in less than 24 hours.

- A moderate TBI results in a loss of consciousness of 30 minutes to 24 hours and has an initial Glasgow Coma Scale score of 9-12. Post-injury amnesia lasts between 2-7 days.

- An individual with a severe TBI experiences a loss of consciousness greater than 24 hours, initial Glasgow Coma Scale score of 3-8 and post-injury amnesia of greater than 7 days.

Studies have found that age can influence potential for recovery: individuals under 2 years of age and over 60 have more limited prognoses compared to those of other age groups. The largest recovery period for clients with TBIs occurs within the first two years after the injury, however that does not eliminate the potential for recovery after that point.

Phases of recovery include the initial, the surgical/acute and the rehab phases. The initial phase includes measures to sustain life where stabilization of vital function is the focus. The next phase includes the surgical/acute care and includes minimizing secondary injuries and continued provision of life support, if needed. Medical intervention can include controlling intracranial pressure and the provision of medications to manage muscle tone. Other medical care includes cleaning out the damaged area resulting from an open head injury. The focus of this period is to maintain life while managing all injuries that occurred with the TBI. Once the brain has been stabilized and damage maintained, the rehabilitation process starts. This is done through a multidisciplinary approach that focuses on restoring lost function and preventing secondary complications. Secondary complications include the development of pressure injuries, pneumonia/respiratory issues and loss of range of motion. Discharge planning is addressed throughout the rehab process to help the family and individual plan accordingly. The length of time spent in each phase of recovery is dependent upon the injury presentation and the response to intervention.

PATHOLOGY AND PRESENTATION OF TBIs

A wide variety of deficits can appear after a severe traumatic brain injury, including motor, sensory, cognitive and behavioral issues. Although the motor and sensory losses may be most apparent, the cognitive/behavioral changes influence every aspect of the individual as well as everyone in his life (http://www.neuroskills.com/education/characteristics-of-brain-injury.php).

Physically, abnormalities in muscle tone impact all motor skills. Tone presentation can change as the recovery progresses, as well as with the use of tone management medications. Tone can present as rigidity, spasticity and paralysis. Rigidity differs from spasticity, as it offers resistance to externally imposed movement in response to low speed movement. A simultaneous contraction of the agonistic and antagonistic muscle groups results in resistance to movement. The limb being moved does not return to a particular position. Spasticity is elicited by externally imposed movement in the form of a quick stretch. It is resistance to quick, imposed movement which occurs primarily in either the agonist or antagonist, rather than both. Rigidity is either demonstrated as cogwheel (intermittent resistance) or lead pipe (slow, consistent resistance). With spasticity, the limb often returns to a preferred position once the force is removed. Both spasticity and rigidity lead to decreased movement, which can lead to the development of joint contractures (joint limitations that restrict movement). If not addressed, contractures can become permanent, further limiting motor skills.

Changes in muscle tone also lead to limitations in motor skills, both fine and gross. If muscles cannot move freely, joint ranges lessen. Physical presentation can range from quadriplegia (paralysis) to quadriparesis (weakness) throughout the extremities, trunk and neck. The scope of involvement is dependent on the specific location of injury and might include all extremities, one side of the body or just the legs. The quality of movements can also be impacted by a TBI. Tremors can develop which interfere with both fine and gross motor performance. If specific areas of brain damage occur, ataxia and apraxia can also develop. Ataxia is a lack of body movement coordination. Apraxia presents as an inability to plan and carry out learned movements. Motor changes also impact functional skills. Oral motor involvement, such as dysarthria and oral apraxia, can be seen. Visual field cuts, limitations in ocular tracking and diplopia (double vision) can occur and further impact muscle movement, motor control and planning.

Sensory changes are also observed with TBIs. Sensory processing of stimulation may be altered, delayed or absent. This includes visual, auditory and tactile, as well as vestibular input. Limitations in these areas can influence and further limit motor performance.

Other medical issues may arise as a result of the TBI. A seizure disorder can develop any time the brain is injured. Internal injuries or skeletal fractures that may have occurred at the time of the TBI require time to heal.

BEHAVIORAL AND COGNITIVE ISSUES

Two of the most challenging areas impacted by a TBI are cognition and behavior. This is not only frustrating for the individual, but also for caregivers, family members and friends. The individual is no longer "the same" as he was prior to the injury. Personality changes often result. Cognitively, the client may have impaired ability to attend and concentrate; memory issues; impaired problem solving and decision making skills; slowed information processing; impulsive thinking without regard for consequences; poor organization, planning and sequencing abilities; difficulty with concept formation and abstract thinking; inflexible thinking/mental rigidity; and poor judgment across all settings. The need for increased processing time can interfere with all aspects of life. Oftentimes it is interpreted as a lack of ability or as disinterest, instead of a delayed response.

Behavioral challenges include disinhibition, the inability to engage in purposeful activity, inability to respond appropriately to environmental cues, socially inappropriate behavior, social skill deficits, impulsivity, poor initiation of tasks and interactions, lack of insight into behavior as well as the resultant consequences, inability to learn from an experience and then apply it to the next, denial of deficits, and poor self-esteem. These limitations tend to drive wedges into existing social and familial relationships, as the injured individual is so different post-injury. From a caregiver perspective, it can be very frustrating to deal with varying abilities due to behavioral issues. One day the individual can complete his typical routine without issues and the next day be unable to figure out how to brush his teeth.

"Appropriate" behavior may be limited without the ability to filter and adapt to different situations. The constant redirection toward appropriate behavior takes a toll on companions. Aggressive behaviors can occur without warning, placing others at risk of injury.

In attempting to deal with unwanted behaviors, there needs to be an understanding as to when and why they occur (Labovitz, A., 2017). Forethought is required when approaching an individual with a history of unwanted or aggressive behaviors to ensure everyone's safety. If the individual perceives fear in the caregiver, the situation can escalate quickly. Behaviors often happen for a reason and so the reason for the behavior needs to be explored. Consideration of pre-morbid issues can reveal personality and behavior issues that are not new, but now altered. Consider previous dementia, intellectual disabilities, psychiatric issues and drug reactions. Current issues that can interfere with behavior can include sleep disturbances, presence of pain (sometimes unidentified by the individual), fatigue and upsetting news. Throughout the recovery process, caregivers can be quick to label actions/reactions as behavior problems. This label sets up predisposed ideas regarding future interactions, making others hesitant to approach.

Undesirable behaviors impact all aspects of the individual's life, resulting in increased length of stay, as well as dictating the type of discharge setting. Behaviors interfere with nursing care, family interactions and treatment/therapy. Unwanted behaviors become stressors on families, disrupt marriages and limit interaction with loved ones.

It is important to differentiate between common behaviors associated with TBIs versus common unwanted behaviors. The first category includes difficulties with sleep/wake cycle; orientation to person, place and time; increased distractibility and impulsivity; decreased ability to concentrate; and decreased social boundaries. The second category includes irritability, agitation, aggression, cursing, yelling and screaming, and emotional lability. All of these can lead to a refusal to participate in requested tasks, avoidance, disinhibition, wandering and mood swings. If the extreme behaviors, especially agitation, cannot be modified or corrected, recovery will be significantly impacted. This can increase length of stay and, when it is time for discharge, the individual is more often discharged to a facility rather than home. To help control behaviors, patterns and possible antecedents need to be identified. If the trigger for the behavior can be identified, greater participation can occur during the recovery process.

In general, there are some specific guidelines of what not to say to someone who has acquired a TBI (Rowland, M., 2012). Avoid comments such as "you seem fine to me." Although the individual might look normal, he might be dealing with impaired memory, decreased concentration, insomnia, chronic pain, depression or anxiety. These are invisible to well-meaning family and friends. Studies show that 65 percent of individuals post-injury receive a psychiatric diagnosis; the most common is depression (45 percent), followed by anxiety (38 percent) and substance use disorder (21 percent) (Whelan-Goodinson, et al, 2009). Other comments like "maybe you're just not trying hard enough" imply laziness. Laziness is different than apathy, but presents as disinterest. Flippant comments such as "you're such a grump" are also harmful. Since irritability and grumpiness are a direct result of a TBI, others need

(CONTINUED ON PAGE 34)

TRAUMATIC BRAIN INJURIES
(CONTINUED FROM PAGE 33)

to remember that the individual's mood will change, sometimes rapidly, and without apparent cause.

Caregiver frustrations need to be carefully monitored. Comments such as "how many times do I have to tell you?" and "do you have any idea of how much I do for you?" only create more stress and guilt for the individual. Memory problems are common with TBIs and should not be interpreted as disregard on the individual's part. On the other hand, comments like "let me do that for you" imply that the individual cannot complete the task, impacting self-esteem and self-worth.

Finally, risk of suicide increases drastically post TBI. Per research, an individual post- TBI is six times more likely to have suicidal thoughts than someone without a brain injury. Comments like "you're lucky to be alive" may be misconstrued. The individual, whether they understand their condition or not, may feel very differently. Instead, encouragement regarding how strong or persistent the person is might be more beneficial.

MOBILITY NEEDS AND CONSIDERATIONS

As a health care provider, a basic understanding of possible rapidly changing needs is critical when addressing wheelchair seating and mobility for individuals with TBIs. Obviously during the initial and acute phase of recovery, the focus needs to be on life-sustaining measures. Once stable, seating and mobility needs to be evaluated. As previously discussed, muscle tone presentation changes throughout the recovery process. Therefore, seating and mobility needs might also change.

Funding options and limitations need to be discussed in order to use available funding dollars in the best manner.

Early mobility needs might be best accomplished through the use of a somewhat generic base and seating that includes a recline option. This can accommodate tone presentations that might require a more open thigh to pelvic or trunk angle. As recovery continues, the seat to back angle can be easily altered as the individual's presentation changes.

Once some recovery has been gained, a definitive wheelchair and seating system can be pursued. In addition to recovery, available funding will dictate equipment recommendation time frames, and some equipment options.

The evaluation process for a mobility system is similar whether the client has a TBI or other diagnosis (RESNA Wheelchair Service Provision Guide). A thorough history and interview is needed, discussing other medical conditions, medications and the prospect of surgical intervention for any remaining medical issues. Discussion regarding potential living situations can be difficult if those decisions have not yet been made. Other areas that warrant discussion include vocational issues, as well as participation in activities of daily living, community involvement, recreation and leisure, and vehicle transportation.

As in all seating and wheeled mobility evaluations, a full physical evaluation is required including sensory function, tone presentation and motor skills. The mat evaluation is valuable to show quality of movements, the ability to transfer and to determine the amount of support that the individual requires in order to maintain a functional position. More importantly, it can show the specific limitations that the individual may be dealing with.

Measurements need to be taken during the mat evaluation. Body segment measurements are needed to ensure a properly sized mobility system. Angles and orientation in space also need to be explored and evaluated. Abnormal tone presentation can result in range limitations that require accommodation, rather than correction (Waugh, K., 2013). For example, the seat to back angle of the system needs to correspond to the thigh to pelvis and thigh to trunk angle, and the leg rest angle needs to accommodate the thigh to lower leg angle.

Features of the mobility base need to be addressed throughout the evaluation process including the use of tilt or recline and choosing a dependent manual, self-propelling manual or power wheelchair. Power is not always a viable option due to cognitive and behavioral issues that can occur, however it should not be ruled out until discussed.

Features of seating are determined based on the findings of the physical and mat evaluation. The amount of support required, the skeletal asymmetries present and anticipated, and the tone presentation will direct the recommendation process. Equipment trials are vital to the process.

From a seating and mobility perspective, the evaluation process requires a thorough evaluation where abilities, needs and goals are discussed from the initiation of the process. If this is done, the individual with a TBI will be more likely to have a successful outcome.

(CONTINUED ON PAGE 36)

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Ginger Walls, PT, MS, NCS, ATP/SMS

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Random ALS Issues That Affect Seating and Wheeled Mobility
Amber Ward, MS, OTR/L, BCPR, ATP/SMS

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Traumatic Brain Injuries: Considerations for Mobility Needs
Jill Sparacio, OTR/L, ATP/SMS, ABDA

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Policy Changes
Rita Stanley

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Erin Michael, PT, DPT

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Kay Koch, OTR/L, ATP

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Jay Doherty, OTR, ATP/SMS

THURSDAY, OCTOBER 12, 2017
7 – 8 PM EASTERN TIME
Dynamic Seating to Provide Vestibular Input
Suzanne Eason, OT/L

TRAUMATIC BRAIN INJURIES
(CONTINUED FROM PAGE 34)

TAKE HOME

Traumatic brain injuries can be complex injuries with a broad spectrum of symptoms and resultant disabilities. TBIs result from an acute event where a bump, blow or jolt to the head disrupts the normal function of the brain. One minute, the individual has no issues; the next, the individual's life is completely changed from what it was. TBIs not only impact the individual, but also everyone who has a relationship with the injured individual. The spectrum of symptoms includes motor, sensory, cognitive and psychological issues ranging from mild to severe. Since no two TBI injuries present the same, the variations of presentation are numerous and directly related to the specific area and extent of damage. The presence of unwanted behaviors is one of the most frustrating factors for families and caregivers. From a seating and wheeled mobility standpoint, a thorough evaluation is needed to identify specific limitations, skills and needs. Once evaluation is complete, trials and recommendations can be made to ensure optimal alignment and ability to function.

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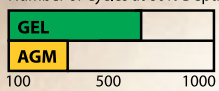

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REHAB CASE STUDY

WHEELCHAIR SEATING AND MOBILITY FROM ACUTE CARE TO HOME

WRITTEN BY: CINDY DUFF, PT, ATP

Like many acute care hospitals, Denver Health has an early mobilization program directed toward getting the client up in the appropriate wheelchair as soon as the client is medically stable. In addition to decreasing the sequelae of bed rest, such as pneumonia and pressure injury, early mobilization allows the trial of different mobility bases and seating systems to facilitate a recommendation for discharge equipment. Following this plan can be challenging when working with clients who have an acute traumatic brain injury (TBI). Each client with TBI presents differently on initial assessment and progresses differently over time. As a result, it is difficult to predict what will be needed at discharge as well as in the years following injury. This case study illustrates the need to continually assess clients with acute TBI to assure that we are 1) utilizing the appropriate mobility base and seating system to facilitate mobility in the hospital and 2) writing an appropriate order for the client's own equipment.

Dan is a 23-year-old male who lived with his parents and younger siblings in a two-story home and worked with his father laying concrete. In late 2016, he was struck by a car while riding his motorcycle. He was traveling at highway speeds without a helmet and was thrown from his bike. He was transported to Denver Health, a level one trauma, safety net hospital. In the emergency room, he presented with a Glasgow Coma Scale (GCS) of 5. A GCS of 5 classifies the brain injury as severe. His respirations were agonal — a gasping pattern controlled by a brainstem reflex, which is another indication of severe brain injury. A CT scan revealed an acute left subdural hematoma (SDH) with an 8 mm shift. An acute SDH is a blood clot that forms after a high-speed impact to the skull. The impact causes stretching and tearing of the blood vessels on the brain's surface and a clot develops between the surface and the dura mater that covers the brain. The clot can cause a distortion of the brain stem and high intracranial pressure which causes a shift of the brain past its center line. A midline shift greater than 5 mm is an indication for emergency surgery to evacuate the hematoma to reduce pressure and prevent further tissue damage. Dan's CT scan also showed multiple areas of diffuse axonal injury (DAI). DAI is a widespread, sheering injury that occurs as the brain tissue accelerates and decelerates within the skull. In addition to his brain injury, Dan also had multiple skull and facial fractures as well as a left proximal radial fracture in his forearm and metatarsal fractures in his right foot.

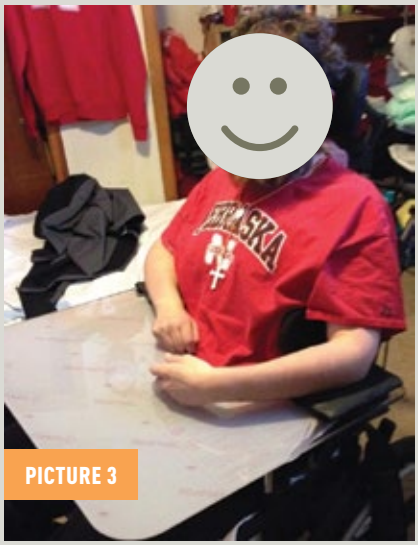
EACH CLIENT WITH TBI PRESENTS DIFFERENTLY ON INITIAL ASSESSMENT AND PROGRESSES DIFFERENTLY OVER TIME. AS A RESULT, IT IS DIFFICULT TO PREDICT WHAT WILL BE NEEDED AT DISCHARGE AS WELL AS IN THE YEARS FOLLOWING INJURY.

To reduce the pressure caused by the SDH, Dan underwent an emergent hemicraniectomy with removal of a portion of his skull, evacuation of the SDH, and placement of an intracranial pressure monitor. After surgery, he was admitted to the trauma intensive care unit (ICU). While in ICU, Dan had a trach and feeding tube placed. His ICU course was complicated by hydrocephalus, or increased fluid in the brain, requiring placement of a shunt to drain the fluid.

On initial therapy assessment in the ICU, Dan presented with a dense right hemiparesis and global aphasia. He had poor trunk control in sitting on the edge of the bed and was not able to safely attempt a stand pivot transfer or ambulation. He was dependent in transfers and required a mechanical lift. He was unable to verbalize, but was able to follow single step directions with 40 percent accuracy. To begin mobilization, Dan was positioned in a manual tilt wheelchair with a contour back and an air seat cushion. The therapy staff limited his time up in the chair, progressing in 15 minute increments until he was able to tolerate several hours without increased agitation or risk of pressure injury. Nursing staff performed position

Picture 1: Foam wedge used to decrease right lateral trunk lean

Picture 2: Rotation of feet due to existing tibial torsion



Picture 3: Fitting Dan to his new wheelchair

changes with posterior tilt in space every 15-20 minutes. As Dan's seated time increased, the therapists trialed different seat cushions, including combinations of foam, gel and air, while monitoring his skin for signs of potential pressure injury with each trial. They eventually decided a gel cushion was the best option for positioning and skin protection.

One month after injury, Dan was able to have the skull bone flap replaced and he was transferred to the progressive care unit (PCU) for continued monitoring. His intracranial pressures remained stable and he was then transferred to a medical-surgical floor. Although he made some cognitive improvement with decreased receptive aphasia, he continued to be non-verbal and dependent in all mobility and ADLs. At that point, Dan was not a candidate for acute inpatient rehabilitation services as he was unable to participate in this intensive therapy. Subacute rehab was recommended, but his family was very supportive and wanted Dan to return home. The team began to address the equipment and services needed for a safe discharge to home.

A formal assessment for a wheelchair and seating system was performed. On mat evaluation, Dan presented with a flexible posterior pelvic tilt and a partially flexible right pelvic obliquity (right side low). In sitting, he demonstrated a flexible right lateral trunk lean with a tendency to pull his trunk forward when agitated, and flexible right cervical rotation with a lateral flexion preference. The staff was using foam wedges and rolled towels to minimize his lateral tendencies (see Picture 1). He had a right anterior shoulder rotation with a 1-2 cm subluxation. He had mild extensor tone in both lower extremities, but his tone did not interfere with positioning. He also presented with fixed bilateral tibial torsion, more significant on the left, resulting in a left foot position of internal rotation and supination. This presentation was a bit puzzling, as tibial torsion is not typically seen in acute traumatic brain injury without concomitant lower extremity fractures. The mystery was cleared up, however, when Dan's sister reported that "he has always been bowlegged. They tried braces when he was little but his feet have always been like that." Although Dan's lower extremity bony distortion did not impair his ability to walk or work in construction prior to his accident, it was now a complicating factor in positioning his legs safely on the front rigging and foot plates (see Picture 2).

In developing recommendations for the wheelchair, the effectiveness of the mobility base and the seating systems trialed during his stay was considered. His limited progression in regaining upper and lower extremity movement, functional mobility, or improved cognition during the two months post-injury was also key as it suggested his prognosis for making significant improvement in the next year was guarded.

Because Dan did not have sufficient trunk or extremity control to safely perform stand pivot transfers or position changes, we recommended that he continue to use a manual tilt wheelchair. His family demonstrated good ability to operate the tilt mechanism on the Quickie IRIS used during his hospital stay and were agreeable to the recommendation of a Quickie IRIS for the mobility base. Potential concerns for transportation due to weight and a non-folding frame were discussed. Dan's father reported they could easily transport the chair in the family van. To support Dan's trunk and pelvis, we recommended a Jay 3 posterior-lateral positioning back with swing-away laterals, a Jay Fusion seat cushion with solid seat insert and right obliquity overfill to accommodate his

(CONTINUED ON PAGE 40)

WHEELCHAIR SEATING AND MOBILITY ...
(CONTINUED FROM PAGE 39)

right pelvic obliquity, an anterior chest strap to decrease his forward trunk movement, and a two-point pelvic positioning belt with 45 degree angle of pull to limit posterior pelvic tilt We added a right facial swing-away lateral pad to a 10" head support to facilitate midline positioning of his head and neck. To provide sufficient upper extremity support to prevent further shoulder subluxation, we recommended a full lap tray with gel elbow pads and a right posterior elbow block. For lower extremity positioning, we recommended 70 degree, swing-away hangers, a posterior calf panel, and angle adjustable foot plates with heel loops. We also added an 8" long foot block on the medial edge of the left foot plate to control excessive internal rotation. The request for authorization for the recommended mobility base and seating system was submitted to Colorado Medicaid.

Three months after his injury, the team recommended a short stay on the acute inpatient rehabilitation unit to provide caregiver training, evaluate the home to make recommendations for improved accessibility, and to finalize equipment needs for discharge. After a two-week rehab stay, Dan was discharged home. Medicaid authorization for his wheelchair and seating system had not yet been received, so a loaner manual tilt was provided.

Two months after discharge and five months after injury, Dan's chair and seating system were ready. The delivery and fitting occurred in his home with both parents involved. Although Dan was still dependent in transfers and continued to present with no functional movement in his right arm and leg, he had made cognitive improvements. He was able to follow single step commands more consistently, laughed

WE WERE ABLE TO ACHIEVE GOOD TRUNK AND PELVIC ALIGNMENT WITH THE OBLIQUITY OVERFILL IN THE SEAT CUSHION AND LATERAL SUPPORTS ON THE BACK.

appropriately, and offered fist bumps when greeting others. He also had full head control and could actively lean forward and then return to upright sitting. He continued to present with a right lateral trunk lean with prolonged sitting. With these motor improvements, we were able to remove the right lateral pad from the head support, as well as the anterior chest strap. We were able to achieve good trunk and pelvic alignment with the obliquity overfill in the seat cushion and lateral supports on the back (see Picture 3).

Observing Dan in his new wheelchair interacting with his family and his environment, he will likely continue to make gradual improvements both functionally and cognitively. Once he is able to progress to standing to perform assisted position changes, he will be ready to trial an ultralightweight manual wheelchair. We advised his family to discuss this recommendation with the home health therapy staff and physicians involved in outpatient follow-up in the Physical Medicine and Rehabilitation Clinic to assure that re-assessment occurs on a timely basis. As Dan continues to progress, his seating and mobility base needs are likely to change.

CONTACT THE AUTHOR

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MODIFIERS, MODIFIERS, MODIFIERS....

WRITTEN BY: CLAUDIA AMORTEGUI, MBA

Not long ago, I realized that I have been in this industry for almost 25 years. Let it be known, I started at a very young age. I also realized that I have never talked more about modifiers than in the past year or two. Everyone's head should be spinning; sadly, many are simply dealing with silly denials.

By all means, no denial should be considered silly, but in this case what should be simple, straightforward and basic is not. For the complex rehab technology (CRT) mobility orders, this has become so confusing that the Medicare contractors (MACs) themselves are having a hard time appropriately communicating the requirements and even processing the claims. If you are an ATP you may think this article does not affect you, but that is simply not the case, especially if you are paid based on the reimbursement of your orders.

This information may not make much sense to most ATPs, just be sure to forward it to the right people within your company.

As many of you are aware, many of the headaches started with the KY modifier that was used for CRT claims allowing for a higher reimbursement. For repair claims, most providers rarely, if ever, received the appropriate reimbursement. Sadly, after more than a year of being told they–Medicare–were aware of the issue and were working on it, the industry was told that the contractors were allowed to use their "discretion" to pay those claims at the lower reimbursement rate. I am still scratching my head trying to understand how this was fair.

These days, the issues have affected the most basic of modifiers – LT and RT. For as long as I can remember these were simple modifiers used for any claim line that described an item that could be used on the right and/or left side of the equipment. These always seemed rather unimportant, but since they were required per the Wheelchair Options and Accessories Policy Article, they were easy enough to use.

RUMORS HAVE BEEN HEARD STATING THAT THE KU MODIFIER USED FOR CERTAIN OPTIONS BILLED WITH GROUP 3 POWER WHEELCHAIRS MAY CHANGE. AGAIN, WE NEED TO WAIT AND SEE WHAT IS ANNOUNCED BUT BE SURE TO STAY INFORMED.

These basic modifiers became an issue when several codes were moved into a different pricing category – from Inexpensive and Routinely Purchased to Capped Rental. It appears suddenly the Common Electronic Data Interchange (CEDI) contractor made some changes on the modifier requirements on how your claims would be accepted electronically. Obviously, this was an issue since providers were not initially informed of the changes. However, it also has become an issue when CEDI has certain modifier requirements and the MACs themselves have their own requirements. No wonder the confusion.

My hope is by the time you read this article some of the uncertainty will be removed, however that easily may not be the case. At this point, CGS has created a modifier tool but only for repair claims. Noridian has simply published a couple of articles/ clarifications in regard to modifiers but nothing more. I have also become aware that CGS and Noridian currently have some differing requirements when it comes to modifiers – specifically the LT and RT. This may not be a problem for many providers, however if you have a multi- state, regional or national company your staff will likely need to understand the differing requirements. At this point I have learned, that if you append an LT or RT on a claim line, it should not hurt you. You may see your claim process with a "CC" – Code Change – if the MAC needs to process the claim without it.

There are also hints that the requirement for LT and RT may disappear for most seating and mobility claim lines, but we need to wait until this is officially announced. In my opinion the less modifiers the better, even when it comes to these basic ones.

Rumors have been heard stating that the KU modifier used for certain options billed with Group 3 power wheelchairs may change. Again, we need to wait and see what is announced, but be sure to stay informed. Most providers are under the

impression the modifier topic is easy to learn and is rather static; however, this topic appears to be a bit of a moving target for the time being.

For now, if you have not experienced problems or at least major issues, then continue as you have been when filing claims. However, do not assume everything is perfect when it comes to modifiers and your accounts receivables. If those responsible for collections

IF THOSE RESPONSIBLE FOR COLLECTIONS HAVE NOT RAISED A FLAG, REMEMBER YOU MAY NOT BE ALERTED ABOUT MANY DENIALS WHEN THEY ARE CONSIDERED SMALLER DOLLARS; BUT AS WE ALL KNOW, THOSE SMALL DOLLARS WILL ADD UP QUICKLY.

have not raised a flag, remember you may not be alerted about many denials when they are considered smaller dollars; but as we all know, those small dollars will add up quickly.

Ask questions and also be sure to review the accounts receivable report. Do not only look at the high dollars, take a look at the smaller dollars and the denial reasons. Hopefully, we will soon all be back to believing that modifiers are easy and never change.

CONTACT THE AUTHOR

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LEARN FROM MY EXAMPLE

ON DEMAND

WRITTEN BY: WEESIE WALKER, ATP/SMS, NRRTS EXECUTIVE DIRECTOR

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Jody Jesus, RRTS®
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Registration Date: 6/19/2017

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

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