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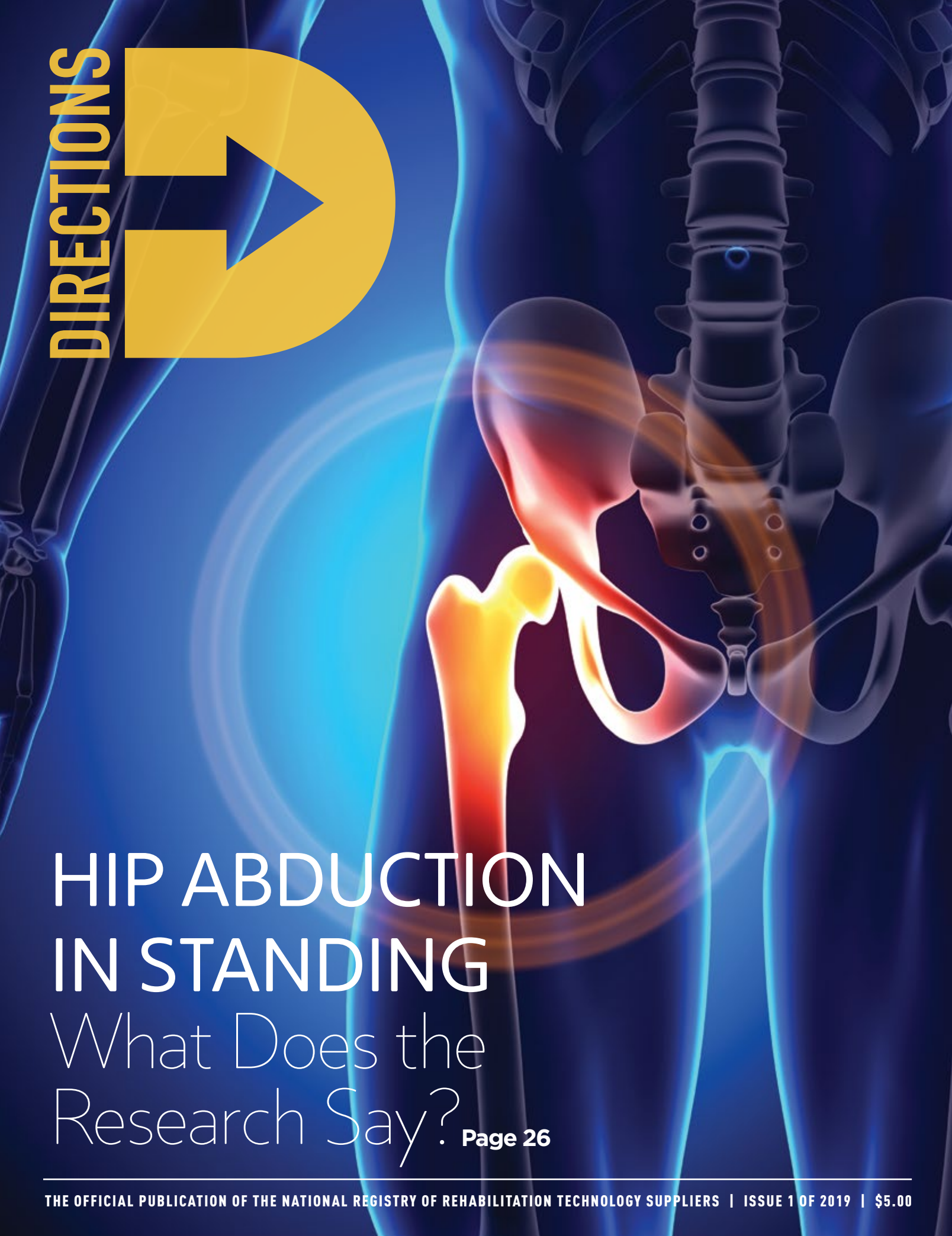

HIP ABDUCTION IN STANDING

What Does the Research Say?

Page 26

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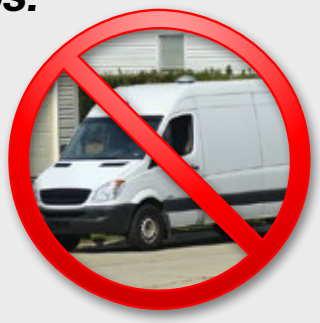

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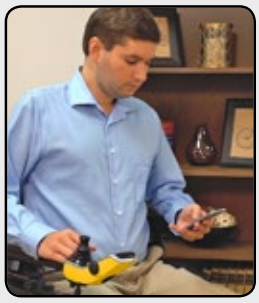
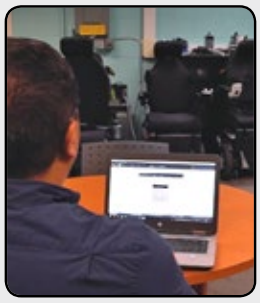
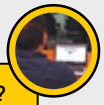
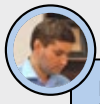




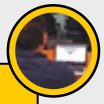
Josh in his living room



Hi, Josh. How can I help you today?

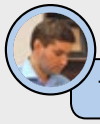


I accidently changed my controller language to Italian in the settings menu.



Let me connect with Interactive Assist and set your controller back to English.

I have set your system language back to English. Before we end the call let me activate the screen mirroring function and walk you through how to change this if it happens in the future.



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NRRTS IN 2019

Written by: **ELAINE STEWART,** ATP, CRTS®

Happy New Year!!! Another year has flown by, and I am very thankful for the ability to work in this industry. It has been and continues to be very rewarding. I believe those of us who work in this industry are a select group. I have been touched by many of the families over the years, and my heart is always warmed to see the reaction on the faces of my clients and families when they receive their equipment. The ability to be part of something that gives them independence, self-esteem and self-worth is priceless. There is not a better feeling than to see the result of all the hard work done to secure needed equipment. A very large thank you to all of those who are in the background, including doctors, therapists, funding specialists, technicians and CRTS®s who work diligently to secure the needed documentation, assemble the equipment and then deliver it.

NRRTS continues to work with our customers, referral sources and manufacturers to advocate for the families we service to ensure their continued access to complex rehab. Late in the year, we received great news that Congress passed HR 7217 and was then sent to the Senate for consideration. The passage of this would suspend and prevent Centers for Medicare and Medicaid from including complex rehab manual wheelchairs in the Competitive Bidding Program. Unfortunately, the Senate did not vote on this legislation.

Please do not sit idle! Continue to be heard regarding the importance of protecting access to Complex Rehab Technology (CRT). Remember that many of our consumers are not able to advocate for themselves. It takes involvement from each of us to continue the fight. The NRRTS/NCART CRT Conference is May 1-2, 2019. Register today at www.ncart.us/crtconf.

The NRRTS board of directors wishes to recognize certain individuals and groups who have contributed to the advancement of CRT through leadership, advocacy or distinguished service.

Nominations are being accepted for the categories listed below.

Leadership Award

Requirements:

- Nominee can be a group, association, company or agency.
- Letter of nomination should include details of significant advancement of NRRTS.
- Describe the professional and/or clinical impact on service delivery of rehab technology.

Distinguished Service Award

Requirements:

- Nominee must be a NRRTS Registrant or FON for a minimum of three years.
- The letter of nomination must detail the distinguished service to NRRTS, accomplishments and impact of participation to further NRRTS' mission.

Consumer Advocate of the Year Award

Requirements:

- The nominee must be an active CRT advocate.
- The nominee must be a user of CRT equipment.
- The letter of nomination must detail the activities of advocacy, extraordinary accomplishments and impact of setting advocacy example.

Simon Margolis Fellow Award

This award recognizes Registrants who have made long-standing and significant contributions to NRRTS, the CRT profession, and the seating and wheeled mobility community as a whole. This award is named after Simon Margolis who set a high standard for dedication and involvement in the provision of Complex Rehab Technology. He was passionate about the people who rely on CRT. Consumer protection was his motivation for creating NRRTS. This highest of NRRTS' awards is given in his memory.

Requirements:

- The nominee must be a NRRTS Registrant for at least 10 years and possess the CRTS® credential.
- The nominee must have significant and extraordinary contribution to the mission of NRRTS, the field of CRT and the profession of the CRTS in areas including advocacy, legislation and public policy, communication and public awareness, clinical practice, education and teaching, professional presentations at national conferences, manufacturing and product development, service provision, and mentorship.

* The nominee must also have made significant contributions to NRRTS through leadership activities such as: member of the board of directors, executive or associate director, webinar instructor and volunteerism.

* The nomination must include a cover letter from the nominator outlining why the nominee is deserving of the Fellow Award, the nominee's resume, and at least two letters of support from NRRTS Registrants.

* The cover letter and the letters of support must document the nominee's qualifications of leadership and extraordinary accomplishments in the field of CRT.

* The nomination must describe, in detail, the nominee's contribution and the significance of the impact on the profession.

Nominations must be emailed by midnight, February 28, 2019, to wwalker@nrrts.org.

Thank you to everyone for your continued support of NRRTS and the rehab technology industry.

CONTACT THE AUTHOR
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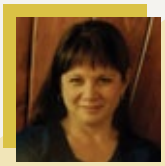
ESTEWART@NSM-SEATING.COM

Elaine Stewart is president of NRRTS and works for National Seating & Mobility in Fort Wayne, Indiana.



BE VISIBLE AND VOCAL EN MASSE!

Written by: **ROSA WALSTON LATIMER**

The time and energy devoted to advocacy is a gift that can have a positive, broad effect on any community. This is particularly true when the advocate is an individual who brings experience and wisdom to the task. Kate Garrison is such a person.

After many years of experience in corporate work followed by a career as a horse trainer, Kate Garrison is now devoting her time and energy to noteworthy advocacy for those with disabilities.

Garrison's approach to any task is very clear, "If there's something you want to do, set your goal first. Then the resources to accomplish the goal will follow." It is apparent that she has applied this principle to her life from an early age. As a teenager, Garrison's primary goal was to ride horses. "I didn't have the money to pay for lessons, so I cleaned stalls and wrangled horses in exchange for riding lessons." Later she trained horses to help pay college tuition.

After earning an undergraduate degree in Sociology from Drake University and a master's degree in industrial relations from Iowa State University, Garrison accepted a management position with Miller Brewing Company in the Dallas, Texas, area. Later she worked for LTV Aerospace and eventually developed her own management and consulting business. "When I began my career in corporate America, I realized I had to be mindful of my rhetoric and not be too progressive for the climate," Garrison said. "These are lessons I still use today."

During these years if Garrison wasn't working, she was with horses. "I had polo ponies and enjoyed the game very much," she said. "When it wasn't polo season, I gave riding lessons and trained horses for others."

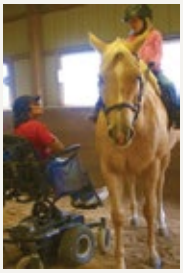
Everything changed after the events of Sept. 11, 2001. "The majority of my clients were in the oil and gas industry and 9/11 put the 'kibosh' on my consulting business," Garrison said. "These companies stopped investing in training for employees because of the real possibility they would experience layoffs. My services were no longer needed."

"IF THERE'S SOMETHING YOU WANT TO DO, SET YOUR GOAL FIRST. THEN THE RESOURCES TO ACCOMPLISH THE GOAL WILL FOLLOW. I DIDN'T HAVE THE MONEY TO PAY FOR LESSONS, SO I CLEANED STALLS AND WRANGLED HORSES IN EXCHANGE FOR RIDING LESSONS."

Garrison used her business savvy to transform a one-time hobby into the successful business of training and boarding Arabian show horses. Three years later, the business and Garrison's way of life were threatened by a life-altering accident. "I was working with some laborers I had hired to roof my horse barn," she said. "We were almost done. I turned, intending to step on a rafter and instead stepped on air." Garrison fell to the ground severely injuring her spine. Now, at 58 years old, as she faced life in a wheelchair, it seemed that the trajectory of her future would be drastically altered.

"I don't talk about my injury because I prefer to look forward rather than back," she said. In an interview for a HealthNet publication, she explained, "What you can do and what you can't do is all up here (pointing to her head). The first thing you think, when you're in a wheelchair, is 'Oh I can't do this … I'll find something else to do.' But when you become more mature and experienced with a disability, you realize that you have a disability. You are not disabled. The only thing that doesn't work on me is my legs."

After her accident, with much determination and ingenuity … and in her wheelchair … Garrison continued her work as a respected horse trainer and a riding instructor. One riding student's mother told of her experience with Garrison in a personal blog: "You knew about Kate's



ABOVE: Kate Garrison with her horse, Crissy and riding student, Mia

RIGHT: Kate Garrison speaking at the 2018 Women's March in Dallas, Texas.

BELOW: Kate Garrison (center) receiving award from the city of Plano, Texas presented by the Mayor. Others in the photo are disability rights supporters.

Kate (center) after testifying before the Texas Advisory Committee to the U.S. Commission on Civil Rights.

"IT HAS GIVEN SOMETHING TO THE CITY THAT IT DIDN'T HAVE ... PLANO HAS AN OPEN CITY GOVERNMENT. THEY ARE VERY RECEPTIVE TO THE DISABILITY VIEWPOINT."

condition, that she's a paraplegic. You immediately admire this woman who has not let adversity keep her from her passion, and you can't think of a better role model for your young girl."

However, there is much more to this energetic woman's life. So much more!

"The work that I've done with the city of Plano has been especially satisfying," Garrison said. "It has given something to the city that it didn't have."

Garrison lives and works in Plano, Texas, a city with a population over 286,000 that is part of the Dallas-Fort Worth metro area. It is the ninth largest city in Texas by population. "Plano has an open city government. They are very receptive to the disability viewpoint." Garrison is also very thoughtful about representing those with disabilities and other special needs in her community.

"When I first looked at the city's proposed universal design plan there was nothing in it about building homes that are accessible," she said. "The Americans with Disabilities Act covers government buildings and commercial structures but is silent on residential construction."

At a Planning and Zoning Commission Town Hall meeting, public comments were limited to one minute because of the large number of people wanting to speak about the plan. "Most were opposed to it, but I talked about the need to include residential construction in the plan to provide an opportunity for homeowners to transition and age in place rather than having to move to another, accessible residence."

The commission didn't immediately accept Garrison's recommendation because they believed it needed more study. However, they did put it on the docket as a future work item. Not only were the city leaders open to learning more about Garrison's

CONTINUED ON PAGE 10

BE VISIBLE AND VOCAL EN MASSE!
(CONTINUED FROM PAGE 9)

idea, they asked her to work with them on the plan. As a result of Garrison's one-minute presentation, providing appropriate housing for an aging population and those with disabilities is now an integral part of the city's comprehensive plan.

Recently the Plano City Council recognized Garrison's work on the universal design and her activism for more accessible and affordable housing. The committed volunteer also has been honored by the National Council on Independent Living Region 6 for being a valued advocate.

Garrison also established, and currently serves as president of, the Collin County Democrats with Disabilities (www.collindemswithdisabilities.org). The mission of the organization is "to be a visible, proactive advocate for positive change within Collin and surrounding counties, the Democratic Party and the communities within which we live, work, shop and attend school." The organization has a multipurpose plan of action that includes educating elected officials on the importance of the disability vote and to encourage and support people with disabilities to be candidates for public office. The group helped recruit volunteers to review curbside voting at polling sites in Collin County for the 2018 midterm election. The purpose was to ensure this would be a viable option for any person with disabilities who could not enter the building to vote. Collin County Democrats with Disabilities received a national award from the U.S. Election Assistance Commission for best practices in election administration for their work in addressing potential accessibility problems for voters with disabilities.

"When I attended my first Collin County Democrats with Disabilities meeting, I was blown away by Kate's professionalism and organization. She conducted a real meeting

ABOVE: Kate and Shirley Wilson-Sigler identifying curbside voting sites for voters with disabilities at a voting site in Collin County, Texas.

"SHOW UP AT CITY COUNCIL MEETINGS, TOWN HALL MEETINGS, GET ON BOARDS AND COMMISSIONS, RUN FOR OFFICE. JUST SAYING '56 MILLION AMERICANS HAVE DISABILITIES' IS NOT ENOUGH. BE VISIBLE AND VOCAL EN MASSE!"

with an agenda, structure and clear goals," said Tuesday Thomson, freelance writer and disability rights advocate. "This wasn't merely making ourselves feel better. Kate treated disability concerns with as much seriousness as if managing a large organization. Kate Garrison is an inspiration."

Another disability rights advocate, Julie Ross added, "Kate's advocacy impact goes well beyond North Texas. The Texas Democratic Party platform would not be as inclusive of disability issues and rights had it not been for her leadership and her contribution in her service as chairwoman of the Disability Caucus for the Texas Democratic Party. Without her mentoring I don't know how else I could have felt so

at-home in such a powerful movement. I'm incredibly grateful to join her in the fight for disability rights."

Certainly, Garrison's activism is a lesson in the reality that, regardless of where you live, there are opportunities nearby. "Look for advocacy groups where you live, such as in centers for independent living. Get involved with AAPD (American Association of People with Disabilities), a convener, connector and catalyst for change that increases the political and economic power of people. Get to know their representatives at the local, state and federal level," Garrison said. "Show up at city council meetings, town hall meetings, get on boards and commissions, run for office. Just saying '56 million Americans have disabilities' is not enough. Be visible and vocal en masse!" Garrison lives this advice and, in addition to her other advocacy commitments, currently serves on the Plano Community Relations Commission.

In Garrison's speech at the 2018 Women's March in Dallas, Texas, she issued another rallying cry reminding participants that "if people with disabilities aren't invited into the conversation, fully included and actively participating, we don't have real representation. Disability rights are civil rights. Disability rights are human rights!" These are wise words from a woman who knows what she's talking about.

CONTACT
Kate can be reached at
KATERGARRISON@GMAIL.COM

Kate Garrison is a consumer advocate from Texas.

✓ HAVE FUN
✓ LEARN FROM MISTAKES
✓ RESPECT THOSE YOU SERVE

Written by: **ROSA WALSTON LATIMER**

Maria Jones began her career as a physical therapist almost 30 years ago and currently serves as program director and clinical professor of a developing physical therapy education program at Oklahoma City University. In addition to her academic responsibilities, Jones also makes time to provide positioning, seating and wheeled mobility evaluations for children and adults with developmental disabilities and conducts prior authorization reviews for durable medical equipment for the Oklahoma Medicaid agency. The experienced therapist earned her undergrad, master's and doctorate degrees from the University of Oklahoma. In 2015, Jones was awarded the Faculty Excellence in Research/Scholarship Achievement Award from the College of Allied Health, Oklahoma University Health Sciences Center.

WOULD YOU TELL US WHAT FIRST DREW YOU TO A CAREER IN PHYSICAL THERAPY?

I played fast pitch softball growing up and had a teammate whose brother was a physical therapist. I had a crush on him, so that is what initially sparked my interest in physical therapy. I knew I wanted to do something in the health or medical field and as I investigated physical therapy more, I knew it would be a good fit for my interests.

WHEN AND WHERE DID YOU BEGIN PURSUING THIS CAREER IN EARNEST?

My initial interest was when I was in high school. In an interview for my high school yearbook I said I wanted to be a physical therapist. I graduated from high school in 1985 and at that time, physical therapy required a bachelor's degree. Most programs were two plus two, meaning two years of pre-requisites and then two years after being accepted into a program. I completed my pre-requisites and was fortunate to be accepted into a physical therapy program on my first attempt. I graduated with my BS in Physical Therapy from the University of Oklahoma Health Sciences Center in 1989 and have been a physical therapist since then.

I played a variety of sports growing up and am an avid sports fan, so I went into physical therapy thinking I would graduate and work in the sports or orthopedic arena. I initially had dreams of being a physical therapy for a professional sports team. I also had an interest in working with children but never envisioned my career being focused in this area. That all changed when I did one of my full-time clinical rotations at a residential facility for children and adults with intellectual and developmental disabilities.

WHAT WAS YOUR FIRST JOB AND HOW MANY YEARS HAVE YOU BEEN WORKING AS A PHYSICAL THERAPIST?

My first job was working in the same facility I mentioned earlier. The children and adults I served taught me so much. I am forever grateful for those early experiences that shaped my passion for positioning and seating and wheeled mobility as well as other forms of assistive technology. This year – 2019 – will mark my 30th year in the physical therapy profession.

WHAT, RELATING TO YOUR RESPONSIBILITIES AS A PHYSICAL THERAPIST, HAS CHANGED THE MOST SINCE YOU BEGAN WORKING IN THIS FIELD?

Just about everything has changed - the profession, the range of products and services available, health care in general! Probably the only thing that hasn't changed is those we serve – the children and adults and their families.

PLEASE SHARE HOW YOU MANAGE TO STAY ENGAGED AFTER THREE DECADES IN THIS WORK?

I continue to be inspired by children and adults with developmental disabilities and their families who work so hard every day to have the same opportunities that many take for granted. Their need for professionals who understand the challenges; who recognize and support their expertise and who can assist in advocating for their needs motivates me. I am also surrounded by a strong network of colleagues from a variety of professions who constantly challenge each other to be better therapists and educators. The association with these professionals requires self-reflection about what works and, more importantly, what doesn't work and then developing a plan to change the course of action.

I am now beginning to think more about the new professionals and future generations of therapists. I enjoy mentoring younger therapists or therapists with less experience with assistive technology. I also want to ensure future generations of therapists have the knowledge and skills they will need to understand the needs of children and adults with developmental disabilities as well as the role assistive technology can play in their lives.

WHAT ABOUT YOUR WORK DO YOU ENJOY THE MOST?

I love watching the expressions on the faces of clients and their families when they do something for the first time. It is priceless! I always enjoy hearing stories about how they have used assistive technology or how some aspect of their life has gotten a little easier or better because of it.

NOW THAT WE KNOW MORE ABOUT YOUR WORK, TELL US WHAT YOU DO FOR FUN?

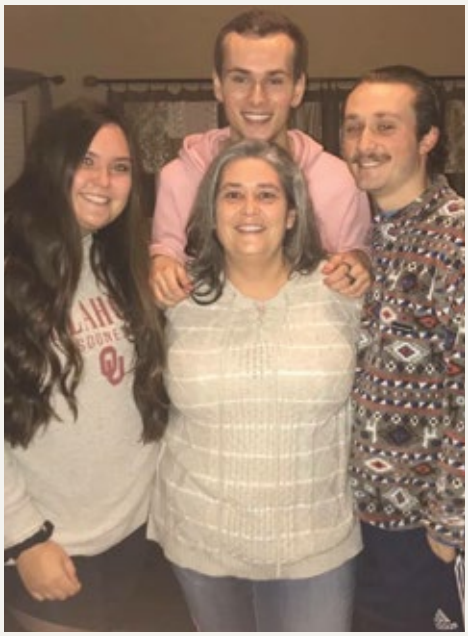
I am an avid sports fan. I enjoy collegiate sports more than professional sports, but I watch both. I also enjoy cooking, dancing, traveling and spending time with friends and family. I have a large, close-knit extended family that includes many aunts, uncles and cousins. I have two sisters, one younger and one older, so I am the middle child. My dad passed away a couple of years ago, just days before my parents would have celebrated their 52nd wedding anniversary, but my mom is still living. I have two sons, Hayden, who is 23, and Ethan, who is 21. I'm close to my nephews and nieces, and one of my nieces currently lives with me while attending college.

ARE YOU INVOLVED WITH ANY VOLUNTEER OPPORTUNITIES OR CHARITIES?

I am actively engaged with the American Physical Therapy Association and the Academy of Pediatric Physical Therapy where I currently serve as the Federal Affairs Liaison. I have also been involved with Good Shepherd Clinic in Oklahoma City, which provides medical and dental care for low income and uninsured Oklahomans.

"I ENJOY COLLEGIATE SPORTS MORE THAN PROFESSIONAL SPORTS, BUT I WATCH BOTH. I ALSO ENJOY COOKING, DANCING, TRAVELING AND SPENDING TIME WITH FRIENDS AND FAMILY."

Maria Jones (center) with her mother, Joyce Toney (seated) and sisters (l to r) Michelle and Mikki Crawford.



Maria (front, center) with (l to r) niece, Macy Crawford and sons, Ethan and Haydn.

Maria Jones (left) with friend, Chantay Carter, at the 2018 Oklahoma City University Holiday Gala.

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HAVE FUN ... LEARN FROM MISTAKES ... RESPECT THOSE YOU SERVE
(CONTINUED FROM PAGE 13)

After my dad passed away in 2017, to honor his passion and dedication to softball, I established the Michael Toney Memorial Endowed Scholarship at Oklahoma City University for the softball program.

IT IS APPARENT THAT THE GAME OF SOFTBALL HAS BEEN AN IMPORTANT PART OF YOUR LIFE. WOULD YOU TELL US MORE ABOUT THE CONNECTION BETWEEN THE GAME AND YOUR FAMILY?

I began playing softball in the third grade and played through high school. My sisters also played softball, and my dad was a coach for many years. When I went to college, I had to decide whether to continue playing softball or focus on getting pre-requisite courses to apply for physical therapy school. At the time there weren't many options for softball after college, so I decided to put my efforts into becoming a physical therapist.

My dad, Michael "Mike" Toney started coaching girls fastpitch softball in 1975. He coached me and my sisters in the sport and was an officer and board member of the Tulsa Girls Softball Federation. My dad conducted pitching and hitting clinics throughout Oklahoma and ended his coaching career as a coach for Tulsa Union High School. He was inducted into the Oklahoma Amateur Softball Association Hall of Fame and received a Meritorious Service Award in 2010. I established the scholarship fund to honor his longtime commitment to the game.

WHAT ADVICE WOULD YOU GIVE TO SOMEONE JUST BEGINNING IN YOUR FIELD?

First, have fun and don't be afraid to laugh at yourself. Second, acknowledge and learn from your mistakes. Don't pass the buck or blame someone else. Accept responsibility. You are human (as are those we serve), so we are all going to make mistakes along the way. Your job is to reflect and develop a plan for improving or changing your practice. And third, listen to and respect those that you serve. Listen with intent and purpose to the concerns and goals of the individuals you serve. Respect their experiences and choices, even if they make a decision that is different than the one you would make.

"WHEN I WENT TO COLLEGE, I HAD TO DECIDE WHETHER TO CONTINUE PLAYING SOFTBALL OR FOCUS ON GETTING PRE-REQUISITE COURSES TO APPLY FOR PHYSICAL THERAPY SCHOOL. AT THE TIME THERE WEREN'T MANY OPTIONS FOR SOFTBALL AFTER COLLEGE, SO I DECIDED TO PUT MY EFFORTS INTO BECOMING A PHYSICAL THERAPIST."

Participating in the 2016 5K Run in Purcell, Oklahoma (l to r) Chantay Carter, Maria Jones and Sofia Nichols.

Mike and Joyce Toney with their daughters, (l to r) Mikki Crawford, Maria Jones and Michelle Crawford celebrating Thanksgiving in 2015.

Maria Jones and Erin Bompiani following their presentation at the Academy of Pediatric Physical Therapy Annual Conference in Chattanooga, TN in 2018.

"FIRST, HAVE FUN AND DON'T BE AFRAID TO LAUGH AT YOURSELF. SECOND, ACKNOWLEDGE AND LEARN FROM YOUR MISTAKES. DON'T PASS THE BUCK OR BLAME SOMEONE ELSE. ACCEPT RESPONSIBILITY. YOU ARE HUMAN (AS ARE THOSE WE SERVE), SO WE ARE ALL GOING TO MAKE MISTAKES ALONG THE WAY."

THANK YOU FOR THESE INSPIRATIONAL THOUGHTS! NOW, WE MUST ASK--IN ADDITION TO SPARKING YOUR LONG, SATISFYING CAREER IN PHYSICAL THERAPY, DID ANYTHING ELSE DEVELOP FROM YOUR CRUSH ON YOUR TEAMMATE'S BROTHER?

I'm sad to report that nothing else developed from my crush. My friend's brother was several years older than we were, so it was an 'undisclosed' crush! I know he is still in practice so maybe I should contact him and give him the credit for sparking my interest in the profession.

CONTACT
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MJONES1@OKCU.EDU

Maria Jones, PT, PhD, is a physical therapist with almost 30 years' experience. She is program director and clinical professor of a developing physical therapy education program at Oklahoma City University.

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YEAR-END LEGISLATION PASSED HOUSE, STALLED IN SENATE

Written by: **DON CLAYBACK**

The advocacy work of the Complex Rehab Technology (CRT) community resulted in significant protections for access to CRT manual wheelchairs being included in year-end legislation HR 7217 (the "Improve Act"), introduced in the House of Representatives on Dec. 5, 2018. Unfortunately, the bill did not pass in the Senate before Congress adjourned for the year.

HR 7217 was a combination of several smaller bills that had been working their way through Congress. In addition to the CRT provisions, it also contained several improvements to the Medicaid program for children and adults with disabilities, which had broad bipartisan congressional support.

The CRT access protections provided (a) a permanent exemption from the Medicare Competitive Bidding Program for CRT manual wheelchair bases (just like CRT power wheelchairs); and (b) an 18-month "suspension" in Medicare's current inappropriate application of Competitive Bidding Program payment rates to CRT manual wheelchair accessories so that these accessories would go back to being paid at the traditional Medicare rates (just like CRT power wheelchair accessories).

We were very encouraged on Dec. 11, 2018, when the House of Representative overwhelmingly passed HR 7217 by a vote of 400 to 11. This was a great show of the support in the House.

The bill then moved to the Senate to be acted on under their "Unanimous Consent" process, which is an expedited system meant for a broadly supported bill when there is an expectation that no senator will object to its passage. While this process can be quick, the downside is it can stall a bill if any individual senator puts a "hold" on the legislation preventing it from moving forward until the hold is removed.

Unfortunately, upon arrival in the Senate, the bill stalled based on holds from a very small number of senators. Their concerns did not relate to the CRT language but were about other provisions regarding Medicaid services for children with complex needs. We continued to advocate in the Senate right through the holidays, but all the attention around resolving the government shutdown was the primary focus and made things much more challenging.

It's obviously disappointing that HR 7217 was not passed in the Senate before the end of the congressional session on Jan. 3. But getting the bill passed by such a large majority in the House and then not encountering any objections to the CRT provisions of HR 7217 in the Senate is great progress to build on in 2019.

THANKS TO CRT ADVOCATES

Getting legislation and policies to protect access to CRT for people with disabilities is not a sprint, it's a marathon. The progress we made in 2018 increased CRT awareness and support and puts us in a strong position for 2019 as we continue to work to resolve a variety of CRT access issues through legislation and policy changes.

Thanks to our House of Representatives champions Reps. Lee Zeldin (R-NY), Jim Sensenbrenner (R-WI), John Larson (D-CT), and Joe Crowley (D-NY). And to our Senate Champions Senators Bob Casey (D-PA) and Rob Portman (R-OH). We sincerely appreciate their leadership and support.

Special thanks to the ITEM Coalition, United Spinal Association, National Multiple Sclerosis Society, Christopher and Dana Reeve Foundation, Paralyzed Veterans of America, Spina Bifida Association, ALS Association, Muscular Dystrophy Association, Brain Injury Association, APTA, AOTA, Clinician Task Force, RESNA, Abilities Expo, and all the other consumer, disability, and medical professional organizations and individuals who invested their time in educating and advocating for CRT access.

Thanks also to our NCART members and our industry partners NRRTS, AAHomecare, the VGM Group, the MED Group and the state associations for their significant contributions.

CRT ADVOCACY PLANS FOR 2019

In 2019 we will be working on a variety of initiatives to protect and promote access to CRT at the federal, state and private insurer levels. More details and updates will be provided as we move through the year, but here are some highlights:

Protect Access to CRT Manual Wheelchairs- We will be working with our congressional champions to review next steps regarding the HR 7217 CRT language, including upcoming legislative options.

Establish Separate Benefit Category (SBC) for CRT- We will be updating the legislative language and reintroducing the SBC bill in the new legislative session and advocating to secure passage.

Obtain Medicare Coverage for Power Wheelchair Seat Elevation and Standing- We will be working in collaboration with consumer and clinician organizations to secure the needed coverage policy changes to allow access to these important wheelchair capabilities.

Resolve Medicaid and Medicaid Managed Care Issues- We will be devoting increased time and resources to these areas focused on ensuring states and contracted managed care organizations are complying with federal policies and regulations regarding CRT coverage and access.

JOIN US AT THE WASHINGTON, DC, NATIONAL CRT CONFERENCE

It's time to sign up for this year's National CRT Leadership and Advocacy Conference put on by NCART and NRRTS. We're meeting May 1-2, 2019, at the Renaissance Arlington Capital View Hotel in Arlington, Virginia. For those past attendees, this is one block away from last year's hotel.

CONTINUED ON PAGE 18

YEAR-END LEGISLATION PASSED HOUSE ...
(CONTINUED FROM PAGE 17)

Join CRT providers, manufacturers, clinicians, consumers and other stakeholders together in one place for education, networking and taking the CRT message to Congress. To enable greater attendance and recognizing the demands on people's time and dollars, the conference program is condensed to two days and the conference fee is only $199.

Leadership Day on Wednesday, May 1, consists of CRT focused presentations covering health care policy trends, federal and state regulatory/legislative issues, and getting prepped for Congress. Capitol Hill Day on Thursday, May 2, is our historic annual lobbying event allowing advocates to take the CRT message directly to Congress through in-person meetings on Capitol Hill.

Visiting Members of Congress to push for passage of our "CRT Manual Wheelchair Accessories" and our "CRT Separate Benefit Category" legislation is a major part of the conference. We built good momentum last year as noted above, but we need to continue to push the need for passage of permanent fixes and improvements.

Now's the time to get signed up so you get a spot and hotel room. Don't wait too long and risk being shut out. Sign up at www.ncart.us/crtconf.

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Don Clayback is executive director of NCART. NCART is national organization of Complex Rehab Technology (CRT) providers and manufacturers focused on ensuring individuals with disabilities have appropriate access to these products and services. In this role, he has responsibility for monitoring, analyzing, reporting and influencing legislative and regulatory activities. Clayback has 28 years of experience in the CRT and Home Medical Equipment industries as a provider, consultant and advocate. He is actively involved in industry issues and a frequent speaker at state and national conferences.

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14 YEARS OF IMPACT AND NOT STOPPING NOW

Written by: **CATHY CARVER, LORRI BERNHARDT, JILL MONGER, STACEY MULLIS, PENNY POWERS, AMBER WARD**

SPECIAL THANKS FOR CONTRIBUTIONS FROM LAURA COHEN AND RITA STANLEY.

It is hard to imagine, but in 2003 when the Centers for Medicare and Medicaid Services (CMS) announced Operation Wheeler Dealer (OWD), an initiative launched in collaboration with the Office of Inspector General to address "fraud and abuse" related to power wheelchairs, there wasn't a coalition specifically focused on complex rehab wheeled mobility and seating ready to advocate for sound coverage policies in the area of complex rehab that reflected clinical best practice. The Medicare spend for power wheelchairs was under the microscope of the Office of Inspector General, Government Accountability Office and Congress. Submitted charges in 2002, the year before OWD went into effect, totaled more than $154.7 million; by Oct. 1, 2006, they had dropped to just over $20.1 million. The number of beneficiaries (billed) also dropped dramatically, from 21,353 in 2002 to 3,354 in 2006. The cuts had drawn blood from people with significant disabilities, and the voice of clinicians with knowledge and experience evaluating people for wheeled mobility and seating who CMS knew didn't have a financial tie to the technology was urgently needed.

THE CUTS HAD DRAWN BLOOD FROM PEOPLE WITH SIGNIFICANT DISABILITIES, AND THE VOICE OF CLINICIANS WITH KNOWLEDGE AND EXPERIENCE EVALUATING PEOPLE FOR WHEELED MOBILITY AND SEATING WHO CMS KNEW DIDN'T HAVE A FINANCIAL TIE TO THE TECHNOLOGY WAS URGENTLY NEEDED.

By 2004 OWD was at the mid-way mark, and CMS had implemented myriad regulatory and policy changes related to power mobility. In addition, CMS had issued an overly restrictive clarification regarding the definition of "bed or chair confined," and it was preventing people who depended on power mobility from obtaining the technology they required. The outcry from all stakeholders was immediate and loud! CMS responded by assembling an inter-agency workgroup to consider revising the National Coverage Determination (NCD) for power mobility.

Stakeholders came together at a special conference to discuss the best approach for working with CMS to support the agency's need to address the fraud and abuse identified in this policy category while protecting access for people who had a true medical and functional need for power mobility. At the conference, the need for a financially independent clinical expert task force became clear. This led to the creation of an organization of experienced clinicians from around the country; the initial goal was to provide guidance to the CMS interagency workgroup or, if necessary, petition for a new coverage policy for power chairs.

Initially there were 30 clinicians from various areas of the country who were all specialists in wheeled mobility and seating, working in private practice or other clinical settings. Dr. Laura Cohen and Dr. Barb Crane agreed to co-chair this clinical task force -- or uniting the experts to come to a consensus on key issues and generate information to help guide the CMS interagency work group.

The power and value of this group of clinicians was clear; a decision was made to formalize and incorporate the Clinician Task Force (CTF) as a nonprofit 501(c)(4). Membership has increased, and the initiatives the group works on has expanded well beyond power wheelchairs. After a few years, Crane stepped away from her role as co-chair to focus more on her career. Cohen continued to lead the group to tackle numerous issues and to advocate for the group's overarching goal, ensuring that people with disabilities have access to the Complex Rehab Technology (CRT) they need to be independent and thrive in our country.

Thank you, Laura Cohen!

FROM THE (CLINICIAN TASK FORCE'S) BEGINNING, LAURA HAS SERVED AS A FEARLESS ADVOCATE FOR PEOPLE WITH DISABILITIES, ENSURING ACCESS TO THE COMMUNITY, INDEPENDENCE, ACHIEVE OPTIMAL FUNCTION, AND MOST OF ALL TO LIVE LIFE WITH AS FEW BARRIERS AS POSSIBLE. LAURA IS AN ACTIVE PART OF THE ADVOCACY COMMUNITY. SHE IS OWED ABUNDANT RECOGNITION AND GRATITUDE FOR HER PAST, CURRENT AND ONGOING EFFORTS AND LEADERSHIP.

After 14 years of tireless and passionate advocacy and leadership of the CTF, Cohen announced in October 2018 to step down as the executive director effective Dec. 31, 2018, and charged the executive board to keep the good work going. By vote and approval of the executive board, Cathy Carver, PT, ATP/SMS, agreed to step into the executive board role effective Jan. 1, 2019.

During the transition period, the leadership of the CTF did a total review of the organization and has made some modifications moving forward. We continue in good standing as a non-profit organization (501(c)(4) but have modified our Articles of Organization to denote a few key changes. The executive director role will be a rotating position every two years, but renewable if agreed upon by the board. The board members will continue to serve two-year staggered terms but now have a designated member to serve as treasurer. In addition, we hired an administrator that serves to manage the operations of the organization, maintain the membership database, and assist with the bookkeeping and many other administrative tasks.

Looking into 2019 the executive board has agreed on four areas of focus: 1. Continue work on the federal level to advocate for the Separate Medicare Benefit Category for CRT; 2. Provide clinical input on the work to determine medical necessity for standing and power seat elevation; 3. Address issues that occur on the state level as Medicaid managed care concerns arise; 4. Develop a focused plan to mentor and educate the next generation of seating and wheeled mobility therapists.

We will consider additional areas of work, support and advocacy as they surface and as our human and financial resources allow.

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14 YEARS OF IMPACT ...
(CONTINUED FROM PAGE 21)

The membership renewal process is underway, and each member is asked to give Five hours per year of volunteer time in one of these areas. We welcome new members who are passionate about advocacy and who will be active participants. Members need to be a licensed physical or occupational therapists actively engaged in Seating and wheeled mobility work. No more than 20 percent of the membership can be held by those in the manufacturing or supplier side of the industry.

If a dedicated project is established with a focused outcome, budget dollars are allocated to fund those projects. Thanks to the donations of our supporters, this work can happen. Funds are needed to provide this unique clinical voice to many areas affecting CRT and the ability for our consumers to have access to the necessary equipment. Anyone willing to contribute funds to support the work of the CTF, please email us at cliniciantaskforce@gmail.com. You can follow us on Facebook as well. Our website is under major update and revision and should relaunch in February 2019 at www.cliniciantaskforce.us.

If you would like to find out how to get involved, learn more about our efforts or want to help support our efforts, please come visit our booth at ISS in March 2019 in the exhibit hall.

CONTACT

For additional information contact
CLINICIANTASKFORCE@GMAIL.COM

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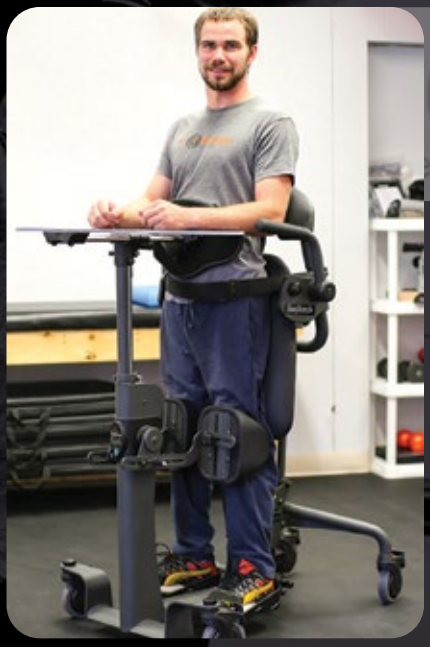

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HIP DYSPLASIA

Written by: **MICHELLE L. LANGE,** OTR/L, ABDA, ATP/SMS

DEFINITION:

Hip dysplasia occurs when the hip socket does not completely cover the ball portion of the upper thighbone or femur. Hip subluxation is a partial dislocation and occurs when the ball is less than 30 to 33 percent covered by the socket, and hip dislocation occurs when the ball is completely uncovered.

TYPICAL ANATOMY

In typical anatomy, the hip joint is a ball and socket type joint. The ball is the top of the femur (femoral head), and the socket is the acetabulum of the pelvis – the femoroacetabular joint. The joint surface is covered with cartilage for smooth movement. The socket is typically quite deep, and the femur is held in place by ligaments, muscles and tendons. In a typical hip joint, hip dislocation is very uncommon.

HIP JOINT DEVELOPMENT

Infants do not start out with a stable hip joint. This joint is initially made of soft cartilage that ossifies, becoming bone, over time. The socket itself is quite shallow at birth and begins to mold in response to the femoral head, deepening. Some typical developing infants are born with such shallow hip sockets leading to congenital hip dysplasia. Early treatment, such as a soft brace, can correct this in most cases.

The hip joint is the largest weight-bearing joint in the body and typical development depends on synchronized growing of the acetabulum and femoral head. Grow depends on weight-bearing and muscle pull on bone.

HIP DYSPLASIA

Hip dysplasia occurs in some typically developing infants and can be corrected. Hip dysplasia also occurs in children who have other developmental issues. Lack of weight-bearing and asymmetrical muscle pull affects bone development and can lead to subluxation and dislocation.

Weight bearing is critical to drive the head of the femur into the hip socket. This speeds ossification of the bones as well as shapes the socket itself. Bones are constantly being remodeled through absorption and deposition. Remodeling depends on the amount of stress placed on bones to develop adequate strength (rather than osteoporosis) as well as develop in the correct alignment (rather than becoming distorted). If forces are not experienced in the necessary degree and alignment, bones will tend to lose strength and may begin to lose correct alignment. When muscles pull on bones asymmetrically, bones will remodel in response to these forces. For example, if the hip adductors and the muscles which internally rotate the hip are more active than opposing muscle groups, the influence of these forces can mechanically rotate the femoral head out of the socket as well as cause actual rotation of the femur bone itself through remodeling.

TREATMENT

Positioning the hip joint in a neutral position is important. Sometimes positioning in some hip abduction and external rotation can further 'seat' the femoral head in the acetabulum. Weight-bearing while the hip joint is in neutral or slight abduction/external rotation can also reduce hip dysplasia. As the child grows and the hip ossifies, these strategies are less effective and other medical interventions may be explored. These interventions may include tone management and surgeries.

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Michelle Lange is an occupational therapist with 30 years of experience and has been in private practice, Access to Independence, for more than 10 years. She is a well-respected lecturer, both nationally and internationally, and has written numerous texts, chapters and articles. She is the co-editor of Seating and Wheeled Mobility: A clinical resource guide; editor of Fundamentals in Assistive Technology, Fourth Edition; NRRTS Continuing Education Curriculum coordinator and clinical editor of DIRECTIONS magazine. Lange is on the teaching faculty of RESNA and is a member of the Clinician Task Force. She is a certified ATP, certified SMS and is a Senior Disability Analyst of the ABDA.

2019 NATIONAL CRT LEADERSHIP & ADVOCACY CONFERENCE

MAY 1 - 2

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5:30-7:00 CRT United Reception

Advocacy Day
Thursday, May 2

9:00-5:00 Congressional Visits

6:00-7:30 Debriefing Reception

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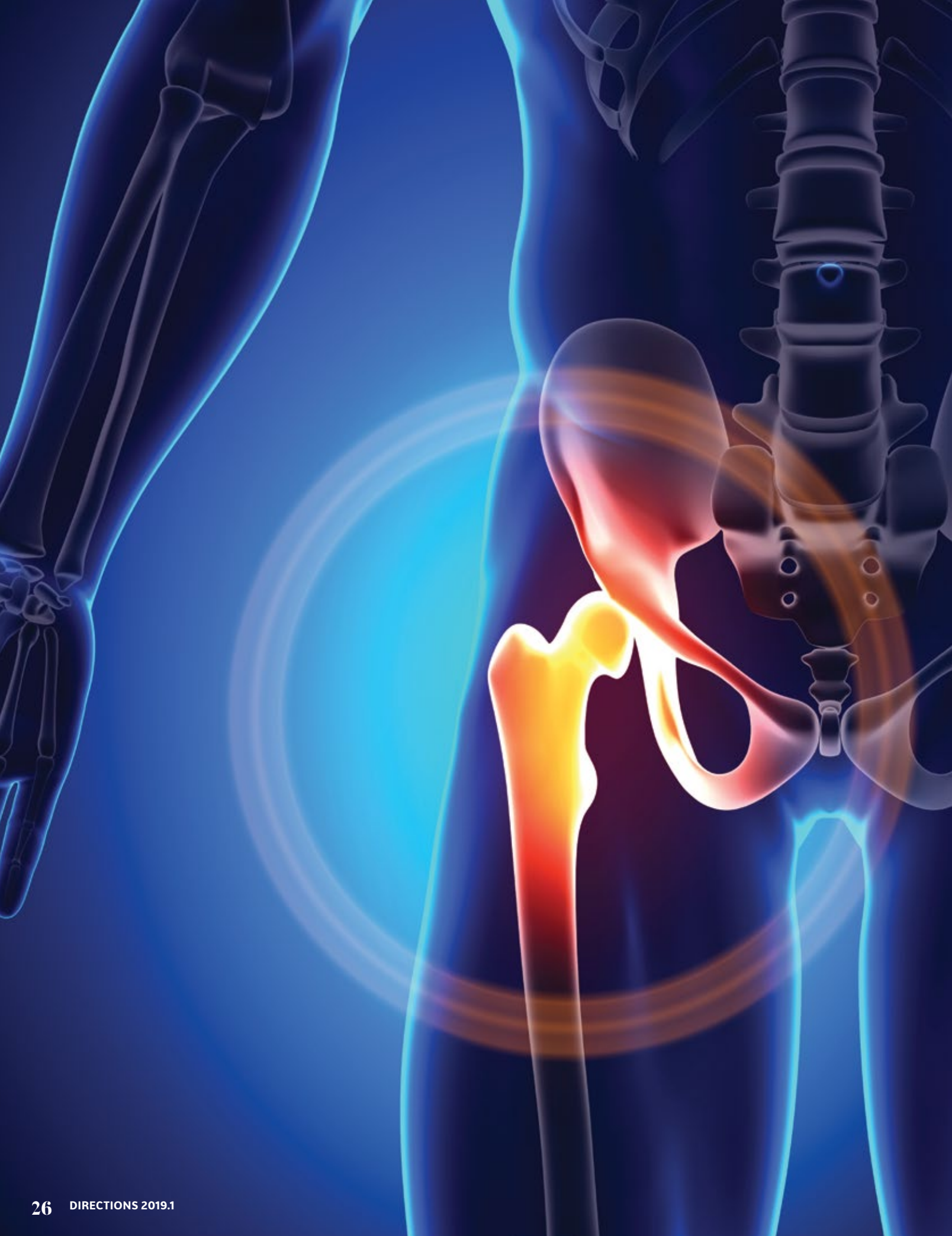

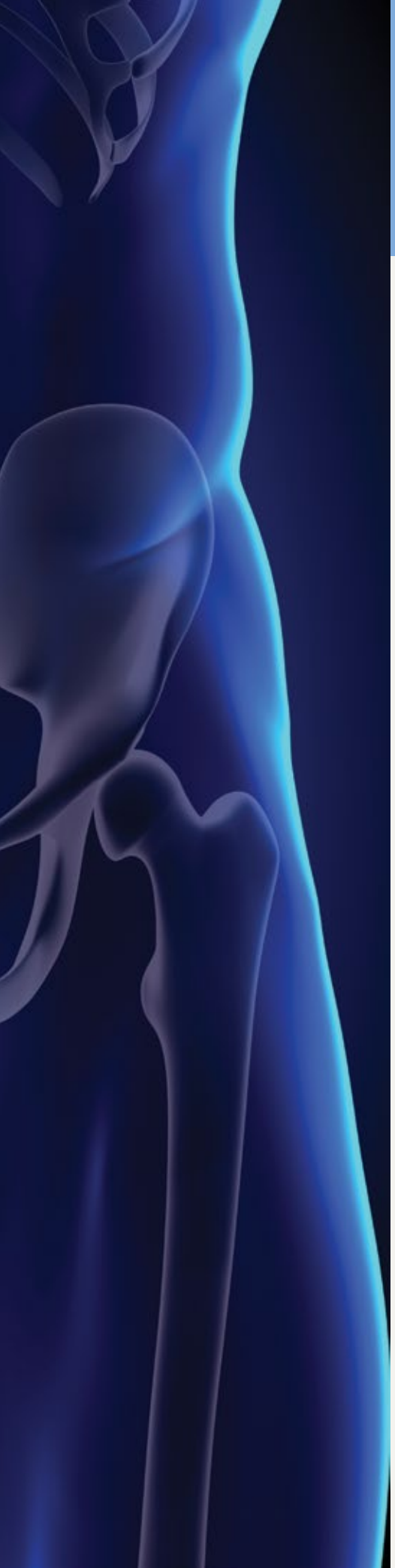

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HIP ABDUCTION IN STANDING

What Does the Research Say?

Written by: **LAUREN ROSEN,** PT, MPT, MSMS, ATP/SMS

THIS CEU ARTICLE IS SPONSORED BY ALTIMATE MEDICAL

With today's funding environment, it is important to use evidence base medicine when making decisions about equipment whenever possible. RESNA Position Papers and research articles can provide this evidence and best clinical practice to inform decisions. However, with many practice areas and types of products from which to choose, there is not a lot of strong research evidence to support much of the equipment being recommended.

As there are limited funding resources, limited space in families' homes and limited time in the day, it is important to choose equipment wisely and to be able to justify to families and payer sources why this equipment is necessary. One such item commonly prescribed is a stander. Standers are recommended for children and adults with disabilities who are unable to stand independently. As will be discussed below, standers are prescribed to help individuals benefit from upright positioning. Bone density, respiration, digestion, pressure injury risk, as well as many as other bodily functions have been shown to improve in individuals who stand. Standing with the hips abducted may also decrease the risk of hip subluxation and dislocation. However, questions still remain about the best time to introduce standers and the types of standers to use for these individuals.

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DEFINITION

Hip subluxation and dislocation are commonly seen in children and adults with cerebral palsy. The amount that the head of the femur is exposed and outside of the acetabulum determines the degree of subluxation or dislocation and is measured using a supine X-ray of the hips that establishes a Reimer's percentage (see Figure 1).1 The X-ray is taken with the client lying on their back with a neutral pelvis (see Figure 2). Hip subluxation is present when the head of the femur is greater than 30 to 33 percent exposed. Hip dislocation is present when the head of the femur is completely out of the acetabulum.

Children with cerebral palsy are frequently classified based on their ability level.[2] These levels are referred to as their score on the five point Gross Motor Function Classification Scale (GMFCS). Children who independently ambulate are GMFCS I while children who cannot walk and use a wheelchair fulltime are GMFCS V. It is important to note that this scale refers to physical ability and not cognitive function. These two areas are very different. Many children with high cognitive function operate power wheelchairs and many children who can walk independently have very low cognitive function. This is simply a scale used to quickly describe the basic physical function of individuals with cerebral palsy.

The addition of the GMFCS to more recent research has shown many differences between higher physically functioning children and those with less function. Children who are GMFCS IV and V have different needs than children who ambulate even part of the time. These differences are very important when establishing both treatment plans and deciding on equipment needs.

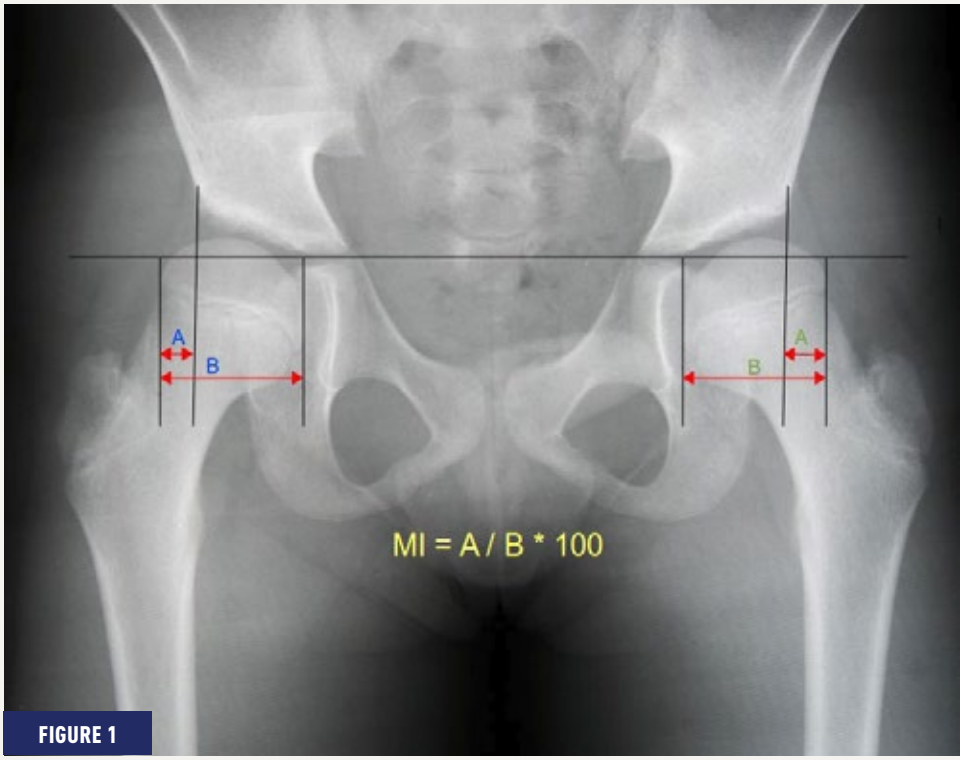

FIGURE 1
Reimer's Migration Percentage

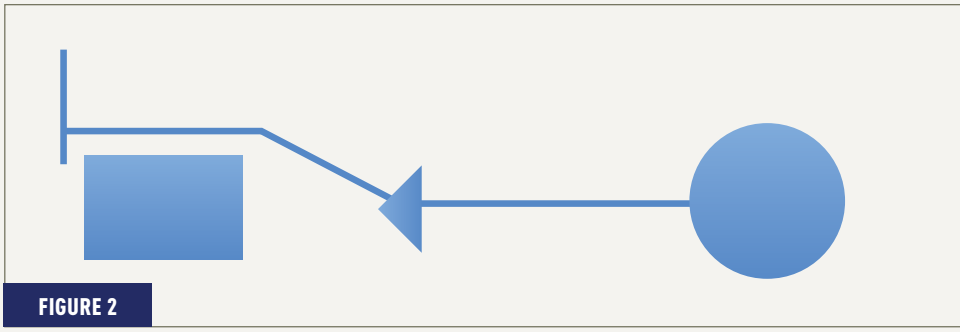

FIGURE 2
X-ray positioning

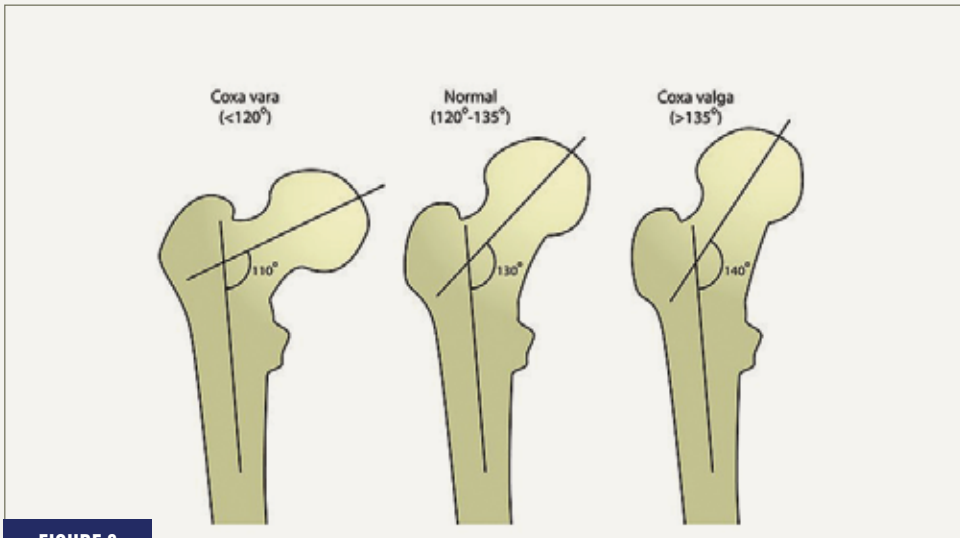

FIGURE 3
Coxa Valga

ETIOLOGY

Children with cerebral palsy are not usually born with skeletal asymmetries or distortions.[3] Hip subluxation and dislocation in children who have GMFCS IV and V cerebral palsy is due to various causes.[4] Because these children do not stand and start to walk at the same ages as typically developing children, they are at high risk of hip subluxation and dislocation.

Long bone formation relies on weight bearing and muscle pull to direct the growth on these bones. Because of motor delays, the depth of the acetabulum in children with cerebral palsy tends to be shallow due to lack of standing and walking at a young age as the bones form. In children with spastic cerebral palsy, the hip adductors and internal rotators, along with the hamstrings and hip flexors, tend to be more spastic than other muscles around the hip joint. The pull of these muscles around the hip bones causes them to form abnormally so that the position and angle of the femoral head and shaft tend to be misaligned with the pelvis. The combination of the femoral angle (coxa valga), anterior femoral rotation and the shallow acetabulum place these children at high risk of subluxation and dislocation (see Figure 3).

IMPLICATIONS

Hip subluxation and dislocation are critical issues in people with GMFCS IV and cerebral palsy. Considering the high rate of hip pain that develops in these individuals, this is a significant problem.[5] As the femur is not properly positioning in the acetabulum, this causes pain from bone contacting bone and can cause some nerve impingement that similarly causes pain.

Scoliosis is also common with hip subluxation. Both tend to develop simultaneously. As the pelvis is more proximal and is the sitting surface, it is likely a higher cause for scoliosis than vice versa. The child, in an attempt to be balanced over an unlevel pelvis, will frequently lean and curve their spine to get their head above their pelvis. This is not done volitionally, but rather reactively to the positioning. Once scoliosis begins in children with cerebral palsy, typically the only way to stop the progression is surgery.[6] Scoliosis can affect breathing, bowel and bladder function, and other vital functions.

Wheelchair seating interventions are impacted by these hip issues and the presence of hip subluxation or dislocation typically requires a more complex solution. The hip subluxation results in pelvic obliquities and pelvic rotations that create significant pelvic asymmetries. To assure proper support and pressure distribution on both sides of the pelvis and buttocks, these individuals require custom molded seating systems. These seating systems are complicated and can be difficult for many practitioners to fabricate correctly. When fabricated incorrectly, these systems can cause pressure injuries and increase, rather than alleviate, pain. Even when properly designed, a molded seating system can be difficult for families to use. Placing and removing patient lift slings or donning jackets and coats is more difficult than with less contoured seating systems. Molded systems are also larger and heavier than contoured seating systems, which makes them more difficult to fit into vehicles or for families to lift into trunks for transportation. These issues can lead to abandonment of the systems, which can then contribute to the worsening of the child's asymmetries. If we can minimize or even prevent these hip issues, wheelchair seating solutions will be less complex and costly.

One other implication of hip subluxation and dislocation can be the inability to use standers. When the hip is significantly subluxed or dislocated, many physicians will tell families that standing will only further damage the joint because the femoral head is not in the joint. This loss of standing leads to loss of the other many benefits from this upright position.

PREVENTION

Prevention of hip subluxation and full dislocation in children with cerebral palsy has been a popular research topic. One study showed that if a child could take 10 steps unassisted by the age of 30 months, they had no risk of subluxation.[7] Those children would be classified as a GMFCS Level I and II. Children with cerebral palsy who cannot walk (GMFCS IV and V) https://www.canchild.ca/system/tenon/assets/attachments/000/000/058/original/GMFCS-ER_English.pdf) have been shown to have a high rate of hip subluxation and dislocation. One of the biggest overall problems with hip subluxation is that at least 72 percent of children and adults with significant hip subluxation or full dislocation develop severe hip pain.[5]

Many countries like Sweden (http://cpup.se/in-english/) and Australia (https://www.ausacpdm.org.au/resources/australian-hip-surveillance-guidelines/) have very successful hip surveillance programs that have decreased the rates of significant hip subluxation and dislocation in children with cerebral palsy in those countries. It is easier for countries like these to establish programs because they utilize socialized medicine.

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This article is not advocating for or against that type of system but simply pointing out that this makes it easier to establish databases of people with certain diagnoses and establish a more regimented treatment protocol.

Here in the United States, the American Academy of Cerebral Palsy and Developmental Medicine has come out with a Care Pathway for hip surveillance (https://www.aacpdm.org/publications/care-pathways/hip-surveillance). This is a positive step forward for our country. This care pathway provides guidance based on a child's GMFCS level, on how frequently the child should be monitored by physicians, proper X-rays intervals, and at what point hip surgeries are needed to prevent full hip subluxation. These recommendations are similar to those developed by other countries.

Many practicing physicians and clinicians in the United States are not aware that this clinical pathway exists, much less why it should be followed. Many of these professionals work only with children so may not be aware of the pain and asymmetries that are common in adults with cerebral palsy. Additionally, most professionals are not members of this academy so they have not been alerted to this information. The academy's website has easy-to-print handouts that can be shared with all relevant care providers and families.

TREATMENT

A number of research studies show that surgical intervention helps to prevent subluxation if performed at the right time and that surgery can also reduce pain. A large number of children who have GMFCS level IV and V cerebral palsy require hip surgery at differing times. Some have hip surgery early to prevent the subluxation, which is recommended based on the hip surveillance programs. Some children have surgery after the hip has fully subluxed, and the results of this later intervention are less predictable. Some children even have surgeries like selective dorsal rhizotomy or Baclofen pump implantation to lessen spasticity in an attempt to prevent the muscles from pulling the hip out. However, current research does not strongly support spasticity reduction for lessening hip subluxation.[8] At best, these interventions appear to have no effect but in some cases hip status actually worsens following procedures like selective dorsal rhizotomies.

AS HIP SUBLUXATION AND DISLOCATION HAVE BEEN IDENTIFIED AS SIGNIFICANT PROBLEMS IN CHILDREN AND ADULTS WITH GMFCS IV AND V CEREBRAL PALSY, THE THERAPY COMMUNITY HAS BEEN EXPLORING WAYS POSITIONING EQUIPMENT CAN REDUCE THIS RISK.

Performing surgery on these individuals is not without risk. Many candidates have co-morbidities or other risk factors including respiratory issues and poor nutrition. Like anyone having surgery, there are also risks from anesthesia or infections. Additionally, because the surgeries are frequently performed on older individuals, less surgical options are available and many times surgery cannot fully eliminate pain. While helpful, surgery is not a perfect answer for everyone.

Following surgery, many of these children are casted in abduction or are given wedges to keep their hips abducted 24 hours a day for a month or two. This causes significant problems for the family, particularly with the wheelchair. Most wheelchairs are not ordered with elevating legrests (the individual is often casted in hip and knee extension) and the amount of abduction may be too wide for the current seat and frame. Consequently, the family frequently has to use a rental reclining wheelchair without any positioning support to keep the child's hips properly positioned. This causes further problems for families because the child typically does not sit well in this rental wheelchair. Additionally, for families with vans, these reclining wheelchairs cannot be safely secured in a vehicle, requiring the child to be transported out of the wheelchair. As a result, attending medical appointments, therapy, or other occasions is challenging.

STANDING

What if there were equipment and positioning interventions that helped to prevent hip subluxation without surgery or at least delay the need for surgery? The use of botulinum toxin injections into the hamstrings and the gastrocnemius muscles has lessened the need for surgical muscular lengthenings in these muscles in younger children. While many of these children still need surgery eventually, surgeries are reduced over time. So, just like with botulinum injections, even if standing in abduction decreases the number of necessary surgeries, that would be beneficial for many families. There is research supporting the fact that standing in abduction may help.

Positioning the client in hip abduction while in sitting, standing and lying has been shown to decrease hip subluxation degree. While not common in the United States, 24-hour positioning programs are also showing improvement in hip, lower extremity, and trunk alignment.[9] Specifically, sleep positioning in addition to daytime positioning in sitting and standing has been shown to improve alignment and decrease pain.[10]

The general benefits of standing are known and well-supported. Children without disabilities begin to stand independently between 8 and 10 months of age. This standing helps with formation of the acetabulum by putting weight through the bone (femur), which deepens the socket where the femoral head sits. The deeper the acetabulum, the lower the risk of hip subluxation. It is very important for children with disabilities who cannot independently stand to use a stander regularly. In young children, standing increases the depth of the acetabulum and can help to decrease the risk of hip subluxation and dislocation.[11]

Standing has also been shown to delay and decrease contractures in the hips, knees and ankles.[12,13] Because children with cerebral palsy, levels GMFCS IV and V, lack the strength and/or motor skills to stand, a stander can help to keep the child in a good position to stretch these muscles for extended periods of time. This stretch can help to maintain and improve lower extremity range of motion, which helps with positioning in the wheelchair as well as performance of activities of daily living.

Standing has been shown to decrease spasticity in children with cerebral palsy.[14,15] As children with cerebral palsy, levels GMFCS IV and V, frequently have spasticity, decreasing spasticity can assist in maintaining and improving range of motion and level of function, which can, in turn, ease care for caregivers.

Standing can improve bowel and bladder function. It facilitates better emptying of the bladder and improves digestion, which can decrease risk of urinary tract infections and gastroesophageal reflux, which are common in people who are unable to stand.[16,17] Both conditions negatively impact quality of life, and urinary tract infections can result in frequent hospitalizations.

Children with GMFCS IV and V cerebral palsy are at increased risk of developing osteoporosis due to their inability to stand independently.[18] This low bone density can result in frequent fractures, which makes transferring and positioning the child much more difficult and painful. A stander will allow the client to bear weight through their lower extremities to help to maintain bone density.

Children with GMFCS IV and V cerebral palsy sit throughout the day and constantly bear weight on their buttocks. This puts them at an increased risk of developing pressure injuries because they cannot consistently get pressure relief. People who stand for at least 30 minutes a day have less pressure injuries than those who do not stand.[19]

NEWER RESEARCH

As hip subluxation and dislocation have been identified as significant problems in children and adults with GMFCS IV and V cerebral palsy, the therapy community has been exploring ways positioning equipment can reduce this risk. This research has focused on all areas of positioning and therapeutic interventions. For the purpose here, research on standing in abduction is discussed.

When the hip is abducted, the femoral head is pushed further into the hip socket, which helps decrease the risk of subluxation. Conversely, when the hip is adducted, the head of the femur is pulled away from the socket and can contribute to hip subluxation. Similarly, when children sit in the dreaded "W Sitting" position, this internally rotates and pulls the head of the femur laterally, which contributes to poor hip positioning and increases risk of hip subluxation.

Pountney at al (2001) found that 20 children who maintained hip abduction in standing and lying and kept their hips in neutral in sitting, had a lower rate of hip subluxation than 21 children who did not maintain this positioning.[20] However, as with all of the current research on the effect of positioning on hip subluxation and dislocation, the ability to apply this to all children has been limited. The age range of the children in the study varied from 3 years to 18 years and, while some were followed for many years, some were only followed for one year. The study did not disclose if the 21 children in the study who used only some of the postural management systems actually used standing in abduction or not. Additionally, these children lived in an institution, so following the protocol was easier because their schedule was more regimented.

Martinsson and Himmelmann (2011) looked at young children who were at GMFCS III-V. They examined children who had hip soft tissue surgery (adductor and iliopsoas tenotomies) and those who did not.[21] They compared three children who had surgery and who stood in abduction to 20 children who has surgery and

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who did not stand in abduction. They also compared Eight children who did not have surgery but who stood in abduction to 63 children who did not have surgery and also did not stand in abduction. In both conditions, they compared X-ray and passive range of hip abduction in children who stood with their hips abducted to a control group of children who did not. The researchers concluded that children who stood in abduction using a stander after surgery had better hip positioning in the socket than those who did not stand in abduction. They also found a decrease in hip contractures in kids who stood in abduction compared to those who stood in a more neutral position. The numbers in each group were small and there were many more children in the control groups, so it is unclear whether a true statistical comparison can be made.

Macias-Merlo et al (2015) examined 13 children who used a stander positioned in abduction from the ages of 12 to 14 months until 5 years of age.[22] These children had a higher level of functioning (GMFCS III), so they were already at a lower risk of hip subluxation based on their function. They looked at a small number of children and found that, while the results were not statistically significant, standing appeared to correlate with better passive hip adduction range of motion and thus, in their view, a lower subluxation risk. The lack of statistical significance, the patient population, the small number of children in the study as well as a lack of a control group are among the reasons why clinicians are hesitant to rely on this study to support standing in abduction. Considering that children who are GMFCS III are not likely to experience hip subluxation or dislocation, it is difficult to say that this study showed helpful information.

The researchers then compared the data from the first study to a group of 13 children without any standing intervention to obtain a "control group" to strengthen their data.[23] Additionally, they added X-ray comparisons of the Reimer's percentage for the children. Again, the study relied on children who are GMFCS III and still had a very small patient population, and the researchers only found less variation in amount of subluxation in children who stood as compared to children who did not stand. Additionally, the Reimer's percentage was normal for all participants so the small differences are not clinically significant. The researchers had not obtained the X-rays prior to the study so any differences between the two groups could not be said to be solely due to standing.

A recent publication by Kim et al (2018) looked at hip subluxation in 42 children who used medial thigh supports versus 34 children who did not. Interestingly, they found that children using medial thigh supports had a higher risk of dislocation than those who did not use this seating component.[24] It is important to note that the study did not have good control for other positioning equipment on the wheelchair and that the description of the wheelchairs and supports are not similar to the types of wheelchairs provided in the United States. Further, children who require use of medial thigh supports tend to display hip adduction as well as internal rotation, which are already risk factors for hip subluxation.

All of these articles on standing in abduction support that this intervention may be beneficial in keeping hips better positioned in the socket. The article on medial thigh supports is interesting and may result in further research, but it is limited in its application to children with cerebral palsy in this country. None of the research is of high quality or produces a high level of evidence supporting the conclusions. As discussed above, there are flaws in patient selection, small subject numbers, poor statistical analysis, and/or the study produced very weak results. Additionally, none of the studies showed an actual amount of abduction positioning in standing that is protective. However, this is still evidence, and it is leaning in a positive direction.

Hopefully, in the future, researchers will focus more on positioning and how it affects hip subluxation. Research is needed using larger studies with more children, with better controls for specific types of cerebral palsy, child age, and type of stander or positioning system used. Researchers need to control how much abduction is used to establish whether there is a 'gold standard' degree of motion necessary. Additionally, like the research done on other benefits of standing, we need to establish how much standing daily or weekly is needed. There are some guidelines that have been proposed depending on the goals of standing, but these have not been accepted as standards for developing a standing program.[16] Finally, once this information is established, we will be able to determine whether this intervention can be used as a stand-alone treatment or an adjunct for treatment. Further and stronger research should help with funding for current technology as well as development of future technologies that will improve our interventions.

BOTTOM LINE

Hip subluxation and dislocation are a significant problem in people with GMFCS Level IV and V cerebral palsy. Strong research about surveillance and surgery in this population exists, and we should be encouraging all who work with this population to follow these guidelines. We now have some research suggesting standing in abduction may reduce hip subluxation risk.

Considering the negative effects of hip subluxation and dislocation on quality of life, wheelchair seating, and the ability to use standers once the hip is fully dislocated, standing in abduction may help. Hopefully in the next few years we will have better guidance for how much abduction, how often children need to stand in abduction, and any other guiding factors that will improve the efficacy of standing. However, in the meantime, if there is a possibility that standing in abduction can help reduce subluxation, we should be recommending it. At the least, it may help to maintain passive motion to assist with a caregiver's ability to perform hygiene activities by maintaining hip abduction range of motion. At best, we may have less children and adults with hip issues who are hard to position, have pain and who eventually need hip surgery.

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HIP DYSPLASIA AND HYPOTONIA

CAN STANDING IN ABDUCTION HELP?

Written by: **MARY MILES,** PT, DPT, ATP

THIS CASE STUDY IS SPONSORED BY ALTIMATE MEDICAL

Standing with hips in abduction has evolved as the new standard treatment to maintain hip integrity in children with developmental delays and increased muscle tone, particularly those with GMFCS levels IV and V. When children are monitored using hip X-rays, doctors are watching for hip dysplasia, hip subluxation or hip dislocation. Hip dysplasia is the medical term for a hip socket that doesn't fully cover the ball portion of the femur. This allows the hip joint to become partially or completely dislocated. For parents, this means doctors are watching to see if the femoral head, or ball of the femur, is snuggly positioned within the developing socket. Subluxation is the beginning of hip integrity problems and is defined as the head of the femur beginning to migrate or move out of the socket more than 33 percent. If the head of the femur moves completely out of the socket, the hip is then considered dislocated. Hip dislocations can be painful for children, and surgeries are not always successful in maintaining the position of the hip. Research in Sweden showed standing, as part of an overall posture management program for children with cerebral palsy, has led to prevention of hip dislocations (Hagglund, 2014). Smaller sample size studies are promising as they measured children who maintained their hip abduction range of motion, and even have potential to improve their hip migration percentages, by standing for an hour a day in an abducted position (Macias 2015 and Martinsson 2011).

Less evidence exists for the impact of standing on hip integrity for children with low muscle tone. The following is a case study of a young boy with low muscle tone and right hip dysplasia. Bode is a 4-year-old boy with Emanuel syndrome, a chromosomal disorder that is characterized by hypotonia, developmental delays and failure to thrive during infancy. Bode came home from the hospital after birth with a G-tube, but he was eventually able to learn to drink from a bottle and was able to take his full nutritional needs orally by 5 to 6 months of age. About that same time, Bode was referred for evaluation of his hips due to concerns about dysplasia. Bode underwent ultrasound of his hips in May 2015 (see Table 1 for measurements) and continued to be followed at regular intervals for a year, decreasing to 6- to 12- month rechecks after that time.

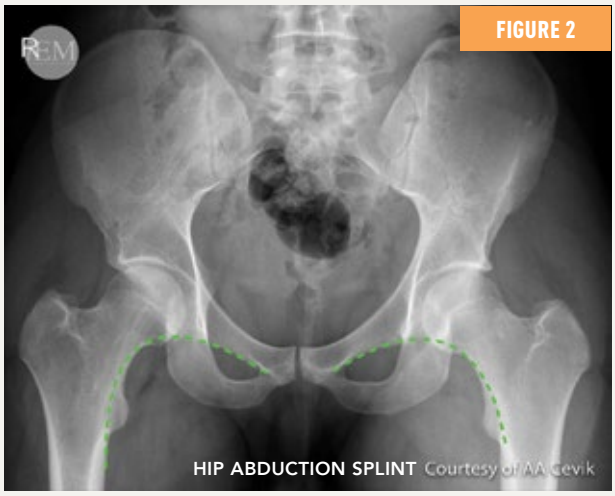
5 MONTHS: Bode was diagnosed with hip dysplasia at age 5 months. Beginning with his hip dysplasia diagnosis, Bode began wearing a Pavlik harness 24 hours a day for a two month period (see Figure 1). At this stage in his development, Bode was slow to meet any motor milestones. He had secondary torticollis due to lower tone and strength and overall was slow to gain head and trunk control secondary to hypotonia. On a positive note, Bode was drinking from a bottle and no longer using his G-tube. He was not able to get his hands up to pat his bottle, and he had difficulty sustaining grasp on small rattles. The Pavlik splint kept Bode on his back, and it was challenging to find ways to help Bode get stronger and prevent flattening of his head.

7 MONTHS: After Two months of wearing the Pavlik harness, Bode showed some progress in his alpha measurements (see Table 1), however, Shenton's Line was still disrupted on imaging. Shenton's Line is another sign of dysplasia. Shenton's line is an imaginary curved line drawn along the inferior border of the superior pubic ramus (superior border of the obturator foramen) and along the inferomedial border of the neck of femur (see Figure 2). This line should be continuous and smooth. At this appointment, Bode was able to move to a hip abduction splint with 18 hours of wearing time daily (see Figure 3). This splint opened up the possibility of working on sitting upright, challenging head and trunk control, and movement on the floor

FIGURE 1

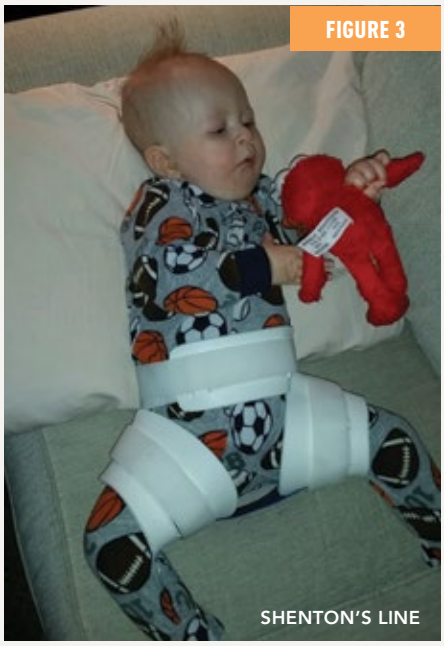
PAVLIK HARNESS

FIGURE 2



HIP ABDUCTION SPLINT Courtesy of AA Cevik

FIGURE 3



SHENTON'S LINE

TABLE 1: HIP ULTRASOUND ALPHA ANGLE MEASUREMENT

Dates	Right	Left	Notes
05/02/15 (5 months)	50 degrees	70 degrees	
07/01/15 (7 months)	56 degrees	69 degrees	

*normal alpha value = 60 degrees or greater

during the hours he was out of the splint. While Bode could still kick his legs in the Pavlik harness, he had difficulty using his legs to move against gravity when not in a splint.

9 MONTHS: Bode was now getting X-rays rather than ultrasound measurements as he was older; as the hips begin to ossify, the use of ultrasound for measurements becomes difficult, so typically children will move to X-ray images for diagnostics. His acetabular angle measurements were at the high end of the normal range (see Table 2). Bode was able to begin use of a stander with hip abduction and he was fitted for a Zing multi-positional stander. Bode continued with the night hip abduction, splint with a wearing time of 12 hours. The initial goal for standing was to see if this intervention would improve his hip dysplasia, using imaging studies as a measure. We hoped to get Bode to stand for 45 minutes twice daily while playing with simple toys or watching a favorite music show. 90 minutes a day meets the criteria recommended for children with higher tone to help maintain hip integrity (Paleg, 2013).

Bode tolerated his stander right away. He initially stood in slight supine (5 to10 degrees) to help him keep his head and trunk upright and prevent fatigue. He was able to progress to 45 minutes very quickly and was able to meet the 90 minute duration we had hoped for. He was also able to progress to 30 degrees of abduction bilaterally. This took a period of four to six weeks as his hip extension range of motion was limited from being in a Pavlik splint and hip abduction splint for three to four months, both of which had positioned him in hip flexion. At this point in his development, Bode was not able to move on the floor independently for mobility, and he was still not able to sit upright by himself but he could sit with support to play with simple cause and effect toys. Bode was unable to bear any weight on his legs in a supported standing position without the stander. As Bode progressed with standing in his stander, we began to bring him upright and into prone for short periods of time, playing in a

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HIP DYSPLASIA AND HYPOTONIA ...
(CONTINUED FROM PAGE 35)

working position to build strength and endurance (see Figures 4-6).

12 MONTHS: At his December follow-up; Bode was ready for AFOs and standing with support at furniture. Bode was now able to stand in 15 degrees of prone position for 90 minutes of standing and playing. While his imaging measurements did not change significantly (see Table 2), his Shenton Lines were intact bilaterally, a positive sign he was moving in the right direction. Bode's strength also improved by leaps and bounds. By working in prone every day in his stander, Bode was now using his arms to push himself over and roll while on the floor. He was sitting upright with less support. He was also beginning to hold his own bottle and was starting to finger feed himself.

18 MONTHS: This follow-up appointment showed some good changes in that his hips were beginning to ossify. His doctors had been concerned that he was not showing bone formation on earlier reports, and evidence of increased ossification was a good sign that standing and weight bearing were improving his bone density. Bode's hip measurement numbers were unfortunately moving in the wrong direction (see Table 2) and Shenton's Line was disrupted on the right side again. Bode was continuing to use his stander on a regular basis, standing 90 minutes a day most days, however he was not wearing his night time hip splint any more. Earlier in the year, Bode had been hospitalized for four days due to high fevers and dehydration. His parents shared that during his hospitalization, Bode did not wear his hip brace, and they were unable to get him back into a routine of wearing it without him waking up at night. It's possible that his inability to wear his night splint for most of this six-month period contributed to the changes noted on the hip X-rays. This was the end of him wearing a night brace, which made his stander more important than ever in providing some weight bearing in an abducted position. At this point, I revisited the angle of his stander, having him stand fully upright to get the most weight bearing on his hips for ossification. Developmentally, Bode had progressed in strength over the last six months. He was standing at the couch for 10 to 15 minutes to play with toys now, though he could not pull himself up or grasp onto toys tightly. Bode was working on standing, holding onto a gait trainer to develop grasp strength and standing balance.

24 MONTHS: This follow-up showed more progression of his acetabular angle in the wrong direction, indicating increased hip dysplasia (see Table 2). Bode was continuing to stand in his stander, closer to 60 minutes rather than 90 minutes a day, by his second birthday. Standing in his stander alone was not enough to keep his hips stable. Bode was also beginning to walk in his gait trainer with adult assistance 50 to 100 feet at home or in the education building at the center. At home, he walked from room to room with 2 hands held if the walker wasn't close by. While walking, Bode did show decreased strength, and he often would adduct his legs across midline due to poor hip abduction and hip extension strength. Therapist facilitation helped decrease this pattern over time, but he usually presented with some adduction or mild scissoring while walking longer distances. Bode was now able to sit by himself while playing. Throughout his day, we tried to implement more strategies for sitting and playing with an abducted/externally rotated posture of his hips. Bode also got a new high chair that facilitated sitting with better posture and placed his legs in abduction.

34 MONTHS: It had been a long time between appointments, and Bode's parents were nervous about his imaging results. Both hips showed mild progression of dysplasia (see Table 2), and Shenton's Line was disrupted bilaterally but images were starting to show more ossification in both hips. Overall his physician was pleased and planned to continue to monitor his progress. Bode was beginning to use soft twister straps under his clothes, attached to his AFOs, to keep his legs aligned in neutral or outward rotation while sitting and playing. Bode often sat in a long sitting posture playing independently, but his legs would rotate internally at the hips after several minutes. Use of soft twisters allowed him to move in and out of sitting without the bulkiness of a hard twister cable. Twister straps seemed to be helping, and they were well-tolerated; hopefully, this would slow his hip progression.

3 YEARS, 4 MONTHS: Physician notes from this visit referred to his migration percentage. While only 10 percent MP, the goal was to keep the hips stable and prevent surgery. Bode was now attending preschool and walking with a gait trainer with forearm prompts (he never gained enough grasp strength for holding handles). He could walk 400 to 500 feet around school with guidance. He had learned how to get into sitting independently, but unfortunately this was done


FIGURE 4
Prone position in stander


FIGURE 5
Prone position in stander

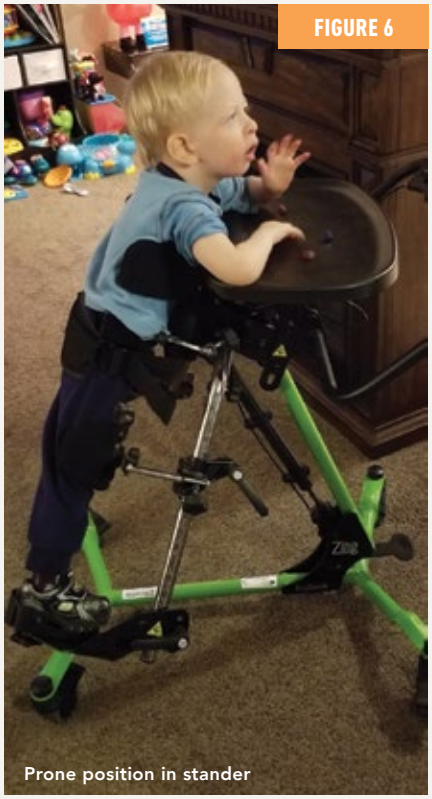
FIGURE 6
Prone position in stander

TABLE 2: ACETABULAR ANGLE

Dates	Right	Left	Notes
09/02/15 (9 mo)	28	24	Shenton's line disrupted on right side
12/07/15 (12 mo)	27	23	Shenton's line intact bilaterally
06/23/16 (18 mo)	30	26	Mildly disrupted shenton's line on right, intact shenton's line on left side
12/22/16 (2 years)	30-32	24	Shenton's line mod -severe break on R Shenton's line Mild break on L
10/06/17 (34 mo)	32	27	Shentons's line interrupted bilaterally.
04/12/18 (3 + 4 mo)	10% MP	10% MP	(Physician notes referred only to migration percentages after age 3) physician noted stable dysplastic appearance of R acetabulum
10/03/18 (3 + 10 mo)	15% MP	10% MP	

*normal acetabular value = 28 degrees or less
* MP = migration percentage

through a W-sitting position by Bode pushing up with his arms. He needed help to correct his W-sitting posture once he sat up. Bode was trying to crawl on hands and knees using his head as a fifth support surface. Bode was continuing to gain nice strength and motor skills, but he was sitting in positions that were not ideal for his hips.

3 YEARS, 10 MONTHS: Bode continues to show progression of his right hip dysplasia, now at 15 percent MP. Since beginning school, using his stander at home is harder to accomplish on a daily 60 minute basis. Bode continues to walk with adult guidance in his gait trainer, and he still is very much dependent on adults to help with transitions in and out of gait trainers and chairs. He uses a small stander at school while playing at the sensory table to keep him safe while standing around other active children.

CONTINUED ON PAGE 38

HIP DYSPLASIA AND HYPOTONIA ...
(CONTINUED FROM PAGE 37)

SUMMARY: After following Bode's case so closely for four years, I can't say we have hard evidence demonstrating standing can help improve hip dysplasia for those with hypotonia. I do believe the stander helped him gain strength and motor skills. I also believe the consistency and duration of standing declined as he was older and entered school. This is a family committed to helping their son in every way possible but caring for a child with special needs requiring constant adult help becomes tiring and continuing home programs is hard in the best of circumstances. The measurable changes that occurred to his hips when he stopped wearing his night splint between 12 and 18 months supports the need for nighttime positioning but presents a real challenge when the child won't sleep with a night splint. Could the stander have helped in ways we don't know? It is very possible that without standing Bode may have needed surgery by now. Research in children with higher muscle tone has shown that the younger a child is when needing their first hip surgery, the more likely they will be to need additional hip surgeries. Perhaps standing is delaying the need for surgery or, hopefully, he will not need surgery at all. This case review shows there is a need for more studies looking at younger children with hypotonia, hip integrity, and standing, so we can develop best practices in the future.

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Mary Miles has more than 30 years of experience as a pediatric physical therapist. She is currently working with children ages birth to 3 and their families in White Bear Lake schools. Miles has presented educational courses for Altimate Medical and written for different rehab publications over the years.


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MODIFIER UPDATES ONCE AGAIN

Written by: **CLAUDIA AMORTEGUI**

Welcome to 2019, competitive bidding is on hold, Medicare allowables saw a tiny increase and modifier rules are once again changing (I think).

As you get settled into the new year, do not get too comfortable. It appears Medicare would like to keep you on your toes when it comes to modifiers and how you submit your claims for certain items. Exactly what does this mean to you?

Back on Dec. 6, 2018, the Medicare MAC contractors published a joint article stating that they would be changing several policy articles, including the one for wheelchair options/accessories, effective for claims with dates of service (date of delivery) starting March 1, 2019.

For as long as I can remember providers have been able to bill two units of the same item on one claim, for example if you billed two units of code E0973 (height adjustable arm rests), you could have the code on one line and along with the normal pricing modifiers, you also had the RT and LT modifiers for right and left. Well now, this is changing. First, whether you realized it or not, the RT and LT modifier could have actually been skipped for a period of time. You would have not seen a denial if they were not used. However, I did still recommend adding these modifiers since it never seemed that they actually made a formal announcement.

SADLY, AT THIS POINT I HAVE NO ANSWER TO WHY THE SEATING AND POSITIONING POLICY ARTICLE WAS NOT MENTIONED. MY GUESS IS THAT IT WAS SIMPLY OVERLOOKED.

Both CGS and Noridian are now stating that you must use the RT and LT modifier when required, and that they must be on separate claim lines. Therefore, for the example above you would have two claim lines – one would have the E0973 with the RT and a second claim line would have the E0973 with the LT – plus all other appropriate modifiers.

As I read this new guideline, my immediate thought for the Complex Rehab Technology (CRT) world is that we would have some extra-long claims; which unfortunately meant a strong likelihood of an increase in erroneous denials. Unfortunately, there is a history of denials due to long claims being split. Many times, the portion of the claim without the wheelchair base was being processed first causing a bad denial for many options.

My second immediate thought – because these go hand-in-hand – was that the length of the claim was going to be driven by the positioning devices: laterals, hip guides, etc. While sitting to write this article, I read Medicare's update again and noticed a big hole in their instructions. They mentioned several policy articles that would be updated, but the seating and positioning policy was not one of them. Hmmm … How could this be?

Sadly, at this point I have no answer to why the seating and positioning policy article was not mentioned. My guess is that it was simply overlooked. My guess is also that the codes in that policy will be affected. However, I do not know this for sure.

I had already reached out to the MAC contractors asking for the reason for the new instruction and to explain that the new guideline would likely increase the denial rate. They did respond, but no changes to the guidelines would be made. Now, I need to dig a bit deeper and find out about the missing policy.

Be sure your staff is aware of the updated modifier policy, but also let them know there is a question when it comes to all the codes it will actually affect. If I guess or try to use some common sense, I will likely be wrong.

Remember, this new rule will take effect for those claims with dates of service on and after March 1, 2019. If you do experience an increase in denials, please be sure your staff understands how to fix the problem without going through the appeals process. If it's a processing error by CGS or Noridian, it must be communicated appropriately.

More importantly, be sure you review your claims that are submitted and processed by other funding sources. This new guideline may not only cause issues with Medicare, but it may be a bigger problem with the others when they are the secondary payer.

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Claudia 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 the DMEPOS Medicare contractor, 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 DME. 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.

WELCOME TO 2019!!

Written by: **WEESIE WALKER,** ATP/SMS

It is not too late to think about resolutions for the new year.

Here are a few to consider:

1. Be more educated on the issues surrounding access to Complex Rehab Technology (CRT). The ability to effectively communicate how these issues impact choices is critical.

2. Be more involved in advocacy to protect access to CRT.

There are so many ways to educate legislators, funding sources and consumers on the various issues related to coding and funding.

3. Develop a relationship with your state and national legislators. NRRTS can point you in right direction. It is quick and easy to send an email or make a phone call.

4. Accept the fact that if anything is going to change, it will take involvement from everyone! Don't sit back and think that someone else will handle it.

NRRTS and NCART will host the annual CRT Conference May 1 -2, 2019, in Washington, DC. Your support and involvement have never been more important. Register today at www.ncart.us/crtconf.

"If everything seems under control, you're not going fast enough."
— Mario Andretti

"IF EVERYTHING SEEMS UNDER CONTROL, YOU'RE NOT GOING FAST ENOUGH."
— MARIO ANDRETTI

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Weesie Walker, ATP/SMS is the executive director of NRRTS. She has more than 25 years of experience as a CRT supplier. She has served on the NRRTS board of directors and GAMES board of directors and the Professional Standards Board of RESNA. Throughout her career, she has worked to advocate for professional suppliers and the consumers they serve. She has presented at the Canadian Seating Symposium, RESNA Conference, AOTA Conference, Medtrade, ISS and the NSM Symposium.Walker is a NRRTS Fellow.

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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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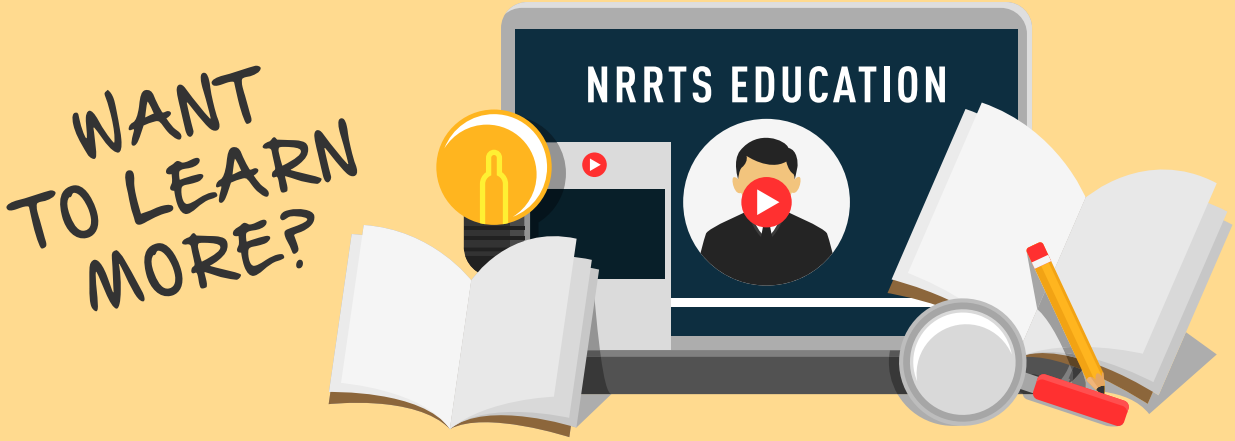

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HTTP://WWW.NRRTS.ORG/CONTINUING-EDUCATION-PROGRAM

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The following individuals renewed their registry with NRRTS between Nov 3, 2018 through Jan. 10, 2019.

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