https://meetings.asht.org

ASHT 2025
ANNUAL MEETING

OCTOBER 23–25, 2025

SALT LAKE CITY, UTAH

BLAZE A NEW TRAIL:

EMBRACING OUR FUTURE, COMMITTING TO SUSTAINABILITY

SALT PALACE CONVENTION CENTER
100 SOUTH WEST TEMPLE • SALT LAKE CITY, UT 84101

pediatric Specialty Day

WEDNESDAY, OCTOBER 22

FINAL PROGRAM

American Society of Hand Therapists®

The value OF MEMBERSHIP IN ASHT REALLY ADDS UP:

A $235 discount on the **Annual Meeting**

Free subscriptions to the *Journal of Hand Therapy* **($182 VALUE),** and the *ASHT Times* magazine **($100 VALUE),** and a **50% DISCOUNT** to the *Journal of Hand Surgery*

ONLINE BOOKSTORE discounts up to **$376**

Free CE credit each month by participating in the Journal Club **($420 VALUE)**

Discounts on ASHT Career Center postings (10% SAVINGS)

COMPLIMENTARY listing in the **FIND A THERAPIST** public membership directory

Discounts on the continuing education Webinar Series ($500+ savings)

IT'S EASY TO SEE

HOW YOUR MEMBER DUES INVESTMENT
PAYS FOR ITSELF!

Please see reverse for more information

ASHT is the only association dedicated to meeting the needs of hand therapists.

ASHT offers a wide range of membership levels to **occupational, physical and hand therapists,** as well as hand surgeons, nurse practitioners and allied health professionals!

BENEFITS

PUBLICATIONS

- Annual subscription to the quarterly *Journal of Hand Therapy*
- *ASHT Times* quarterly online member magazine
- Over 50% off the price of ASSH's *Journal of Hand Surgery*

CONTINUING EDUCATION

- Discounted registration to the ASHT Annual Meeting
- Continuing education workshops and events, including: Hand Therapy Review Course, Hands On Orthotics workshops, popular webinar series, ASHT traveling course, UE Institute
- Discounts on publications and products

PRACTICE MANAGEMENT

- Best practice standards for domain of hand and upper extremity therapy
- Legislative Action Center
- Resources for your hand and upper extremity therapy practice
- Professional liability insurance at member rates

RESEARCH

- Journal Club — official monthly online discussion forum for the *Journal of Hand Therapy* (earn one free CE credit)
- Practical support for new researchers
- Monthly research updates

REFERRALS

- Find a Member Therapist online public directory
- Find a Clinic online public directory

CAREERS

- Enhanced career center for posting & searching jobs
- Mentoring program

NETWORKING

- Reach therapists across the US and around the world
- Share and discuss a variety of issues in the improved e-Community
- Searchable Find a Therapist member directory
- Eligibility for ASSH Affiliate membership

American Society of Hand Therapists®

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The American Society of Hand Therapists (ASHT) gratefully acknowledges the following companies which have elected to sponsor the ASHT 2025 Annual Meeting.

GOLD:

SILVER:

On behalf of the 2025 ASHT Annual Meeting Committee, I am excited to invite you to the 48th Annual Meeting to be held October 23-25 in Salt Lake City, Utah. The theme for this year's meeting is "Blaze a New Trail: Embracing our Future, Committing to Sustainability." This carries forward our history of sharing knowledge and expertise while highlighting the steps forward to sustain us as a profession and organization. This is also an opportunity to showcase innovations in upper extremity care that are transforming the way that we approach rehabilitation, enabling us to deliver efficient and effective care for our patients.

You may have noticed a significant change to the schedule for this year's meeting. The Annual Meeting will begin Thursday, October 23 and conclude Saturday, October 25. We haven't shortened the meeting, but rather we have shifted our schedule in order to wrap everything up Saturday evening. We will kick off the Annual Meeting Thursday morning with our Pre-Conference Institutes. The afternoon will begin with instructional concurrent sessions, then we will all gather together for our first of many engaging plenary sessions. Friday and Saturday will be packed with outstanding educational content during instructional concurrent sessions, scientific sessions, and invited plenary speakers. There will be ample time to catch up with friends from across the country, network and meet new people, and interact with our vendors who will share with us the latest resources to enhance your practice. The clinical practice posters are back this year, highlighting clinical innovations and knowledge translation. Make sure you check these out at the on-site digital kiosks.

Last year, ASHT introduced the Pediatric Specialty Day, and I am excited to announce it is returning this year. Pediatric Specialty Day will be held Wednesday, October 22. Our co-chairs, Emily Ho and Meagan Pehnke, have put together a fantastic program that will enhance clinical knowledge with the latest evidence-based practices in pediatric upper extremity rehabilitation.

I am looking forward to gathering together in Salt Lake City, a first-time location for the ASHT Annual Meeting. Set against the stunning backdrop of the Wasatch Mountains, Salt Lake City provides a perfect blend of cultural attractions and outdoor adventure. The meeting will be held at the Salt Palace Convention Center located in downtown Salt Lake City, close to many museums, restaurants, and local artisan boutiques. Come early or stay late and enjoy more of what this beautiful area has to offer! If you aren't able to make it to Salt Lake City, we are offering virtual attendance for you to access the meeting content on demand.

See you in Salt Lake City!

Cara Smith, PT, DPT, CHT, MSHA

American Society of Hand Therapists®

MISSION
To build and support the community for professionals dedicated to the excellence of hand and upper extremity therapy.

VISION
To be the recognized leader in advancing the science and practice of hand and upper extremity therapy through education, advocacy, research and clinical standards.

WITH OUR THANKS

ASHT is supported by an often-invisible team of volunteers who selflessly dedicate their time and expertise to advance the hand and upper extremity therapy specialty.

We extend our gratitude to all our volunteers. Whether you serve on a committee or contribute materials for a workshop, you are the lifeblood of the society. Thank you for your time and energy, your efforts and your achievements.

ASHT PAST PRESIDENTS

2023-2024 Aviva L. Wolff, EdD, OTR, CHT
2022-2023 Kendyl R. Brock Hunter, OTR/L, CHT
2021-2022 Diane Coker, PT, DPT, CHT
2020-2021 Rachel Pigott, MPH, OTR/L, CHT
2019-2020 Mo Herman, MA, OTR/L, CHT
2018-2019 Linda Klein, OTR, CHT
2017-2018 Kris Valdes, OTD, OT, CHT
2016-2017 Gary Solomon, MBA, MS, OTR/L, CHT
2016 Barbara Winthrop, MA, OTR, CVE, CHT, FAOTA
2015 Jane Fedorczyk, PT, PhD, CHT
2014 Maureen Hardy, MS, PT, CHT
2013 Sue Michlovitz, PT, PhD, CHT
2012 Dorit H. Aaron, MA, OTR, CHT, FAOTA
2011 Jerry Coverdale, OTR,CHT
2010 Peggy Boineau, OTR, CHT
2009 Joy MacDermid, BScPT, PhD
2008 Paige E. Kurtz, MS, OTR/L, CHT
2007 Stacey L. Doyon, OTR/L, CHT
2006 Christine Muhleman, OTR/L, CHT
2005 Donna Breger Stanton, MA, OTR/L, CHT, FAOTA
2004 William W. Walsh, MBA, MHA, OTR/L, CHT
2003 Chris B. Blake, OTR/L, CHT
2002 Ginger Clark, OTR, CHT
2001 Lauren Rivet, LOTR, CHT, FAOTA
2000 Joan Sullivan, MA, OTR, CHT
1999 Karen Stewart Pettengill, MS, OTR/L, CHT
1998 Judy Bell-Krotoski, OTR, FAOTA, CHT
1997 Terri L. Wolfe, OTR/L, CHT
1996 Valerie Holdeman Lee, PT, CHT
1995 Missy Donnell, OTR, CHT
1994 James W. King, MA, OTR, CHT
1993 Heidi Hermann Wright, MBA, OTR, CHT
1992 Janet Waylett-Rendall, OTR, CHT
1991 Patricia Taylor Mullins, PT, CHT
1990 Judy C. Colditz, OTR/L, CHT, FAOTA
1989 Nancy M. Cannon, OTR, CHT
1988 Lynnlee Fullenwider, OTR/L, CHT
1987 Anne Callahan, MS, OTR/L, CHT, CLT
1986 Shellye (Bittinger) Godfrey, OTR/L, CDE II, CHT, CWS
1985 Georgiann Laseter, OTR, FAOTA, CHT
1984 Mary C. Kasch, OTR, CVE, CHT
1983 Margaret S. Carter, OTR, CHT
1982 Evelyn Mackin-Henry, PT
1981 Gloria Hershman, OTR, FAOTA
1980 Karen H. (Prendergast) Lauckhardt, MA, PT, CHT
1978 - 79 Bonnie Olivett, OTR, CHT

2024-2025 ASHT BOARD OF DIRECTORS

Kimberly A. Masker, OTD, OTR/L, CHT
President

Danielle Sparks, DHS, MOT, OTR, CHT
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Vice President

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Gayle Severance, MS, OT/L, CHT
Outreach Division Director

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Practice Division Director

Lori Algar, OTD, OTR/L, CHT
Research Division Director

Christine Eddow, PT, PhD, DPT, OCS, WCS, CHT
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Phyllis Ross, OTD, OTR/L, CHT, CLT
Board Member-at-Large

2025 ASHT ANNUAL MEETING COMMITTEE

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Annual Meeting Committee Chair

Rachel M. Pigott, MPH, OTR/L, CHT
Annual Meeting Committee Vice Chair

Kimberly A. Masker, OTD, OTR/L, CHT
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Kailey Lewis-Smith, OTD

Sarah Heid, OTR, CHT

Stephanie D. Strouse, OTD, OTR/L, CHT
Education Division Liaison

Lori Algar, OTD, OTR/L, CHT
Research Division Liaison

Gayle Severance, MS, OT/L, CHT
Outreach Division Director

Emily S. Ho, PhD, OT Reg. (Ont.)
2025 Pediatric Specialty Day Co-Chair

Meagan Pehnke, MS, OTR/L, CHT, CLT
2025 Pediatric Specialty Day Co-Chair

ASHT STAFF

Gene Terry, CAE, IOM
Executive Director

Jess Ercolino
Associate Executive Director

Luci Patalano, MBA
Director of Education & Outreach

Monica Barnaby
Member Services & Research Coordinator

Sue Dobbins
Education Coordinator

Jessica Hayes, CMP, HMCC
Meeting Manager

Jill Steckler
Associate Meeting Manager

Ryan McGlashen
Associate Meeting Manager

Amanda Bray
Industry Relations Manager

Carole Bernstein
Editorial Manager

ASHT
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ASHT AWARDS

LIFETIME FELLOWSHIP

Lifetime Fellowship status is an honor awarded to individuals in recognition of career-long contributions to the Society and the field of hand and upper extremity rehabilitation. Lifelong ASHT Fellows are honored for their long-term Society membership participation, exemplary leadership and documented achievements in the field. The cumulative effects of these recipients have been paramount in advancing the field of hand and upper extremity therapy through ASHT. Their talents have been diverse with integrated accomplishments. The nomination is open to ASHT members in good standing for a minimum of 25 years.

AWARD WINNERS

Terri Wolfe, OTR/L, CHT
Susan Michlovitz, PT, PhD, CHT, FAPTA
Joy MacDermid, PT, PhD
Kenneth R. Flowers, PT, CHT (retired)
Sharon Flinn, PhD, OTR/L, CHT
Judith A. Bell-Krotoski, OTR, FAOTA, CHT
Donna Breger Stanton, OTD, OTR/L, CHT, FAOTA
Nancy Cannon, OTR, CHT
Margaret S. Carter, OTR, CHT
Gloria DeVore, OTR
Maureen Hardy, MA, PT, CHT
Roslyn B. Evans, OTR/L, CHT
Elaine E. Fess, MS, OTR, FAOTA, CHT
Lynnlee Fullenwider, OTR/L, CHT
Shellye Godfrey, OTR/L, CHT
Mary C. Kasch, OTR, CVE, CHT
Jim King, MA, OTR
Georgiann Laseter, OTR, FAOTA, CHT
Karen H.P. Lauckhardt, MA, PT, CHT
Evelyn J. Mackin, PT
Maude Malick, OTR
Bonnie Olivett, OTR, CHT

HONORARY MEMBERSHIP AWARD

The purpose of **Honorary Membership Award** is to recognize persons other than certified hand therapists who have made significant contributions to ASHT and the specialty of hand and upper extremity therapy through education, advocacy, research, public service, marketing and promotion of the ASHT's mission, vision and values; whose achievements are of national or international significance or influence and have provided notable service to the specialty of hand and upper extremity therapy.

Honorary Membership is awarded to an individual who is not already a member of ASHT and who is not eligible for Active or Associate membership in the society.

ASHT HONORARY MEMBERS

Nathalie R. Barr
Peter C. Amadio, MD
Lois M. Barber, OTR, FAOTA
Paul Brand, FRCS
Paul C. Dell, MD
Robert J. Duran, MD
Adrian E. Flatt, MD
L. Irene Hollis, OTR
James H. Hunter, MD
Dorothy Kaufman
Scott Kozin, MD
Don Lalonde, MD, FRCSC
John W. Madden, MD
John A. McAuliffe, MD
Robert McFarlane, MD
Wyndell Merritt, MD, FACS
Rita Patterson, PhD
Miguel Pirela-Cruz, MD
Neal Pratt, PT, PhD
Erik A. Rosenthal, MD
Alfred B. Swanson, MD
Robert M. Szabo, MD, MPH
Kululu M. Von Prince, OTR, EdD

NATHALIE BARR LECTURESHIP AWARD

The **Nathalie Barr Lectureship Award** is among ASHT's highest honors, recognizing and honoring an ASHT member who has made significant original contributions to hand and upper extremity rehabilitation and to ASHT. The nominee must have shared this information through publications and speaking presentations and/or shared a unique quality of work, theory, research and education that is original and genuinely supports ASHT's mission, vision and values in one of the following ways:

- Development or refinement of professional theory, clinical methods and/or techniques used in hand and upper extremity therapy
- Outstanding research with outcomes evidence to support hand and upper extremity therapy treatment
- Contributions to hand and upper extremity therapy development as a profession and to ASHT
- Contributions to the specialty of hand and upper extremity rehabilitation and/or healthcare not related to ASHT, specifically the candidate's contributions to public service and/or awareness of hand and upper extremity therapy

The nomination is open to all Active ASHT members in good standing for at least five years. The honorary lecture is announced at the Annual Meeting and given at the following year's meeting.

NATHALIE BARR LECTURESHIP RECIPIENTS

2024 Gary Solomon, MBA, MS, OTR/L, CHT
2023 Cindy Ivy, M.ED, OTD, CHT
2020 Kristin Valdes, OTD, OTR, CHT
2019 Corey McGee, PhD, OTR/L, CHT
2018 Jane Fedorczyk, PT, PhD, CHT
2017 Terri Skirven, OTR/L, CHT
2016 Rebecca Neiduski, PhD, OTR/L, CHT
2015 Caroline Stegink-Jansen, PT, PhD, CHT
2014 Karen Pettengill, MS, OTR/L, CHT
2012 Paul LaStayo, PT, PhD
2010 Maureen Hardy, MS, PT, CHT
2009 Karen H.P. Lauckhart, MA, PT, CHT
2008 Susan Michlovitz, PT, PhD, CHT
2007 Donna Breger Stanton, MA, OTR/L, CHT, FAOTA
2006 Patricia Taylor, PT, CHT
2005 Joy MacDermid, BScPT, PhD
2004 Jim King, MA, OTR
2003 Janet Waylett-Rendall, OTR, CHT
2002 Lynnlee Fullenwider, OTR/L, CHT
2001 Georgiann Laseter, OTR, FAOTA, CHT
2000 Jean Casanova, OTR, CHT
1999 Judith Colditz, OTR/L, CHT, FAOTA
1998 Mark T. Walsh, PT, MS, CHT
1997 Anne Callahan, MS, OTR/L, CHT, CLT
1996 Roslyn B. Evans, OTR/L, CHT
1995 Carolina S. deLeeuw, MA, OTR
1994 Kenneth Flowers, PT, CHT
1993 Nancy Cannon, OTR, CHT
1992 Bonnie L. Olivett, OTR, CHT
1991 Mary C. Kasch, OTR, CVE, CHT
1990 Gloria DeVore, OTR
1989 Elaine E. Fess, MS, OTR, FAOTA, CHT
1988 Judith A. Bell-Krotoski, OTR, FAOTA, CHT
1987 Maude Malick, OTR
1986 Evelyn J. Mackin, PT

ASHT AWARDS

PAUL BRAND AWARD

The **Paul Brand Award** recognizes individuals who have exemplified humanitarianism in their work as a hand therapist in addition to providing clinical and professional excellence in several facets of practice. The candidate for this award is one who strives for the advancement of hand and upper extremity therapy, which may include underserved areas nationally and/or internationally.

The nomination is open to all Active, Lifetime, Associate and Affiliate members of ASHT in good standing for a minimum of five consecutive years including the year nominated.

PAUL BRAND AWARD RECIPIENTS

2024 Captain Andra F. Battocchio, PT, DPT, CHT
2022 Celeste Freeman, OTR/L, CHT
2020 Cynthia Cooper, MFA, MA, OTR/L, CHT
2017 Melissa C. Thurlow, MBA, OTR/L, CHT
2015 Ginny Gibson, OTD, OTR/L, CHT
2014 Rebecca Neiduski, PhD, OTR/L, CHT
2011 Caroline Steginк-Jansen, PT, PhD, CHT
2010 J. Martin Walsh, OTR/L, CHT
2007 Pamela Silverman, OTR, CHT
2006 Lynn Bassini, MA, OTR, CHT
2005 Nancy Chee, OTR/L, CHT; Linda Lehman, MPH, OTR
2004 Dorit Aaron, MA, OTR, CHT, FAOTA
2003 Shrikant Chinchalkar, BScOT, OTR, CHT
2002 Judith A. Bell-Krotoski, OTR, FAOTA, CHT

MACDERMID LIFETIME SCIENTIFIC AWARD IN HAND THERAPY

The **MacDermid Lifetime Scientific Award in Hand Therapy** recognizes an ASHT member who has made contributions through research to the science and practice of hand and upper extremity rehabilitation, which have subsequently changed hand and upper extremity therapy professional standards. The award is announced at the ASHT Annual Meeting. The recipient of the award will present his/her research contributions during the MacDermid Lectureship at the following year's Annual Meeting.

This nomination is open to ASHT members in good standing who have demonstrated career-long research-related endeavors that have had a lasting and transformative impact on the science and practice of hand and upper extremity therapy.

MACDERMID LIFETIME SCIENTIFIC AWARD IN HAND THERAPY RECIPIENTS

2024 Virgil Mathiowetz, PhD, OTR/L, FAOTA
2023 Kristin Valdes, OTD, OTR/L, CHT
2013 Joy MacDermid, PT, PhD

ASHT HALL OF FAME

The **ASHT Hall of Fame** recognizes hand and upper extremity therapists who have reached the pinnacle of excellence in all areas of hand therapy. The areas identified for excellence include clinical practice, research, advocacy, education, international involvement and innovation, but this may evolve as hand and upper extremity therapy continues to evolve.

The nomination is open to former hand and upper extremity therapists currently retired from the profession. Nominees must be former (or current Retired) ASHT members with previous volunteer and leadership experience within the Society.

ASHT HALL OF FAME

Judy Colditz, OT/L, CHT, FAOTA (2024)
Susan Michlovitz, PT, PhD, FAPTA (2022)
Donna Breger Stanton, OTD, OTR/L, FAOTA (2021)
Judy Bell-Krotoski, OTR, FAOTA, CHT (2020)
Margaret Carter Wilson, OTR, CHT (2020)
Mary Kasch, OTR, CVE, CHT (2020)
Evelyn Mackin, PT (2020)
Bonnie Olivett, OTR, CHT (2020)
Karen Prendergast Lauckhardt, MA, PT, CHT (2020)

JOURNAL OF HAND THERAPY FIRST-TIME WRITER'S AWARD

This award recognizes a first-time writer's contribution to evidence that supports the hand and upper extremity therapy profession.

JOURNAL OF HAND THERAPY FIRST-TIME WRITER'S AWARD RECIPIENTS

2024 Cristina Campos-Villegas, PhD
2023 Kristen Farris, BS
2022 Mary Whitten, DHSc, MOT, CHT
2021 Alice Orts Hansen
2020 Shirley J. F. Collocott, MHSc
2019 Sandy C. Takata, OTD, OTR/L
2018 Burcu Dilek, PhD, PT
2017 Hector Gutierrez-Espinoza, MD
2016 Ahmad Zamir Che Daud, PhD (Aus), BSc. Hons (UK), Dip (Mal)
2015 Ulrika Wijk, OT, MSc
2014 Betty Smoot, PT, DPTSc
2013 Christos Karagiannopoulos
2012 Benjamin Boyd, PT, DPTSc, OCS

BEST GRASSROOTS EFFORT AWARD

The Best Grassroots Effort Award recognizes an ASHT member or group's (e,g, state association, hospital system, academic institution, etc.) passionate and consistent involvement in governmental affairs at the national, state and/or local level during that calendar year.

Nominees for the Best Grassroots Effort must be either an Active ASHT member or an Affiliated Group (that includes at least one active ASHT member for at least two years).

BEST GRASSROOTS EFFORT AWARD RECIPIENTS

2022 Mary Barnes, MOT, CHT, CIND

EMERGING HAND THERAPIST AWARD

The Emerging Hand Therapist Award will address the issues and achievements faced by Certified Hand Therapists within the first five years of initial HTCC certification as they begin in their specialty careers.

Nominees for the Emerging Hand Therapist Award must be an Active member in good standing of ASHT for at least three years.

EMERGING HAND THERAPIST AWARD RECIPIENTS

2024 Brooke Ochoa, OTR/L, CHT
2022 Macyn Stonner, OTD, OTR/L, CHT

GENERAL INFORMATION

IN-PERSON SCHEDULE OF ACTIVITIES

ONSITE REGISTRATION HOURS:

LOCATION: MEZZANINE LEVEL FOYER

Wednesday, October 22	7:00 AM – 6:00 PM
Thursday, October 23	7:00 AM – 7:30 PM
Friday, October 24	6:00 AM – 6:30 PM
Saturday, October 25	6:00 AM – 7:00 PM

ONSITE SPEAKER READY ROOM HOURS:

LOCATION: ROOM 257 (MEZZANINE LEVEL)

All presentations must be pre-loaded onto the network computer system. Presentations can be uploaded before you leave for Salt Lake City. Please be sure to check in at the Speaker Ready Room at least four hours before your presentation time to verify your presentation uploaded correctly.

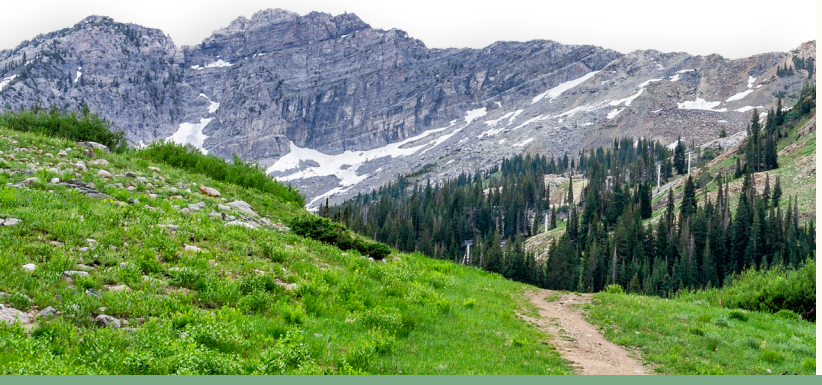
Wednesday, October 22	7:00 AM – 6:00 PM
Thursday, October 23	7:00 AM – 7:30 PM
Friday, October 24	7:00 AM – 6:00 PM
Saturday, October 25	7:00 AM – 5:00 PM

ONSITE EXHIBIT HOURS:

LOCATION: HALL 4

**Dedicated hall hours (does not compete with educational sessions)*

Thursday, October 23	**7:30 PM – 9:30 PM**
Welcome Reception*	7:30 PM – 9:30 PM
Friday, October 24	**9:00 AM – 5:00 PM**
Morning Break*	9:30 AM – 10:00 AM
Lunch	12:15 PM – 1:45 PM
Afternoon Break*	3:30 PM – 4:00 PM
Saturday, October 25	**9:00 AM – 1:45 PM**
Morning Break*	10:15 AM – 10:45 AM
Lunch	12:15 PM – 1:45 PM



ONSITE E-POSTER

E-Posters kiosks will be available in the Exhibit Hall located in Hall 4. *There will be no physical posters.*

Designated e-Poster hours:

Thursday, October 23	**7:30 PM – 9:30 PM**
Welcome Reception*	7:30 PM – 9:30 PM
Friday, October 24	**9:00 AM – 5:00 PM**
Morning Break*	9:30 AM – 10:00 AM
Lunch	12:15 PM – 1:45 PM
Afternoon Break*	3:30 PM – 4:00 PM
Saturday, October 25	**9:00 AM – 1:45 PM**
Morning Break*	10:15 AM – 10:45 AM
Lunch	12:15 PM – 1:45 PM

CHILDREN AND THE ASHT ANNUAL MEETING

The ASHT Annual Meeting is a professional, scientific meeting. ASHT does not permit anyone under the age of 18 to attend Pre-Conference Institutes, plenary, instructional concurrent, scientific and poster sessions, exposition and social events. For safety reasons, only registered exhibitors and poster presenters are permitted in the exposition/poster hall during set-up and take-down hours. Anyone 18+ must register and buy applicable individual tickets if not attending/registering as a student.

ELECTRONIC DEVICES

As a courtesy to other meeting attendees, please turn off or silence all electronic devices during all workshops, sessions and presentations.

EVENT PHOTO/VIDEO WAIVER

For good and valuable consideration, the receipt of which is hereby acknowledged, I grant to American Society of Hand Therapists and those acting under its permission or authority (collectively, "ASHT"), the irrevocable royalty-free right and permission to record, copy, publicly display, publicly perform, publish, modify, use and reuse my voice, image, photograph, portrait, likeness, and biographical information, including portions, composites, likenesses or distortions or alterations of same ("Likeness"), made during or in connection with my attendance of this ASHT Annual Meeting, for use in any Materials to be shown in all media now known or hereafter devised, for an unlimited term. I acknowledge that all such Materials are the property of ASHT as a work made for hire (or, if not, then I assign all of my rights in and to the Materials to ASHT), and that I will not receive any compensation as a result of any use of my Likeness in such Materials. I waive any right to inspect or approve the finished Materials, and release, waive and agree not to make any claim against ASHT in connection with any use of the Likeness, including, without limitation, any claim that such use invades any right of privacy, publicity and/or personality, defamation, libel, moral right, and any other personal and/or property right under the law of any country or jurisdiction. This agreement shall inure to the benefit of and shall be binding upon the parties' respective successors, licensees, assigns, heirs and personal representatives, and cannot be amended except by written agreement.

GENERAL INFORMATION

ASHT ON-DEMAND PLATFORM

Virtual and in-person attendees have access to the on-demand platform. Tips and important dates are listed below.

TIPS:

- The platform will automatically keep track of the sessions you view.
- All attendees need to submit session evaluations and retrieve their CE certificate through the on-demand platform.
- **The evaluation portal will close on January 31, 2026. CE certificates must be claimed prior to the portal closing.**
- The ASHT on-demand platform will be available through September 1, 2026.

Clinical Practice & Scientific e-Posters
October 7, 2025 – September 1, 2026

Exhibitor Virtual Directory
October 7, 2025 – September 1, 2026

On-Demand Instructional Sessions
November 10, 2025 – September 1, 2026

Pediatric Specialty Day In-Person CE Evaluation and Certificate Portal
October 22, 2025 – January 31, 2026

Annual Meeting In-Person CE Evaluation and Certificate Portal
October 23, 2025 – January 31, 2026

All Virtual CE Evaluation and Certificate Portal
November 10, 2025 – January 31, 2026

WI-FI INFORMATION

ASHT is happy to provide Wi-Fi in all of the meeting space at the Salt Palace Convention Center.
Wi-Fi Login Information

NETWORK:
ASHT2025

PASSWORD:
ASHT2025

VIRTUAL EXHIBITOR DIRECTORY

The virtual exhibitor directory encompasses ASHT 2025 Annual Meeting exhibitors and sponsors. Check out our industry supporters and get the latest on their products and services. The exhibitor directory can be accessed in the on-demand conference platform from October 7, 2025 through September 1, 2026.

Make the Most of Your Conference Experience with the **ASHT 2025 Mobile App!**

Take Notes | Create Schedules | Notifications | Social Features

1. Download the ASHT Events App

Scan the QR Code or go to the Apple App Store or Google Play and search for **ASHT Events.**

App Icon

Event Icon

Install and open the app. Find the event icon in the Upcoming Events (bottom row) or search for **ASHT 2025.**

Tap the event icon to launch the event's app.

2. Login to the App

Username: Email address used for registration

Password: Registration ID (in registration confirmation email and on your badge)

3. App Tips

Download the app before you leave home!

Browse the event information and create a personal schedule by tapping on the star next to presentation titles.

If you see the 2024 app, click on the 3 bars in the upper right hand corner. Click on 'Choose Other Event'. Click on 2025 App icon.

Questions? Staff at the Registration Desk can help!

WIFI Network: ASHT2025 **PASSWORD: ASHT2025**

GENERAL INFORMATION

OVERVIEW

The American Society of Hand Therapists (ASHT) is proud to present its 48th Annual Meeting. The 2025 program will emphasize evidence-informed practice for rehabilitation of the hand and upper limb. Presented by distinguished faculty known regionally, nationally and internationally, the format and content will encourage the exchange of new scientific and clinical information to facilitate best practice and improve patient outcomes in hand and upper extremity therapy. The program includes topics such as:

- Novel scientific research in platform and poster sessions
- Hand and upper extremity therapy practice considerations – reimbursement, legislation, regulation and advocacy
- Clinical topics covering relevant anatomy, surgery and updated rehabilitation strategies

LEARNER OBJECTIVES

Upon the completion of the Annual Meeting, participants will be able to:

- Integrate hand and upper limb treatment plans based on evidence, research and instruction.
- Construct new strategies and clinical ideas to improve patient outcomes through interdisciplinary collaboration.
- Employ innovative treatment ideas into clinical practice for a variety of clinical conditions.
- Discuss and implement current legislative and regulatory policies into clinical practice.
- Discuss and implement leading business and operational practices into clinical practice.

TARGET AUDIENCE

ATC – Certified Athletic Trainer
COTA – Certified Occupational Therapy Assistant
OT – Occupational Therapist
PT – Physical Therapist
PTA – Physical Therapy Assistant

INSTRUCTIONAL LEVEL

Entry
Intermediate
Advanced

PREREQUISITES

None

ABSTRACTS

Selected abstracts will be presented at the Annual Meeting during the plenary scientific sessions and throughout the conference via the e-Poster kiosks. These abstracts will highlight the most outstanding papers from a variety of subspecialties relating to hand and upper extremity therapy. Selected abstracts will be published in the *Journal of Hand Therapy*, the official journal of ASHT.

EXHIBITS

Educational and informational exhibits will be available to visit in the exhibit hall during the ASHT Annual Meeting. Representatives will be on hand to answer questions and discuss their innovative products. An exhibitor directory is posted on the conference website and mobile app. Please explore the exhibits as they are an integral part of the meeting

CONFERENCE SYLLABUS

Session handouts for the ASHT Annual Meeting will be available to registered attendees for downloading and printing on the conference platform prior to the conference. All session materials are the original works of the speakers, and reproduction or use of these materials must be cited in any personal use.

PLEASE NOTE: While speakers are encouraged to provide handouts, it is NOT a requirement. Not all sessions will have handouts based on the speakers' choice.

SHARE THE gLOVEs

This year, ASHT has partnered with The Road Home for our Share the gLOVEs drive. The Road Home is a private nonprofit social services agency that assists individuals and families experiencing homelessness in Salt Lake County and along the Wasatch Front.

This year, only monetary donations will be accepted. Donate during registration or at the membership desk on site."

GENERAL INFORMATION

CONTINUING EDUCATION INFORMATION

COURSE ACCREDITATION

This continuing education activity offers a maximum of 32.75 continuing education hours or 3.275 CEUs.

- Annual Meeting Educational Program – 21.25 CE hours
- Pre-Conference Institutes (ticketed event for in-person attendees only) – up to 4 CE hours
- AHTF Scholar Lecture (ticketed event) – 1 CE hour
- Pediatric Specialty Day (ticketed event) - 6.5 CE hours

OCCUPATIONAL THERAPISTS

AOTA American Occupational Therapy Association Approved Provider

The American Society of Hand Therapists is an approved provider of continuing education by the American Occupational Therapy Association (AOTA). The assignment of AOTA CEUs does not imply endorsement of specific course content, products or clinical procedures by the AOTA.

PHYSICAL THERAPISTS

The New York State Education Department of Physical Therapy recognizes ASHT as an approved provider of PT and PTA continuing education.

Continuing education requirements are regulated by the state boards of physical therapy. Each state licensing board has its own policies and procedures related to continuing education of its licensees. State boards of physical therapy place the responsibility on licensees to follow rules and regulations related to the practice of physical therapy and maintenance of licensure in their states. Licensees should verify acceptance of continuing education courses with their state licensing board by reviewing the **relevant state practice act and/or administrative code**.

Should you use the ASHT 2025 Annual Meeting in your state physical therapy recertification process, ASHT will reimburse up to $200** of the cost of the application. Please send ASHT a copy of your state physical therapy continuing education application to receive this reimbursement. Additionally, ASHT will supply on request, a continuing education packet containing all generally accepted required documentation. Please contact ASHT at asht@asht.org or call 856-380-6856 for more information.

**This reimbursement applies only to the first person to apply within each state. Subsequent applicants will not be charged by their state for filing.

PLEASE NOTE: State accrediting agencies may change the number of contact hours awarded for an independent study course.

CERTIFIED HAND THERAPISTS

CERTIFIED HAND THERAPIST

All content of this course is accepted as Category A credit toward recertification by the Hand Therapy Certification Commission.

MAINTENANCE OF LICENSURE AND/OR CERTIFICATION

To enter the professional development hours, you have earned for the ASHT Annual Meeting:

- Go to the HTCC website, www.htcc.org.
- On the HTCC homepage, under the Recognized Specialist in Hand Therapy banner (upper right corner), click CHTs Login Here.
- Enter your CHT ID# and your password in the login field (this may be your CHT number again or a password you created) and click Enter. Your CHT ID# will always be used in the login field. Your CHT ID# is 10 digits long.
- Once logged in to "CHTs Only," click "Enter Professional Development Hours" and then click "Category A: Formal Courses in Upper Quarter Therapy, Greater Than 3 Hours."
- Enter your Professional Development hours onto the form and then scroll to bottom of page and click "Submit" to capture your information
- Email or fax the certificate to HTCC at 866-329-1476 toll free (international attendees 916-922-0210) or email your certificate to info@htcc.org. If you have any questions, please contact HTCC at info@htcc.org.

Credits will be awarded based on the date printed on the CE certificate. For instance, if an individual's renewal cycle is 01/01/2020 to 11/15/2025 and the CE transcript and certificate is completed on 12/31/2025, all of the CE hours will be applied to that renewal cycle. Anything completed in 2026 will be applicable for that year.

ATHLETIC TRAINERS

APPROVED CE PROVIDER • BOC • FOR THE ATHLETIC TRAINER •

The American Society of Hand Therapists is recognized by the Board of Certification, Inc. to offer continuing education for Certified Athletic Trainers.

GENERAL INFORMATION

CONTINUING EDUCATION INFORMATION

OBTAINING CEUs

CE certificates should be obtained/printed by January 31, 2026. On October 23, in-person attendees will receive directions to create their CE transcript. Virtual attendees will receive directions to create their CE transcript on November 10. Attendees will also be able to provide feedback to speakers of the sessions they attended. Questions can be directed to meetings@asht.org.

Participants must:

1. Have paid the registration fee
2. Attend their chosen sessions in their entirety
3. Complete an online evaluation form after the session. CE certificates will be available immediately upon submission of evaluation form. Attendees should only claim credit commensurate with the extent of their participation in the activity

ONLINE EVALUATION & CE CERTIFICATE SITE

Attendees can access the CE portal directly through the on-demand platform to claim credit for sessions participated in, evaluate sessions and submit overall conference feedback. Once you evaluate all sessions you wish to claim credit for, you can print a certificate.

- In-Person attendees can begin filling out session evaluations on Thursday, October 22. Virtual attendees can begin on November 10.
- You will receive only one certificate for the Annual Meeting, so please do not proceed with finalizing/printing your certificate until you have completed all of your session evaluations.
- Pediatric Specialty Day attendees will fill out separate evaluations and receive a separate certificate for the credit hours earned during Pediatric Specialty Day.
- In-person attendees should keep a record of the sessions attended.
- For virtual attendees, the conference platform will automatically keep track of the sessions you watched.
- If you wish to collect a certificate in 2026, you will need to wait until January 1, 2026 to evaluate sessions attended.

Note: Credit cannot be doubly awarded for sessions taking place in the same Instructional concurrent session block; this also applies to virtual attendees. Categories not eligible are Posters, Non-medical, Exhibitor and Exhibits.

DISCLOSURE STATEMENT

All contributors who can affect American Society of Hand Therapists continuing education content (including leadership, program committee, faculty members, moderators and staff), in their respective roles, are required to disclose all relevant financial relationships with any commercial interest that could be viewed as a real or perceived conflict of interest. This policy is in effect to maintain adherence with the conflict of interest guidelines set by American Occupational Therapy Association Approved Provider Program, the Board of Certification, Inc. for Athletic Trainers and the Federation of State Boards of Physical Therapy. Attendees will be made aware of any affiliation or relevant financial interest that may affect the development, management, presentation or evaluation of the CE activity and will be printed in the final program and projected in slide format before each presentation. Individuals who refuse to disclose relevant financial relationships will be disqualified from being a contributor, and cannot have control of, or responsibility for, the development, management, presentation or evaluation of the CE activity.

TAX INFORMATION

As a 501(c)(3) organization, the national dues or education registration fees are not deductible as a charitable contribution for federal tax purposes; however, they may be deductible as ordinary business expenses. Please consult your financial advisor.

ACCESSIBILITY SERVICES

The American Society of Hand Therapists wishes to take steps to ensure that no individual with accessibility needs is excluded, denied services, segregated or otherwise treated differently than other individuals because of the absence of auxiliary aids or services. If you need any auxiliary aids or services identified in the Americans with Disabilities Act, or any assistance in registering for this conference, please contact ASHT Meetings Staff at meetings@asht.org.

As is our policy, it is the responsibility of the attendee to make any accessibility needs known prior to attendance at the conference. Advance notification provides ASHT adequate time to ensure that it can arrange for requested services.

ADDITIONAL EVENTS

(Receptions, Committee/Division Meetings, Ticketed Events)

DATE	TITLE	TIME	LOCATION
Thursday, October 23	Welcome Reception	7:30 PM – 9:30 PM	Hall 4
Friday, October 24	Let's Be New Together: First-Time Attendee, New Member & Student Networking Breakfast Sponsored by BraceLab	6:45 AM – 7:45 AM	255 DEF
Friday, October 24	Waving the Yellow Flag: Bridging the Nerve Injury Feedback Loop Sponsored by Axogen	6:45 AM – 7:45 AM	255 BC
Friday, October 24	Hand Therapy Certification Commission: Preparing for the CHT Exam	12:30 PM – 1:30 PM	255 BC
Friday, October 24	International Luncheon: Healing Hands in the Middle East: Training Therapists to Treat Upper Extremity Combat Trauma	12:30 PM – 1:30 PM	255 DEF
Friday, October 24	Student Meet-Up	12:30 PM – 1:30 PM	355 EF
Friday, October 24	Reimagining Immobilization: Functional Cast Therapy Meets Ready-to-Wear Innovation - Hands-on Demo by Essity	12:30 PM – 1:00 PM	355 BC
Friday, October 24	Leadership Development Committee Meeting	12:30 PM – 1:30 PM	355 D
Friday, October 24	Research Division Meeting	12:30 PM – 1:30 PM	355 A
Friday, October 24	Education Division Meeting	12:30 PM – 1:30 PM	259
Friday, October 24	Summit & Sip – "Après-Ski" Social Night (ticketed event)	7:00 PM – 10:30 PM	Off-Site at Garden Place
Saturday, October 25	Leadership Poster Presentation: Empowered to Lead: Shaping the Future of Hand Therapy	12:30 PM – 1:30 PM	255 DEF
Saturday, October 25	Research Community Meeting	12:30 PM – 1:30 PM	255 BC
Saturday, October 25	Outreach Division Meeting	12:30 PM – 1:30 PM	255 A
Saturday, October 25	Practice Division Meeting	12:30 PM – 1:30 PM	355 A
Saturday, October 25	An Introduction to Myoelectric Technology in UE Rehabilitation – Hands-on Demo by Myomo	12:30 PM – 1:00 PM	355 BC
Saturday, October 25	AHTF Fundraiser - Happy Hour with a Scholar (ticketed event)	6:15 PM – 7:45 PM	255 DEF
Saturday, October 25	ASHT Night Out (on your own)	7:45 PM	Off-Site

PROGRAM

WEDNESDAY, OCTOBER 22

8:00 AM – 8:15 AM | **Welcome**

255 BC

Emily Ho, PhD, OT Reg. (Ont.), 2025 Pediatric Specialty Day Co-Chair
Meagan Pehnke, MS, OTR/L, CHT, CLT, 2025 Pediatric Specialty Day Co-Chair

8:15 AM – 9:15 AM | **Resilient Foundation, Versatile Skills Symposium**

255 BC

Active Movement Scale: A Critical Look at Its Benefits, Challenges, and Real-World Applications
Ashley Pittman, OTR, CHT
Lindsey Williams, OT, CHT

The Active Movement Scale (AMS) is widely considered the gold standard for evaluating active movement in babies with brachial plexus birth injuries (BPBI); however, there are some real-world challenges therapists face when using it.

This presentation will examine the strengths and benefits of the AMS in clinical settings, explore the discrepancies in AMS scoring between therapists, and discuss the implications of these findings on clinical outcomes (and surgical planning). By discussing both the benefits and drawbacks of the AMS, along with the findings from our interrater reliability study, we hope to foster a critical dialogue that can lead to improved practices, consistency, and ultimately better patient care. The presentation aims to foster an open dialogue about the challenges of maintaining consistency in AMS assessments and discuss potential solutions.

Congenital Hand Conditions: Three Common Diagnoses
Karen Ayala, MS, OTR, CHT
Hilton Gottschalk, MD

Congenital hand conditions are commonly seen by hand surgeons and therapists. We will review some common diagnoses and discuss the roles of surgeon and hand therapist for each. Photographs and case examples will be used to highlight surgical techniques, types of orthoses, therapeutic activities, and modifications for activities of daily living.

Scar Tug of War: The Good, The Bad, The Ugly in Pediatric Hand Burns
Nichole Schiffer, MOTR/L, BCP, CHT, BT-C

Are you interested in learning more about pediatric hand burns? Have you been treating pediatric hand burns, but want to know more about treatment options? Alternatively, do you specialize in pediatric hand burns and want to discuss a complex case and treatment options? No matter your level of experience, this session is for you! We will review three different cases of varying complexity, discussing evaluation, plan of care, surgical interventions, and post-op care.

9:15 AM – 10:15 AM | **Climbing New Heights, Advanced Clinical Skills Symposium**

255 BC

A Picture is Worth a Thousand Words: Using Ultrasound to Examine Effects of the Sup-ER Orthosis on Glenohumeral Joint Alignment in Infants with Brachial Plexus Birth Injury
Sarah Lewis, PT, DPT, PCS

Infants with brachial plexus birth injury (BPBI) are at risk for abnormal glenohumeral joint positions and dysplastic changes in joint surfaces. While early therapeutic strategies to mitigate glenohumeral dysplasia have been proposed, little evidence is available to support their effectiveness. Through this session, participants will be introduced to ultrasound imaging as a modality to examine glenohumeral joint morphology in infants with BPBI. The effects of the Sup-ER orthosis on joint alignment will be presented and discussed using ultrasound data to assist therapists with clinical decision-making.

DAFRA for Pediatrics: Play Activities for Exercise After Nerve Transfer
Ann Marie Feretti, EdD, OTR/L, CHT

Nerve transfer surgery techniques in young infants and toddlers with brachial plexus injuries are progressing. It can be challenging as a therapist to develop post-operative protocols and treatment plans. Not all children have a perfect result after nerve transfer surgery. Not all children regain all motions on their own. We have developed a program for young children based on the DAFRA nerve transfer rehabilitation for adults. We will explore case studies for different nerve transfers and play activities encouraging functional movements that target the donor and recipient nerves for these very young kids who cannot follow a set, strict exercise protocol. Participants will leave with ideas to take back and implement immediately with this population of children.

Using an Evidenced-Based, Creative Approach to Treat Elbow Fractures and Dislocations in the Pediatric Population
Michelle Hagenbaugh, MS, OTR/L, CHT

This presentation will briefly review the basic structures of the elbow and common elbow fractures in the pediatric population. It will differentiate healing and progression of a pediatric versus the adult population. It will highlight pediatric-centered interventions and progression of plan of care/protocol for patients who have sustained an elbow fracture and/or dislocation based on evidence from the literature.

10:15 AM – 10:45 AM | Break

10:45 AM – 11:45 AM | **Blazing a New Trail, Beyond Traditional Practice Symposium**

255 BC

Training the Antagonist Muscles Eccentrically (TAME): A Non-operative Approach to Co-Contraction in Brachial Plexus Birth Injury
James H. Northcutt II, OTR, MOT, CHT

Co-contraction of agonist and antagonist muscles is vital for controlled joint movement. In children with brachial plexus birth injury (BPBI), maladaptive muscle firing patterns often develop, particularly with permanent BPBI, affecting motor control during nerve recovery. Co-contractive patterns include overactive triceps preventing elbow flexion as biceps/brachialis recover, and simultaneous activation of shoulder adductors and abductors during reaching. Non-invasive motor retraining is challenging, especially with weak or paralyzed muscles, and children tend to adopt the easiest movement patterns, making it difficult to block maladaptive behavior. Botox can temporarily denervate overactive antagonists, but it also weakens the injected muscles and is not without risk. The TAME approach proposes a non-invasive alternative to Botox or surgery by leveraging gravity and eccentric control of antagonist muscles to hopefully prevent and treat co-contraction in BPBI. Some patients may ultimately require injections or surgery, but should have access to a non-operative approach first.

Brachial Plexus Birth Injury: Navigating Transitions Beyond Childhood
Emily Ho, PhD, OT Reg. (Ont.)

Have you ever stopped to think about what life is like for children with brachial plexus birth injuries (BPBI) once they graduate from pediatric care? Pediatric hand therapists play a critical role in shaping their future; are we doing enough to prepare them for the journey ahead? This presentation will provide an overview of participation, pain, and health-related quality of life of young adults with BPBI. Evidence from the literature on lifelong participation in this population will be examined. Informed by a group of BPBI young adult patient partners, transitional care considerations for adolescents with BPBI will be presented. The importance of health literacy, self-advocacy, and the resilience to learn, relearn, and reintegrate BPBI during major life transitions will be discussed. In attending this presentation, pediatric hand therapists will be better equipped to support adolescents and their families for the lifelong journey ahead with BPBI.

Developing Hand Therapy Skills in Physiotherapists in Bolivia
Andrew T. Bracken, MOT, OTR/L, CHT
Lana Hutchinson, CHT, OTR/L

Twenty-four years ago, an American pediatric hand surgeon partnered with a Bolivian orthopedic surgeon to provide free complex hand surgery for underserved children in Bolivia with congenital hand differences, tendon injuries, and burns. These "hand campaigns," as they are known, occur yearly throughout Bolivia. One of the key components to the success of each hand campaign is training local physiotherapists on how to provide these children with skilled hand therapy services. Local physiotherapists are eager to learn and committed to supporting the hand campaign's vision and mission but lack the skills and resources to treat complex congenital upper extremity conditions and hand surgeries. This symposium is geared toward pediatric CHT's interested in working in developing countries to enhance the hand therapy skills of local physiotherapists. The methods we will discuss include one-on-one mentoring, didactic lectures, observing pediatric hand surgeries, utilizing a multidisciplinary team, and using technology to collaborate.

WEDNESDAY, OCTOBER 22 (CONTINUED)

11:45 AM – 12:15 PM | **Embracing our Future, Sustaining our Profession Symposium**

255 BC

Exploring New Hand Therapy Ventures Through Doctoral Capstone Mentorship
Reeti Douglas, OTD, OTR/L

This presentation will provide participants with a comprehensive understanding of the doctoral capstone mentorship and its critical role in shaping the future of hand therapy. Attendees will gain insights on the responsibilities of a capstone site mentor, the benefits and challenges of mentorship, and the practical aspects of the capstone experience. The capstone process not only supports the development of future hand therapy professionals, but also enriches hand therapy practices by fostering innovation, evidence-based approaches, and advanced clinical skills. Designed for practicing hand therapy professionals, this presentation aims to enhance their knowledge of the capstone process while equipping them with the necessary tools and resources to effectively mentor Doctor of Occupational Therapy (OTD) students and embrace the future of hand therapy.

A Clinical Practice Perspective on the Impact of Student Projects
Meagan Pehnke, MS, OTR/L, CHT, CLT

This presentation will highlight the unique opportunity that student projects can provide to support our profession as pediatric hand therapists. Attendees will learn ways in which a hospital-based institution has implemented a variety of student projects that have had a direct impact on clinical practice within specialty practice areas. Providing opportunities for future generations of pediatric therapists to participate in advancements in clinical practice, institute programs and research efforts ultimately supports longevity within our field and instills a culture of innovation.

12:15 PM – 1:15 PM | **Lunch & Exhibits**

Lunch will be provided. This is a great time to network with your fellow attendees and visit with exhibitors.

1:15 PM – 2:15 PM | **Instructional Concurrent Session 1**

255 DEF

Optimizing Wound Healing and Hand Function After Hand Contracture Release
Tymar Fields, MOTR/L, CHT

Hand contracture release is common in children with congenital differences or traumatic injuries. After surgery, specialized care is required to facilitate wound healing and support optimal positioning; to optimize hand function, support developmental skills and facilitate participation. Over time, the growing skeleton and underlying anatomy increases the likelihood of repeat contracture. Therefore, it is important to utilize interventions that maintain mobility and hand function for as long as possible. Using lecture, demonstration and simulated hands-on experiential activities attendees will learn: (1) specialized strategies specific to caring for pediatric hand wounds, (2) the benefit of using post-operative casting for hand positioning, and (3) interventions to prolong surgical outcomes and functional hand use.

255 BC

Empowering Choices: An Interdisciplinary Model for Shared Decision-Making in Upper Extremity Cerebral Palsy Surgical Planning
Aviva L. Wolff, EdD, OTR, CHT

Pediatric hand therapists play a critical role in shaping surgical outcomes for individuals with cerebral palsy, yet decision-making in complex cases often lacks a structured, collaborative approach. This session introduces a practical, interdisciplinary shared decision-making (SDM) model, ensuring that therapy professionals actively contribute to surgical planning alongside surgeons, physiatrists, and families.

Through interactive case discussions, video analysis, and real-world applications, attendees will learn to assess functional movement, identify patient-specific goals, and guide pre- and post-surgical interventions. The course will also explore Botox, selective denervation, tendon transfers, and muscle lengthening, providing therapists with the knowledge to advocate for evidence-based, functional outcomes.

Join us to develop clinically relevant skills, enhance interdisciplinary collaboration, and empower patients and families in making informed surgical decisions. This session offers valuable insights for any therapist involved in CP rehabilitation—helping you influence surgical planning and optimize patient recovery.

355 BC

Girls Just Want to Have Fun: Safely Returning Pediatric and Adolescent Female Athletes to Play
Michael Mueller, OTR/L, CHT
Alexandra Vertus, MS, OTR/L, CHT

Sports participation continues to rise in the youth female population resulting in increases in acute and overuse upper extremity injuries leading to time away from play and loss of sport's skill development. The upper extremity therapist requires additional specialized skills to provide optimal care for these patients. This session will discuss the evaluation and treatment of the pediatric and adolescent female's upper extremity injuries and the influence of hormones, developmental physiology and psychology. Case examples will be utilized to illustrate the recovery strategies from the evaluation to the return to sport testing and programming.

2:15 PM – 2:30 PM — Transition Break

2:30 PM – 3:30 PM — Instructional Concurrent Session 2

355 BC

Pain Talk: Age-Appropriate Approaches for Pediatric Pain Education
Hannah Gift, OTR/L, CHT, COMT, CEAS
Alyssa Phillips, CScD, MOT, OTR/L

Complex pain impacts the entire family, and physical and occupational therapists who work closely with these families have the opportunity to make a significant difference in their understanding of pain and how they facilitate function at home. Each therapist has their own metaphors and stories that assist with connecting to patients at each phase of life and guide them through difficult and painful situations. This course offers the opportunity to share these metaphors with other therapists and learn new ways to connect to these young patients. Through demonstrations and collaborative discussions, attendees will gain new insights on how to connect with young patients and enhance their confidence in treating complex pain conditions.

WEDNESDAY, OCTOBER 22 (CONTINUED)

355 EF

Complex Traumatic Injuries of the Pediatric Hand: A Multidisciplinary Treatment Approach
Alta Fried, MS, OTR/L, CHT
Shaun Mendenhall, MD

Caring for the pediatric population can be difficult, daunting and challenging, yet it is extremely rewarding. This population is our future and caring for them with the goal in mind that these children will and can do big things is of utmost importance. In this presentation, we will discuss case examples of mangled hands with treatment including surgery and rehab. We will highlight the specifics of the rehabilitation program and the importance of a multidisciplinary care team for this population.

255 BC

Common Peripheral Nerve Injuries Associated with Pediatric Upper Extremity Fractures
Karen Ayala, MS, OTR, CHT
Hilton Gottschalk, MD

Peripheral nerve injuries occur commonly with pediatric upper extremity fractures. This surgeon/therapist co-presentation will highlight common pediatric upper limb fractures and associated nerve injuries. Clinical examination and advanced diagnostic test options will be reviewed. Conservative and surgical management will be presented with case study examples, photographs, and/ or videos to enhance the learning experience.

3:30 PM – 3:45 PM — Transition Break

3:45 PM – 4: 45 PM — Strengthening Evidence-based Practice: Pediatric Protocols

255 BC

Cara Smith, PT, DPT, CHT, MSHA | Intra-articular Fractures
Sandra Schmieg, OTR, CHT | Syndactyly & Soft Tissue Release
Peggy Faussett, MOTR/L, CHT | Camptodactyly

This interactive panel session will review pediatric hand therapy protocols for non-operative and post-operative patients. Our panel of experts will highlight three protocols from their institutions including intra-articular fractures, syndactyly and camptodactyly. Attendees will be invited to engage in an in-depth discussion regarding protocols related to upper extremity fractures and congenital limb differences.

4:45 PM – 5:00 PM — Closing Remarks

255 BC

Emily Ho, PhD, OT Reg. (Ont.), 2025 Pediatric Specialty Day Co-Chair
Meagan Pehnke, MS, OTR/L, CHT, CLT, 2025 Pediatric Specialty Day Co-Chair

5:00 PM – 6:00 PM — Reception

255 FOYER

Network with fellow attendees and exhibitors. Drinks and small bites will be served. Reception is included with Pediatric Specialty Day registration.

THURSDAY, OCTOBER 23

8:00 AM – 12:00 PM — **4-Hour Pre-Conference Institutes (ticketed events) 4 CE Hours**

355 BC

Treating the Tricky Elbow: Fractures, Tendonitis, and Pain
Alison Taylor, OTR/L, CHT, CKTI

Treating the elbow is notoriously difficult and expectations are low in outcomes. By focusing on anatomy and superficial layers like skin and fascia, we can easily restore full range of motion and eliminate pain in even the hardest diagnoses. This workshop will demonstrate how to treat by each physiological layer from skin to joint. Participants will leave with new assessment and treatment tools as well as exercises and tricks to eliminate pain. Start the conference off with fun and learn new ideas to change the expectations on elbows!

255 DEF

Casting Motion to Mobilize Stiffness (CMMS): Changing the Way We Treat the Stiff Hand
Johanna Jacobson-Petrov, MHS, BSc.OT, CHT
Karol Spraggs-Young, OTD, OTR/L, CHT
Kantessa Stewart, OTR/L, CHT

Have you tried everything you can think of to mobilize your patient's stiff hand and it is just not working? Then Casting Motion to Mobilize Stiffness (CMMS) is your answer. In this session, you will learn how CMMS addresses all the factors that contribute to hand stiffness and how this one technique can be your new successful solution to treating the stiff hand.

10:00 AM – 12:00 PM — **2-Hour Pre-Conference Institutes (ticketed event) 2 CE Hours**

355 EF

Essentials of Rehabilitation for Partial Hand Amputees: A Multi-disciplinary Approach
Chris Baschuk, MPO, CPO, FAAOP(D)
Alta Fried, MS, OTR/L, CHT
Shaun Mendenhall, MD

Partial hand amputations present unique rehabilitation challenges that require a collaborative approach between hand therapists, surgeons, and prosthetists. This session will provide a comprehensive look at the latest surgical techniques, prosthetic advancements, and evidence-based therapy strategies to optimize functional outcomes.

Attendees will explore prosthetic selection and training, from body-powered to myoelectric options, and learn hands-on rehabilitation techniques for improving dexterity, strength, and prosthetic integration into ADLs. Through interactive case discussions, hands-on demonstrations, and expert panel insights, participants will gain practical tools to enhance clinical care.

Join us to discover how cutting-edge technology and multidisciplinary teamwork can transform outcomes for individuals with partial hand amputations. Whether you are a seasoned clinician or new to this patient population, this session will provide actionable insights to improve your practice and empower your patients.

12:00 PM – 1:00 PM — Lunch on your own

THURSDAY, OCTOBER 23 (CONTINUED)

1:00 PM – 2:00 PM | **Instructional Concurrent Session 1** 1 CE Hour

255 DEF

Wrist Stabilization: Starting a Resistive Wrist Strengthening Program After Wrist Injury
Stephanie Strouse, OTD, OTR/L, CHT

This lecture provides an evidence-based overview of wrist pain, focusing on the importance of stabilization and proprioception exercises. It covers wrist anatomy, common injuries, and how instability contributes to pain. Participants will learn various exercises, progressing from isometric to strengthening, and see video demonstrations. A case study with interactive polling will reinforce learning objectives, enabling participants to create individualized wrist stabilization programs.

255 BC

Going for Gold in the Golden Years: Safely Returning Older Adults to Sports and Fitness Following Upper Extremity Injuries
Michael Mueller, OTR/L, CHT
Jim Wagner, OTD, OTR/L, CHT, COMT, CSCS

Sports and fitness participation is increasing for adults over the age of 60. Upper extremity injuries have increased with additional participation, and this requires additional skills for hand therapists to safely return seniors to sports and fitness. Therapists need to understand the physiology of aging and its impact on the whole body and performance to safely return patients to their desired level of function. This session will discuss the evaluation, treatment, loading progressions, exercise testing and selection, and return to play testing and programming for upper-extremity injuries in the older adult population. Patient cases of common post-operative and non-operative upper extremity injuries in the active older adult population will be presented throughout the session through the entire continuum of care.

355 BC

Bridging the Gap in Orthotic Inclusivity: Sustainable, Accessible, and Customizable 3D-Printed Finger Orthoses Compared to Traditional Methods
Natasha Irani, OTD, OTR/L

As hand therapy advances, there is an increasing need to integrate diversity, equity, and inclusion (DEI) principles while also considering sustainability and innovation in orthotic design. Traditional beige thermoplastic orthoses have commonly been the standard, but their lack of aesthetic inclusivity and fabrication process can impact client dignity, adherence, and psychosocial well-being.

This session will explore findings from a quasi-experimental feasibility clinical trial comparing 3D-printed finger orthoses to traditional thermoplastic versions. 3D-printed orthoses offer expanded color options (including nine different skin tones), cost-effectiveness, precise customization, and use biodegradable polylactic acid material, supporting both sustainability, accessibility, and inclusivity in hand therapy. The session will discuss how integrating inclusive design principles with eco-conscious materials can enhance client-centered care while maintaining clinical efficacy. Attendees will gain insights into workflow integration, functional outcomes, and real-world implementation strategies for transitioning toward more sustainable and equitable.

THURSDAY, OCTOBER 23 (CONTINUED)

355 EF	**What Happened to My Hands? Treating the Breast Cancer Survivor with Medication Induced Musculoskeletal Conditions** Wanda Weimer, MA, OT, CHT, CLT, CEAS Many breast cancer survivors experience musculoskeletal problems in their hands and wrists long after they finish surgeries, chemotherapy, and/or radiation treatments. Hand therapists can help! Come learn the skills to treat aromatase inhibitor induced musculoskeletal syndrome in the hands and wrists. Tips for connecting with your local oncology community will also be provided.
2:00 PM – 2:15 PM	Transition Break
2:15 PM – 3:15 PM	**Instructional Concurrent Session 2 1 CE Hour**
255 DEF	**Building a Stronger Profession: Promoting Racial Diversity and Clinician Resilience in Hand Therapy** Valerie Aziegbe, OTR/L, CHT, COEE This session tackles the barriers facing underrepresented clinicians, offering solutions for recruitment, retention, and mentorship. Learn how to create inclusive workplaces that foster resilience and improve patient care. Through case studies, we'll explore the interconnectedness of clinician and patient experiences, building a more diverse and collaborative hand therapy community.
355 BC	**The Hypermobile Hand: Evidence-based Evaluation and Treatment Solutions** Jamie Bergner, OTD, OTR/L, CHT, COMT What is a hand therapist to do when a client presents with a swan neck deformity and a boutonniere deformity in the same digit? Explore evidence-based strategies for evaluating and treating clients with hypermobile hands and connective tissue disorders. This practical hands-on session covers biomechanical influences, comprehensive evaluation, proprioceptive training, and examines the practice application of the Occupational Adaptation model to reduce pain and improve function. Engage in demonstrations, activities, and video analysis to refine biomechanical assessment and holistic treatment techniques. Walk away with practical solutions that incorporate joint protection, enhance stability through neuromuscular control training, manage persistent pain, and optimize holistic health through facilitated adaptation for clients with hypermobility.
255 BC	**Promoting Awareness and Early Intervention for Pregnancy-Induced Carpal Tunnel Syndrome** Laurie Pacheco, BS, MA, OTR/L, CHT Through early intervention and a holistic, compassionate approach, I seek to improve care for mothers-to-be, ensuring they receive the relief and support they deserve during this transformative period of their lives. As we explore alternative treatment plans, I invite you to join me in rethinking and reshaping the care model for pregnancy-induced carpal tunnel syndrome so that the answer to discomfort is not, "your symptoms will stop postpartum," but rather, "we have an effective solution that addresses your needs today."

THURSDAY, OCTOBER 23 (CONTINUED)

355 EF

When the Glove Doesn't Fit: Applying Lymphedema Techniques to Treat Severe Edema
Jessica Si, OTD, OTR/L, CHT, CLT, COEE

Your complex post-operative patient is experiencing worsening edema, with significant loss of motion and intense pain. The limb size exceeds the fit for an over-the-counter compression glove, and your standard management techniques have proven ineffective. So, what do you do when the glove doesn't fit?

This presentation will focus on using manual lymphatic drainage and compression therapy to manage severe edema in complex cases. Participants will gain valuable skills for effective edema treatment while exploring innovative ways to repurpose commonly available equipment as alternatives to specialized lymphedema bandages.

Join us in fostering resourcefulness and sustainability in edema management to enhance patient outcomes!

3:15 PM – 3:30 PM — Transition Break

3:30 PM – 4:30 PM — Instructional Concurrent Session 3 1 CE Hour

255 DEF

Integrating Cognitive Behavioral Information Therapy (CBIT) into Upper Extremity Rehabilitation: A Holistic Approach to Hand Therapy
Sabrina Glover, OTD, OTR/L
Theresa Hallenen, DHSc, MS, OTR/L, CHT
Julia Laughlin, OTD
Megan Vrooman, MOT, OTR/L

Hand therapists can struggle to provide evidence-based interventions that address the psychological challenges clients face after hand and upper extremity injuries, especially in fast-paced, productivity-driven environments. Comprehensive care must include the assessment and treatment of psychological well-being to support optimal recovery. This session introduces Cognitive Behavioral Informed Therapy (CBIT) as an effective approach to help clients manage both the physical and emotional impacts of their injuries. Therapists will learn practical CBIT interventions, including activity rest cycling, values-based goal setting, and support groups, to integrate into their treatment programs for improved client outcomes.

255 BC

Forging the Future of Ulnar Wrist Pain Management: Sustainable Practices for Lasting Relief
Vijay Muni, MS, OTR/L, CHT

Ulnar-sided wrist pain can be attributed to trauma, overuse, or anatomical variations. Due to its complex and intricate anatomy including the distal radioulnar joint, triangular fibrocartilage complex, and surrounding musculature, providing effective conservative treatments is a significant challenge for clinicians. This session will explore the interplay of the structures crucial for wrist stability, as well as treatment strategies such as exercise, manual therapy and patient education to restore function, promote healing, and achieve lasting pain relief.

THURSDAY, OCTOBER 23 (CONTINUED)

355 BC

Answering Your Hand Therapy Research Questions: A Panel Discussion from ASHT's Research Division

Lori Algar, OTD, OTR/L, CHT
Sarah Doerrer, PhD, OTR/L, CHT, CLT
Jenny Dorich, PhD, MBA, OTR/L, CHT
Sophie Goloff, MS, OTR/L, CHT
Katherine Loomis, PhD, OTR/L, CHT
Rose McAndrew, OTD, OTR/L, CHT

The ASHT members spoke and we listened! This instructional concurrent session is born from the desire of ASHT members to have a research community and will be an opportunity for new and experienced hand therapy researchers to learn more about the hand therapy research process, how to get involved, and how to transform ideas into publications. Our membership has questions and we want to use a semi-structured panel discussion to help them find and learn their answers. Attendees will be able to use an interactive application to ask questions of an ASHT Research Division panel throughout this session. The moderator will pose questions from the audience or questions prepared ahead of time as needed to the panel. Attendees will get to hear the answers to these questions from experienced hand therapy researchers with a wide variety of backgrounds.

355 EF

Pediatric Flexor Tendon Repair and Rehabilitation: Kids' Hands Are Not Just Tiny Adult Hands

Alta Fried, MS, OTR/L, CHT
Shaun Mendenhall, MD
Meagan Pehnke, MS, OTR/L, CHT, CLT

Flexor tendon repair and rehabilitation can pose a challenge for the most skilled surgeon and therapist. When taking care of a pediatric patient, the tiny anatomy and reduced compliance and motivation of the developing child results in an even greater challenge. Therapist considerations of developmental level and skills is critical to enhance participation. This session will provide an overview of creative and age-appropriate activities and strategies that comply with protocol guidelines to be used as a resource. This presentation will provide therapists with practical insight and recommendations to help increase confidence in pediatric post-operative management. The multi-disciplinary perspective of a pediatric hand surgeon in collaboration with hand therapists will provide a comprehensive understanding of management from the surgical repair until rehabilitation discharge.

4:30 PM – 5:00 PM — Break

5:00 PM – 5:30 PM — Welcome

HALL 3

Kim Masker, OTD, OTR/L, CHT, ASHT 2024-2025 President
Cara Smith, PT, DPT, CHT, MSHA, ASHT 2025 Annual Meeting Chair

THURSDAY, OCTOBER 23 (CONTINUED)

5:30 PM – 7:00 PM | **Plenary Session 1 | Opening Session 1.5 CE Hours**

HALL 3

Treating Neuropathic Pain in 2025: From the OR to VR
Bryan J. Loeffler, MD
Glenn Gaston, MD
Marcie Siebert, MS, OTR/L, CHT

Neuropathic pain after peripheral nerve trauma, brachial plexus injury, complex regional pain syndrome (CRPS) and limb loss remains a barrier to function and quality of life. This interdisciplinary session brings surgeons and hand therapists together to demystify surgical approaches to neuropathic pain and to maximize utilization of non-surgical treatment strategies.

Drs. Loeffler and Gaston will discuss the evolution and current role for surgical techniques including Targeted Muscle Reinnervation (TMR) and Regenerative Peripheral Nerve Interface (RPNI) in managing neuropathic pain. Marcie Siebert, CHT, will discuss her extensive experience with noninvasive, neurocognitive approaches including mirror therapy, graded motor imagery (GMI), and virtual reality in the form of Targeted Brain Rehabilitation (TBR).

Through case-based presentations and discussion of collaborative treatment pathways, attendees will learn how and when to deploy these modalities, how to set realistic expectations, and how to administer perioperative and rehabilitation protocols that reduce pain, improve prosthetic control, and accelerate return to function.

7:00 PM – 7:30 PM | **Plenary Session 2 | Presidential Invited 0.5 CE Hours**

HALL 3

The Hand in Art
Bruce Hucko

Few body parts have been pictured in or used as much to make art as has the hand. Illustrated with wonderful images, Mr. Hucko will lead us on quick tour of art history and mediums. The presentation will include a fun visual "test"; where you match photographs of specifics artist hands to their names. The objective here is to extend your knowledge of the hand into a world that (mostly) depends upon them – making art.

7:30 PM – 9:30 PM | **Welcome Reception & Poster Session**

HALL 4

The Welcome Reception is a perennial highlight of the ASHT Annual Meeting! Come to support our exhibitors, learn about innovative technologies and products and network with old and new colleagues. While there are no longer physical posters displayed during this reception, this is still a wonderful opportunity to check out the e-Posters on the digital kiosks in the Exhibit Hall. Both Scientific Posters and Clinical Practice Posters will be available for digital viewing.

Network with fellow attendees while enjoying an assortment of heavy appetizers. Reception is included with registration and each attendee will receive one drink ticket.

FRIDAY, OCTOBER 24

6:45 AM – 7:45 AM	**Let's Be New Together Breakfast | Sponsored by BraceLab**
255 DEF	Chris Eddow, PT, PhD, DPT, OCS, WCS, CHT, CLT Phyllis Ross, OTD, OTR/L, CHT, CLT Kick off your Friday together with those who are new to hand therapy, to ASHT and/or to the Annual Meeting! This breakfast is open to everyone but may be especially valuable for early career therapists, students, new ASHT members, and first-time conference attendees. If you are new to ASHT or the Annual Meeting, this is a great opportunity to learn more about what you can gain from the Society and the meeting. If you are an experienced Annual Meeting attendee, come to welcome and support those who are new to our community!
6:45 AM – 7:45 AM	**Waving the Yellow Flag: Bridging the Nerve Injury Feedback Loop | Sponsored by Axogen**
255 BC	Danielle Sparks, DHS, MOT, OTR, CHT Brandon Smetana, M.D., FAAOS When there's a gap in the nerve injury feedback loop, patients pay the price—missed diagnoses, failed repairs, and poor outcomes. This breakfast session puts you in the driver's seat with real case studies, early warning signs, and practical tools to tighten communication between therapists and surgeons. Hear directly from Indiana Hand to Shoulder's all-star duo—Danielle Sparks, DHT, MOT, OTR, CHT (incoming ASHT President and Director of Therapy) and Brandon Smetana, MD, FAAOS (board-certified orthopedic and nerve surgeon)—with ASHT President Kim Masker steering the conversation as moderator. Don't miss this chance to fuel your practice with strategies that accelerate better patient care.
8:00 AM – 8:45 AM	**Plenary Session 3 | Presidential Invited 0.75 CE Hours**
HALL 3	**Give Yourself a Hand** Bruce Hucko "Art Coach!" Bruce will guide us in drawing our own hand. It's not only fun, but therapeutic! Isn't that what we're doing here? Leave your fear and doubt at the door! Supplies will be provided. The objective here is to offer an effective teaching sequence to participants so they can use it with patients. Art is often used in "therapy"; and Art Coach offers a time- and age-tested lesson.
8:45 AM – 9:30 AM	**Plenary Session 4 | Presidential Address 0.75 CE Hours**
HALL 3	**Reclaiming Connection: The Power of Engagement in Our Work, Our Profession, and Ourselves** Kim Masker, OTD, OTR/L, CHT In an era where digital convenience often replaces personal connection, we risk losing something essential—true engagement. In this presidential address, we'll explore the critical role that engagement plays in sustaining our identity as therapists, advancing

our profession, and strengthening our organizational community. We'll examine the growing disconnect in today's online-first world, where face-to-face interactions, mentorship, and hands-on collaboration are often undervalued or overlooked. This loss is not only impacting our professional relationships, but also the therapeutic alliance we build with patients—an alliance rooted in presence, communication, and trust. Drawing from personal experiences and a career shaped by meaningful connection, I will share how every pivotal opportunity in my journey was sparked by intentional engagement. Together, we'll reflect on the importance of evaluating the quality—not just the quantity—of our educational and professional opportunities, and how we can foster a culture of connection among students, early career professionals, and ourselves. This is a call to re-engage—with purpose, with people, and with the profession we love.

9:30 AM – 10:00 AM
HALL 4

Coffee Break, Exhibit Hall & e-Posters

10:00 AM – 11:00 AM **Instructional Concurrent Session 4** 1 CE Hour

255 DEF

The Power of Collaborative Care in Treating Complex Cases
Saba Kamal, OTR, CHT
Gregory Buncke, MD

Clinical reasoning is at the heart of effective therapy and surgery. In complex cases, it takes a powerful blend of knowledge, expertise, and teamwork to achieve the best outcomes for patients. Surgeons and therapists, each with their specialized skills, play crucial roles in navigating these intricate cases, working together to create personalized treatment plans that address every angle of a patient's needs. During this session, participants will gain insight into shared decision-making, coordinated treatment planning, and communication strategies to optimize patient care.

355 BC

Bionic Reconstruction for the Painful, Non-functional Upper Extremity
Alta Fried, MS, OTR/L, CHT
Ajul Shah, MD

This presentation will introduce attendees to the trail-blazing concept of bionic reconstruction for the non-functional hand and upper extremity either from a brachial plexus injury or severely mangled hand that was salvaged but has no function. The presentation will detail the ideal candidate selection process as well as the pre-surgical rehabilitation and mental health care that is required before undergoing the elective amputation. We will discuss the surgical techniques and outcomes based on each level of amputation, the post-operative rehab, the prosthetic selection process, and prosthetic training.

255 BC

A Musician-Centered Approach to Prevention and Rehabilitation of UE Musculoskeletal Overuse Injuries in Instrumental Musicians
Aviva L. Wolff, EdD, OTR, CHT

Musicians are elite athletes of the upper extremity, yet many struggle with performance-related musculoskeletal injuries that can limit their careers. Despite this, clinician training

lacks a deep understanding of the unique physical demands placed on musicians, leaving a critical gap in injury prevention and treatment. This interactive session will equip participants with the tools to assess, prevent, and manage injuries in instrumentalists using an evidence-based approach. Learn how to identify faulty movement patterns, poor practice habits, and postural imbalances that contribute to pain and dysfunction. Through hands-on demonstrations and an interactive video analysis of playing posture, attendees will develop practical strategies to optimize movement, enhance performance, and support safe return to play. We will explore the Movement System Impairment (MSI) framework, ergonomic modifications, and targeted strengthening programs to address the physical demands of playing an instrument. Join us in bridging the gap in clinician training and help musicians play pain-free!

355 EF

Flexor Tendon Rehabilitation: Understanding the Anatomy, Science, and Rationale for Post-Operative Protocols
Hels March, OTR/L, CHT

I never thought I'd look forward to having a brand-new flexor tendon repair patient on my caseload and yet here I am. This is hands down my favorite diagnosis to treat. Do you want to understand the rationale behind the protocols, not only the "what" but also the "why"? Do you wish to apply your clinical reasoning in order to optimize your outcomes? Are you looking for flexor tendon rehabilitation hacks to prevent and address complications? Do you want to feel less intimidated and even excited, to meet your next flexor tendon patient? This presentation aims to make sense of the science as it applies to healing tendons, then take that understanding to implement the appropriate protocol as we develop and tweak our treatment of this fascinating and, at times, frustrating patient population.

11:00 AM – 11:15 AM — Transition Break

11:15 AM – 12:15 AM — Instructional Concurrent Session 5 1 CE Hour

255 DEF

The Rational Clinical Exam of the Hand and Wrist
Travis Doering, MD
Emily Brackenridge, MS, OTR/L, CHT

This interactive tutorial offers a hands-on approach to evidence-based examination of the hand and wrist. Participants will work in pairs to master a systematic protocol informed by the latest biomechanical and anatomical research. Participants will learn to correlate physical findings with underlying anatomical structure, recognize patterns of dysfunction, differentiate between similar pathologies, and apply and interpret provocative tests. Attendees will develop a structured approach that enhances clinical efficiency and diagnostic accuracy, leading to more targeted treatment plans based on sound biomechanical principles.

255 BC

Are We Using Orthotic Mobilization Principles Effectively? A Review of Currently Accepted Practices
Eli Yovits, OTR/L, CHT

Are your mobilization orthotics built for success? You may know how to fabricate a static progressive or dynamic orthosis, but are you following the key principles that ensure optimal patient outcomes? Many hand therapists receive minimal formal training in mobilization orthotics, leaving room for uncertainty in design, force application, and effectiveness. This session will break down currently accepted mobilization principles into a clear and practical format. Through real-world case studies and interactive discussion, we'll evaluate common pitfalls and explore best practices to ensure that your patients receive the most effective and efficient care. Join this session to gain practical insights, refine your approach, and ensure your mobilization orthotics are as effective as possible. Walk away with the knowledge and confidence to apply these principles correctly and make a real impact on your patients' recovery.

355 BC

Targeted Brain Rehabilitation: A Virtual Reality Training Program to Treat Phantom Limb Pain
Bryan J. Loeffler, MD
Glenn Gaston, MD
Marcie Siebert, MS, OTR/L, CHT

In this concurrent session, attendees will be introduced to a scientifically based rehabilitation program using virtual reality for patients with phantom limb pain. The Targeted Brain Rehabilitation (TBR) program includes re-training laterality recognition, guided meditation, a virtual mirror feedback, and guided phantom limb control. Attendees will learn the rationale and design of TBR, how to incorporate this treatment technique into a rehabilitation program and have the opportunity to trial the TBR system in a VR headset.

355 EF

Blazing the Trail Together: A Collaborative Evaluation Model for Pediatric Hand Surgery
Roger Cornwall, MD
Jenny Dorich, PhD, MBA, OTR/L, CHT
Amanda Holland, OTR/L, CLT

This session is designed to share a collaborative approach hand therapists and hand surgeons can apply to pre-surgical assessment for children who are considering elective hand surgery. The lecture content will provide an overview of the surgeon's perspective in this model, as well as the therapist's approach to this form of evaluation. The therapist's application of goal setting with the child and family and how the therapist/surgeon team applies the goals to inform shared surgical decision making will be demonstrated through case examples. Course participants will be engaged in discussion of case examples and question and answer with the instructors to facilitate translation of the content into practical clinical application.

12:15 PM – 1:45 PM **Lunch, Exhibits, Posters**

HALL 4

After picking up your boxed lunch, there are many ways to spend your lunch time! Attend one of the lunchtime lectures and earn CE hours. Browse the Exhibit Hall. View the e-Posters on the digital kiosks in the Exhibit Hall or on the on-demand platform. Network with colleagues. ASHT division and committee meetings will also be held during this time; if you are interested in possibly volunteering for one of the divisions or committees, you can ask to sit in on a meeting to learn more about active initiatives.

FRIDAY, OCTOBER 24 (CONTINUED)

12:30 PM – 1:00 PM	**Reimagining Immobilization: Functional Cast Therapy Meets Ready-to-Wear Innovations – Sponsored by Essity**
355 BC	Carl Lindsey, OTC, COF, ROT, CWCMS Essity, formerly known as BSN Medical, will provide a focused overview of Functional Cast Therapy (FCT) and its application in creating a thumb spica cast for semi-rigid immobilization. Participants will learn when and how to apply this technique based on clinical indications. The session also introduces the Actimove® Manus Air: our first ready-to-wear stabilizing fracture wrist brace. With its low-profile, open-frame design, the Manus Air offers effective stabilization while allowing easy post-op wound inspection.
12:30 PM – 1:30 PM	**Lunchtime Sessions**
255 BC	**Hand Therapy Certification Commission: Preparing for the CHT Exam** 1 CE Hour Martin Walsh, OTR/L, CHT This session is presented by Martin Walsh, OTR/L, CHT and a panel of therapists who recently passed the Hand Therapy Certification Examination. It will describe detailed statistics regarding exam, along with insights from new CHTs about their successful preparation strategies.
255 DEF	**International Luncheon: Healing Hands in the Middle East: Training Therapists to Treat Upper Extremity Combat Trauma** 1 CE Hour Aviva Wolff, EdD, OTR, CHT Supported by the AHTF Evelyn Mackin International Education Grant, this session explores a global health initiative focused on training therapists in upper extremity rehabilitation for combat trauma in the Middle East. Drawing on direct field experience, the presenter shares insights into delivering care in austere, conflict-affected settings, building local clinical capacity, and navigating the complex interplay of trauma, resilience, and cultural context. This session highlights the expanding role of hand therapists in humanitarian response and global rehabilitation equity.
355 EF	**Student Meet-Up** Sarah Schmeda Kothe, OTD, OTR/L, CHT Stacy Hite, PT, DPT, MS, CHT The student meet-up is an excellent chance to meet and mingle with fellow student attendees at the ASHT Annual Meeting. The meet-up will include information on ASHT student offerings, tips and tricks for a level 2 fieldwork experience or clinical rotation in hand therapy and a fun activity to flex your creativity.

FRIDAY, OCTOBER 24 (CONTINUED)

1:45 PM – 2:45 PM | **Scientific Session 1 | Sponsored by AHTF** 1 CE Hour

HALL 3

Improving Patient-Reported Outcome Measure Selection for Pediatric Hand Function
Meagan Pehnke, MS, OTR/L, CHT, CLT

Relative Motion Extension Splint for Treatment Of Flexor Tendon Adhesions: Proof of Concept
Alta Fried, MS, OTR/L, CHT

Exploring Centralized Mechanisms of Pain in persons with Non-Operative Thumb Carpometacarpal Osteoarthritis: A Quantitative Cross-sectional Study
Corey McGee, PhD, MS, OTR/L, CHT, FAOTA

Social Media Use Amongst Occupational Therapists Serving Individuals with Upper Extremity Disorders
Laurie Rogers, DHSc, OT, CHT

Implementation Determinants of Upper Extremity Injury Prevention Programs in Music Education: Insights from the Musculoskeletal Health for Musicians (MHM) Project
Aviva Wolff, EdD, OTR, CHT

Filling the Knowledge Cup: Making Every Drop Count for Hand Therapy Research
April Cowan, OTR, OTD, CHT

Comparing Outcomes of Conservative Rehabilitation Protocols for Camptodactyly in Paediatric Patients: A Retrospective Cohort Study
Emily Ho, PhD, OT Reg. (Ont.)

Determining the Inter and Intra Rater Reliability of the Complete Minnesota Dexterity Test in the Seated Position
Sarah Doerrer, PhD, OTR/L, CHT, CLT

Exploring Rehabilitation Practices Following Nerve Transfer Surgery for Adult-Acquired Brachial Plexus Injury: An Online Survey of Therapists
Joshua Lucas, OTS

Rehabilitation for Lateral Elbow Pain: A Comparative Effectiveness Pilot Randomized Controlled Trial (Preliminary Findings)
Aviva Wolff, EdD, OTR, CHT

2:45 PM – 3:30 PM | **Plenary Session 5 | Nathalie Barr Award Lecture** 0.75 CE Hours

HALL 3

Embracing our Challenges to Evolve and Elevate our Professional Specialty
Gary Solomon, MBA, MS, OTR/L, CHT

This talk will examine the challenges of the hand therapy specialty from a professional and personal perspective and provide focused recommendations for us to achieve a brighter and more sustainable future in a turbulent environment.

3:30 PM – 4:00 PM | Coffee Break, Exhibit Hall & e-Posters

HALL 4

FRIDAY, OCTOBER 24 (CONTINUED)

4:00 PM – 4:30 PM	**Plenary Session 6 | AAHS President-Elect 0.5 CE Hours**
HALL 3	**Understanding and Managing Thumb CMC Arthritis: An Alternative to Traditional Resection Arthroplasty** Miguel A. Pirela Cruz, MD The surgical management of carpometacarpal (CMC) arthritis of the thumb is continuously evolving. Traditional approaches, particularly resection arthroplasty which involves the excision of the trapezium, are being reevaluated in light of resurfacing arthroplasty techniques for the CMC joint. The presenter will explore critical aspects of these alternative surgical interventions, offering insights into the surgical intricacies involved. The primary goal is to enhance the confidence of hand therapists in the postoperative care of patients who have undergone CMC surgery for arthritis.
4:30 PM – 5:00 PM	**Plenary Session 7 | Practice Division Update: Policy Trends & Hand Therapy 0.5 CE Hours**
HALL 3	Ann Marie Feretti, EdD, OTR/L, CHT This presentation will provide advocacy and legislative updates from the current year regarding hand therapy. This session includes discussion about ASHT Practice Division activity, insight into the critical role of policymaking on shaping payment and practice. The session will also include updates on the progress we have made this year as well as an outlook for what lies ahead, including with respect to orthotic coverage, Medicare reimbursement and efforts to reduce burdensome red tape impacting hand therapists.
5:00 PM – 5:15 PM	Transition Break
5:15 PM – 6:15 PM	**Instructional Concurrent Session 6 1 CE Hour**
355 BC	**Embracing Imposter Syndrome: A Trail Guide to Finding Self-Compassion** Sabrina Glover, OTD, OTR/L Theresa Hallenen, DHSc, MS, OTR/L, CHT Megan Vrooman, MOT, OTR/L Whether you're a novice therapist just starting your journey or an experienced clinician looking to reconnect with your confidence, this presentation will provide you with the insights and tools to better manage and overcome imposter syndrome. By acknowledging these feelings and addressing them head-on, therapists can create a healthier, more balanced relationship with themselves and their clients that can enhance both our personal well-being and professional effectiveness.

FRIDAY, OCTOBER 24 (CONTINUED)

255 BC

Advancing Professional Excellence in Traumatic Nerve Injury Rehabilitation: Comprehensive Treatment and Clinical Reasoning Strategies
Ho Wing Kelvin Fung, PT, CHT

Join us for an engaging session focused on comprehensive rehabilitation strategies for traumatic nerve Injury. We will explore effective assessment and treatment methods that prioritize patient outcomes. This presentation will highlight innovative approaches to managing traumatic nerve injuries, emphasizing the importance of clinical reasoning and tailored rehabilitation plans. Participants will actively engage in discussions about mobility training, hand protection, and prevention of secondary deformities. We will explore evidence-based practices and multidisciplinary perspectives that enhance recovery and empower therapists to deliver high-quality care. By attending, you will gain valuable insights into setting realistic goals, managing expectations, and fostering resilience in both patients and practitioners. Don't miss this opportunity to expand your knowledge and skills in traumatic nerve injury rehabilitation while connecting with fellow professionals committed to advancing the field. Join us to blaze a new trail in hand therapy!

255 DEF

Early vs. Late Ehlers Danlos Syndrome Diagnosis: How It Shapes Your Management Journey
Saba Kamal, OTR, CHT

Learn how to identify the root cause of insidious hand pain in individuals with hypermobility and provide effective pain relief without stretching the ligaments. Explore comprehensive management strategies, from using functional splints to incorporating proprioception, postural exercises and managing nerve symptoms from neck to fingertips. Gain practical knowledge with case studies on taping techniques, effective splinting, and how to address the unique challenges of this population. Understand the PENTAD and its impact on therapy and make a compelling economic case for early diagnosis and targeted treatment of EDS to improve long-term outcomes and reduce healthcare costs.

355 EF

Clinical Practice Poster Spotlight 1

Enhancing Upper Extremity Rehabilitation Through Remote Therapeutic Monitoring (RTM): Innovations and Applications
Jessie Perchaluk, OTD, MS, OTR/L, CHT, CLT

The Use of Blood Flow Resistance Exercises in the Treatment of De Quervain's Tenosynovitis
Steven Sorensen, PT, DPT, CHT, OCS

A Novel Method to Quantify Thumb Stability During Pinch
Nicole Hoover, MS, OTR, CHT

Functional Neurological Disorder Explained: Recognizing Functional Behavior
Hannah Gift, OTR/L, CHT, COMT, CEAS

FRIDAY, OCTOBER 24 (CONTINUED)

7:00 PM – 10:30 PM — **Summit & Sip – "Après-Ski" Social Night (ticketed event)**

GARDEN PLACE (OFF-SITE)

Join us for dancing, food, drinks, and FUN! Our conference party is being held at the beautiful Garden Place in the historic Utah State Park. The rustic elegance of the Garden Place is impressive with the warm feeling of a mountain lodge. The inside is spectacular with an open beam ceiling and a lovely large rock fireplace. French doors open to a beautiful patio, waterfall, massive outdoor fireplace, a majestic mountain view.

Buses will leave the Radisson Hotel at 7:00 PM

SATURDAY, OCTOBER 25

8:00 AM – 9:00 AM — **Instructional Concurrent Session 7 1 CE Hour**

355 BC

Management of Upper Extremity Ballistic Injuries: A Surgeon and Hand Therapist's Perspective
Nicole Bickhart, OTD, OTR/L, CHT
Alexander Hahn, MD

The news headlines of active shooter and gunshot victims have become an all-too-common reality in today's society. Gunshot violence is a significant public health issue facing healthcare providers. This session will share multi-disciplinary perspectives from practitioners working in an urban center who treat a high volume of ballistic injuries to the upper extremity. We will explore multiple considerations affecting patients with a ballistic injury to the upper extremity. Using a case study format, participants will delve into the clinical decision-making process needed in the management from the acute, post-operative, and rehabilitative phases of recovery.

355 EF

Management of Extensor Tendon Injury Complications in Zones III Through Zone VII
Rebecca Saunders, BsPT, CHT

This course will provide a review of extensor tendon anatomy and biomechanics. Management of complications and deformities in these zones will be illustrated through lecture, case presentations and videos.

255 DEF

Collaborative Leadership for Sustainable Growth in Hand Therapy
Juliet Steffe, EdD, OTD, OTR/L, CHT
Stephanie Strouse, OTD, OTR/L, CHT

The session will examine the trend toward collaborative leadership and how this will impact healthcare and hand therapy. Those currently in leadership or management positions and aspiring to develop their leadership skills will gain insight into applying the collaborative leadership model in their practice setting. Participants will also explore how collaboration can sustain and grow the hand therapy profession. Participants will assess their collaborative leadership strengths and identify areas that require growth. Application of the collaborative leadership model will be provided through participant leadership activity, case studies, and panel discussions.

SATURDAY, OCTOBER 25 (CONTINUED)

255 BC

Identifying Complex Pain in Upper Extremity Patients
Karen Mainzer, OT, CHT, TPS
Rhonda Marsh, OTR/L, CHT

When treating patients with upper extremity pain, it's essential to distinguish between simple and complex acute pain, as the management and outcomes differ significantly. Acute upper extremity patients may present with medical and/or psychosocial yellow flags; early identification of these yellow flags is critical as their presence increases the risk for developing pain complexities such as complex regional pain syndrome. Attendees will gain resources and techniques to identify these risk factors through the use of patient reported outcomes measure and a thorough subjective history. Pain has a significant impact on quality of life, the overall health of patients, and the cost to our healthcare system. As we transition to value-based care, it is essential to identify these risk factors to treat patients more effectively.

9:00 AM – 9:15 AM — Transition Break

9:15 AM – 10:15 AM — Instructional Concurrent Session 8 1 CE Hour

355 EF

Anchoring the Role of Hand Therapy into the Future of Upper Limb Prosthetics: An Exploration of the Considerations of Osseointegration
Kelly Dunbar Hawkins, OTR/L, CHT
Brian Monroe, CPO
Amy Todd, MS, OTR/L, CHT

Osseointegration (OI) has recently become available for compassionate care use in the US and has changed the lives of individuals with transhumeral limb loss for the better. The risk/benefit balance of this procedure has continued to shift as it addresses several of the challenges that exist within current prosthetic designs and as more outcomes are gathered. As this procedure becomes more common, it is paramount that therapists understand the surgery, the rehabilitation protocol, and their important role on the interdisciplinary team from the onset of care. Using case studies and lecture components, including the perspective of the prosthetist, this course will review the protocol for upper limb amputation rehabilitation after OI, as well as the prosthetic considerations needed to interface with OI componentry, and provide useful strategies for becoming an integrated member of the care team from the beginning to optimize positive outcomes for patients who have undergone OI surgery.

255 BC

The Spastic Arm: Assessment Across the Lifespan
Kailey Bedford, MOT, OTR/L, CHT
Hannah Gift, OTR/L, CHT, COMT, CEAS

The upper extremity therapist toolbox is very well suited for orthopedic assessments, but does it feel suited for the referral of a child with cerebral palsy referred for an upper extremity specialty evaluation? Or when the surgeon calls and asks your opinions about surgical planning for an older adult with spasticity after a stroke? This presentation will look at assessments available for assessing spasticity across the lifespan, including video examples to show common movement patterns. The presentation will also highlight surgical options that may be available, how the therapist can assist with surgical planning, and how the therapist can assist with advocating for patients affected by spasticity in their upper extremity.

SATURDAY, OCTOBER 25 (CONTINUED)

355 BC

Using Relative Motion Exercise Orthoses to Improve Hand Function and Manage Difficult Proximal Interphalangeal Joint Impairments
Brian Bennett, OTR/L, CHT
Andrew Bracken, MOT, OTR/L, CHT

Relative motion extension orthoses are commonly used by hand therapists to protect extensor tendon repairs in their patients while allowing motion to the involved digit. Recent evidence suggests that relative motion orthoses have value both as a protective orthosis, as well as an exercise orthosis. This concept of using a relative motion orthoses to position the metacarpophalangeal joint to promote or reduce extensor digitorum communis and flexor digitorum profundus tendon excursion is being considered for proximal interphalangeal joint stiffness or extensor lag due to injury or surgery. This presentation will review the concepts of relative motion, discuss a relative motion exercise orthosis algorithm for limited finger movement and its utility in the clinical decision-making process, and identify ways hand therapists are using relative motion exercise orthoses to improve patients' functional outcomes. We will also discuss factors that impact patients' compliance wearing the orthosis.

255 DEF

Self-Care Toolbox for Clinicians: Tools and Techniques for Being Your Best Self and Enjoying Your Day at Work
Stacy Hite, PT, DPT, MS, CHT

This session will provide evidence-based information and experiential learning opportunities for cultivating self-care and resilience tools for challenging times in and outside the clinic. A variety of tools that leverage the strengths of the body, mind and spirit will be presented and practiced. Tools and techniques will include breath work, mindful movement, medical therapeutic yoga, leveraging character strengthens and building healthy boundaries. We are able to provide our best care when we are our best selves. The goal of this course is to help you be your best.

10:15 AM – 10:40 AM
HALL 4

Coffee Break, Exhibit Hall & e-Posters

10:40 AM – 11:45 AM | **Scientific Session 2 | Sponsored by AHTF** 1 CE Hour

HALL 3

Asymmetrical Arm Swing During Gait in Children with Brachial Plexus Birth Injury
Meagan Pehnke, MS, OTR/L, CHT, CLT

Aquatics Therapy for Brachial Plexus Birth Injury
Jennifer Wingrat, ScD, OTR/L

The Relationship Between Kinesiophobia and Disability in Persons with Thumb Carpometacarpal Osteoarthritis
Filiz Dikmen, OTD, OTR/L

Clinical Documentation Practices and Perspectives of Hand Therapists: A Cross-Sectional Survey Study
Katherine Loomis, PhD, OTR/L, CHT

Translation, Validity, and Reliability of the Thumb Disability Exam Questionnaire into Spanish
Olga Hincapie, PT, DPT, CHT

Casting Motion to Mobilize Stiffness Improves Range of Motion and Function in the Stiff Hand
Kantessa Stewart, OTR/L, CHT

The Impact of Early ADL Participation on Functional Outcomes Post Distal Radius Fracture: A Pilot Study
Sarah Doerrer, PhD, OTR/L, CHT, CLT

Effectiveness of Orthotic Devices After Cervical Spinal Cord Injury: A Systematic Review
April Cowan, OTR, OTD, CHT

An Exploratory Study on the Predictors of Lifelong Participation in Adults with Upper Limb Musculoskeletal Differences
Emily Ho, PhD, OT Reg. (Ont.)

Observed Treatment and Patient Characteristics Associated with Carpometacarpal Osteoarthritis in an Outpatient Occupational Therapy Setting
Michele Auch, OTD, OTR/L, CHT

11:45 AM – 12:15 AM | **Plenary Session 8 | MacDermid Lifetime Scientific Award Lecture** 0.5 CE Hours

HALL 3

Lessons Learned from a 44-Year Research Career
Virgil Mathiowetz, PhD, OTR/L, FAOTA

Virgil will describe his background that led to his academic and research career. He will describe highlights of his rehabilitation research career, which led to the lessons learned from his experiences. He will conclude with what he sees as the benefits of a research career.

12:15 PM – 1:45 PM | **Lunch, Exhibits, Posters**

HALL 4

After picking up your boxed lunch, there are many ways to spend your lunch time! Attend a lunchtime lecture and earn CE hours. Browse the Exhibit Hall. View the e-Posters on the digital kiosks in the Exhibit Hall or on the on-demand platform. Network with colleagues. ASHT division and committee meetings will also be held during this time; if you are interested in possibly volunteering for one of the divisions or committees, you can ask to sit on in a meeting to learn more about active initiatives.

SATURDAY, OCTOBER 25 (CONTINUED)

12:30 PM – 1:00 PM | **An Introduction to Myoelectric Technology in UE Rehabilitation – Hands-on Demo by Myomo**

355 BC

Stefanie Dunaway, MS, OTR/L, Clinical Services Manager, Myomo Inc.

This session will introduce attendees to the latest in rehabilitation for the upper extremities utilizing a myoelectric orthosis. Attendees will learn which clients are appropriate for this technology, understand how myoelectric technology works, the role of the therapist in treating users of myoelectric orthoses and learn about the evidence supporting the use of this type of technology to enhance neurorehabilitative and functional outcomes.

12:30 PM – 1:30 PM | **Lunchtime Sessions**

255 DEF

Empowered to Lead: Shaping the Future of Hand Therapy 1 CE Hour

Educating the Educator: Exploring Communication, Learning, and Teaching Styles to Promote Successful Fieldwork Opportunities
Emilia Pollnow, MS, OTR/L, CHT

Orthosis Online: A Tool Connecting Therapists to Clinical Orthosis Application
Hayley Brown, Physiotherapist, CHT

Standardized Hand Therapy Elective Course for Students Interested in a Level II Placement
Adrienne Tesarek, OTR/L, CHT

Sustaining a Volunteer Hand Clinic in the Navajo Nation
Tauni Bird, OTD, OTR/L

Development of a Pediatric Hand Therapy Fieldwork II Curriculum
Jessica Knapp-Johnson, MOT, OTR/L, CHT

Considerations and Resources for Managing Burnout with Specialized Practitioners in Rural Hospitals
Elizabeth Allstadt, MS, OTR/L, CHT

Teaming Up: Utilizing Microsoft Teams to Improve Intraorganizational Communication Between Therapists
Courtney Wood, OTR/L, CHT

Multidisciplinary Clinics: Enhancing Patient Outcomes with Advanced Therapy Practitioners
Sarah Johnson, OTRL

Building Competencies and Confidence: Expanding Learning Pathways in Pediatric Hand Therapy
Heather Hopkins, MA, OTR/L, CHT

How Can Clinical Instructors Leverage Emotional Intelligence Assessments and Personality Profile Results to Improve Student Fieldwork Experiences and Performance?
Sarah Whitworth, OTR, OTD, CHT

Leading Change: Integrating Prehabilitation Before Elective Upper Extremity Surgery
Tondalaya Brainard, DrOT, CHT, CLT

SATURDAY, OCTOBER 25 (CONTINUED)

1:45 PM – 2:30 PM | **Plenary Session 9 | International Invited 0.75 CE Hours**

HALL 3

Splinting Throughout the Care Pathway: Between Clinical Reasoning and Practical Knowledge
Grégory Mesplié, PT, CHT

Orthotics play a fundamental role in the care of patients with hand injuries. Their primary purpose is to protect damaged structures while allowing joint movement without placing excessive strain on these elements. They can also be used to limit or promote range of motion and support patients as they resume professional and sporting activities. Their manufacture and the choice of orthosis type according to anatomical, kinematic, scarring and clinical requirements requires expertise combining practical technical skills, physiological knowledge and advanced clinical reasoning. The purpose of this presentation is to propose orthotic protocols that meet these requirements and are adapted to the collective work of the healthcare team to optimise care results while moving towards sustainable development.

2:30 PM – 3:15 PM | **Plenary Session 10 | Incoming Presidential Address, Named Awards, and Closing Remarks 0.75 CE Hours**

HALL 3

Atomic Advocacy
Danielle Sparks, DHS, MOT, OTR, CHT

Atomic advocacy is about precision, personalization, and tenacity. Using small, specific, targeted actions towards advocacy in everything we do impacts the profession as a whole. Breaking down advocacy into its smallest effective units -just like atoms in physics & chemistry-we can build a superior impact. This can occur colloquially and through atomic shifts in mindset. Specifically, through self-recognition of the value brought to each patient we treat. This talk will discuss the concept of "atomic advocacy" and the ways we see it in our routine patient care and ways we can incorporate and develop advocacy vastly for the hand therapy specialty.

Named Awards

Closing Remarks
Kim Masker, OTD, OTR/L, CHT
Cara Smith, PT, DPT, CHT, MSHA

3:15 PM – 3:45 PM | Coffee Break

3:45 PM – 4:45 PM | **Instructional Concurrent Session 9 1 CE Hour**

355 BC

Increasing Entry-Level Upper Extremity Rehabilitation Competence for Students Seeking Employment in Outpatient Settings
Maud Makoni, OTD, MA, CHT

Fieldwork preparedness in outpatient hand therapy requires more than traditional coursework. This presentation introduces an innovative, mentorship-driven model designed to bridge the gap between academic learning and clinical competency. Participants will analyze the program's goals and structure, apply its teaching model to align academic, extracurricular, and clinical experiences, and evaluate essential strategies for sustainable program development.

SATURDAY, OCTOBER 25 (CONTINUED)

255 BC

Lifestyle Medicine Approaches for Chronic Pain and CRPS
Kelli Garfield, OTR/L

Chronic pain and CRPS are conditions that can be challenging both physically and emotionally for those affected. How do we as clinicians provide rehabilitation for these patients beyond our traditional approaches? With this presentation, we will be exploring integrative approaches of lifestyle medicine concepts as a supplement to our traditional practices. Lifestyle medicine is a medical specialty that uses evidence-based therapeutic lifestyle approaches to treat chronic conditions through six main pillars. These pillars consist of nutrition, physical activity, restorative sleep, stress management, social connections, and avoidance of risky behaviors. By integrating lifestyle medicine, we can help those suffering from pain have a positive direction to improve their overall health and wellness and improve quality of life for those living with chronic pain.

255 DEF

Is CMC Pain a Joint Problem or a Skin Problem?
Alison Taylor, OTR/L, CHT, CKTI

This presentation will be a fun way to challenge the concept of "we can't do anything for CMC arthritis." This session will demonstrate the various tools in our toolbox for the CMC joint as we can quickly and easily eliminate pain, especially when patients have full range of motion. The focus of this presentation will be on the sensory branch of the radial nerve and its impact on pain.

355 EF

Clinical Practice Poster Spotlight 2

Early Mobilization and Physiotherapy Techniques for Addressing Complications in High-TBSA Upper Extremity Burns: From Acute Care to Functional Independence - A Case Study
Ho Wing Kelvin Fung, PT, CHT

The Helping Hand: Enhancing Hand Therapy Education Through Cadaveric and Video-Based Learning Among Entry-Level Therapy Students
Blayne Townsend, OTR, OTD

Integrating Blood Flow Restriction as an Innovative Approach to Upper Extremity Rehabilitation
Tara Ruppert, OTD, OTR/L, CHT

Addressing Psychosocial Needs for Adults with Traumatic Upper Extremity Injuries and Pain Through a 4 Week Activity Group
Julia Laughlin, OTD

4:45 PM – 5:00 PM

Transition Break

SATURDAY, OCTOBER 25 (CONTINUED)

5:00 PM – 6:00 PM | **Instructional Concurrent Session 10** 1 CE Hour

355 BC

What's to Love About the Little Finger? An Insider's Guide to the Little Finger and Digital Differences
Louann Gaub, MSA, OTR/L, CHT

What's so special about the little finger? It is the weakest finger, it often doesn't have both of its flexor tendons, and it is the most frequently fractured finger during fits of extreme anger. Its very name suggests that it is inconsequential, yet it can irritatingly show its self-importance when drinking tea in a posh setting. This presentation will highlight the unique qualities and tribulations of the small finger in injury, splinting, and surgical intervention.

355 EF

Optimizing Self-Management for Chronic Hand Pain: Barriers, Facilitators, and Clinician Perspectives
Ricky Altahif, OTD, OTR, CHT
Christine Davis, OTD, OTR

Self-management strategies are critical for patients with chronic hand pain, yet adherence remains a challenge. This session will explore the practice patterns of hand therapists in prescribing self-management strategies and their perceptions of patient adherence before and after therapy initiation. Through a cross-sectional survey of hand therapy practitioners, this study identifies commonly used strategies, perceived barriers, and facilitators to self-management. The session will also examine clinician-reported factors that enhance or hinder adherence, such as patient education, accessibility, and systemic barriers.

At the conclusion of this session, participants will have a deeper understanding of clinician-perspectives on chronic hand pain self-management, patient adherence trends, and strategies to promote lasting self-care habits that improve patient outcomes.

255 DEF

Hand Therapy Fellowships: A Look Back Over 10 Years. What We have Learned, What is the Current State, and How to Grow for the Future
Peggy Faussett, MOTR/L, CHT
Sarah Schmeda Kothe, OTD, OTR/L, CHT
Jeremy Jackson, OTD, OTR/L
Alexandra MacKenzie, OTR/L, CHT
Ranee Munaim, MS, OTR/L, CHT
Virginia H. O'Brien, OTD, OTR/L, CHT

Hand therapy fellowships are an individualized way to provide mentorship and training to cultivate the next generation of hand therapists. Whether you are interested in building a new hand therapy fellowship or seeking out the opportunity to become the next hand therapy fellow, this session is for you! Through a panel of experienced hand therapy fellowship coordinators and mentors, we will share a brief history of hand therapy and upper extremity fellowships, the purpose and benefits of fellowships, ideas to build didactic content and experiences, best practices for providing mentorship for mentors and mentees, and additional tips and tricks we have learned along the way.

255 BC

Hand Therapist's Management of Wrist Injuries in Softball and Baseball Players
Michael Mueller, OTR/L, CHT
Alexandra Vertus, MS, OTR/L, CHT

Softball and baseball are two of the most popular participation sports from youth through adulthood. The wrist is involved in almost every aspect of softball and baseball, including fielding, throwing, pitching, and hitting at all ages and levels of play. In recent years, we have seen an increase in wrist injuries, and they require sport-specific treatment skills for the upper extremity specialist managing these athletes to safely return them to play. This session will discuss the specialized evaluation and treatment of the wrist in softball and baseball players to safely return them to all aspects of play, including throwing, pitching, fielding, and hitting. There will be a biomechanical approach to the wrist in all aspects of play and the differences between softball and baseball.

6:00 PM – 6:15 PM — Transition Break

6:15 PM – 7:45 PM — AHTF Happy Hour with a Scholar (ticketed event) 1 CE Hour

255 DEF

50 Years of Relative Motion: Changing Practice
Underwritten by North Coast Medical
Julianne W. Howell, PT, MS, CHT

Relative motion started out as a simple clinical concept, which applied the relationship between anatomy and motion delivered by a simple 'splint' to mobilized extensor tendons. After 50 years, not only has this use of relative motion been globally incorporated into therapy practice, new uses for both the concept and the orthosis continue to emerge.

This journey of relative motion reminds us that questions generated by clinicians can change practice. I am honored to share with you how collaborating with many clinicians contributed to the evolution of a simple clinical idea into a concept and orthoses supported by science.

SCHEDULE AT A GLANCE

ASHT 2025 ANNUAL MEETING

WEDNESDAY, OCTOBER 22

- **Pediatric Specialty Day (Ticketed Event) 8:00 AM - 6:00 PM (6.5 CE Hours)**
- **Welcome**
- **Resilient Foundation, Versatile Skills 8:15 AM - 9:15 AM**
- **Climbing New Heights, Advanced Clinical Skills 9:15 AM - 10:15 AM**
- **Coffee Break 10:15 AM - 10:45 AM**
- **Blazing a New Trail, Beyond Traditional Practice 10:45 AM - 11:45 AM**
- **Embracing our Future, Sustaining our Profession 11:45 AM - 12:15 PM**
- **Lunch 12:15 PM - 1:15 PM**
- **Instructional Concurrent Session 1 1:15 PM - 2:15 PM**
- **Transition Break | 2:15 PM - 2:30 PM**
- **Instructional Concurrent Session 2 2:30 PM - 3:30 PM**
- **Coffee Break | 3:30 PM - 3:45 PM**
- **Pediatric Protocols Panel 3:45 PM - 4:45 PM**
- **Closing Remarks | 4:45 PM - 5:00 PM**
- **Reception 5:00 PM - 6:00 PM**

THURSDAY, OCTOBER 23

- **4-Hour Pre-Conference Institutes (Ticketed Event) 8:00 AM - 12:00 PM (4 CE Hours)**
- **2-Hour Pre-Conference Institutes (Ticketed Event) 10:00 AM - 12:00 PM (2 CE Hours)**
- **Lunch (On Your Own) 12:00 PM - 1:00 PM**
- **Instructional Concurrent Session 1 1:00 PM - 2:00 PM (1 CE Hour)**
- **Transition Break | 2:00 PM - 2:15 PM**
- **Instructional Concurrent Session 2 2:15 PM - 3:15 PM (1 CE Hour)**
- **Transition Break | 3:15 PM - 3:30 PM**
- **Instructional Concurrent Session 3 3:30 PM - 4:30 PM (1 CE Hour)**
- **Coffee Break 4:30 PM - 5:00 PM**
- **Welcome to ASHT 2025! 5:00 PM - 5:30 PM**
- **Plenary Session 1 | Opening Panel 5:30 PM - 7:00 PM (1.5 CE Hour)**
- **Plenary Session 2 | Presidential Invited 7:00 PM - 7:30 PM | (.5 CE Hours)**
- **Welcome Reception & Poster Session 7:30 PM - 9:30 PM**

FRIDAY, OCTOBER 24

- **Let's Be New Together Breakfast Sponsored by BraceLab 6:45 AM - 7:45 AM**
- **Axogen Breakfast Symposium 6:45 AM - 7:45 AM**
- **Plenary Session 3 | Presidential Invited 8:00 AM - 8:45 AM (.75 CE Hours)**
- **Plenary Session 4 | Presidential Address 8:45 AM - 9:30 AM (.75 CE Hours)**
- **Coffee Break, Exhibit Hall, and Posters 9:30 AM - 10:00 AM**
- **Instructional Concurrent Session 4 10:00 AM - 11:00 AM (1 CE Hour)**
- **Transition Break | 11:00 AM - 11:15 AM**
- **Instructional Concurrent Session 5 11:15 AM - 12:15 PM (1 CE Hour)**
- **Lunch & Posters | 12:15 PM - 1:45 PM HTCC: Preparing for the CHT Exam (1 CE Hour); International Committee Lunch (1 CE Hour); Student Meet-Up 12:30 PM - 1:30 PM Essity Hands-on Demo | 12:30 PM - 1:00 PM Division/Committee Mtgs: Research, Leadership Dev., and Education**
- **Scientific Session 1 1:45 PM - 2:45 PM (1 CE Hour)**
- **Plenary Session 5 | Nathalie Barr Award Lecture 2:45 PM - 3:30 PM (.75 CE Hour)**
- **Coffee Break, Exhibit Hall, and Posters 3:30 PM - 4:00 PM**
- **Plenary Session 6 | AAHS President 4:00 PM - 4:30 PM (.5 CE Hour)**
- **Plenary Session 7 | Practice and Advocacy 4:30 PM - 5:00 PM (.5 CE Hour)**
- **Transition Break | 5:00 PM - 5:15 PM**
- **Instructional Concurrent Session 6 5:15 PM - 6:15 PM (1 CE Hour)**
- **Summit & Sip – "Après-Ski" Social Night (Ticketed Event) 7:00 PM - 10:30 PM Buses leave at 7:00 PM**

SATURDAY, OCTOBER 25

- **Instructional Concurrent Session 7 8:00 AM - 9:00 AM (1 CE Hour)**
- **Transition Break | 9:00 AM - 9:15 AM**
- **Instructional Concurrent Session 8 9:15 AM - 10:15 AM (1 CE Hour)**
- **Coffee Break, Exhibit Hall, and Posters 10:15 AM - 10:45 AM**
- **Scientific Session 2 10:45 AM - 11:45 AM (1 CE Hour)**
- **Plenary Session 8 | MacDermid Award Lecture 11:45 AM - 12:15 PM (.5 CE Hours)**
- **Lunch & Posters | 12:15 PM - 1:45 PM Leadership Poster Presentation (1 CE Hour); Research Community Meeting | 12:30 PM - 1:30 PM Myomo Hands-on Demo | 12:30 PM - 1:00 PM Division Mtgs: Outreach and Practice**
- **Plenary Session 9 | International Invited 1:45 PM - 2:30 PM (.75 CE Hours)**
- **Plenary Session 10 | Incoming Presidential Address, Named Awards, and Closing Remarks 2:30 PM - 3:15 PM (.75 CE Hours)**
- **Coffee Break, Exhibit Hall, and Posters 3:15 PM - 3:45 PM**
- **Instructional Concurrent Session 9 3:45 PM - 4:45 PM (1 CE Hour)**
- **Transition Break | 4:45 PM - 5:00 PM**
- **Instructional Concurrent Session 10 5:00 PM - 6:00 PM (1 CE Hour)**
- **Transition Break 6:00 PM - 6:15 PM**
- **AHTF Happy Hour with a Scholar (Ticketed Event) 6:15 PM - 7:45 PM (1 CE Hour)**

CLINICAL PRACTICE POSTERS

Clinical practice posters are non-research posters that can highlight a clinical innovation, a complex case, a knowledge translation or clinical implementation story. Clinical practice posters can be viewed on site on the kiosks in the Exhibit Hall or through the ASHT on-demand platform. Additionally, several clinical practice posters will be highlighted at two spotlight sessions on Friday from 5:15 PM to 6:15 PM and Saturday from 3:45 PM to 4:45 PM.

Improving Upper Extremity Awareness and Function: Considerations for Modified Constraint Induced Movement Therapy
Amy Sitabkhan, OTR, OTD

Early Mobilization and Physiotherapy Techniques for Addressing Complications in High-TBSA Upper Extremity Burns: From Acute Care to Functional Independence - A Case Study
Ho Wing Kelvin Fung, PT, CHT

Caring for Pediatric Clients with Arthrogryposis Multiplex Congenita: The Development of an Occupational Therapy Continuing Education Course
Amy Sitabkhan, OTR, OTD

Integrating Blood Flow Restriction as an Innovative Approach to Upper Extremity Rehabilitation
Richard Rodriguez, OTD

The Use of Blood Flow Resistance Exercises in the Treatment of DeQuervain's Tenosynovitis
Steven Sorensen, PT

The Helping Hand: Enhancing Hand Therapy Education Through Cadaveric and Video-Based Learning Among Entry-Level Therapy Students
Blayne Townsend, OTR, OTD

Dry Needling Knowledge in the Field of Occupational Therapy
Alexander Richey, PTA

Integrating Artificial Intelligence in the OT Classroom to Enhance Hand Therapy Education
David Plutschack, OTD, CLT

Enhancing Upper Extremity Rehabilitation Through Remote Therapeutic Monitoring (RTM): Innovations and Applications
Jessie Perchaluk, OTD, MS, OTR/L, CHT, CLT

Addressing Psychosocial Needs for Adults with Traumatic Upper Extremity Injuries and Pain Through a Four-Week Activity Group
Julia Laughlin, OTD

Identification, Triage, and Treatment of Upper Extremity Pain and Edema Frequently Impacting Pregnant and Postpartum Women
Ella Schnepp, OTR/L

Integrating Upper Extremity Rehabilitation in Occupational Therapy and Physical Therapy Curricula for Comprehensive Excellence
Sharniece Pierce, OTD, OTR/L, CLT-UE, CEAS, CSC, CPT, CAFS, CKTP, MFDc, AIB-VR/CON, LSVT BIG Certified

Digit Widget: Exploring the Impact of Wear Time on PIP Extension Outcomes – A Retrospective Case Study
Eugene Gersh, OTR/L, CHT

Teaching Therapy Students Clinical Reasoning Skills
Gwen Morris, PhD, OTD, OTR, CHT, CLT

A Novel Method to Quantify Thumb Stability During Pinch
Nicole Hoover, MS, OTR, CHT

Functional Neurological Disorder Explained: Recognizing Functional Behavior
Hannah Gift, OTR/L, CHT, COMT UE, CEAS

Educating the Educator: Exploring Communication, Learning, and Teaching Styles to Promote Successful Fieldwork Opportunities
Emilia Pollnow, MS, OTR/L, CHT

Orthosis Online: A Tool Connecting Therapists to Clinical Orthosis Application
Hayley Brown, Physiotherapist, CHT

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Tauni Bird, OTD, OTR/L

Development of a Pediatric Hand Therapy Fieldwork II Curriculum
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Elizabeth Allstadt, MS, OTR/L, CHT

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Courtney Wood, OTR/L, CHT

Multidisciplinary Clinics: Enhancing Patient Outcomes with Advanced Therapy Practitioners
Sarah Johnson, OTRL

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How Can Clinical Instructors Leverage Emotional Intelligence Assessments and Personality Profile Results to Improve Student Fieldwork Experiences and Performance?
Sarah Whitworth, OTR, OTD, CHT

Leading Change: Integrating Prehabilitation Before Elective Upper Extremity Surgery
Tondalaya Brainard, DrOT, CHT, CLT

Cultivating Inclusive Leadership in Hand Therapy: Supporting Underrepresented Students
Sharniece Pierce, OTD, OTR/L, CLT-UE, CEAS, MFDC, CKTP, CSC, CPT, AIB-VR/CON, LSVT BIG CERTIFIED

Upholding Cultural Humility in Hand Therapy: Advancing Professional Excellence, Elevating Patient Satisfaction and Improving Health Outcomes in a Culturally Diverse World
Eric J. Grispo, OTD, OTR/L, CHT, CWT

FLOOR PLAN

SALT PALACE CONVENTION CENTER FLOOR PLAN

ASHT Meeting Space on Each Level:

- First Level: Hall 3 & Hall 4
- Second Level: 255 A-F, 257 A-B, 258, 259, 260
- Third Level: 355 A-F

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POLICIES

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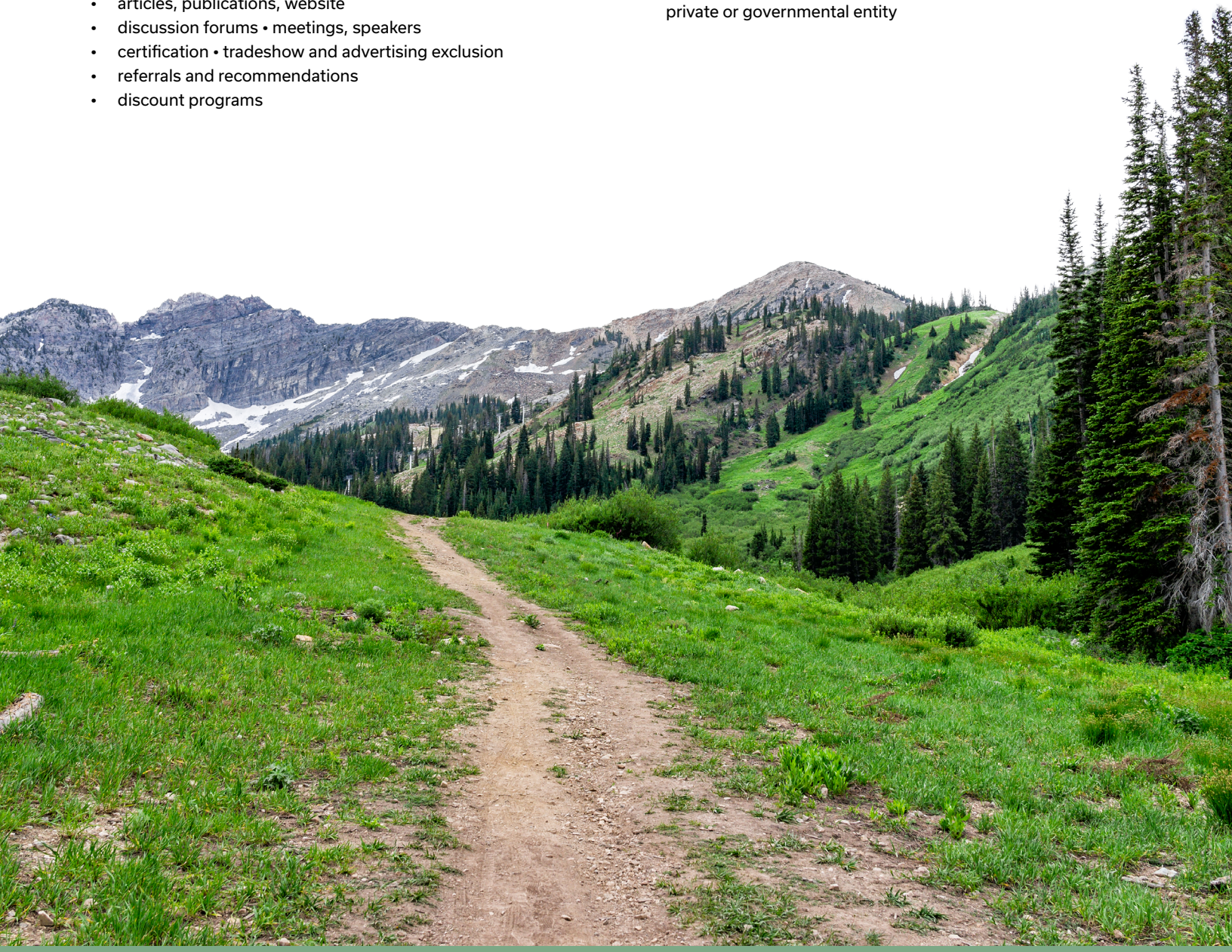

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Submission ID: 2095819

IMPROVING PATIENT-REPORTED OUTCOME MEASURE SELECTION FOR PEDIATRIC HAND FUNCTION

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PURPOSE

Patient-reported outcome measures (PROMs) are gaining favor in clinical practice and research for their feasibility and capacity to gauge functional limitations in daily life, but consensus is not available on an appropriate PROM for use following pediatric hand surgery or therapeutic interventions. Many studies rely on unvalidated surveys or measure hand function using PROMs designed for the whole upper extremity, such as the Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire, Pediatric Outcomes Data Collection Instrument, or Patient-Reported Outcomes Measurement Information System (PROMIS). Hand-focused PROMs may improve assessment specificity and reduce response fatigue. Our systematic review aimed to appraise all child-reported or parent-proxy PROMs that focus on pediatric hand function. In turn, we aimed to inform selection or development of a PROM that could become the gold standard for this patient population.

METHODS

PubMed, Embase, CINAHL, and Scopus were searched. Eligible studies evaluated psychometrics of hand-function-focused PROMs among pediatric patients. Following PRISMA guidelines, two reviewers independently screened studies, extracted data, and assessed risk of bias. We appraised psychometrics and evidence quality using the Consensus-based Standards for selection of health Measurement Instruments (COSMIN) methodology. We compared PROM content using the Occupational Therapy Practice Framework, with analyses of hand function categories (including isolated digit movement, fine-motor dexterity, precision pinch, resisted pinch, grasp, resisted grasp, release, and graded force) and relevant pediatric occupational domains (activities of daily living [ADLs], instrumental ADLs, education, and play/leisure). We analyzed readability based on the well-established SMOG and Flesch-Kincaid indices.

RESULTS

Reviewers screened 2513 studies; 33 reports on nine PROMs were included. Existing validation covers few pediatric hand conditions, mainly cerebral palsy and brachial plexus birth injury, and notably excludes hand trauma and nearly all congenital differences. The Upper-Extremity Cerebral Palsy Profile of Health and Function Computerized Adaptive Test (UE-CP-PRO) and ABILHAND-Kids are the strongest candidates for generating a gold-standard PROM. Both have good evidence of responsiveness to surgical outcomes. The UE-CP-PRO has the highest-quality validity evidence for the broadest age range. Its item bank covers all eight hand function categories in our analyses and all relevant occupational domains; it offers flexible, patient-centered customizability through computerized adaptive tests of 5, 10, or 15 items. ABILHAND-Kids is a 21-item PROM that covers nearly all hand functions and occupational domains. Both the UE-CP-PRO and ABILHAND-Kids showed an eighth-grade reading level, failing the American Medical Association's standard for adults.

CONCLUSION

This review supports evidence-based outcome measure selection in pediatric hand clinical assessments and research. We provisionally recommend the UE-CP-PRO or ABILHAND-Kids to measure postoperative and therapeutic outcomes for pediatric hand function. We encourage clinicians and researchers to consider trialing these PROMs in broader patient populations to establish validity for conditions such as congenital hand differences or traumatic injuries. We also encourage revising these measures and/or developing a novel, more comprehensive PROM that incorporates adaptive content for condition-specific outcomes and prioritizes readability to support child-reporting.

Submission ID: 2096652

ASYMMETRICAL ARM SWING DURING GAIT IN CHILDREN WITH BRACHIAL PLEXUS BIRTH INJURY

Author(s): Meagan Pehnke, Children's Hospital of Philadelphia; Eliza Buttrick, Children's Hospital of Philadelphia; Apurva Shah, Children's Hospital of Philadelphia; Valentina Graci, Children's Hospital of Philadelphia; Sayaka Mori, Children's Hospital of Philadelphia; Elliot Greenberg, Children's Hospital of Philadelphia; Shaun Mendenhall, University of Utah

PURPOSE

Children with brachial plexus birth injury (BPBI) often report notable differences in arm movement between the affected and unaffected arm during sports activity, though this has not been investigated. We characterized abnormalities in arm swing during gait in children with BPBI, exploring asymmetry in arm movement and asynchrony with the lower extremities.

METHODS

Patients between 5-17.99 years old with BPBI at a single children's hospital were prospectively evaluated. We used an Inertial Measurements Unit system (XSENS, Movella Inc.) to collect bilateral shoulder and elbow three-dimensional kinematics and toe velocity during a 60-feet sprinting task. A custom-made MATLAB program was used to extract toe strike which defined each gait cycle start and end as well as peak shoulder and elbow flexion (positive) and extension (negative) angles during the gait cycles, and the time difference between toe strike and maximum shoulder and elbow flexion/extension of the opposing sides. Patient-reported outcomes including the Children's Hand-Use Experience Questionnaire (CHEQ) and PROMIS Anxiety and Peer Relations modules were administered. Paired T-tests compared sides, and one sample Mann-Whitney tests evaluated CHEQ scores.

RESULTS

Twenty-two patients were tested at an average age of 8.5 ± 3.2 years. Patients achieved less maximum shoulder extension (-1.83° versus -37.19°, $p< 0.01$) and less maximum elbow flexion (58.4° versus 79.1°, $p< 0.01$) on the affected side compared to the unaffected side (Figure 1). Although peak shoulder extension was reached at similar time point on both affected and unaffected side during gait cycle (mean 0.18 versus 0.12 seconds, p=0.3), there was more variation in timing of peak shoulder extension on the affected side (SD 0.12 versus 0.07, p=0.02), suggesting less consistency cycle-to-cycle, with similar findings regarding maximum elbow extension (mean 0.14(a) versus 0.09(u), p=0.50; SD 0.19(a) versus 0.12(u), p=0.04). On the mini CHEQ (ages 5-7.99, normal=4) and the CHEQ (age 8+, normal=100), patients reported significantly lower hand capacity during activities (mean 3.0, 58.9), longer average time to complete tasks (2.9, 63.6), and were more bothered by their arm function (mean 3.2, 69.5) than normal ($p< 0.01$ for all). Patients scored within normal limits on the PROMIS Peer Relations and Anxiety modules (mean 53.4 ± 7.3 and 50.5 ± 8.9, respectively).

CONCLUSION

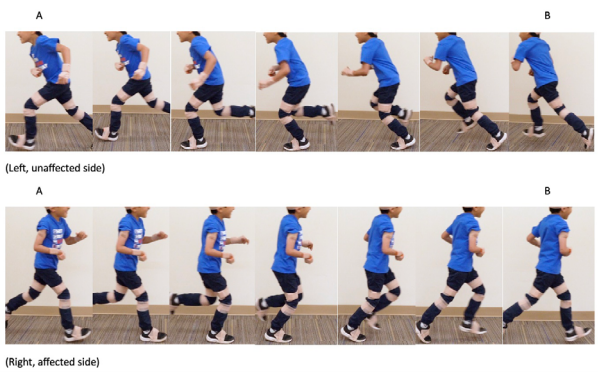
Children with BPBI demonstrate less maximum shoulder extension and elbow flexion as well as decreased coordination with leg movements, ultimately reducing efficiency with sprinting. Children felt bothered by their arm function. BPBI causes arrhythmic arm swing in pediatric patients and worsens coordination with leg movements while sprinting.

Uploaded File(s)

Lateral stills of a 6-year-old male with a right-sided BPBI during sprinting.

Figure 1. Lateral stills of a 6-year-old male with a right-sided BPBI during sprinting.

The unaffected arm (LEFT, top sequence) and affected arm (RIGHT, bottom sequence) are shown while sprinting, starting from peak shoulder extension (labeled A at left side of photograph sequence) and ending in peak shoulder flexion (labeled B at right side sequence) for a single gait cycle. Maximum shoulder extension (A) and elbow flexion (B) on the affected RIGHT side is noticeably less than the unaffected LEFT side.



Submission ID: 2097804

CASE REPORT OF A 54-YEAR-OLD LINE SPECIALIST FOLLOWING SURGICAL RECONSTRUCTION OF A COMPLETE CHRONIC PECTORALIS MAJOR MUSCLE TEAR

Author(s): Priya Bakshi**,** Indiana State University; Amy Jassman, Indiana State University**;** Grace Aubry, Indiana State University**;** Grace Willman, Indiana State University**;** Nardos Gebreyohannes, Indiana State University**;** Caitlin Wyrick, Indiana State University

PURPOSE

Pectoralis major muscle (PMM) tears are rare, but injury rate has increased in the last 30 years (Magone et al., 2021). Injury is most common in athletes (Butt et al., 2015; Magone et al., 2021) & active military personnel (Chan et al., 2019) with surgical & non-surgical treatment options. Surgical approach (repair or reconstruction) depends on several factors, including chronicity of injury, i.e. 6 weeks or longer (Gupton & Johnson, 2019). Majority of the literature on surgical and rehabilitation outcomes are for acute, primary repairs in young males (20 to 30 years). There are varying rehabilitation guidelines (duration of sling wear, passive ROM limits) in the limited studies that describe therapy following reconstruction of PMM tears in the general population (Giordano et al., 2023). The purpose of this case study is to add to the literature on post-operative rehabilitation, complications, and relevant clinical findings following PMM tear reconstruction with an Achilles allograft in a 54-year-old line specialist.

METHODS

Consensus-based clinical case reporting guideline, the CARE checklist (Gagnier et al., 2013), was referenced for writing the case report. The Institutional Review Board (IRB) at the surgery center and university were consulted. IRB approval was not required given the nature of this single case report. Therapist and surgeon's notes were extracted, patient-specific information was de-identified, and relevant clinical findings, interventions, protocol, and outcomes during the post-surgical period were reviewed. Surgeon was consulted on post-operative guidelines.

RESULTS

Duration of revascularization of an allograft guided first 6 weeks of rehabilitation. This included 6 weeks of sling wear, no shoulder external rotation and abduction past neutral, and passive flexion limited to 90°. ROM restrictions were lifted at 6 weeks, isometrics initiated at 8 weeks, and full strengthening at 12 weeks. Challenge of the first 2 weeks was compromised axillary skin integrity due to chafing. Capsular tightness although anticipated was not experienced. Full AROM was restored by 11 weeks, 5/5 strength by 18 weeks, and return to full duty at 19 weeks with QuickDASH score of 0%, Shoulder Pain and Disability Index score of 7.6%, and Single Assessment Numerical Evaluation (SANE) at 80%.

CONCLUSION

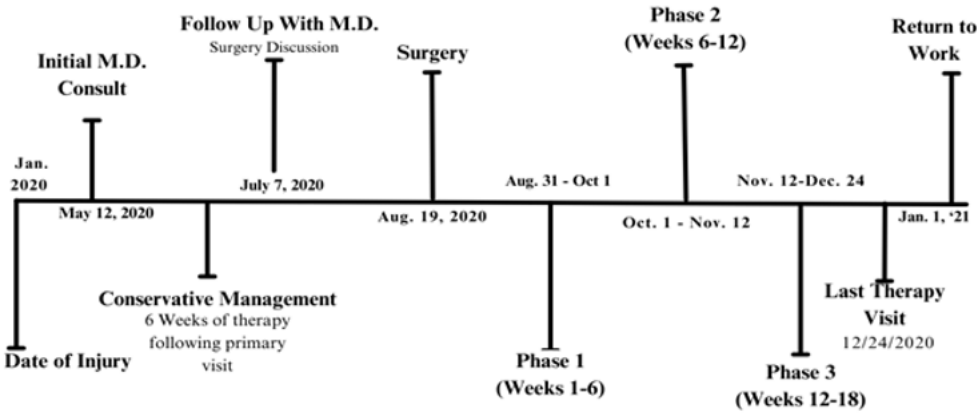
This case study highlights lack of capsular tightness post immobilization in the shoulder following chronic PMM tear reconstruction. Skin breakdown at the surgical incision was the only complication in the post-operative period. The client had a good outcome with minimal perceived disability and ability to return to work with no restriction as a linesman in 4.4 months post-surgery. Clinical implications: Graded therapeutic intervention can maximize outcomes post-reconstruction of PMM tear in a 54-year-old male with moderate to heavy job demands.

Uploaded File(s)

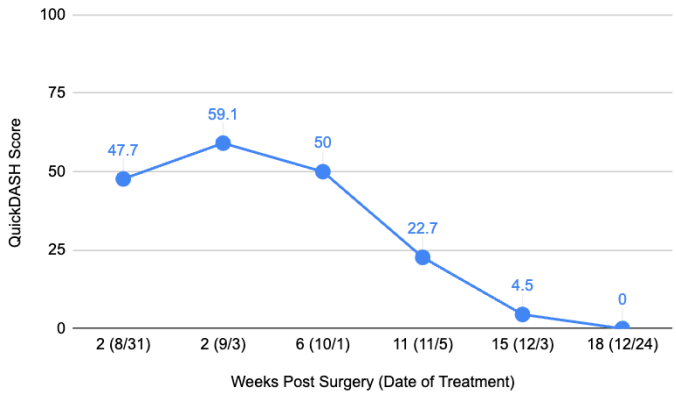
ROM comparison of affected Right Shoulder to Unaffected Left Shoulder on Discharge

Shoulder Motion	Right (affected) AROM (PROM)	Left (unaffected) AROM (PROM)
Flexion	150 (160)	155 (160)
Abduction	140 (160)	160 (160)
ER at 0 deg abduction	60 (65)	40 (65)

Timeline of key events following PMM tear



Changes in Quick DASH score in post operative period



Submission ID: 2100003

RELATIVE MOTION EXTENSION SPLINT FOR TREATMENT OF FLEXOR TENDON ADHESIONS: PROOF OF CONCEPT

Author(s): Nicole Badalyan, Rutgers Robert Wood Johnson Medical School; Brian Bueno, NYU Langone Orthopedic Hospital; Alta Fried, Atlantic Hand Therapy Center; Jared Escobar, New Jersey Medical School; Brian Katt, Rutgers Robert Wood Johnson Medical School; Ajul Shah, The Center for Hand & Upper Extremity; Emily Van Kouwenberg, Rutgers Robert Wood Johnson Medical School

PURPOSE

The purpose of this study is to determine if incorporating RMES splints during active range of motion exercises will position flexor tendons in relative extension, increasing total flexor tendon excursion during flexion exercises. Enhanced tendon excursion and differential glide between the FDS and FDP tendons can facilitate adhesion lysis.

METHODS

A frozen cadaveric upper extremity was dissected to expose the middle finger FDS and FDP tendons and pulleys. The arm was mounted vertically with a fiberglass cast on the wrist to maintain it in neutral position. Sutures were placed at the FDS and FDP tendons at the wrist to hold a 10N weight, to replicate active contraction of the FDS or FDP muscle bellies. The relative starting positions of the tendons were marked at different levels (IIA, IIB, IIC). Differential glide between the FDS and FDP tendons were measured at each level under six test conditions: isolated FDS motion with and without RMES, isolated FDP motion with and without RMES, and non-isolated FDP motion with and without RMES. Non-isolated FDP motion was performed to represent active composite fist motion. After each test condition, the distance between the marked starting points at each level was measured to determine the distance of differential glide between the tendons. Each condition was measured three times by three separate individuals to confirm consistency.

RESULTS

The addition of RMES during isolated FDS motion increased glide differential at zones IIA and IIB (0-1mm to 3mm), while zone IIC remained unchanged (3mm). The addition of RMES to isolated FDP exercises increased differential glide only at zone IIC (4mm to 6mm), while zones IIA and IIB remained unchanged (3mm and 4mm, respectively). The addition of RMES to non-isolated FDP exercises increased differential glide across all zones: IIA (4mm to 7mm), IIB (8mm to 10mm), and IIC (11mm to 13mm).

CONCLUSION

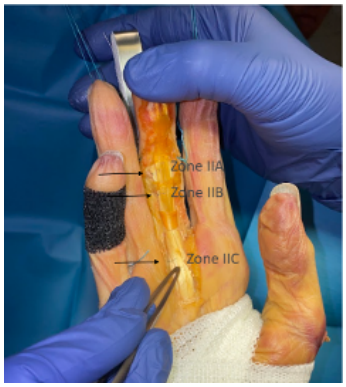
Our study measured the differential glide between FDS and FDP tendons in zone II with and without RMES and showed increased differential glide when RMES was in place. However, this study also shows that differential glide is not uniform throughout zone II which may explain why some zones are more prone to adhesion formation than others and why some adhesions are more resistant to therapy. This study demonstrates that the use of RMES during active range of motion exercises increases tendon excursion and the differential glide between the FDS and FDP tendons.

Uploaded File(s)

Table 1: Gliding Differential Between FDS and FDP Markers During Tension (millimeters).

	Region IIC	Region IIB	Region IIA
Flexor Digitorum Superficialis			
No RMES	3	<1	1
RMES	3	3	3
Flexor Digitorum Profundus (Unblocked)			
No RMES	11	8	4
RMES	13	10	7
Flexor Digitorum Profundus (Blocked)			
No RMES	4	4	3
RMES	6	4	3

Figure 1: Zones IIA, IIB, IIC Marked with Sutures on Cadaveric Upper Extremity.



Submission ID: 2104690

OBSERVED PREVALENCE OF THUMB METACARPOPHALANGEAL COLLAPSE BY OCCUPATIONAL AND PHYSICAL THERAPISTS [PRELIMINARY FINDINGS]

Author(s): Nicole A. Hoover**,** UW-Milwaukee

PURPOSE

The purpose of this study was to determine the prevalence of thumb metacarpophalangeal (MP) collapse during pinch testing as observed by occupational and physical therapists to inform future research and practice guidelines.

METHODS

This prospective observational prevalence study was announced via email by the American Society of Hand Therapists (ASHT) by asking therapists to take a survey about thumb MP collapse, which included a post-test to assess their competency in identifying thumb MP collapse through photo observation. Therapists who received a score of 80% or higher on the post-test were invited to participate in phase two, which involved tracking thumb MP collapse on an excel sheet each time they administered a pinch test. Each pinch observation included the following datapoints: a unique non-identifiable patient code, current gender, hand dominance, pinch type, whether MP collapse was observed, and diagnoses when relevant for each hand. A total of 106 therapists took the survey. Each phase two therapist was eligible to participate in four weeks of data collection, receiving a $75 Amazon gift card after each week. Participants were not required to complete their four weeks of data collection consecutively, but were told that all data must be submitted to research team by the end of May 2025; at the time of this submission, over 2,000 data points have been obtained by 20 therapists. Analyses included descriptive statistics to determine MP collapse by pinch type, gender, diagnosis, and hand dominance. The effects of therapist experience level, score on the post-test, and productivity status were examined. Logistic regression was used to understand the effects of gender, diagnosis, pinch type, and therapist. Prevalence is reported in frequencies and prevalence ratios. We will consider the use of modeling with paired data using general estimating equation and McNemar test for correlated samples for within-subjects analysis of left and right hands. Multinomial regression modeling will analyze differences in gender and diagnosis after transforming the MP collapse condition into four categories: 1. No MP collapse bilaterally, 2. MP collapse in dominant hand only, 3., MP collapse in nondominant hand only, and 4. MP collapse bilaterally.

RESULTS

Based on preliminary data: On the first trial of any pinch test (including three-point, two-point, and lateral), only 34% of people had thumb MP collapse, but when provided with 2 or 3 trials, collapse was observed on at least one trial in 50% of cases. On the first trial of lateral pinch, 57% of people collapsed, but when provided with 2 or 3 trials, collapse was observed on at least one trial in 78% of cases. Of all females performing pinch tests, 39.13% demonstrated thumb MP collapse compared to 24.04% of males, no matter the pinch type. When looking at lateral pinch only, 81.54% of females collapsed compared to 68.93% of males. There is a significant difference in observed collapse between diagnoses. Based on logistic regression, people with thumb carpometacarpal (CMC) osteoarthritis are 4.1 times more likely to present with thumb MP collapse during lateral pinch testing than people without a thumb diagnosis. Notably, 73% of people without thumb diagnoses present with MP collapse during lateral pinch, whereas 91% of people with CMC osteoarthritis present with MP collapse during lateral pinch.

CONCLUSION

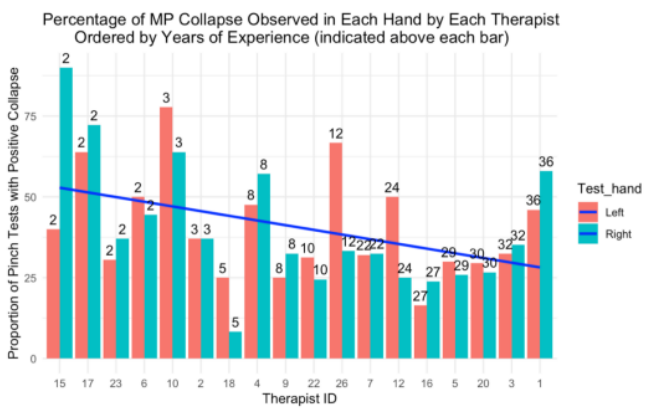
Preliminary findings suggest that three trials of pinch testing can increase therapists' detection of thumb metacarpophalangeal (MP) collapse. As suspected, thumb MP collapse occurs most frequently during lateral pinch. Prior studies have shown that the carpometacarpal (CMC) joint is more unstable during lateral pinch than other pinch types (e.g. Halalij et al., 2014) and that females have less CMC joint congruity than males (Ateshian et. al, 1992). This study provides further evidence that people with CMC OA present with MP collapse under load at a significantly higher rate than people without conditions. This supports people with CMC osteoarthritis seeking hand therapy services for joint protection, activity modification, and thumb posture re-training. There is a high prevalence of thumb collapse during lateral pinch in people without a thumb diagnosis. This may support the need for increased community and patient education about the risks associated with thumb MP collapse. Further research is needed to determine standard management of thumb MP collapse by hand therapists. Due to the limited control in this observational study, these pilot findings should be considered with caution. Future research may further examine inter-rater reliability of therapists' detection of thumb MP collapse by observation.

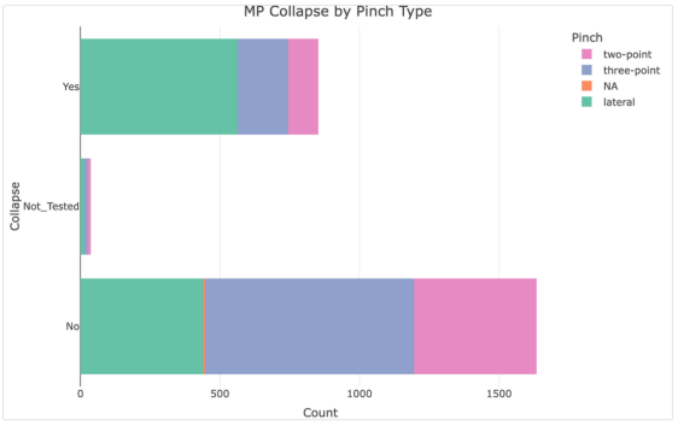
Uploaded File(s)

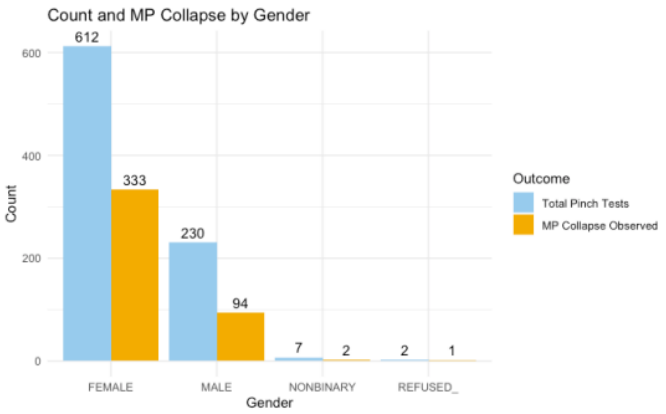
Frequency tables and Chi-square results

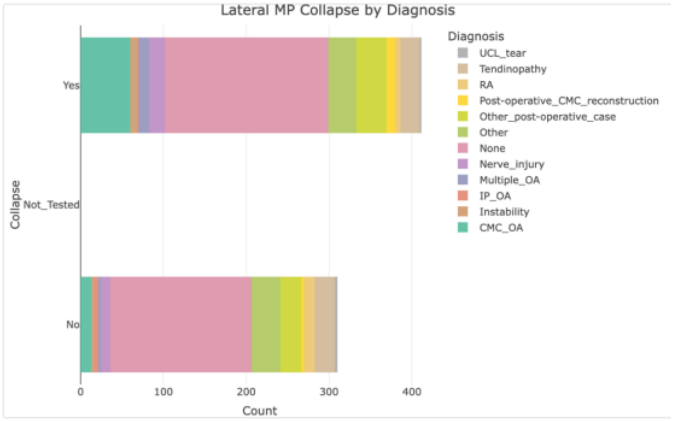
	All pinch types (any trial)				Prevalenc	Collapse during any pinch (any	Collapse during lateral pinch (any trial)	
Gender	N	N Collapsed	Percent		Female	54.41% (333)	81.54% (260)	
Female	612	333	54.4118		Male	40.87% (94)	68.93% (71)	
Male	230	94	40.8696					
Nonbinary	7	2	28.5714					
Total	849	429	50.53					
	Lateral pinch (any trial)					All pinch types (first trial only)		
Gender	N	N Collapsed	Percent		Gender	**N**	**N Collapsed**	**Percent**
Female	260	212	81.5385		Female	586	227	38.7372
Male	103	71	68.932		Male	313	80	25.5591
Nonbinary	4	2	50		Nonbinary	3	1	33.3333
Total	367	285	77.6567		Total	902	308	34.1463
						Lateral pinch (first trial only)		
					Gender	**N**	**N Collapsed**	**Percent**
					Female	233	148	63.5193
					Male	131	60	45.8015
					Nonbinary	2	1	50
					Total	366	209	57.1038
					Predictor	Collapse during lateral pinch		
	all pinches overall	by gender				Yes = 285	No= 82	Overall= 367
Gender	Didn't collapse	Collapsed	Total			n(%)	n(%)	
Female	60.87	39.13	100		Female	212(81.5%)	48(18.5%)	260
Male	75.96	24.04	100		Male	71(68.9)	32(31.1%)	103
Nonbinary	71.23	28.57	99.8					
						Chi-square test for Collapse		
	lateral pinch overa	by gender				X-squared	df	p-value
Gender	Didn't collapse	Collapsed	Total		Gender	55.539	3	5.27E-12
Female	18.46	81.54	100		Diagnosis	140.14	11	<2.2e-16
Male	31.07	68.93	100		Pinch type	352.17	2	<2.2e-16
Nonbinary	50	50	100		Hand dominanc	0.65067	3	0.8847
					Test hand	0.08184	1	0.7748
					Meter	66.76	4	1.10E-13
					Therapist	146.43	18	<2.2e-16

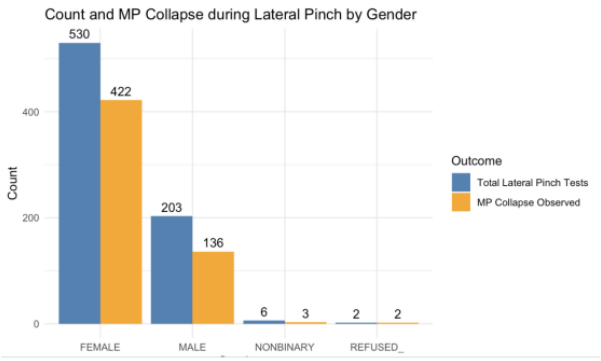
Thumb MP Collapse by Pinch Type, Diagnosis, and Gender





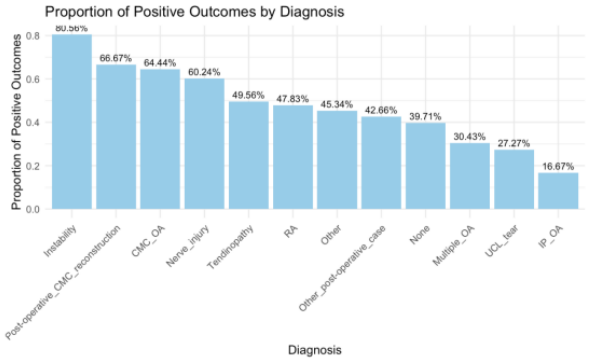






Prevalence Ratios and Confidence Intervals for significant diagnoses in final model

	pr2	lower_CI	upper_CI
(Intercept)	1.21	0.70	2.08
DxCMC_OA	4.10	2.30	7.67
DxIP_OA	0.07	0.00	0.38
DxOther	0.58	0.37	0.90
DxRA	0.22	0.10	0.46



Submission ID:2107348

SHOULDER CONTRACTURE IN BRACHIAL PLEXUS BIRTH INJURY: A RETROSPECTIVE CHART REVIEW

Author(s): Jennifer Wingrat, Towson University/Kennedy Krieger Institute; Matt Elrick, Kennedy Krieger Institute/Johns Hopkins Medical Institution

PURPOSE

1) determine the rate of shoulder contracture in infants with brachial plexus birth injury (BPBI) seen at a regional multidisciplinary brachial plexus clinic; 2) compare the rate of shoulder contracture for infants who began care with a specialty team before 2 months of age to those who began care with a specialty team after 2 months of age Rationale: Injury to the brachial plexus occurs in up to 1/1000 live births (DeFrancesco, 2019). Most infants with BPBI have a full spontaneous recovery but up to 30% have lifelong upper extremity paralysis or weakness causing decreased functional use of the affected arm (Chauhan et al., 2014, Koshinski et. al, 2022) with internal rotation contracture being the most common deformity (Immerman et al., 2013). Due to the high rate of spontaneous recovery, oftentimes a "wait and see approach" is taken, resulting in delayed referral to specialists and delayed initiation of intervention. Early intervention for BPBI including occupational therapy, typically includes a primary goal of improving and/or maintaining shoulder range of motion due to the known risk of developing shoulder contracture within the first year of life. Children who develop shoulder contracture are at risk for subsequent surgeries throughout their lives with shoulder joint deformities such as contracture, being the most common reason for surgery in this population (Cornwall, 2020; Ulmann et al., 2022). Results of a pilot study by Wingrat and Elrick (2023) suggest that among infants with BPBI who began conservative therapy with a specialty BPBI team including daily PROM starting before 2 months of age were less likely to develop shoulder contracture than those who received PROM inconsistently and/or starting after 2 months, indicating that there may be a critical window during the first 2 months of life where initiating specialty care including daily PROM is integral for preventing shoulder contractures in infants with BPBI.

METHODS

Retrospective chart review of infants seen in a regional multidisciplinary brachial plexus clinic in which the standard of care includes daily PROM, who continued to return for follow-up visits for at least 18 months. Medical records of all patients seen at the clinic during two time periods, 2007-2014 and 2019-2025 were screened. Records from the interim time period were located on another electronic medical system that was not available for review. Informed consent was not required and the study was approved as exempt from the appropriate Institutional Review Board. Inclusion criteria included all infants with documented BPBI whose first visit to the clinic occurred before age 12 months and who were followed until at least one year of age with the following data documented in their medical record: age at first visit, age of diagnosis, age at which PROM was initiated, and Active Movement Scale (AMS) scores for shoulder flexion, abduction, and internal rotation at initial evaluation and all subsequent follow-up visits up to 18 months of age. Exclusion criteria included infants seen in brachial plexus clinics without diagnosis of BPBI, first clinic visit after age 1, no/missing AMS scores, history of primary nerve surgery in the first year of life.

RESULTS

Forty-two patients met the inclusion criteria with 21 seen for their initial visit at or before 2 months of age, and 21 seen for their first clinic visit after 2 months of age. At least 4 of the infants who were seen after 2 months of age had received previous therapy but not with a BPBI specialist. The overall rate of contracture was 19% (8/42), as indicated by a statement in the medical record documenting contracture at or after 12 months of age. Only two patients whose care was initiated at or before 2 months had documented contracture (rate = 9%) while 6 whose care began after 2 months had a contracture (rate = 28%) (See Table and Figure). Using Chi-square analyses the difference in rates of contracture was not statistically significant ($p = 0.23$); however, calculations of relative risk (3.01) and odds ratio (3.81) suggest that infants with early initiation of conservative care with a specialty team including daily PROM by 2 months of age, have a decreased likelihood and lower odds of developing shoulder contracture compared to those with delayed initiation of care with a specialty team.

CONCLUSION

While the difference in rate of contracture was not statistically significant, the findings related to relative risk and the odds ratio are clinically significant and support the recommendation that any infant with a known or suspected BPBI should be referred to a specialist and/or specialty team such as a multidisciplinary brachial plexus clinic as early as possible, and no later than 2 months of age. Research is needed on efficacy of frequency of PROM needed to prevent or reduce contracture as well as on efficacy of other interventions such as static splints.

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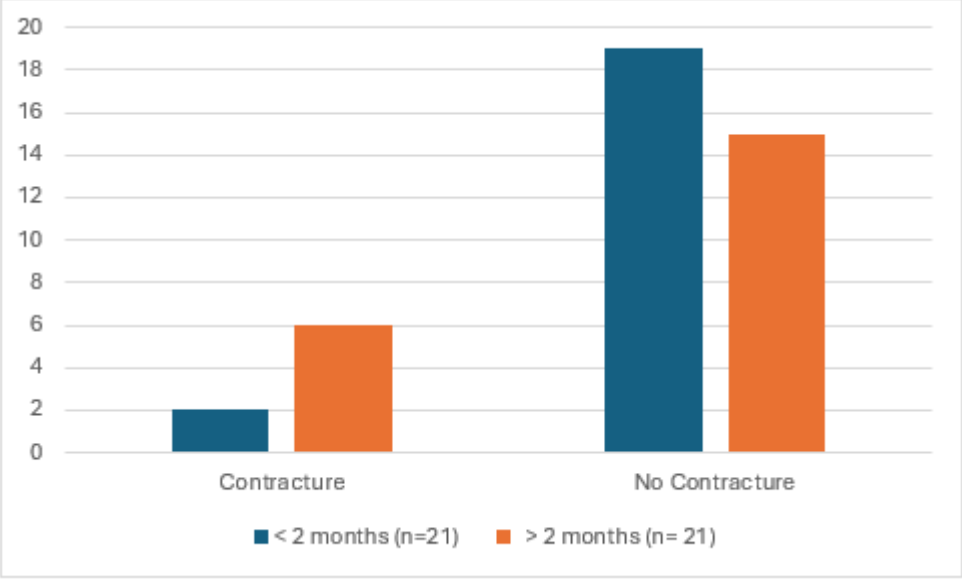
Table 1. Contracture Rate

Table 1

Contracture Rate

	Contracture	No Contracture
≤ 2 months (n=21)	2 (9%)	19 (91%)
> 2 months (n= 21)	6 (28%)	15 (72%)
TOTAL	8 (19%)	34 (81%)

Figure 1



Submission ID: 2107834

AQUATICS THERAPY FOR BRACHIAL PLEXUS BIRTH INJURY

Author(s): Jennifer Wingrat**,** Towson University/Kennedy Krieger Institute

PURPOSE

The purpose of this case report is to describe a 12-week aquatics-based intervention for a 3 year-old boy with brachial plexus birth injury (BPBI) and discuss the benefits of aquatics therapy for children with BPBI. BPBI results in decreased functional use of the affected upper extremity (UE). A comprehensive review of the literature on rehabilitation interventions used for therapeutic management of BPBI identified numerous modalities (Frade, 2019) but no research on the use of aquatics therapy for this population. While there is evidence that traditional techniques including sensory stimulation, passive and active range of motion (ROM), splinting, and other therapeutic modalities are beneficial in facilitating improved upper extremity function in children with BPBI, aquatics therapy may provide even greater benefits by facilitating repeated desired motor patterns while the weight of the arm is reduced by the water's buoyancy, and by providing proprioceptive feedback and strengthening from the water's viscosity, all while the child engages in a child centered, occupation-based environment.

METHODS

This is a case report of a 3 year 3 month old child with history of right BPBI s/p nerve graft repair at 4 months of age. At the time of referral he was receiving consult OT services in preschool and had previously received weekly outpatient and early intervention OT. The child presented with the following limitations: 1) Decreased active shoulder flexion, abduction, internal and external rotation, and decreased elbow flexion, 2) Overuse of compensatory trunk movements to assist with UE ROM against gravity, 3) Decreased independence with dressing, 4) Decreased participation in play. The child participated in 11 60-minute aquatics therapy sessions in a therapy pool with adjustable height floor. Therapy focused on: 1) Range of motion activities: reaching for objects on and above pool surface and pool floor; 2) Strengthening activities: weightbearing on pool mat, swimming/paddling; 3) Dressing and undressing before and after entering the pool and donning/doffing shirt in the pool; 4) age appropriate play with therapist in the pool and family members and pool staff on the deck. See Table 1 for list of activities targeting therapy goals.

RESULTS

1. Improved scores on Active Movement Scale (AMS) for shoulder flexion, abduction, internal and external rotation, elbow flexion, forearm supination and pronation, and wrist extension (see Table 2). Finger and thumb movements were recorded at initial evaluation but were not recorded at discharge; however the child demonstrated improved ability to maintain grasp on objects indicating improved finger and thumb flexion. 2. Improved Mallet scores in all areas except internal rotation to bring hand to back, however the child demonstrated improved internal rotation to bring hand to waist at midline to reach/manipulate fasteners on his pants and made functional progress in pulling pants up and down. The Mallet Scale scores also confirm decreased use of compensatory trunk movements and shoulder trumpeting indicating improved kinematics/efficiency of UE motor patterns. 3. Qualitative improvements in occupational performance and participation including increased spontaneous use of right arm during play and ADLs, increased independence with dressing and undressing (ability to don pullover shirt and bring hand to midline to reach fasteners and pull pants up and down), and increased confidence in social participation as reported by parents.

CONCLUSION

The outcome of this case report supports the use of aquatics OT as an effective modality to improve functional performance and participation for children with BPBI. The therapeutic properties of the water allowed the child to perform repeated movements using ranges of motion that were not available to him on land due to his decreased strength against gravity leading to improved active range of motion, strength, and use of efficient motor patterns. The temperature of the water helped loosen his shoulder girdle allowing for increased range of motion to reach for toys on the surface of the water at shoulder level and on the pool deck above shoulder level. Buoyancy of the water allowed the child access to new ranges of motion and to move repeatedly in these newly accessed planes without gravity related restrictions, enhancing his motor learning. Adjusting the water level to various heights such as shoulder, axilla, or sternal level facilitated various starting points to initiate range of motion at the shoulder and elbow. Moving his arm in these new ranges of motion against the resistance of the water served to improve the child's strength, thus providing increased range of motion against gravity outside of the aquatics environment. The use of repetitive movements throughout the course of the intervention provided proprioceptive feedback and facilitated motor learning to reinforce improved movement patterns.

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Table 2. Active Movement Scale Pre-and Post-Intervention Scores

Movement	Pre-Intervention	Post-Intervention
Shoulder Abduction	3	5
Shoulder Adduction	7	7
Shoulder Flexion	5	6
Shoulder External Rotation	2	5
Shoulder Internal Rotation	6	7
Elbow Flexion	3	6
Elbow Extension	7	7
Forearm Supination	5	7
Forearm Pronation	7	7
Wrist Flexion	5	6
Wrist Extension	5	6
Finger Flexion	6	6
Finger Extension	6	6
Thumb Flexion	6	6
Thumb Extension	6	6

Score key

Observatio		Muscle Grade
Gravity Eliminated		
	No contraction	0
	Contraction, no motion	1
	Motion ≤ ½ range	2
	Motion ≥ ½ range	3
	Full motion	4
Against gravity		
	Motion ≤ ½ range	5
	Motion ≥ ½ range	6
	Full motion	7

Table 1. Goals and Activities

Goal	Activities to Support Goal
Child will demonstrate full active shoulder abduction in gravity eliminated plane	Reaching for toys in pool filter, pool surface, and pool deck
	Sliding rings across elevated pool bar and pool noodle
	"Working out" with foam barbells
	Holding large beach ball to throw and catch
	"Pushing" away waves (turbulence from pool jets)
	Maintaining "T" standing position (shoulders abducted to 90 degrees) against turbulence from pool jets
Child will demonstrate full active shoulder flexion without compensatory movements in his trunk	Reaching for toys in pool filter, pool surface, and pool deck
	Sliding rings across elevated pool bar
	Placing rings on and off pool noodle
	"Working out" with foam barbells
	Paddling arms while prone over kickboard or therapist's arms
	"Cleaning up" to place toys from pool onto pool deck
	Climbing onto pool mat and climbing out of pool
Child will demonstrate full elbow flexion in gravity eliminated plane	Bicep curls with foam barbells
	Rolling toy truck on pool mat or bench
	Placing pool rings on and off contralateral arm
	Pulling toys from pool filter
	"Pushing" turbulence waves with elbow bent
Child will demonstrate ability to bring right hand to midline in preparation for manipulating fasteners for lower body dressing	Pulling apart/connecting pool rings held at midline
	Retrieving pool rings and other toys held at waist level
	Pulling toys from "fishing net" held at waist/navel Retrieving toys placed in bucket held at midline/waist
Child will independently don and doff a pull-over shirt	Doffing and donning shirt before and after pool
	Doffing and donning shirt inside pool

Submission ID: 2111715

EMBEDDING SELF-MANAGEMENT IN OCCUPATIONAL THERAPY FOR PATIENTS WITH UPPER EXTREMITY ARTHRITIS: A PILOT PROGRAM EVALUATING EFFECTS ON FUNCTION, PAIN , SELF EFFICACY, FATIGUE, AND HEALTH BEHAVIOR

Author(s): Sakina Bohra**,** Comprehensive Physical Therapy- Insight Dearborn

PURPOSE

1. Introduction Arthritis is a chronic condition and a leading cause of work-related disability, affecting 46.4 million U.S. adults and projected to impact 67 million by 2030 (Brady et al., 2008). Treatment includes NSAIDs, immune-modulating agents, and sometimes surgery. Self-management strategies are widely recommended to help individuals manage symptoms and lifestyle changes (Brady, 2012; Iversen et al., 2010). The CDC highlights benefits such as improved function, reduced pain, and lower healthcare costs. A national study found that self-management programs improved health behaviors and reduced ER visits and hospitalizations among older adults (Ory et al., 2013). Despite this, few studies explore how healthcare professionals support self-management. Occupational therapy (OT) has demonstrated effectiveness in this area. A large RCT showed lifestyle-based OT reduced health and cognitive decline (Clark et al., 2009), while systematic reviews support OT for pain management, education, joint protection, and adaptive equipment (Carandang et al., 2016; Valdes & Marik, 2010). To address this gap, we developed the Occupational Therapy Arthritis Self-Management Program, embedding self-management into evidence-based outpatient OT. This study evaluated its effectiveness in improving occupational performance, pain, self-efficacy, fatigue, health behavior, and satisfaction

METHODS

2. Method This retrospective study was approved by Thomas Jefferson University's IRB. Data were retrieved from OT records at two outpatient clinics from October 2015 to January 2016. 2.1 Patients Inclusion criteria: age 18+, intact cognition, arthritis diagnosis, and joint pain. Referrals came from primary care providers, rheumatologists, and hand surgeons. 2.2 Intervention The program was based on the Person-Environment-Occupation Model (Law et al., 1996) and Social Cognitive Theory (Bandura, 1998). Over 6–8 weeks, patients completed 9–12 one-hour sessions combining OT and self-management education. OT evaluations included musculoskeletal assessments, the Canadian Occupational Performance Measure (COPM), and assessments of pain, fatigue, and self-efficacy. Each session included individualized treatment from either the Occupational Performance or Symptom Management Module, plus strategies from Stanford's Chronic Disease Self-Management Education. Patients received written materials and practiced health-promoting behaviors. Therapists used action plans and collaborative decision-making to guide treatment. 2.3 Outcome Measures Measures included the COPM (performance/satisfaction), Visual Analog Scale (pain), 8-item Arthritis Self-Efficacy Scale, Multidimensional Assessment of Fatigue, a health behavior journal, and a satisfaction survey. 2.4 Data Analysis Pre- and post-program scores were analyzed and compared to minimally important changes. Satisfaction responses were averaged.

RESULTS

3. Results 3.1 Participants Seven patients completed the program. 3.2 Outcomes All patients showed improvements in occupational performance and satisfaction (≥2-point COPM increases). Pain decreased for all; three reached zero pain. Confidence rose for all, including those with high baseline self-efficacy. Four patients with arthritis-related fatigue improved by ≥5 points. Five of seven engaged in weekly health behaviors post-program. All participants reported satisfaction. Open-ended feedback noted plans to continue using physical activity, action plans, problem solving, and breathing techniques.

CONCLUSION

4. Discussion and Conclusion Combining OT with chronic disease self-management improved pain, fatigue, self-efficacy, occupational performance, and satisfaction. All patients achieved clinically meaningful outcomes. These findings support prior research on self-management benefits for pain, behavior, and function (Warsi et al., 2004). OT is well-suited for chronic disease support through collaborative goal-setting and education (Bondoc, 2015; Coleman & Newton, 2005). Patients identified goals, learned self-management skills, and developed action plans. Most reported intent to continue using these strategies, reinforcing the impact of integrated education. Limitations include a small sample size and short-term follow-up. Future studies should explore long-term outcomes in larger cohorts. 4.2 Conclusion Chronic condition management benefits from programs that support behavior change. Integrating self-management into OT improved

function, pain, fatigue, and satisfaction. The program offers a structured, replicable model with promising results. Further research is recommended

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Table 1- Illustration of Occupational Therapy Arthritis Self-Management Program

Table 1
Illustration of Occupational Therapy Arthritis Self-Management Program

Session #	SESSION CONTENT		
	Self Management Support	Evidenced Based Occupational Therapy Treatment	
		Symptom Management	Occupational Performance
1	Assessment Arthritis Self Efficacy Scale.	Musculoskeletal Evaluation Visual Fatigue Scale. Visual Pain scale	Administering COPM
2	Assessment Review assessment results Review patients' attitudes (self and others), personal experiences of what helps,	Client education anatomy of the joints pathology of the disease symptoms and multiple factors affecting the symptoms Home exercise	Review assessment results of COPM Identify potential barriers and strengths to occupational performance
3	Advise Overview of self-management. Introduction of self-management strategies like decision making, action planning and problem solving	Continued education on arthritis. Patient education of evidence for occupational therapy interventions for symptom management. OT interventions for symptom management	Patient education of evidence on OT interventions. Joint protection -Looking After Your Joint program
4	Agree Collaborative goal setting Developing an action plan based on clients' goals Patient log of activity chosen to manage symptoms/ improve health behavior	OT interventions for symptom management Teaching cognitive symptom management techniques from CDSMP based on patient's symptoms including stress management, relaxation exercises, breathing techniques	Continue with teaching and practicing of joint protection techniques
5-9	Assist Review of patient progress with action plan every session Problem solving if patient has difficulty completing the	OT interventions for symptom management. Hand exercises (flexibility and strength) Ergonomic and activity modification for pain	Teaching patients the use of adaptive equipment/assist device Teaching energy conservation Splinting based on patient needs
Final	Arrange Follow up with the patient in 3 months Provide information for community resource	Data Collection	Data Collection

Table 2- Demographic Characteristics of patients completing the Occupational Therapy Arthritis Self - Management Program

Table 2
Demographic Characteristics of patients completing the Occupational Therapy Arthritis Self - Management Program

Characteristic	Patients (N=7)
Age in Years Mean (range)	60.7 (43-69)
Gender Women n (%)	4 (57%)
Ethnicity n (%)	
Caucasian	3
African American	3
Asian	1
Diagnosis	
Osteoarthritis	4
Rheumatoid Arthritis	3
Systemic Lupus Erythematosus	2
Mean Disease duration in Years (range)	16.74 (4 to 28)
Married n (%)	5 (71 %)
Living With Someone n (%)	7 (100 %)
Educational level n (%)	
Less than High School	1 (14.3 %)
High School Graduate	5 (71.4 %)
College Graduate	1 (14.3 %)
Occupation n (%)	
Homemaker	3 (42.9 %)
Retired	3 (42.9 %)
Professional	1 (14.3 %)

Table 4- Patient Responses that Support Program Objectives

Table 4
Patient Responses that Support Program Objectives

Program Objectives	Patient N=7	Patient Responses
Improve patient occupational performance	Patient 1	*"I could not use the gripper to put my pants on but we figured out alternative way and that helps me be a self manager."*
	Patient 2	*"I can drive now after a year."*
Reduce patient pain in the joints affected by arthritis	Patient 5	*"The program helped me a lot with my shoulder pain and improved my use of the shoulder"*
	Patient 3	*"I found these sessions most helpful because they not only helped me ease my pain but also understand the reason for the pain"*
Enhance patient self-efficacy in performing specific self-management tasks or behaviors	Patient 6	*"The program gave me confidence to do things and if I cant do them I found out that there are other resources out there that can help me"*
Promote patient health behavior for effective symptom management	Patient 3	*"Regardless of how I feel I need to be mobile- the pain and stiffness cycle explained to me helped me understand this"*
Patient satisfaction with the program	Patient 3	*"The program helped me. I would recommend this program to anyone.*

Table 3- Summary of patients' engagement in health behavior strategies.

Table 3
Summary of patients' engagement in health behavior strategies.

Patients N = 7	Self selected health promoting activities		Frequency/ Duration	Criteria Met Yes/No
	Physical Activity	Cognitive Symptom		
1	None	Body scan, guided imagery	15 minutes 4 times a week	Yes
2	None	Deep Breathing exercises, Body Scan	15 minutes 3 times a week	Yes
3	None	Deep Breathing exercises, Body Scan, Meditation	15 minutes 3 times a week	Yes
4	Walking	None	20 minutes 2 times a week	No
5	Climbing his basement stairs	None	10-15 minutes 3 times a week	Yes
6	Walking on treadmill	None	20 minutes 2 times a week	No
7	Stationary bike	None	15-20 minutes 3 times a week	Yes

Figure 1. Occupational Therapy Arthritis Program

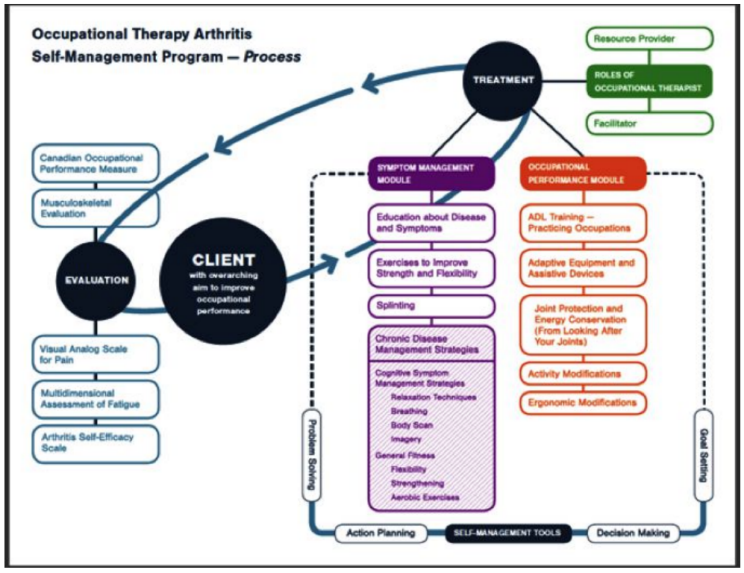


Figure 2. Evidence based occupational therapy treatment

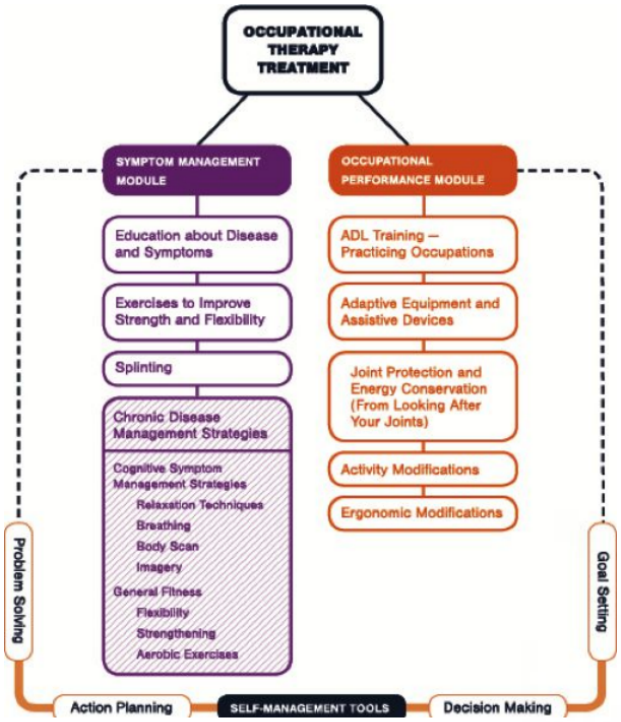


Figure 3. The role of occupational therapist in pilot program

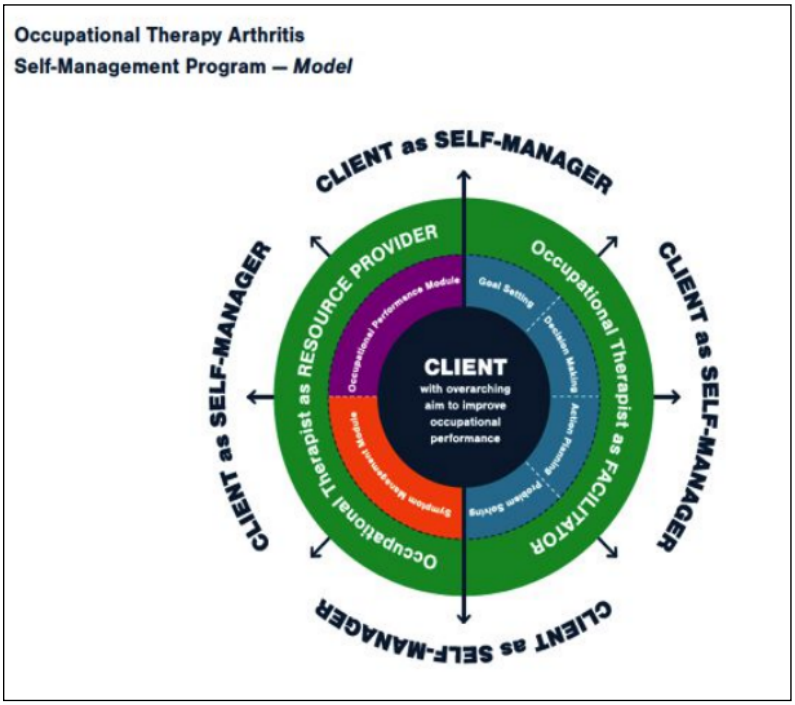


Figure 4. Patient-rated performance scores on COPM

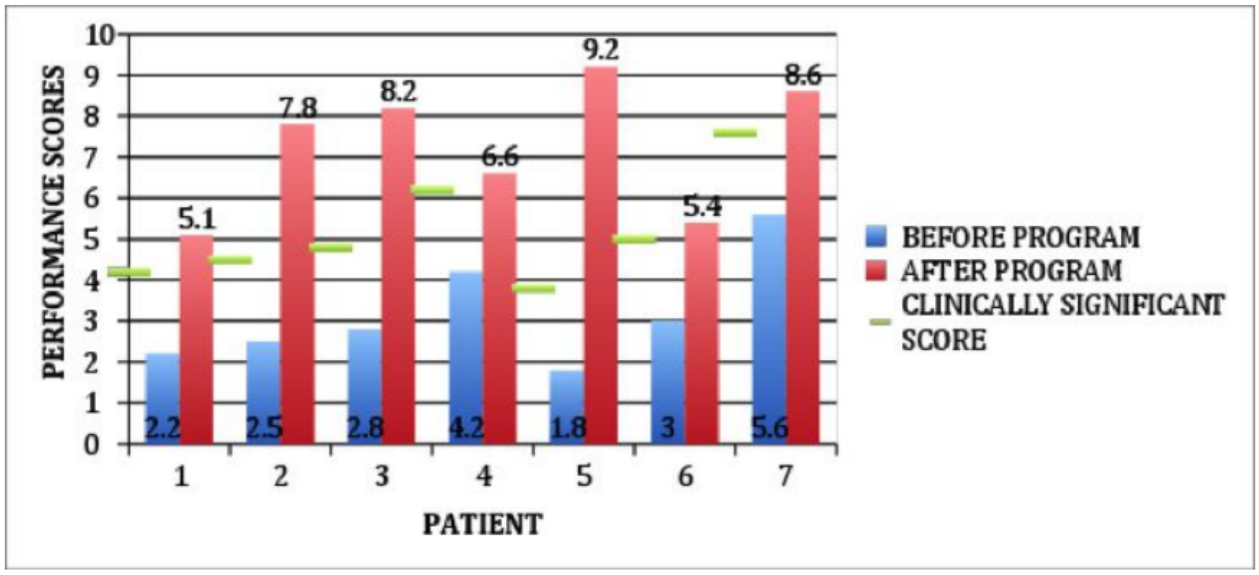


Figure 5. Patient-related satisfaction scores on COPM

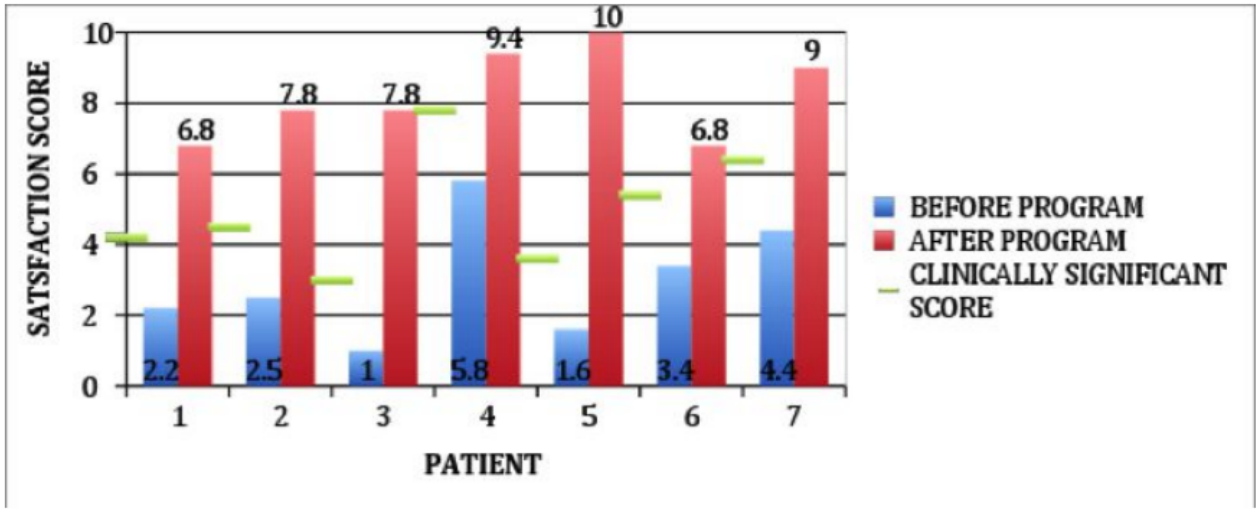


Figure 6. Patient related pain levels on Visual Analog Scale

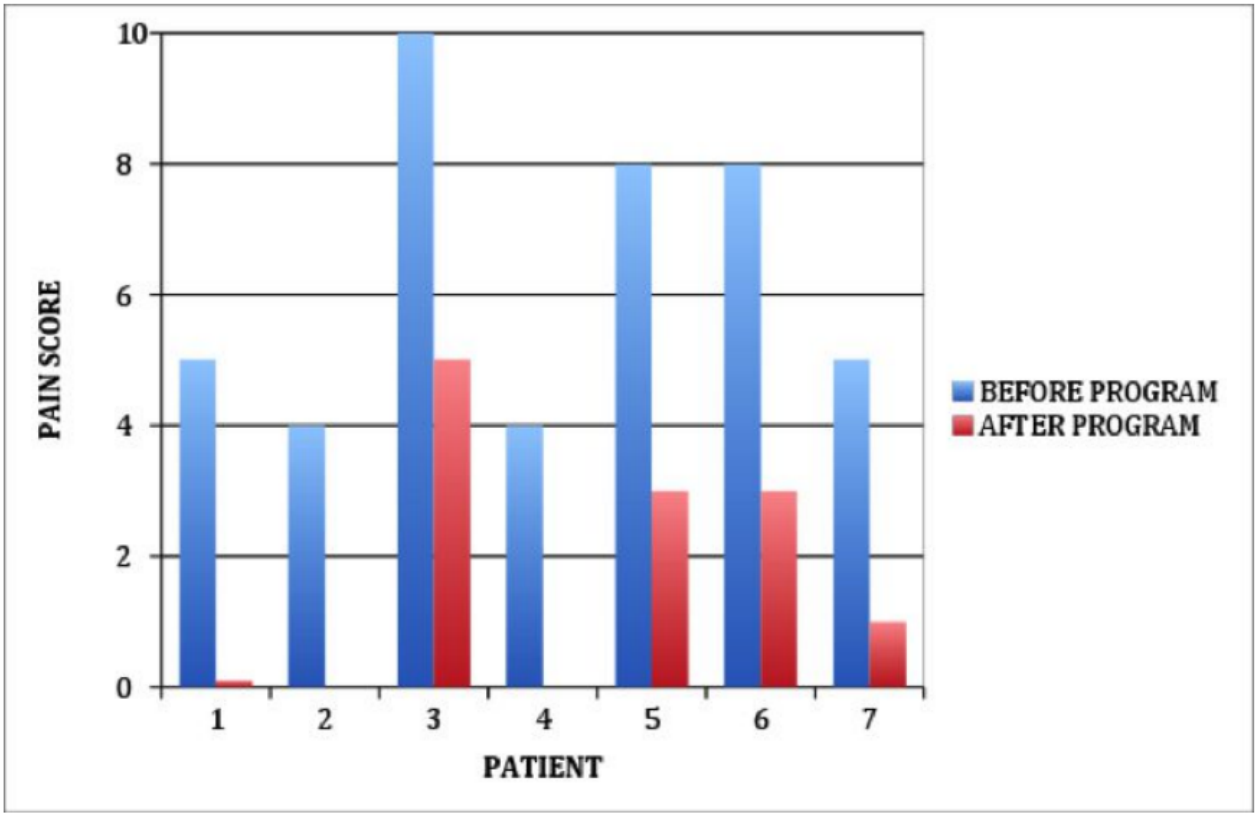


Figure 7. patient rated confidence scores on the ASES

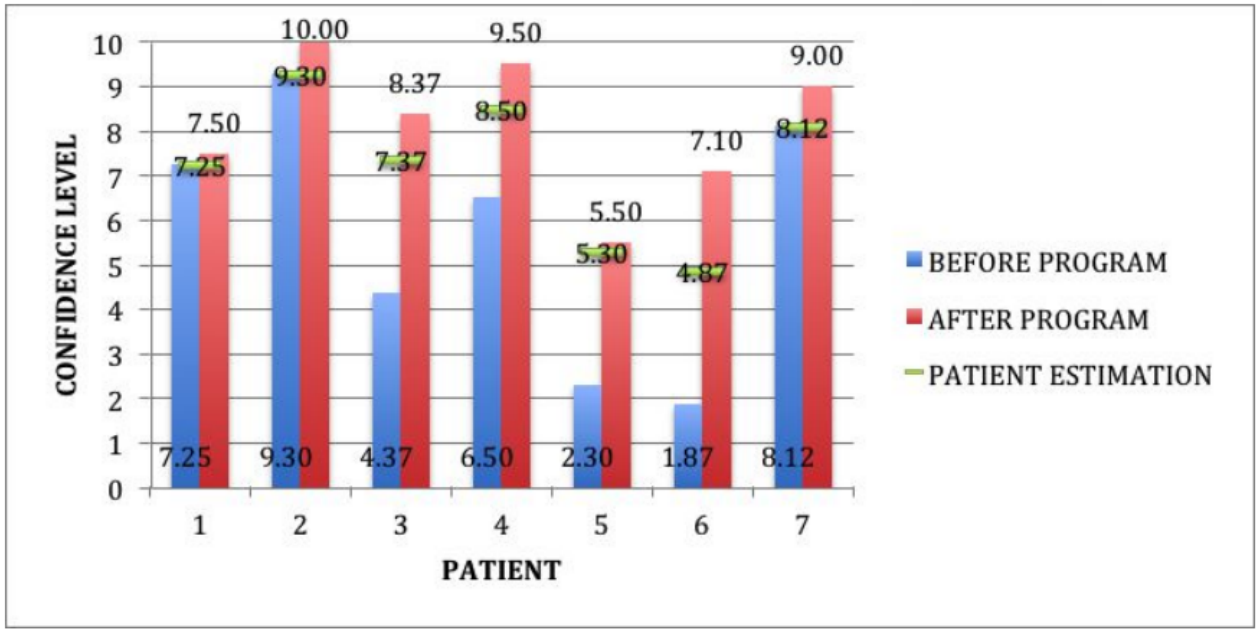


Figure 8. Patient rated fatigue scores on the MAF

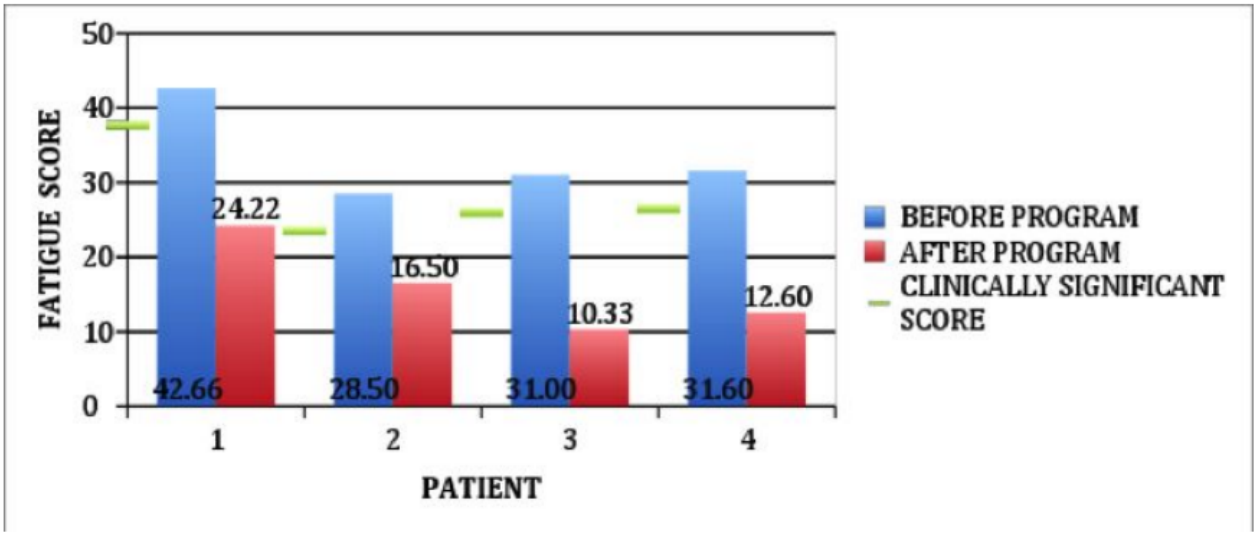


Figure 9. Patient responses on the satisfaction survey

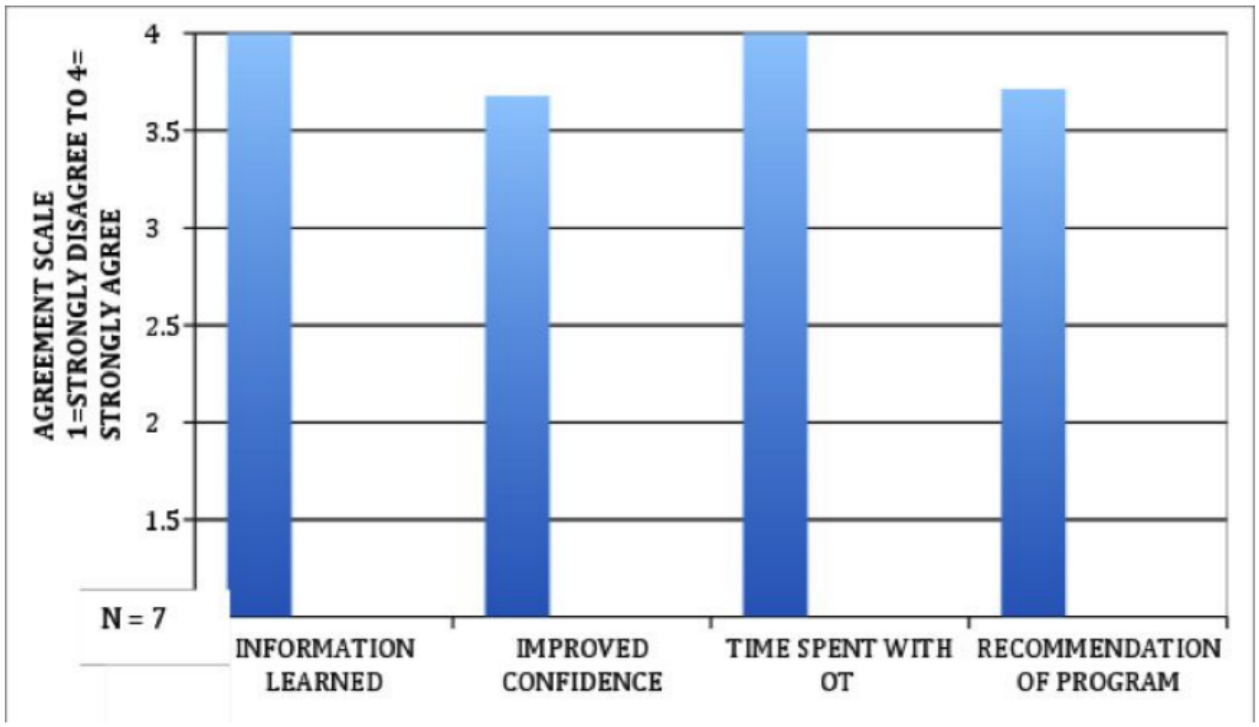


Figure 10. Patient symptoms before the program

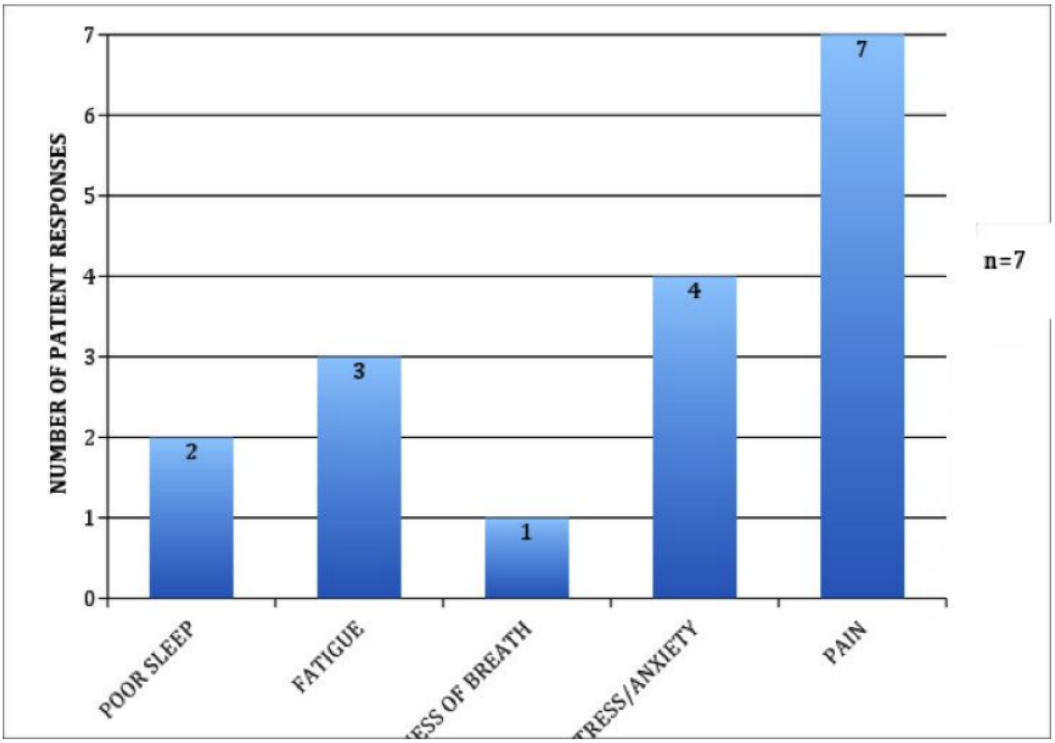
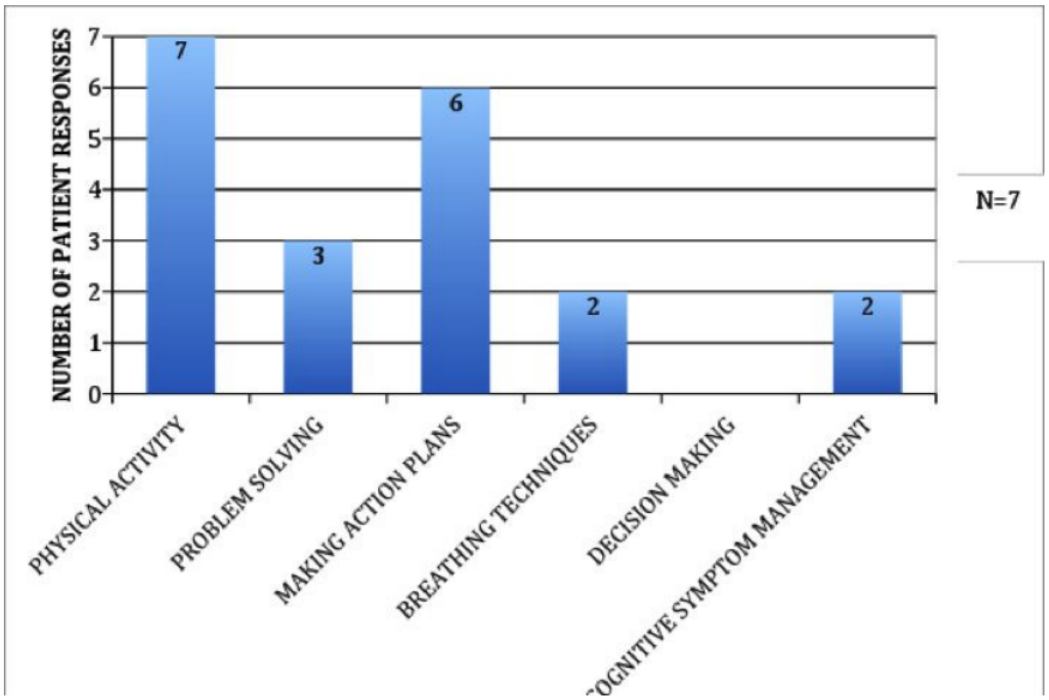


Figure 11. Patient use of self-management tools



Submission ID: 2113776

THE USE OF OCCUPATIONAL-BASED INTERVENTION FOR MANAGING HAND INJURIES: A SCOPING REVIEW

Author(s): Sudhagar Gangatharam**;** Christopher Eidson**,** The University of Alabama at Birmingham (UAB)

PURPOSE

Hand injuries are complex injuries that can have devastating impacts on physical, psychological, and social aspects of life, affecting the quality of life. Clients with hand injuries often must deal with consequences such as persistent stiffness, pain, and loss of function for years. The management of hand injuries includes range-of-motion exercise, stretching, use of modalities, joint mobilization, and strengthening. These management components have existed in hand therapy for years and are based on the medical model. The medical model's intervention may fail to improve the client's occupation. There is a growing need for Occupation-Based Intervention (OBI) in hand therapy because it provides holistic care to the client, but the credibility of OBI is often questioned; hence, the study's purpose was to know the extent of evidence in OBI and to identify the research gaps for further research.

METHODS

The scoping review was registered under the open science framework. Two methodological frameworks were used in the scoping review. They are as follows: 1) Arksey and O'Malley (2005) and 2) Joanna Briggs Institute (JBI, 2005). The PRISMA extension for scoping reviews. (PRISMA-ScR) was used as a reporting guideline for this scoping review. Five databases, PubMed, CINAL, Scopus, and ProQuest, were used to search the articles about OBI in hand injuries. PRISMA guidance was used to select the articles for the review.

RESULTS

The initial search resulted in 4765 articles, of which 143 are from PubMed, 230 are from CINAL, 4261 are from Scopus, and six are from Google Scholar. The records removed before screening are 4738. The 2300 articles were removed because of duplicate records, and 2438 were removed because they were unrelated to the upper extremity. This resulted in 27 articles for screening, so 27 articles were screened, out of which 12 articles were removed because it was not related to the study purpose, which led to 15 articles being retrieved for screening. Upon screening the 15 articles, one article was removed because of the case study. Fourteen articles that met the inclusion criteria were selected for the review. The data from the 14 articles were extracted by using the JBI guidance. The Quantitative analysis was performed using Power BI, and the Qualitative analysis was performed using content analysis. The content analysis was done using the following steps: familiarization of data, inductive extraction and analysis, open coding, framework development, extraction and organization of initial themes, modification of themes, and development of final themes.

CONCLUSION

The study found evidence to support the use of OBI in hand injuries and that OBI can improve occupational performance when combined with a biomechanical frame of reference and can improve client satisfaction. The objective measurements used by the therapists, such as range of motion and strength, have little impact on clients' occupations. The occupation-based intervention tends to improve the client's occupational performance and satisfaction. In addition, it helps improve the client's motivation and retention of the occupational performance gained with OBI.

Submission ID: 2114050

EXPLORING CENTRALIZED MECHANISMS OF PAIN IN PERSONS WITH NON-OPERATIVE THUMB CARPOMETACARPAL OSTEOARTHRITIS: A QUANTITATIVE CROSS-SECTIONAL STUDY

Author(s): Corey McGee**,** University of Minnesota**;** Kasey Bartyzal**,** Children's Minnesota**;** Filiz Dikmen**,** MedStar Health**;** Edward Wu**,** University of Minnesota

PURPOSE

First carpometacarpal (CMC1) osteoarthritis (OA) is the most common and disabling form of upper extremity (UE) OA. Osteoarthritis is hallmarked by peripheral pain (PRP) resulting from structural pathology, but can also be linked to centralized pain (CSP), characterized by nociplastic changes in the central nervous system or "central sensitization." Centralized pain can exacerbate symptoms and impact treatment responsiveness in persons with hip and knee OA, although its role in CMC1 OA remains understudied. Current orthopedic treatments for CMC1 OA focus on PRP, neglecting CSP. Given existing gaps in research and clinical practice, we sought to characterize CSP and explore its associations with UE symptoms and disability in adults with CMC1 OA.

METHODS

The aims of this cross-sectional study were to 1) characterize central sensitization pain, 2) evaluate relationships between central sensitization pain, disability and other health variables, and 3) explore risk factors for central sensitization pain in adults with thumb carpometacarpal osteoarthritis. For aim 1, the Central Sensitization Inventory was administered to assess self-reported symptoms of central sensitization pain. Descriptive statistics were used to characterize CSP among participants via CSI scores, CSI thresholds of clinical significance, and the total number of CSS diagnoses recorded in the health records. The results were expressed as frequency (count/percentage), range, mean, and SD values. For aims 2 and 3, self-reported disability was assessed via the Michigan Hand Questionnaire, pain severity was assessed via pain numerical rating, disease severity was assessed through Eaton Littler staging, and health records were reviewed to quantify the numbers and types of pre-existing central sensitization syndromes (e.g., anxiety, depression, panic disorder, fibromyalgia, etc.). Preliminary tests of data normality were carried out to assess the distribution of outcome variables in the sample and inform the subsequent selection of tests of bivariate associations. Bivariate and multivariate analyses were used to evaluate correlational and predictive relationships between these variables and central sensitization pain.

RESULTS

Seventy-eight adults with radiographically-confirmed CMC1 OA were included in this study. The participants' characteristics are summarized in Table 1. For aim 1: 68% of participants exceeded clinically significant central sensitization pain thresholds (Table 2). For aim 2: Central Sensitization Inventory scores correlated with disability ($r=-.482$, $p < .001$), pain severity ($r=.362$, $p < .001$), and number of pre-existing central sensitization syndromes ($r=.546$, $p < .001$). Pain severity ($B=-2.70$, $p < .001$), Central Sensitization Inventory scores ($B=-.396$, $p=.004$), and a diagnosis of panic disorder ($B=-7.79$, $p=.079$) predicted disability, while pain severity ($B=1.63$, $p=.003$) and number of pre-existing central sensitization syndromes ($B=3.90$, $p < .001$) predicted Central Sensitization Inventory scores. For aim 3, pain severity ($B=.287$, $p=.02$), was a risk factor for clinically significant central sensitization pain. Disease staging was not a predictor in any case.

CONCLUSION

The results of this study suggest that CSP, as assessed by the CSI, is common at clinically significant levels in adults with CMC1 OA, and is associated with worse pain severity and physical function. Further, CSP, pain severity, and pre-existing CSS have a significant impact on the extent of disability experienced by these patients. Finally, high pain severity serves as risk factors for clinically significant CSP. Our results align with trends observed in other populations, highlight the need for further research, and support the consideration of central sensitization pain when assessing and designing treatments for patients with CMC1 OA.

Uploaded File(s)

Table 1: Sociodemographic and Clinical Characteristics of Participants

Characteristics	N	Counts (%)	Range	Mean (SD)
Sex	78			
Male		24 (30.8)		
Female		54 (69.2)		
Age (years)	78		38-85	65.4 (9.2)
Race	78			
AI/AN		1 (1.3)		
Asian		1 (1.3)		
Black		1 (1.3)		
White		75 (96.2)		
Ethnicity	78			
Hispanic		1 (1.3)		
Non-Hispanic		77 (98.7)		
Affected Hand	78			
Right Only		26 (33.3)		
Left Only		27 (34.6)		
Bilateral		25 (32.1)		
Dominance	78			
Right		70 (89.7)		
Left		8 (10.3)		
Eaton Stage	74			
1		2 (2.6)		
2		20 (25.6)		
3		41 (52.6)		
4		11 (14.1)		
Pain Severity (0-10)	78		0-8	3.9 (2.4)
MHQ Total	78		23.3-100	69.5 (16.8)

AI/AN: American Indian/Alaska Native; MHQ: Michigan Hand Outcomes Questionnaire

Table 2: Characterization of Central Sensitization Pain in Adults with CMC1 OA

	N	Counts (%)	Range	Mean (SD)
CSS Sum	78		0-7	2.4 (1.8)
CSS Diagnoses	78			
Anxiety		38 (48.7))		
Depression		37 (47.7)		
Panic Disorder		14 (17.9)		
PTSD		4 (5.1)		
Fibromyalgia		9 (11.5)		
CSI Score	78		0-81	30.2 (13.4)
≥ 30 Threshold		38 (48.7)		
≥ 40 Threshold		15 (19.2)		

CSS sum : Sum of number of central sensitization syndromes; PTSD: post-traumatic stress disorder; CSI: Central Sensitization Inventory

Submission ID: 2114292

THE RELATIONSHIP BETWEEN KINESIOPHOBIA AND DISABILITY IN PERSONS WITH THUMB CARPOMETACARPAL OSTEOARTHRITIS

Author(s): Corey McGee**,** University of Minnesota**;** Filiz Dikmen**,** MedStar Health**;** Kasey Bartyzal**,** Children's Minnesota**;** Edward Wu**,** University of Minnesota

PURPOSE

Kinesiophobia is linked to pain severity, disability, and rehabilitation outcomes for several musculoskeletal populations, however, the literature has not yet explored the impacts of kinesiophobia in upper limb osteoarthritis, particularly thumb carpometacarpal (CMC1) OA. Given its prevalence and how often persons with this condition are treated in hand therapy settings, there is a need to explore if these associations also exist in individuals with CMC1 OA. The purposes of this study were to 1) explore rates of clinically significant kinesiophobia and 2) assess how kinesiophobia, when compared to other factors such as disease severity and pain severity, is related to self-reported disability persons with CMC1 OA.

METHODS

We conducted a descriptive cross-sectional study where the Tampa Kinesiophobia Scale (TKS), Pain Numerical Rating Scale (NRS), Eaton-Littler radiographic staging, and the Thumb Disability Examination (TDX) were used to assess the constructs of kinesiophobia, pain severity, disease severity, and disability respectively. This data was supplemented by demographic data such as age, sex at birth, racial background, and ethnicity. Participant demographics were reported via descriptive statistics. For project Aim 1, summary statistics (Means, SD) for TSK total, pain NRS, and TDX Total scores were reported. For Aim 2, tests of normality were conducted to determine if parametric or nonparametric statistical tests were required. It was determined that parametric tests were required, therefore Pearson's' R was used to evaluate the strength of associations between TDX, TSK, and Pain NRS. Test significance was set at $p < .05$. The strengths of relationships were assessed according to the criteria proposed by Cohen where correlation coefficients of 0.10, 0.30, and 0.50 are respectively ascribed to small, medium, and large effects. A backwards stepwise multiple linear regression analysis was also conducted. All analyses were performed using SPSS ver. 27.

RESULTS

Seventy-one adults with physician-confirmed CMC1 OA participated. Their characteristics are described in Table 1. Related to aim 1, forty percent of participants reported having clinically significant kinesiophobia (i.e., a score of 37 or higher). See Table 1. Related to aim 2, disability was moderately and strongly associated with kinesiophobia ($r=.36$, $p < .001$) and pain severity ($r=.63$, $p < .001$) respectively. While accounting for the effects of age, sex, and disease severity, pain severity ($B=4.37$, $p < .001$), kinesiophobia scores ($B=.60$, $p=.03$), and clinically-significant kinesiophobia (7.8, $p=.03$) were found to significantly predict disability. According to our findings, clinically-significant kinesiophobia and pain severity explain 50 percent of the variance (r-square = .50) in the self-reported disability experienced by patients with non-operative CMC1 OA.

CONCLUSION

1Kinesiophobia is linked to pain severity and disability in CMC1 OA. Additionally, it, along with pain severity, are significant predictors of disability while disease severity, age, and sex are not. These findings support the premise that kinesiophobia is an important construct to consider when assessing, developing and implementing interventions in this population. However, it is not a construct that is explored in assessment tools commonly used within this population. As such, hand therapists may want to consider using the TSK to screen for the presence of kinesiophobia and clinical researchers who intend to develop any disease-specific scales should give consideration to incorporating this construct. Future study is recommended.

Upload Tables & Images

Table 1: Demographic Characteristics of Participants (n=71)

Characteristics	n	*Counts (%)*	*Range*	*Mean (SD)*
Sex	71			
Male		24 (33.8)		
Female		47 (66.2)		
Age (years)	71		42-85	66.1 (8.4)
Race	71			
Black or African American		1 (1.4)		
White		70 (98.6)		
Ethnicity	71			
Hispanic		1 (1.4)		
Non-Hispanic		70 (98.6)		
Affected Hand	71			
Right		24 (33.8)		
Left		25 (35.2)		
Both		22 (31.0)		
Hand Dominance	71			
Right		66 (93.0)		
Left		5 (7.0)		
Eaton Stage	65			
1		0 (0.0)		
2		14 (21.5)		
3		40 (61.5)		
4		11 (17.0)		
TSK Total Score	71		20-58	35.8 (7.5)
Does not meet Threshold		42 (59.2)		
Meets/exceeds Threshold		29 (40.8)		
TDX Total Score	71		0-77.5	34.63 (17.6)
Pain NRS (0-10)	71		0-8	3.6 (2.4)

Note: TSK = Tampa Kinesiophobia Scale, TDX = Thumb Disability Examination, NRS = Numerical Rating Scale.

Submission ID: 2114752

THE INFLUENCE OF ACADEMIC-CLINICAL PARTNERSHIPS IN HAND THERAPY

Author(s): Natalie Sipes**,** George Washington University**;** Sarah Doerrer**,** George Washington University

PURPOSE

The purpose of this study is to understand the workflow of creating an academic-clinician partnership to perform research in hand therapy. There are considerable barriers for academics to partner with clinicians to perform research, including IRB application requirements and creating proper agreements to allow for data collection. There is also a lack of accessibility for clinicians interested in research that do not have the resources available to perform research at their institutions. This study aims to bridge this gap and increase access to academics and clinicians to further research within the realm of hand therapy.

METHODS

This is a descriptive research study. An education session on what an academic and clinician partnership involves was disseminated through the Capital Hand Therapy Association over zoom by an academic at George Washington University (GWU). Clinicians were given the opportunity to ask questions and if they were interested in partnering with GWU they gave their contact information. Clinician research partners represented CHTs from private practice, therapist owned, corporate, and hospital-based outpatient clinics. Over 6 months, clinicians and the GWU academic worked on a clinical study protocol together through brainstorming and literature review. After a protocol was developed, the IRB and onboarding process began with each site. GWU served as the overarching IRB and sites were onboarded to collect data; various documentation was required for each site, such as data use agreements and one site specific IRB application. After the site was onboarded, a GWU OTD student trained the clinician onsite on use of the REDCap software for data collection. Descriptive analysis was used to evaluate the onboarding process and compliance with data collection as sites were onboarded.

RESULTS

The two research questions and results for this study are as follows: 1. For a research team completing academic-clinician partnered research in an IRB exempt study, what are the methods of creating an agreement between parties to allow data collection? - As seen in Table 1, methods for creating a data collection agreement included meetings with supervisors (i.e., heads of research and clinic managers), data use agreements, and an additional IRB application for one site with an IRB. These methods of agreements have taken anywhere from two weeks to 9 months for the separate IRB application. 2. What is the data collection compliance rate of data collectors at sites that include corporate, hospital based, and private practice? - As seen in Table 2, the compliance rate for data collectors with study participants is 100% as of May 2025, showing that clinical research partners collected the required data at each visit. Table 2 also includes other outcomes for this study, including onboarding 100% of sites, which has yet to be completed as of May 2025, and completing at least 1 full data set from each site, which has not been completed. There are currently 3 study participants as of May 2025.

CONCLUSION

Academic-clinician partnerships are an effective method of increasing research accessibility for clinicians, students, and faculty members. When partnering for research, it is recommended to submit for IRB approval early on in the process, utilize student researchers to ensure clinician compliance and train clinicians in data collection software, have clinicians advocate for themselves to perform research, and be aware of the length of time needed for additional IRB approval and partnership agreements, which may take up to a year to complete.

Uploaded File(s)

Table 1. Methods of Partnership from Each Site

	ProFlex PT	Select PT	CAO	MedStar NRH	GWUH
Supervisor Permission	X		X		
Data Use Agreement		X		X	X
Separate IRB				X	

Table 2. Outcome Measures

Outcome	How it is Measured	Outcome Met as of May 2025?
100% of clinics submitted to the IRB will be onboarded to collect data for the study.	100% acceptance of data collection agreements between GWU and relying sites.	No - Data use agreements have yet to be fully signed for MedStar and GWUH
All procedures are followed during participant recruitment.	1. REDCap is used by 100% of clinicians to gather and record data. 2. 100% of consent forms are completed and stored in a password-protected location. 3. All baseline measures are collected and stored in a password-protected location.	1. Yes – with caveat - The REDCap app does not work for data collection past baseline. Those using the app will now need to be granted GW affiliation to use REDCap on their browser. 2. Yes 3. Yes
At least 1 full data set will be collected from each clinical site.	Data will be collected at baseline, 4 weeks, 8 weeks, and 12 weeks during the study.	No - No full data sets have been completed.

Submission ID: 2114754

SOCIAL MEDIA USE AMONGST OCCUPATIONAL THERAPISTS SERVING INDIVIDUALS WITH UPPER EXTREMITY DISORDERS

Author(s): Laurie Rogers**,** George Washington University**;** Rose McAndrew**,** St. Louis Community College**;** Marie Chatriand**,** George Washington University

PURPOSE

Occupational therapists (OTs) often use social media to network, access resources, and disseminate information to others. This study explores patterns of social media usage related to practice including preferred platforms, reasons to use social media, and perceived benefits and barriers to using information found on social media.

METHODS

Researchers developed a survey to further investigate patterns of social media usage among practicing occupational therapists. The survey was disseminated to the American Occupational Therapy Association and American Society of Hand Therapists membership. Recruitment notices were also posted on professional social media groups across Instagram, Facebook, and LinkedIn, the three platforms most frequently used by OTs as identified in preliminary research. Data was collected via REDcap, a secure database. Inclusion criteria included licensed OTs who speak English and are currently practicing. Exclusion criteria included occupational therapy assistants, students, or other disciplines. Descriptive statistics were used to describe patterns of social media use. Open ended comments were gathered to expound on descriptive data.

RESULTS

154 social media users who identified as primarily serving the upper extremity and/or ortho population were pulled from a larger data set of all practicing OTs. Age group distribution was similar between age groups with 61+ having the least percentage of respondents (12%). Most respondents had 1-10 years' experience (37%) and worked in outpatient settings (96.8%). Respondents primarily reported using Instagram (79.9%) and Facebook (66.9%) to find OT specific content. Primary reasons to use social media stratified by age are described in Figure 1. The most respondents reported using social media weekly (46.1%), following 1-5 social media accounts (60.4%) and engaging with posts through activities such as liking or commenting monthly (32.5%). Benefits and concerns regarding social media use stratified by age are described in Table 1. Ethical considerations were noted by 77.9 % of respondents when implementing social media content into clinical practice. Considerations included concerns about the content being supported by evidence (69.5%), safety (50.6%), acceptability for all stakeholders (28.6%), and billability (21.4%). A large majority (81.2%) determined the credibility of OT content shared on social media. This credibility was established primarily by referring to trusted professional sources (68.8%), peer reviewed journals (51.3%), textbooks (29.3%), and recommendations from colleagues (16.2%).

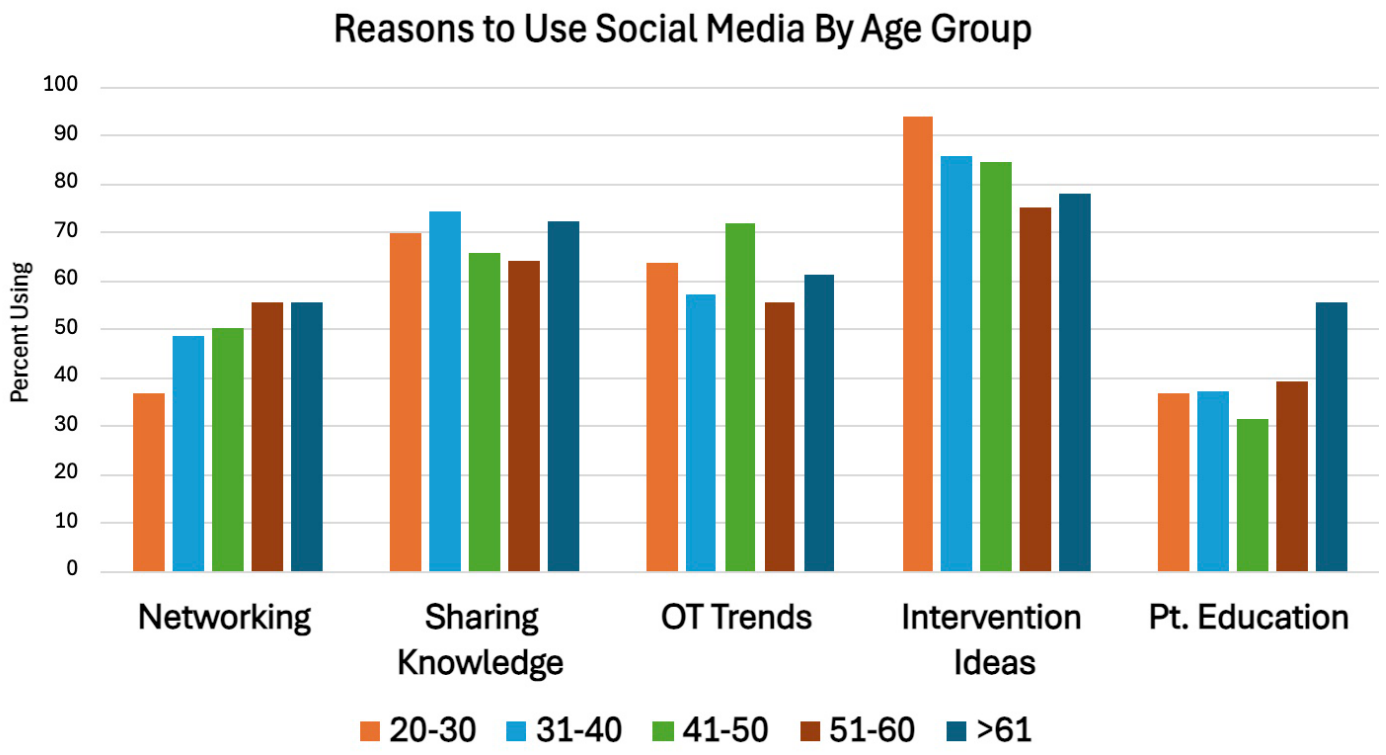
CONCLUSION

Although our respondents use social media for a variety of reasons, interacting with posts or other professionals online occurs infrequently. The oldest age group shared their knowledge the most, consistent with their career longevity. Most common benefit of using social media was access to resources and information, including treatment ideas. Younger therapists cite treatment ideas as a reason to use social media the most, with a steady decline in reason to use as therapist age. Misinformation and Misleading content had the highest percentage of concern reported by all age groups. This may reflect a larger societal concern for misinformation online and supports that therapists are identifying content online that may not be credible. Older therapists use social media more for networking than younger therapists and realize the benefits of social media for networking more than younger therapists. The majority of respondents in all age groups are not using social media related to patient usage such as patient engagement and patient education. Clinical Implications: Social media is a valuable tool for practitioners. Younger therapists should be encouraged to use social media beyond treatment ideas and expand their professional networks. Improved ways to appraise social media content as evidence based and consistent means of determining credibility are needed. Using social media for patient education and other engagement is an opportunity for social media users and content creators.

Benefits and Concerns with Social Media use in upper extremity rehabilitation

	A	B	C	D	E	F
1	**Benefits**	**Age 20-30**	**Age 31-40**	**Age 41-50**	**Age 51-60**	**Age 61+**
2	Networking Opportunities	33%	31%	31%	42%	44%
3	Professional Development	42%	49%	53%	33%	67%
4	Access to resources and Informati	82%	69%	88%	58%	94%
5	Sharing Knowledge	55%	54%	59%	64%	78%
6	Patient Engagement	45%	26%	38%	28%	39%
7	Improved Patient Outcomes	48%	26%	50%	22%	44%
8	**Concerns**	**Age 20-30**	**Age 31-40**	**Age 41-50**	**Age 51-60**	**Age 61+**
9	Patient Confidentiality	15%	3%	16%	0%	0%
10	Professional Boundaries	6%	3%	9%	3%	0%
11	Misinformation or Misleading Cor	24%	14%	25%	11%	11%
12	Balancing Professional & Personal	9%	3%	3%	3%	0%
13	Lack of Time to Manage	3%	3%	13%	6%	0%

Reasons to use Social Media by Age Group



Submission ID: 2115671

A RELIABLE, VALID, AND EFFICIENT GONIOMETRIC TECHNIQUE TO MEASURE SCAPULAR PROTRACTION AND RETRACTION

Author(s): Donna Walls**,** Abilene Christian University**;** Nathan Short**,** Abilene Christian University**;** Corey McGee**,** University of Minnesota

PURPOSE

To analyze the reliability and validity of goniometry to measure scapular protraction and retraction.

METHODS

Two experienced raters (OT/CHTs) measured the resting, protracted, and retracted positions of the scapulae of a sample of healthy young adults using a 6-inch goniometer aligned with the superior angle (axis), frontal plane (static arm), and acromion (moving arm). The Dartfish motion analysis system was then used by a blinded researcher to place digital angles on photos taken of the participant's shoulders, using reflective stickers that were placed on anatomical landmarks as a guide. Upon Institutional Review Board (IRB) approval, a convenience sample of students, staff, and faculty at a university in the southwest region of the United States were recruited for the study. Inclusion criteria required participants to be 18 years of age or older, affiliated with the university, and without shoulder pathology or injury that would limit mobility. Individuals that were under the age of 18, not affiliated with the university, or those with shoulder impairment limiting scapular mobility were excluded. Descriptive (mean, SD) statistics and reliability analysis (ICC, SEM) were used to analyze inter-rater reliability. Additional statistics including Pearson's r, limits of agreement (LOA), and Bland-Altman plots were used to assess criterion validity as a measure of validity.

RESULTS

Measures obtained by both raters for the neutral, protracted, and retracted positions of the scapula (n=50) demonstrated excellent inter-rater reliability (ICCs = .89-.99; SEM=.63-1.9) with MDCs and MDC% ranging from 1.7 - 5.3° and 7-20%, respectively. See Table 1 for details. The mean variance between goniometric measurements and Dartfish was less than 1° with very strong correlation (r = .84-.92). See Table 2 for details.

CONCLUSION

Goniometric measurement of scapular protraction and retraction using the superior angle and acromion as anatomical landmarks appears to be a reliable and valid technique that can be efficiently implemented in clinical practice and used for education and research.

Uploaded File(s)

Table 1: Inter-rater Reliability and Precision of Goniometric Measures of Scapular Motion: Descriptive Data, Intraclass Correlation Coefficients (ICC), Standard Error of Measurement (SEM), and Minimal Detectable Change (MDC95)

Measurement	Trials	Shoulder	Rater 1 M (SD)	Rater 2 M (SD)	ICC (95%CI)	SEM (SEM%)	MDC^{95} (MDC%)
Neutral	Mean 3 Trials	Right	42.32 (4.97)	41.95 (5.09)	.96 (.93-.98)	1.01 (4.22)	2.81 (11.70)
		Left	41.79 (6.04)	40.97 (5.56)	.97 (.95-.98)	0.82 (3.22)	2.28 (8.93)
	Mean 2 Trials	Right	42.46 (4.99)	41.86 (5.14)	.96 (.93-.98)	1.01(4.22)	2.81 (11.70)
		Left	41.80 (6.00)	40.93 (5.62)	.97 (.94-.98)	1.01 (3.05)	2.79(8.46)
	1 Trial	Right	42.20 (4.97)	41.80 (5.17)	.89 (.82-.94)	1.68 (7.31)	4.66 (20.27)
		Left	41.66 (6.08)	40.86 (5.66)	.94 (.94-.98)	1.44 (5.32)	3.98 (14.76)
Retraction	Mean 3 Trials	Right	28.05 (5.85)	27.89 (5.15)	.97 (.94-.98)	0.96 (3.05)	2.67 (8.46)
		Left	28.21 (7.18)	26.93 (6.32)	.97 (.94-.98)	1.16 (3.23)	3.22 (8.96)
	Mean 2 Trials	Right	28.94 (5.86)	27.91 (5.25)	.97 (.94-.98)	0.96 (3.05)	2.67 (8.46)
		Left	28.24 (7.14)	26.88 (6.30)	.96 (.93-.98)	1.34 (3.73)	3.72 (10.34)
	1 Trial	Right	28.84 (5.93)	27.74 (5.16)	.94 (.90-.97)	1.36 (4.38)	3.76 (12.14)
		Left	28.22 (7.28)	26.60 (6.15)	.92 (.86-.95)	1.90 (5.14)	5.27 (14.23)
Protraction	Mean 3 Trials	Right	62.46 (5.66)	62.62 (4.79)	.96 (.93-.98)	1.05(3.68)	2.90 (10.19)
		Left	63.89 (6.30)	62.84 (6.21)	.99 (.96-.99)	0.63 (3.37)	1.74 (6.58)
	Mean 2 Trials	Right	62.42 (5.73)	62.59 (4.75)	.96 (.93-.98)	1.05 (3.68)	2.90 (10.19)
		Left	63.80 (6.35)	62.68 (6.22)	.98 (.97-.99)	0.89 (3.36)	2.46 (9.30)
	1 Trial	Right	62.32 (5.71)	62.42 (4.75)	.90 (.84-.95)	1.65 (5.90)	4.58 (16.37)
		Left	63.64 (6.66)	62.44 (6.24)	.96 (.92-.98)	1.29 (4.78)	3.58 (13.24)

Table 1: Inter-rater Reliability and Precision of Goniometric Measures of Scapular Motion: Descriptive Data, Intraclass Correlation Coefficients (ICC), Standard Error of Measurement (SEM), and Minimal Detectable Change (MDC95)

Table 2: Criterion Validity: Descriptive Data, Paired T-Tests, Bivariate Associations, and Level of Agreement

Measurement	Shoulder	Dartfish M (SD)	Goniometer M (SD)	Mean Difference		Bivariate Associations r (Sig.)	Level of Agreement 95% LOA (CI_{95})
				$\bar{d}$ (SD)	T (Sig.)		
Neutral	Right	42.02 (4.99)	42.60 (4.97)	-.58 (.42)	-1.7 (.10)	.88 (<.001)	-0.58+/-5.38 (-5.96-4.80)
	Left	41.37 (5.94)	41.66 (6.08)	-.22 (2.76)	-.57 (.57)	.84 (<.001)	-0.2245+/-5.46 (-5.69-5.23)
Retraction	Right	28.86 (5.76)	28.84 (5.93)	.02 (2.37)	.06 (.95)	.92 (<.001)	0.02+/-5.43 (-5.41-5.45)
	Left	28.32 (6.60)	28.22 (7.28)	.10 (2.82)	.25 (.80)	.92 (<.001)	0.1+/-4.88 (-4.78-4.98)
Protraction	Right	62.18 (5.93)	62.32 (5.71)	-.14 (3.34)	-.30 (.77)	.84 (<.001)	-0.14+/-5.68 (-5.82-5.54)
	Left	63.94 (5.96)	63.64 (6.66)	.30 (2.83)	.75 (.46)	.91 (<.001)	0.3+/-6.83 (-6.53-7.13)

Table 2: Criterion Validity: Descriptive Data, Paired T-Tests, Bivariate Associations, and Level of Agreement

Image 1. Reflective stickers applied to the superior angle of the scapula and mid-point of the acromion with a horizontal level laser used to identify the frontal plane (circular marks on the participant's shoulder are from cupping and unrelated to the study).

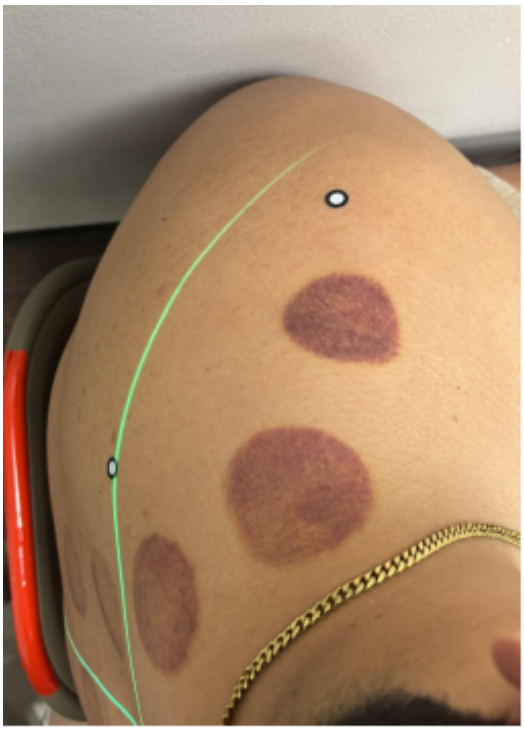
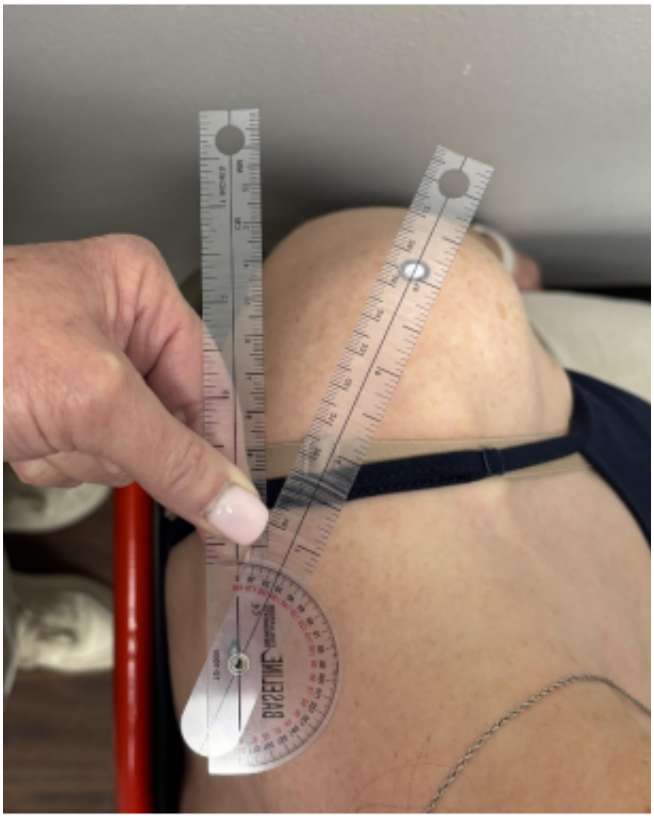


Image 2. Goniometer alignment using reflective stickers (superior angle & acromion) and the wall as reference points



Submission ID: 2117308

REHABILITATION FOR LATERAL ELBOW PAIN: A COMPARATIVE EFFECTIVENESS PILOT RANDOMIZED CONTROLLED TRIAL - PRELIMINARY FINDINGS

Author(s): Aviva L. Wolff**,** Hospital for Special Surgery**;** Gwen Weinstock**,** Hospital for Special Surgery**;** Dan Osei**,** Hospital for Special Surgery**;** Yoshimi Endo**,** Hospital for Special Surgery**;** Carlo Milani**,** Hospital for Special Surgery**;** Alison Taylor**,** Baylor Scott and White Health

PURPOSE

Lateral elbow pain (LEP) affects approximately 3% of the population and contributes significantly to healthcare costs and disability. Current treatments focus on local pathology but often fail to address underlying mechanisms of overuse and regional contributors. The purpose of this pilot randomized controlled trial was to compare the effectiveness of a novel Regional Interdependence Model (RID-M) approach to standard therapy in reducing pain, improving function, and influencing structural outcomes in individuals with LEP. We hypothesized that ultra-sonography testing would identify specific correlates (specifically the superficial branch of the radial nerve at the elbow) with the RID-M approach versus standard of care and that clinical and ultra-sonographic outcomes would demonstrate superior efficacy of RID-M over standard of care.

METHODS

Participants diagnosed with LEP were randomized to either an RID-M intervention group or a control group receiving standard therapy. The RID-M intervention targeted multilevel contributors such as posture, radial nerve excursion, dynamic stability of the elbow, and muscle imbalances across the upper limb. Outcome measures included pain levels (Numeric Pain Rating Scale), grip strength, self-reported functional scores (Patient Rated Tennis Elbow Evaluation [PRTEE], Patient Specific Functional Scale [PSFS]), and ultrasound measures of superficial radial nerve morphology and extensor tendon characteristics were taken at baseline to compare the affected/nonaffected sides and pre/post treatment to compare the effects of the intervention versus the control (standard of care). Repeated measures ANCOVA assessed changes over time and between groups. Multivariable regression analyses were conducted to explore predictors of outcomes.

RESULTS

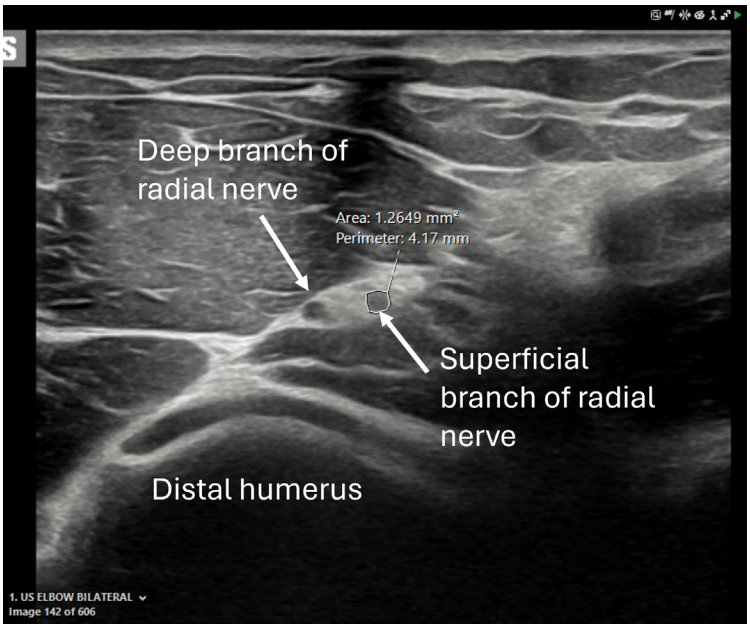
Initial enrollment included 4/10 projected participants. Preliminary findings showed greater improvements in pain, grip strength, and function in the RID-M group compared to controls. Ultrasound imaging revealed differences in radial nerve position between the affected and unaffected side, and positive structural changes in radial nerve morphology and extensor tendon characteristics following RID-M intervention. Participants in the RID-M group demonstrated faster symptom resolution, requiring fewer treatment sessions compared to controls. Though the sample size is extremely limited, these early results may support the hypothesis that addressing regional interdependence mechanisms may improve clinical and structural outcomes in LEP.

CONCLUSION

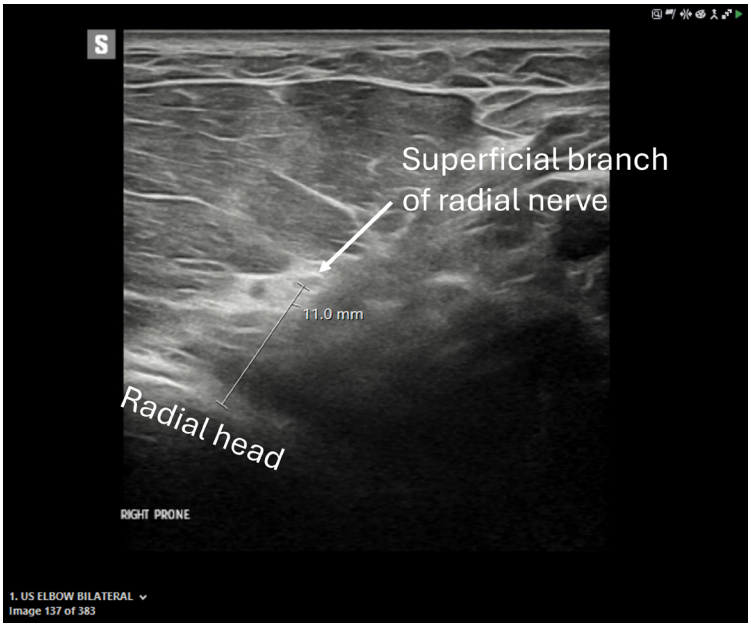
Preliminary data suggest that a regional interdependence-based approach may be more effective than standard therapy for managing lateral elbow pain by targeting upstream contributors to overuse and dysfunction. Improvements were observed in both clinical outcomes and sonographic measures. These findings warrant further investigation with a larger sample to confirm efficacy and better identify predictors of successful outcomes. The study highlights the importance of expanding the therapeutic focus beyond local pathology to improve recovery trajectories in patients with LEP.

Upload Tables & Images

Superficial radial nerve size at the elbow



Distance Superficial Branch Radial Nerve to Radial Head



Submission ID: 2117663

IMPLEMENTATION DETERMINANTS OF UPPER EXTREMITY INJURY PREVENTION PROGRAMS IN MUSIC EDUCATION: INSIGHTS FROM THE MUSCULOSKELETAL HEALTH FOR MUSICIANS (MHM) PROJECT

Author(s): Aviva L. Wolff**,** Hospital for Special Surgery**;** Courtney Dougherty**,** Hospital for Special Surgery**;** Carlo Milani, Hospital for Special Surgery**;** Laura Robbins**,** Hospital for Special Surgery

PURPOSE

Musicians are at high risk for performance-related musculoskeletal disorders (PRMD) of the upper extremity, negatively affecting their health, careers, and institutions. Despite evidence-based prevention strategies, formal upper extremity injury prevention programs are rarely integrated into music education curricula due to systemic barriers. The purpose of this study was to identify key factors impacting the implementation of such programs in collegiate music institutions to inform the development of a tailored toolkit supporting program adoption and sustainability.

METHODS

A qualitative study design was used. Semi-structured interviews were conducted with 20 targeted stakeholders (including students, faculty, administrators, and clinicians) across four collegiate institutions (2 public, 2 private). Purposeful sampling ensured representation across diverse music disciplines and roles. Interviews were transcribed and coded using NVivo 15 software, with thematic analysis guided by the Consolidated Framework for Implementation Research (CFIR). A preliminary codebook was developed collaboratively, and independent coding was performed by two researchers to enhance reliability. Data saturation was approached by the 20th interview. Findings informed the development of a customizable toolkit to support institutional adoption of upper extremity injury prevention programs for collegiate musicians.

RESULTS

Preliminary findings identified major themes across five CFIR domains. The top barriers to implementation included limited awareness of PRMDs, time constraints, difficulty accessing professional expertise, low perceived value, and budget limitations. Key facilitators included strong stakeholder value placed on prevention, interest among faculty and students, access to specialized resources, institutional support, and the presence of teacher champions. Flexibility of program delivery, curriculum integration, and clear actionable steps were consistently emphasized across stakeholders.

CONCLUSION

Findings underscore the critical need for an adaptable, user-friendly toolkit to promote upper extremity musculoskeletal health and prevent overuse injuries among collegiate musicians. Using insights from stakeholder interviews and evidence-based resources, a customizable organizational toolkit was developed to guide institutions through the implementation process, addressing key barriers and leveraging identified facilitators. The toolkit has been piloted across diverse collegiate music programs; evaluation of implementation outcomes and refinement of strategies are ongoing. This initiative advances the role of injury prevention in hand therapy by targeting an underserved, high-risk population through early education and systemic change.

Upload Tables & Images

Top Barriers and Facilitators

Top Barriers	Top Facilitators
Limited awareness of PRMDs	Recognition of prevention value
Time constraints	High stakeholder interest
Limited access to expert resources	Access to musician health experts
Budget limitations	Institutional and faculty support
Low stakeholder value for prevention	Teacher champions promoting health

Submission ID: 2118792

FILLING THE KNOWLEDGE CUP: MAKING EVERY DROP COUNT FOR HAND THERAPY RESEARCH

Author(s): April C. Cowan**,** The University of Texas Medical Branch**;** Marsha B. Lawrence**,** APTA Academy of Hand and Upper Extremity Physical Therapy**;** Elaine E. Fess**,** Private Practice**;** Caroline W. Stegink-Jansen**,** The University of Texas Medical Branch

PURPOSE

Purpose of study - Identifying hand therapists' research priorities and determining if and how priorities may have changed over two decades. Study rationale - Aligning available funding to identified research priorities allows for advancement of the profession, improves patient care, and makes the most of available research funds.

METHODS

Study design - Convergent mixed methods design. The survey used the same survey as published in 2002 with minor adjustments. Participant recruitment - The electronic survey was sent out via email using Tri-Alliance contact information to 7093 hand therapists located in the United States and internationally. Data collection and analysis – Respondents' demographic information was captured using quantitative questions that were analyzed and summarized using descriptive statistics, including weighted means. Qualitative questions identified research priorities and interests which were coded and subsequently assessed using Grounded Theory analysis and Constant Comparative methods. For trustworthiness, consensus was reached by all four authors in each phase of the analysis.

RESULTS

Summary of findings - In total, 397 surveys were returned and analyzed from 47 states in the United States and five countries (5.6% return rate, 95% confidence level, 5% margin of error). The majority of respondents were experienced hand therapists engaged in clinical practice (mean years in practice 23.14 years, SD 10.78). The most frequently reported concerns were related to care provision, with emphasis on specific patient diagnoses conditions and reimbursement issues.. Respondents recommended AHTF support clinical research grants and outcome studies, specifically identifying the ideal hand rehabilitation management strategies, exploring orthosis use, and application of biophysical agents, specifically ultrasound and iontophoresis. The highest prioritized diagnoses and conditions were hand rehabilitation for unspecified tendon pathology, lateral elbow tendinopathy, pain in general, and complex regional pain syndrome. Both quantitative and qualitative analyses identified outcomes research as a top priority showing agreement between the two research design methods. Research participation interests included data collection and co-authorship. Respondents listed the top barriers to participation in research activities as time constraints, lack of proficiency, and limited research education. In comparison to the 2002 survey, practice settings changed from primarily therapist owned to hospital out-patient, practice roles changed from senior therapist to staff therapist. Unforeseen findings from the current survey included research priorities inconsistent with reported clinical practice, omission of alternative treatment models, a lack of focus on the impact of the global pandemic, and no reduction in documentation time despite the adoption of electronic medical records.

CONCLUSION

Recommendations based on findings – Patient outcome and intervention studies should remain high priorities for AHTF research funding. Future AHTF priorities should include institutional, financial, and resource support for research education, especially grant-writing and making funding requests. The mixed-methods approach showed its value, because the two ways of inquiry complemented each other, with both concluding that AHTF focuses on therapeutic outcomes. Clinical implication of the research/meaning of the study to the audience – The majority of AHTF grant funding priorities were aligned with the most frequently managed conditions and performed clinical activities, rather than those identified as research needs. Analysis of the survey data indicated a need for more skilled hand therapy researchers. The authors concluded that the scarcity of scientifically trained hand therapy researchers emphasizes the need for combining clinical and scientific expertise for hand therapy research. Collaborative partnerships are needed between clinicians and researchers to make "every drop count."

Submission ID: 2119096

EMPOWERING FUTURE HAND THERAPISTS: ENHANCING STUDENT CONFIDENCE IN UPPER EXTREMITY REHABILITATION

Author(s): Sarah C. Donley**,** Thomas Jefferson University**;** Brenda Bodine**,** NovaCare Rehabilitation

PURPOSE

This study sought to assess and improve occupational therapy student confidence in performing upper extremity (UE) evaluation and intervention techniques. Evidence suggests that many students lack a firm grasp of these essential skills, which diminishes their confidence and hinders their Level II Fieldwork performance. Compounding this issue, limited hand therapy content in occupational therapy curricula often leaves students feeling unprepared for Level II Fieldwork and Doctoral Capstone experiences, and entry-level practice in this specialized setting. Given that only a small percentage of occupational therapy and physical therapy practitioners specialize in hand therapy and achieve the Certified Hand Therapist credential, and that the number of new practitioners pursuing this specialization continues to decline, targeted, faculty-led seminars during graduate education will increase student interest in this career path, prepare students for Level II Fieldwork and Doctoral Capstone experiences in hand therapy and foster successful experiences, facilitate the transition to hand therapy entry-level practice, and contribute to a sustainable workforce.

METHODS

Hand Therapy fieldwork educator feedback informed the development of a faculty-led, upper extremity seminar. Secondary analysis of this data was used to identify key areas in which students would benefit from additional hand therapy evaluation and intervention preparation. Second-year Doctor of Occupational Therapy students scheduled for Level II Fieldwork in hand therapy settings were recruited to participate in the study. Participant confidence in eight identified UE evaluation and intervention techniques was assessed before and after the seminar using a survey. Data was analyzed using descriptive statistics. Secondary analysis of Doctoral Capstone experience application data provided qualitative information supporting participants interest in hand therapy as a future career.

RESULTS

Identified areas of need included range of motion norms and stretching, orthosis selection and fabrication, manual muscle testing, goniometry, grip and pinch strength testing, and special testing for differential diagnosis. Following the seminar, one-third of student participants improved their confidence in all eight techniques, while the remaining two-thirds reported improvements in five or more areas. All seminar attendees had successful hand therapy fieldwork experiences. Additionally, half of the study participants applied to be placed at a hand therapy Doctoral Capstone experience and expressed interest in hand therapy as a career upon graduation.

CONCLUSION

Incorporating structured learning opportunities focused on setting-specific knowledge and techniques prior to Level II Fieldwork can enhance student confidence when performing essential assessments and interventions by providing a low-stakes environment conducive to focused skill development and refinement, augmentation of foundational knowledge, and additional hands-on practice. These opportunities increase exposure to hand therapy content, generating interest in this specialty practice area for future entry-level occupational therapists and provide a supplement to the limited hand therapy didactic content found in some occupational therapy programs. This study highlights a viable approach to sustainable hand therapy practice by enhancing student preparedness and confidence and equipping students with essential skills required for Level II Fieldwork and Doctoral Capstone experiences, and entry-level practice opportunities in hand therapy.

Submission ID: 2120042

TRANSLATION, VALIDITY, AND RELIABILITY OF THE THUMB DISABILITY EXAM QUESTIONNAIRE INTO SPANISH

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PURPOSE

This study assessed the validity and reliability of the Spanish translation of the Thumb Disability Exam Questionnaire (TDX-S). The translation seeks to enable Spanish-speaking individuals to self-report thumb-related function, pain, and satisfaction, increasing inclusivity in clinical assessments and research.

METHODS

The translation followed Beaton's cross-cultural adaptation guidelines. An expert committee composed of forward and back translators, a professional linguist, and a bilingual reviewer collaborated to produce a final version of the TDX-S for field testing. Participants were recruited through study flyers containing a QR code distributed in hand therapy and surgery clinics in Bogotá, Colombia, and San José, Costa Rica. The QR code linked to a REDCap survey, which included demographic questions, the TDX-S, a Visual Analog Scale for pain during activity (A-VAS), individual VAS items (best, worst, current pain), and the Spanish version of the Quick Disabilities of the Arm, Shoulder, and Hand Questionnaire (QuickDASH-S). Exclusion criteria included active infection of the hand or thumb, carpal tunnel syndrome, De Quervain's tenosynovitis, and cognitive impairment. Forty native Spanish-speaking participants (35 females, 5 males) diagnosed with thumb carpometacarpal (CMC) osteoarthritis, aged 40 years or older (mean age = 63; range: 40–94 years), completed all survey questionnaires twice, five to seven days apart.

RESULTS

The TDX-S demonstrated high internal consistency (Cronbach's alpha = 0.95), indicating strong coherence among items. Test-retest reliability was good, with intraclass correlation coefficients (ICC 3,1) of 0.88 for the overall score, 0.83 for the function domain, 0.79 for pain, and 0.70 for satisfaction. Criterion validity was supported by strong correlations between the TDX-S and both the A-VAS and QuickDASH-S scores (Spearman's rho = 0.61–0.77). All estimates included 95% confidence intervals, affirming statistical robustness.

CONCLUSION

The Spanish version of the TDX (TDX-S) is a valid and reliable tool for assessing thumb disability among Spanish-speaking populations. Its internal consistency is comparable to the original English, Brazilian Portuguese, and German versions. Although test-retest reliability was slightly lower than in previous validations, it remained within acceptable ranges and may have been influenced by early therapeutic intervention between testing intervals. Criterion validity of the TDX-S was stronger than that of the original English version, particularly in its associations with QuickDASH-S and VAS scores. Compared to the German version, the TDX-S showed slightly weaker correlation with QuickDASH-S but stronger correlation with VAS scores. These findings support the clinical and research utility of the TDX-S in Spanish-speaking settings.

Uploaded File(s)

Table 2. Comparison of TDX - S with Brazilian and German versions.

Table 2 Comparison of Measurement Properties Across Translations.

Measurement Property	Current Study	Original[1]	Brazilian Portuguese[3] TDX-BR	German[4] TDX-G
Cronbach α	Total Score: 0.95 (0.93, 0.97)	Total Score: 0.93	Total Score: 0.962	Total Score: 0.932
(confidence intervals)	Function Score. 0.94 (0.91, 0.96)	Function Score. 0.93	Function Score. 0.912	
	Pain Score: 0.84 (0.75, 0.90)	Pain Score: 0.79	Pain Score: 0.922	
	Satisfaction Score: 0.92 (0.88, 0.95)	Satisfaction Score: 0.84	Satisfaction Score: 0.919	
Test-Retest Reliability	Total Score: 0.88 (0.78, 0.93)	Total Score: 0.97	Total Score: 0.953	Total Score: 0.963
Intraclass Correlation Coefficients	Function Score: 0.83 (0.7, 0.91)	Function Score. 0.92	Function Score. 0.940	
(confidence intervals)	Pain Score: 0.79 (0.64, 0.88)	Pain Score: 0.88	Pain Score: 0.968	
	Satisfaction Score: 0.7 (0.5, 0.83)	Satisfaction Score: 0.98	Satisfaction Score: 0.963	
Criterion validity:	Total Score: 0.80	Total Score: 0.63	N/A	Total Score: 0.833
Correlation to	Function Score: 0.71	Function Score. 0.66		
DASH / QuickDASH	Pain Score: 0.83	Pain Score: 0.44		
Spearman Correlation Coefficients	Satisfaction Score: 0.61	Satisfaction Score: 0.46		
Criterion validity:	Total Score: 0.77	Total Score: 0.40	N/A	Correlation to pain during exertion
Correlation to	Function Score: 0.69	Function Score. 0.31		Total Score: 0.529
Visual Analog Scale (Activity)	Pain Score: 0.72	Pain Score: 0.40		
	Satisfaction Score: 0.61	Satisfaction Score: 0.35		
Spearman Correlation Coefficients				

Submission ID: 2120258

OCCUPATIONAL THERAPY USING PROXIMAL INTERPHALANGEAL JOINT BLOCK ORTHOSIS FOR CONSERVATIVE TREATMENT OF TRIGGER FINGER: A RETROSPECTIVE STUDY

Author(s): Jee Yoon Chong, New York Presbyterian Queens

PURPOSE

Trigger finger (TF), also known as flexor stenosing tenosynovitis, is a common hand condition with a prevalence rate of 2.6% in the general population. It is characterized by clinical symptoms of pain, swelling, and clicking or locking of a digit during flexion or extension. TF can cause functional limitations when using the involved hand during daily activities. Despite the prevalence of TF and its impact on the functional use of the hand in individuals with this condition, a limited number of studies have analyzed the effectiveness of conservative treatment for TF. Traditionally, the metacarpophalangeal joint (MCPJ) block orthosis has been effective in prior research. However, recent studies support using the proximal interphalangeal joint (PIPJ) block orthosis for single-digit TF. The primary objective of this research study was to investigate the effectiveness of occupational therapy (OT) using a PIPJ block orthosis in reducing pain, triggering symptoms, and improving function for individuals with TF. The findings from this study can support practitioners' clinical decisions on trigger finger orthosis design. They can be used in developing standardized protocols for conservative hand therapy treatments in individuals with TF.

METHODS

This research was a quantitative, retrospective study using a pre- and post-test, one-group design to examine the benefits of the PIPJ block orthosis for the conservative treatment of TF in an outpatient occupational therapy (OT) setting. Subjects were selected based on inclusion and exclusion criteria, and data were retrieved from the electronic medical record system. Three outcome measures were used to assess the effects of the OT intervention. The numeric Rating Scale (NRS) is the most frequently used patient-reported outcome measure of pain in clinical practice. Green's classification grading system (see Table 1) addresses the second objective of monitoring outcome changes in the severity of triggering symptoms. The last objective was measured using the QuickDASH to assess patients' reported changes in function and perceived severity of impairment. Paired t-tests were used to determine changes in pain and QuickDASH outcome measures, and the Wilcoxon signed-rank test for the trigger finger grade changes. The alpha value of $p \leq 0.05$ was used to test for statistical significance.

RESULTS

A total of 38 subjects and 45 involved digits were included in the final data analysis. Twenty-five subjects were females (66%), and 13 were males (34%). The average age of subjects was 64.2 years, ranging from 42 to 84 years (See Table 2). Pain scores were analyzed using a one-tailed paired t-test. The p-value was < .0001, demonstrating that the changes in pain level before and after OT treatment were highly statistically significant. For the QuickDASH score before and after OT treatments, the p-value for the tailed t-test was 0.075, and the change was not statistically significant. Five out of 45 digits had entirely resolved symptoms of triggering. The p-value was < .0001, less than $p < .05$, indicating that the trigger finger grading from pre- to post-treatment was highly statistically significant. The PIPJ block orthosis effectively reduced pain and triggering symptoms for individuals with TF, at least after six weeks of wearing time (see Table 4).

CONCLUSION

This retrospective study demonstrated the benefits of PIPJ block orthosis for conservative TF management. Twenty-five out of 45 digits (55%) showed one or more grades of improvement in Green's classification grading in this study. Subjects with multiple involved joints (n = 7) showed significant improvement in pain and trigger finger symptoms. Teo et al. (2019) suggest that the superior results of the PIPJ block orthosis were due to a higher compliance rate than the MCPJ block orthosis. PIPJ block orthosis is smaller in size, lighter, and less restrictive. The findings of this study show positive improvements in pain, triggering symptoms, and function, with statistically and clinically significant improvements in pain and the severity of triggering symptoms using the PIPJ block orthosis. These findings support current literature on using an orthosis program for trigger finger patients and assist outpatient clinicians in making evidence-based decisions on the orthosis design when treating trigger finger patients conservatively. This study concludes that the PIPJ block orthosis is effective for individuals with isolated TF, multiple TF, or trigger thumb. For the maximum benefits of using the PIPJ block orthosis in reducing trigger finger symptoms, a wearing duration of 6 to 10 weeks is recommended.

Uploaded File(s)

Table 1,2

Table 1

Green's Classification to Grade the Severity of Trigger Finger

Grade I	Pain/history of catching
Grade II	Demonstrable catching, but can actively extend the digit
Grade III	Demonstrable locking, requiring passive extension
Grade IV	Fixed flexion contracture

(Dala-Ali et al., 2012)

Table 2

Demographic Characteristic (n=38)

Mean Age	64.2 years
Gender, n (%)	
Female	25 (65.8%)
Male	13 (34.2%)
Subjects with diabetes n (%)	
Diabetes	26 (68.4%)
No diabetes	12 (31.6%)
Cortisone injection during intervention, n (%)	
Yes	5 (11%)
No	40 (89%)
Disease duration, n (%)	
Acute (<3 months)	15 (39.5%)
Subacute (3-6 months)	12 (31.6%)
Chronic (>6 months)	11 (28.9%)
OT treatment duration, n	
6-8 weeks	28
8-10 weeks	10
Average Number of OT Sessions, n	7

Figures1, 2, 3

Figure 1

Subjects with Diabetes Mellitus

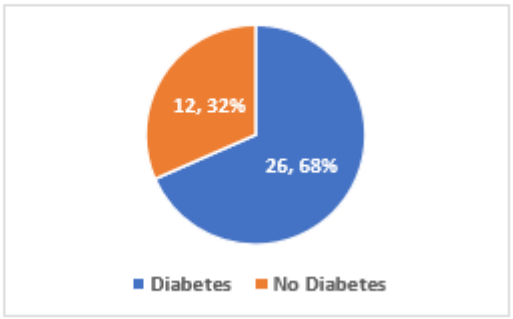


Figure 2

Cortisone Injection

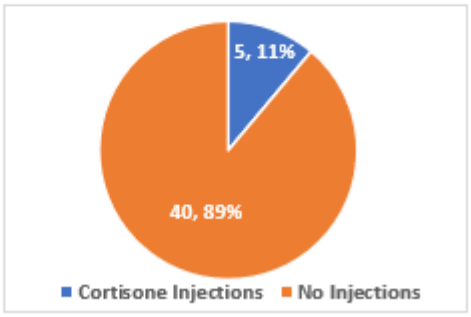
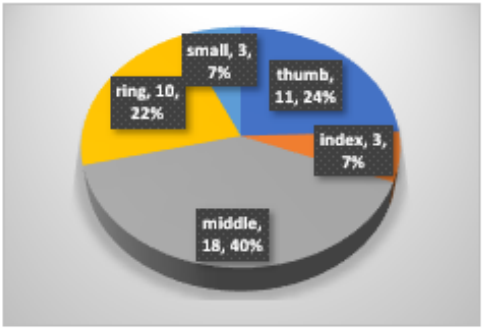


Figure 3

Involved Trigger Finger Digit



Submission ID: 2120286

CASTING MOTION TO MOBILIZE STIFFNESS IMPROVES RANGE OF MOTION AND FUNCTION IN THE STIFF HAND.

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PURPOSE

Stiffness of the hand or fingers is a common, yet challenging complication following trauma, immobilization, or surgery, often resulting in prolonged disability and reduced functional independence. Casting Motion to Mobilize Stiffness (CMMS) is a re-emerging therapeutic technique designed to correct maladaptive hand movement patterns using a series of non-removable plaster of Paris casts, selectively immobilizing proximal joints while directing active movement to distal joints where most needed. This study evaluated the impact of CMMS on range of motion, pain, edema, strength, and functional outcomes in patients with stiff fingers treated in outpatient hand therapy settings.

METHODS

A retrospective chart review was conducted of patients treated with Casting Motion to Mobilize Stiffness (CMMS) between January and December 2024 at two outpatient hand therapy clinics. Inclusion criteria consisted of patients with documented by ICD-10 diagnosis codes who underwent CMMS as part of their treatment. A total of 36 patients (56% female) were identified, and outcomes were analyzed for the whole hand and on a per-finger basis. For each patient, pre- and post-treatment measurements were extracted from the electronic medical record. These included active range of motion (AROM) at the metacarpophalangeal (MP), proximal interphalangeal (PIP), and distal interphalangeal (DIP) joints, wrist flexion and extension, pain scores at rest and with activity, grip strength, edema (measured circumferentially at the distal palmar crease with a tape measure), and functional outcomes assessed with the QuickDASH. Additional data collected included the number of CMMS casts applied, the number of therapy visits, and the duration of treatment from initial casting to discharge. All outcomes were compared using paired t-tests with statistical significance set at $p < 0.05$.

RESULTS

A total of 115 fingers were treated across 36 patients (28 index, 25 middle, 28 ring, and 34 small fingers). Patients completed an average of 15.4 ± 9.5 therapy sessions over a treatment duration of 10.5 ± 8.1 weeks, receiving an average of 1.7 ± 1.1 CMMS casts. Significant improvements were observed in all measured domains. Total active motion (TAM) of digits improved from 136.8° ± 61.9 to 185.8° ± 63.0 ($p < 0.00001$), representing a 36% increase. Each individual joint arc of motion of the MP, PIP, and DIP joints demonstrated statistically significant gains ($p < 0.00001$ for all). Pain at rest decreased from 1.9 ± 2.8 to 0.8 ± 1.8 ($p = 0.00004$), while pain with activity declined from 5.5 ± 3.4 to 2.7 ± 3.2 ($p < 0.00001$), reflecting statistically significant pain relief . Grip strength increased from 22.8 ± 18.3 lbs. to 44.4 ± 26.6 lbs. ($p < 0.00001$), nearly doubling by the end of treatment. Circumferential edema measurement at the distal palmar crease decreased from 20.9 ± 3.9 cm to 18.7 ± 5.8 cm ($p < 0.00001$), and circumferential edema measurement at the proximal phalanx decreased from 6.6 ± 0.9 cm to 6.5 ± 1.0 cm ($p = 0.00031$). Functional outcomes measured by the QuickDASH improved from 66.4 ± 18.1 to 34.0 ± 27.1 ($p < 0.00001$), representing a 49% reduction in self-reported disability. All improvements were statistically and clinically significant.

CONCLUSION

CMMS led to significant improvements in range of motion, pain relief, grip strength, edema reduction, and functional status in patients with hand stiffness. These findings support the use of CMMS as a highly effective intervention, particularly in cases where traditional therapy approaches are insufficient. Incorporating CMMS into clinical practice may enhance outcomes, reduce disability, and expedite functional recovery for patients with persistent stiffness in their hand.

Submission ID: 2120767

COMPARING OUTCOMES OF CONSERVATIVE REHABILITATION PROTOCOLS FOR CAMPTODACTYLY IN PAEDIATRIC PATIENTS: A RETROSPECTIVE COHORT STUDY

Author(s): Liam Young, University of Toronto, The Hospital for Sick Children; Joshua Baek, University of Toronto, The Hospital for Sick Children; Dalia Ebeda, The Hospital for Sick Children; Emily S. Ho, University of Toronto, The Hospital for Sick Children

PURPOSE

Camptodactyly is defined as a flexion contracture of the proximal interphalangeal joint (PIPJ) initially presenting during infancy and/or adolescence. Most commonly, the contracture occurs in the small finger (D5), but it may affect multiple digits with or without association with distal arthrogryposis (DA). The etiological factors associated with camptodactyly are multifactorial and may include skin deficiency, hypoplastic muscles (e.g., lumbricals), shortening of tendons (e.g., flexor digitorum superficialis) and ligaments, and bony findings. The prevalence of camptodactyly has not been well-studied and is estimated to affect approximately 1% of the population. Children with camptodactyly commonly seek contracture treatment from hand therapists and surgeons, largely due to dissatisfaction with cosmetic appearance and functional ability. While surgical interventions exist, the potential for negative outcomes (e.g., loss of active flexion) and therefore reserved mainly for severe contractures. Therefore, literature prioritizes conservative treatment of camptodactyly with a combination of stretching and orthosis intervention to improve range of motion (ROM). The purpose of this study is to conduct a retrospective cohort study comparing the outcomes of conservative management for PIPJ contracture of children with camptodactyly and DA. The secondary goal is to compare whether conservative management outcomes differ between Type I (onset during infancy) and Type II (onset in adolescence) camptodactyly.

METHODS

This study is a retrospective cohort design. The Sickkids Plastic Surgery Clinic database was reviewed to identify children with a diagnosis of camptodactyly. The inclusion criteria of the study were: diagnosis of camptodactyly or DA, aged birth to 18 years, and assessed by a therapist or surgeon at SickKids between March 15, 2013 – March 14, 2024. Children with associated syndromes and/or did not receive care by a hand specialist were excluded. Data were collected through a chart review of two medical record systems (e.g., EPIC). The primary outcomes data collected were the degree of PIPJ extension passive ROM (PROM) of affected digits pre- and post- treatment. Other data collected were participant demographics (e.g., age), type of camptodactyly (e.g., Type I, II), and type of rehabilitation intervention. Descriptive statistics were used to describe the cohort and Chi-Square analysis was used to compare the characteristics between camptodactyly and DA participants. Within each classification, paired comparative analysis (Wilcoxon Signed-rank) was used to measure change in PIPJ pre- and post- therapy. Additionally, comparative outcome of the mean difference in PIPJ between Types I and Type II was conducted (Mann Whitney U).

RESULTS

Of 280 children found in the clinical database, 95 were included in the study. Sixty-five (68%) had camptodactyly and 30 (32%) had DA with equal presentation of females (n=48, 51%) and males. The average length of follow-up for this cohort was 3.6 + 5.1 years (mean + SD). At baseline, average isolated PIPJ extension PROM was –35.4±22.5 (camptodactyly) and -20.7±26.4 (DA), however, the DA cohort had significantly greater prevalence of bilateral flexion contractures ($p = 0.001$), co-morbidities ($p < 0.001$), and composite wrist and digital extension deficits ($p < 0.001$). Orthotic interventions differed between the two categories, fewer hand-based orthoses being prescribed for DA in comparison to children with camptodactyly ($p = 0.05$). The mean difference in PIPJ extension PROM pre- and post- treatment was 5.4 ±14.7 (camptodactyly) and 1.7±24.2 (DA). The effect of conservative management on PIPJ varied based on clinical presentation: significant improvements were found pre- and post- intervention in children with camptodactyly affecting one or more digits ($p = 0.01$) and D5 only ($p = 0.006$). However, changes in PIPJ were not significant in children with DA ($p = 0.789$). Further, no significant difference was found between Types I and Type II in their initial PIPJ extension PROM ($p = 0.21$) and treatment outcomes ($p = 0.38$).

CONCLUSION

Based on the findings of this study, camptodactyly and DA may require different hand therapy treatment protocols. Conservative management is indicated in both categories; however, interweaving interdisciplinary collaboration to provide both conservative and surgical intervention is recommended for children with DA. In this cohort, the lack improvement in isolated PIPJ extension PROM experienced by the children with DA should be considered alongside the high prevalence of composite wrist and finger extension deficits. Skin deficiencies may have largely contributed to the lack of progress with hand therapy. Future research should consider the child and family's perspective of the functional and aesthetic impacts of these contractures and treatment outcomes.

Submission ID: 2121062

HAND ACUTE TRAUMATIC ALLODYNIA OF CHILDHOOD (ATAC) – A CASE SERIES

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PURPOSE

Hand surgeons and therapists commonly treat acute hand injuries in the pediatric population. A key component of assessing children with hand injuries is the physical examination, particularly the localization of tenderness, since radiographs may not always reveal obvious injuries in the immature skeleton. However, such assessment can be challenging when the child presents with diffuse pain and tenderness, especially if the pain seems out of proportion to the injury. In this case series, we describe a clinical entity consisting of acute onset allodynia following blunt trauma, which we term Hand - Acute Traumatic Allodynia of Childhood (Hand ATAC), that we have observed in the pediatric population. We describe the clinical presentation and the outcomes following a collaborative surgeon and therapist treatment approach.

METHODS

Institutional board approval was granted for this retrospective chart review which included records from January 2013 to December 2023. The electronic medical records (EMR) of children 5-21 years old were included for patients who presented with a history of an acute blunt trauma and documented allodynia who had no radiographic evidence of fractures. One researcher extracted demographic variables from the EMR with oversight from the lead investigator. All diagnostic data was extracted by the lead investigator who is a pediatric orthopaedic surgery fellow. The investigator who is a pediatric hand therapist extracted data regarding therapy intervention. Descriptive statistics were performed in Microsoft Excel to describe the cohort.

RESULTS

Five patients (4 Female, 1 Male; median age 13 years old, range 10-13) met inclusion criteria (Table 1). Patients were a median of 7 days (range 5-19) from date of injury (DOI) at the time of their initial clinic visit. All were experiencing allodynia following a blunt trauma to the hand that prevented a full clinical exam. Two patients had radiographic evidence of soft tissue edema, both of whom were the only two patients who were noted to hold their affected hand in protected posture, and three had normal radiographs. Vasomotor symptoms were absent in all patients. The median Numeric Rating Scale (NRS) pain score at presentation was 7 (range 4-8). Pediatric Outcomes Data Collection Instrument (PODCI) Pain and Upper Extremity (UE) Function scores were available for 4 patients. Median PODCI Pain score was 15 (range 6.75 – 41) and PODCI UE Function score was 31.33 (range 12.67 – 58.33). All patients were referred to occupational therapy (OT) with a pediatric hand therapist and initiated care with OT on the date of presentation. Initial therapy intervention included active range of motion and desensitization exercises with tactile stimulation to the symptomatic region of the upper extremity with instruction in performing these exercises three or more times each day. Additional therapy interventions utilized during the episode of OT care included activity modifications, joint protection strategies, and grip and pinch strengthening exercises with theraputty. For the only patient with allodynia lasting greater than 3 weeks, mirror therapy was utilized. Patients had a resolution of their allodynia within a median of 14 days (range 11-126). At repeat clinical exam with the hand surgeon (median 12.5 days, range 7-21 days), one patient had a suspected occult scaphoid fracture and continued with care beyond the resolution of allodynia for fracture care. No other patients had the diagnosis of additional pathology, as tenderness had resolved completely with resolution of the allodynia. Patients received OT on a weekly to every other week frequency until the hand surgeon or OT determined their allodynia was resolved, pain was resolved/controlled, and premorbid level of function resumed. Patients had a median of 2 OT visits (range 1-5) with a median length of OT treatment lasting 14 days (range 1-63) and 3 visits with the hand surgeon (1-5) and median length of hand surgeon treatment lasting 32 days (range 14-126) until discharge from care. At discharge from care, median NRS score was 0 (range 0-1). Final PODCI scores were available for 2 patients and reflected improvements in pain (PODCI Pain range 74-100) and upper extremity function (PODCI UE Function range 91.67 – 100).

CONCLUSION

This descriptive case series highlights a clinic entity, Hand ATAC, in the pediatric population and outlines an effective collaborative treatment approach to the clinical presentation. In this case series, immediate hand therapy intervention was effective in decreasing the child's allodynia within a few weeks allowing the surgeon to perform a full clinical evaluation for other underlying injuries. This characterization of Hand ATAC allows for hand surgeons to identify children who may benefit from same day referral to hand therapy, potentially avoiding evolution of the allodynia into chronic symptoms such as complex regional pain syndrome.

Uploaded File(s)

Table 1: Patient demographics, initial presentation, treatment course and outcomes.

Demographic			Clinical presentation at initial visit								Treatment and outcomes								
Patient	Age	Sex	Nature of trauma	Allodynia	Vasomotor symptoms	Radiographic findings	Date of injury to first clinic visit (days)	Initial NRS pain score	Initial PODCI (pain)	Initial PODCI (UE)	Hand therapy visits (n)	Length of hand therapy treatment (days)	Hand surgeon visits (n)	Length of hand surgeon treatment (days)	Final NRS pain score	Final PODCI (pain)	Final PODCI (UE)	Date of injury to resolved allodynia (days)	Diagnosis discovered after hand ATAC
1	10	M	Fall on outstretched hand (FOOSH) and wrist stepped on during soccer	Yes	No	Normal	5	7	15	16.67	1	1	3	32	0	-	-	11	Yes
2	13	F	FOOSH	Yes	No	Normal	5	7	-	-	5	56	5	126	0	-	-	126	No
3	13	F	Hit hand on dishwasher during a fall	Yes	No	Soft tissue swelling + nonaggressive lucent lesion	12	4	41	58.33	2	14	2	21	0	-	-	14	No
4	10	F	Wrist hyperextension injury catching someone in cheer	Yes	No	Soft tissue swelling	19	8	15	46	5	63	3	63	0	100	100	21	No
5	13	F	Struck hand on a desk	Yes	No	Normal	7	8	6.75	12.67	2	14	1	14	1	74	91.67	14	No
Median	*13*						*7*	*7*	*15*	*31.33*	*2*	*14*	*3*	*32*	*0*	*87*	*95.83*	*14*	
min-max	*10-13*						*5-19*	*4-8*	*6.75-41*	*12.67-58.33*	*1-5*	*1-63*	*1-5*	*14-126*	*0-1*	*74-100*	*91.67-100*	*11-126*	

Submission ID: 2123385

OCCUPATIONAL THERAPY STUDENT EDUCATION ON HAND THERAPY

Author(s): Madeline Ritenour**,** Shenandoah University**;** Jill Yannick**,** Shenandoah University

PURPOSE

Despite a national shortage of Certified Hand Therapists (CHTs), occupational therapy (OT) programs are currently not required by ACOTE to include hand therapy specific content into their curriculum. This has led to a decline in the number of practicing CHTs due to an imbalance between the rate of retiring clinicians and the entry of newly credentialed practitioners into the field. Currently, less than 7% of CHTs are under the age of 35, and over 25% of current CHTs are expected to retire in the next 10 years. CHTs' willingness to supervise students or mentor novice therapists is negatively impacted by the limited baseline knowledge these practitioners and learners possess in the specialized area of hand therapy. This study, which was conducted within a Master's of Occupational Therapy program in a private university on the east coast, assessed whether hand therapy specific content increased students' knowledge, confidence, and interest levels in hand therapy.

METHODS

The study utilized a quasi-experimental single group pre-/post-test design, utilizing a quantitative measurement tool. The tool measured the constructs of knowledge, confidence, and interest levels using a 1-10 ordinal scale. This study design was the most appropriate as it allowed for the measurement of changes in knowledge, confidence, and interest in the hand therapy specialization before and after the intervention. Eligible participants of this study were recruited through email, canvas announcements, and in-person at the private university. Participants in this study participated in the intervention of a six week specialization course on hand therapy on Canvas through the private university. The modules of this course included: assessments, protocol management and clinical decision making, inflammatory upper extremity injuries, nerve upper extremity injuries, upper extremity deformities, and upper extremity flexor tendon injuries. This study utilized criterion sampling. The sample size of this population was determined by the number of participants willing to participate in the study. All analyses were performed using RStudio, a statistical software engine and graphic user interface for R.

RESULTS

Of the 28 OT students who participated, 22 reported no prior experience in hand therapy, with the remainder having experience as COTAs or rehabilitation aides. Descriptive and frequency statistics were used to measure attribute variables and to measure central tendencies of ordinal scale responses. Wilcoxon signed rank tests of difference were performed to evaluate within groups differences between pre-test and post-test scores. Overall, concepts of knowledge (Pre-Mean: 3.29, SD 1.54; Post-Mean: 6.07, SD: 1.71) and confidence (Pre-Mean: 2.57, SD: 1.71; Post-Mean: 5.21, SD: 1.23) increased from pre- to post-program ($W = 18.0$, $p < 0.001$; $W = 40.5$, $p < 0.001$, respectively). Interest level remained relatively unchanged (Pre-Mean: 4.5, SD: 2.08; Post-mean: 4.46, SD:219). Wilcoxon was performed to evaluate within groups differences between pre-test and post-test scores. Confidence ($W = 40.5$, $p < 0.001$) and knowledge ($W = 18.0$, $p < 0.001$) were statistically significant. Interest was not statistically significant ($W = 181.0$, $p = 0.85$).

CONCLUSION

These findings suggest that integrating hand therapy content into occupational therapy curricula enhances students' confidence and knowledge in upper extremity evaluation, clinical reasoning, and biomechanical intervention planning. Furthermore, incorporating hand therapy-focused coursework at the entry-level supports the development of foundational clinical skills, potentially increasing the capacity of CHTs to accept and mentor students in fieldwork placements. The results of this study have the potential to influence future educational initiatives by supporting the development of experiential learning opportunities, increasing students' knowledge and awareness of the CHT credential, and guiding strategies to strengthen CHT mentorship practices.

Submission ID: 2129758

AT WHAT AGE IS THE MUSICGLOVE AN EFFECTIVE TOOL FOR HAND THERAPY WITHIN THE PEDIATRIC AND ADOLESCENT POPULATIONS?

Author(s): Ritu Goel**,** Towson University**;** Joshua M. Abzug**,** University of Maryland, School of Medicine, Department of Orthopaedics and Pediatrics**;** Julia L. Conroy**,** University of Maryland, School of Medicine, Department of Orthopaedics and Pediatrics

PURPOSE

The MusicGlove is a hand therapy tool that utilizes a music-based "video game" interface to engage patients during rehabilitation. A similar platform to the video game Guitar Hero is used, however patients are encouraged to use various finger pinches to play "notes" to the songs. Younger patients are often hesitant to mobilize their fingers in the various pinch patterns necessary for fine motor skills. This interactive tool may provide them with an interesting game to gain interest in therapy. This device has been utilized among chronic stroke and traumatic brain injury patients in the adult population, but has yet to be used with the pediatric and adolescent populations. The purpose of this study is to establish the efficacy of the MusicGlove within the pediatric population and determine at what age this device is most appropriate for use.

METHODS

Study design and recruitment: A prospective study was performed to enroll patients and siblings of patients ages 2-17 years. Additionally, children and adolescents from personal contacts were also recruited for participation. Patients who may be in cast or splint that does not permit hand use were recruited for participation with their unaffected extremity. The MusicGlove device was modified using Velcro to accommodate the variety of hand sizes within the population of interest. Data collection: The same song was used for all participants. Two trials were performed on each hand per participant, resulting in four total trials. The participants then completed a brief satisfaction survey at the conclusion of their session, with the aid of a parent as appropriate. Patient demographics, the percentage of "notes" correctly played, and the Likert scale responses to the satisfaction survey were recorded. Simple statistical analysis was performed to determine percent accuracy and interest within gender and age groups.

RESULTS

52 participants completed the MusicGlove testing and satisfaction questionnaire. The average age of participants was 8.3 years (Range: 2-16 years). The overall percentage of notes accurately played among all participants was 67.5% (Range: 6.4%-100.0%). The percentage of notes accurately played increased with age, and participants 9 years and older were able to complete the testing with 77.4% accuracy or greater (Range: 77.4%-100.0%) (Figure 1). The majority (37, 71.2%) of participants completed all trials; however, 15 (28.8%) participants, aged 2-9 years, did not complete all four trials due to disinterest and/or refusal. All but one participant (aged 2 years), still completed the satisfaction survey. Responses to survey questions are presented in Figure 2. Given that we were utilizing an adult small sized glove for a variety of ages and hand sizes, glove fit was an issue for patients on either end of the spectrum. Younger patients struggled with the glove being too loose and/or falling off, while some older patients experienced issues with the glove being too tight. This is reflective of our limited available sizes as well as the lack of pediatric sizing in MusicGloves.

CONCLUSION

The MusicGlove device is an effective hand therapy tool within the pediatric and adolescent population from age 9 years and older. This tool may aid in increasing patient engagement, compliance with hand therapy, and potentially improve outcomes. Further investigation of this device in comparison to traditional hand therapy is warranted to assess its utility as a therapeutic tool.

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Figure 1: % note accuracy based on age

Goel_MusicGloveFigures_05162025

Figure 1.

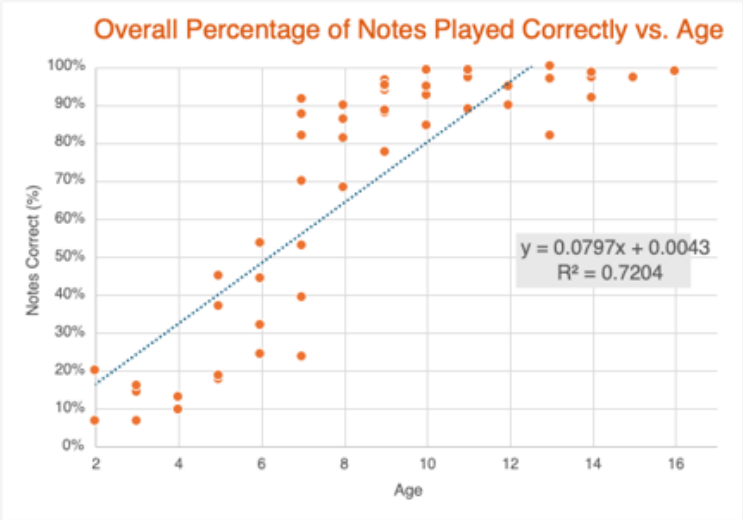
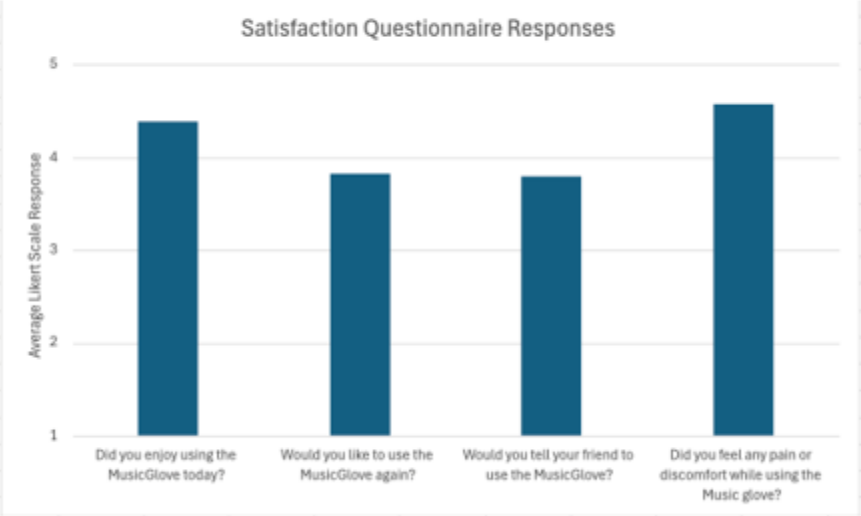


Figure 2: patient satisfaction

Figure 2.



Submission ID: 2131521

THE IMPACT OF EARLY ADL PARTICIPATION ON FUNCTIONAL OUTCOMES POST DISTAL RADIUS FRACTURE: A PILOT STUDY

Submission Type: Scientific Abstract

Author(s): Sarah Doerrer**,** George Washington University**;** Stephanie Barbone**,** George Washington University**;** Sam Moghtaderi**,** George Washington University Medical Faculty Associates**;** Katherine McCauley**,** George Washington University Medical Faculty Associates**;** Timothy McCall**,** George Washington University

PURPOSE

The purpose of this single blinded randomized controlled trial is to understand the effects of multimodal ADL education on pain, kinesiophobia, upper extremity function, digit ROM, hand dexterity, and hand strength. Distal radius and ulnar fractures are the most common fractures in the upper extremity occurring in 16.2/10,000 persons. Multiple studies report that patients do not understand or feel uncertain about the activities they are allowed to perform post-distal radius fracture (DRF). There is no standard of care for education on activities of daily living (ADL) performance in the orthopedic clinic post-fracture. It is frequently reported the education currently being provided to patients is verbal education, which does not support health literacy initiatives as described in Healthy People 2030.

METHODS

Study design: single blinded randomized controlled trial. This study has IRB approval from George Washington University and is registered on Clinical Trials.gov ID- NCT05650996 Participants are recruited from the George Washington University Medical Faculty Associates Orthopedic Clinic. Individuals who have a conservatively treated distal radius fracture and who have met all inclusion and exclusion criteria are recruited for this study. After obtaining informed consent, participants are randomized to either the experimental or control group. The experimental group is provided a handout at 0-3 weeks post DRF describing early ADL performance and cast care. In addition, they watch a role-playing video in the physician' s office of an OT educating a mock patient on early ADL performance and cast care. The control group is provided a handout on cast care only at 0-3 weeks post DRF, and participants watch a video of an OT educating a mock patient on cast care in the physician's office, representing the standard education physicians typically provide during this time frame. Handouts for both the control and experimental groups, as well as a QR code to the video, are provided for the participants. Participants may access and watch their respective video at any time during their enrollment in the study. Participants are assessed at baseline (0-3 weeks), cast removal (6 weeks), 9 weeks, and 3 months. Subjective measures are performed at baseline and 6 weeks and include the Michigan Hand Outcomes Questionnaire, Visual Analog Scale, and Tampa Kinesiophobia Scale-11. At 6 weeks ROM of the digits is also assessed. At 9 weeks and 3 months all subjective measures are assessed along with objective measures of digit ROM, 9 hole peg board, lateral pinch, and grip strength. A Power Analysis was based on a prior RCT study and determined a sample size of 26 in each group. As of May 2025 there are currently 40 participants enrolled in the study however only 15 have a complete data set. To examine the role of time and experimental group (control vs. experimental) on the dependent variables in the study, 15 subjects (ten control, five experimental) with complete data from baseline to 12 weeks were analyzed as part of this study using a mixed-measures ANOVA, with experimental condition as between-subjects and time as within-subjects. The objective was to measure changes over time as well as differences between the experimental and control groups.

RESULTS

Results showed an interaction between time and experimental group for several dependent variables. Specifically, for the ADL subscale, satisfaction subscale, and total Michigan Hand Outcomes Questionnaire (MHQ) score (ps < .05), experimental participants improved over time moreso than control participants. In addition, main effects emerged for time on several dependent variables, where improvements occurred regardless of experimental condition on the work subscale of MHQ, hand function subscale of MHQ, digit ROM, VAS, and hand dexterity (9-hole) scores (ps < .05), consistent with positive hand outcomes, for both experimental and control participants.

CONCLUSION

Early pilot results from the full data set suggest that early ADL multimodal education significantly improves hand function in the experimental group between weeks between weeks 6, 9, and 12. This may suggest that early ADL education provided in the orthopedic clinic within 0-3 weeks in the conservatively treated DRF population improves hand function early in a patient's recovery. Data collection is still ongoing in that the sample size with full data sets does not meet power requirements., No known complications have been identified in the participants receiving the intervention. We launched our second clinical trial in August 2024 for surgical DRF and currently have 16 participants.

Submission ID: 2132135

DETERMINING THE INTER AND INTRA RATER RELIABILITY OF THE COMPLETE MINNESOTA DEXTERITY TEST IN THE SEATED POSITION

Author(s): Amy Eybers-Hill**,** George Washington University**;** Sarah Doerrer**,** George Washington University

PURPOSE

The purpose of this methodological study is to understand the inter and intra rater reliability of the Complete Minnesota Dexterity Test in the seated position. There are two main research questions for this study. The first question inquires: What is the inter and intra rater reliability of the Complete Minnesota Dexterity Test in the seated position for the general population? The second question is as follows: what is the difference between the intra and inter-rater reliability in sitting vs. standing for the general population? The Complete Minnesota Dexterity Test was originally normed to be conducted in a standing position, however, when utilized in practice, this test may be conducted in the seated position. Establishing reliability in the position in which it is performed is essential when considering the use of a standardized assessment in therapeutic spaces.

METHODS

This is a methodological study to understand the inter and intra rater reliability of the Complete Minnesota Dexterity Test (CMDT) in the seated position. A total of 75 individuals participated in this study. Verbal consent was required to participate in this study. Participants who met inclusion and exclusion criteria were recruited from The George Washington University's campus, through convenience sampling. IRB approval was obtained from The George Washington University on November 8, 2024. Two raters were used to establish interrater and intrarater reliability of the CMDT. Participants were asked to complete all of the subtests of this assessment three times, one practice, and two timed tests, including the placing test, turning test, displacing test, one hand turning and placing test, and two hand turning and placing test. Both raters timed participants as they completed each subtest, while also alternating who was reading test instructions. During the study, the student researcher switched the order of the subtest with each new participant by having each participant start at a different subtest, then completing the remaining subtests in order. Recruitment for this study took place between January and March of 2025.

RESULTS

This study determined inter and intrarater reliability in sitting using 75 participants, consisting mostly of right handed (84.00%) women (78.67%) with two raters timing and recording the data of every participant. Both inter and intrarater reliability were determined to be high for the CMDT, as determined by the ICC values. Interrrater reliability ICC values for this study, in the seated position, were determined to be between .999 to 1.00 (Table 1). Intrarater reliability ICC values were also high, and were determined to be between .948 to .965 (Table 2). On the Bland-Altman test, very few data points breached the 95% confidence interval indicating good agreement. The smallest detectable change scores ranged from 0.0 to .055 for interrater and from .348 to 2.484 for interrater. Interrater reliability in the seated position was determined to be slight.y higher than prior reliability ICC values, which previously were determined to be between .87 to .95 (Walter, J.R. et. al., 2025).

CONCLUSION

The Complete Minnesota Dexterity Test is used in various spaces, such as therapeutic settings, however, this test has only been normed for certain populations, such as young, male factory workers. This test is currently only normed to be conducted in a standing position, however, when utilized in practice, this test may be conducted in the seated position. Establishing reliability in the position in which it is performed is essential when considering the use of a standardized assessment in therapeutic spaces. This study established excellent inter and intrarater reliability values by significant findings within a 95% confidence interval. This is the second in a series of studies to measure the psychometric properties of the CMDT in both sitting and standing.

Uploaded File(s)

Reliability

Interrater Reliability - Reliability Statistics by Test

	Rater A1		Rater A2		Difference (A1-A2)		Intraclass Correlation [ICC]	Standard Error of Measurement [SEM]	Smallest Detectable Change [SDC]	Limits of Agreement (LOA)	
Test (Trial 1)	Mean	SD	Mean	SD	Mean	SD				Lower	Upper
Placing	64.0	7.31	63.95	7.31	0.05	0.000	1.000	0.000	0.000	-0.317	0.393
Turning	56.0	10.70	56.0	10.72	0.00	-0.020	0.999	0.020	0.055	-1.274	1.166
Displacing	46.8	7.15	46.7	7.14	0.10	0.010	1.000	0.000	0.000	-0.264	0.320
One-Hand Turning and Placing	78.8	14.53	79.0	14.61	-0.20	-0.080	0.999	0.017	0.046	-3.486	14.963
Two-Hand Turning and Placing	52.8	9.70	52.8	9.74	0.00	-0.040	1.000	0.000	0.000	-2.572	16.748

Here are the additional reliability statistics for interrater reliability. I started with mean and standard deviation for raters A1 and A2, then for the difference between the two. The ICC values are from what we previously calculated. The SEM value is calculated by

SEM = SD * sqrt (1-ICC), where SD is the overall standard deviation

The SDC value is then calculated by

SDC = 1.96 * √2 * SEM

The lower and upper limits of agreement correspond to the bland altman plots provided in the separate word document.

Lower = Mean difference - 1.96 * standard deviation of difference
Lower = Mean difference + 1.96 * standard deviation of difference

Reliability

Intrarater Reliability (Rater 1) - Reliability Statistics by Test

	Trial 1		Trial 2		Difference (Trial 1 - Trial 2)		Intraclass Correlation [ICC]	Standard Error of Measurement [SEM]	Smallest Detectable Change [SDC]	Limits of Agreement (LOA)	
Test (All Raters)	Mean	SD	Mean	SD	Mean	SD				Lower	Upper
Placing	65.3	7.41	62.6	7.50	2.67	2.917	0.96	0.583	1.617	-3.044	8.392
Turning	59.2	10.96	52.8	10.99	6.40	4.867	0.948	0.559	1.550	-3.135	15.942
Displacing	48.1	7.57	45.4	6.97	2.71	2.668	0.965	0.593	1.644	-2.516	7.942
One Hand Turn and Place	85.1	12.42	79.3	11.85	5.74	4.706	0.961	0.126	0.348	-3.486	14.963
Two Hand Turn and Place	55.9	10.86	49.6	8.96	6.25	4.500	0.964	0.896	2.484	-2.572	15.069

Same table but for intrarater reliability.

Table #2

Interrater Reliability – Interclass Correlation Coefficient (ICC) by Test and Trial

	Trial 1	Trial 2	Total
Placing	1.000	1.000	1.000
Turning	0.997	1.000	0.999
Displacing	1.000	1.000	1.000
One-Hand Turning and Placing	0.998	0.997	0.999
Two-Hand Turning and Placing	1.000	1.000	1.000

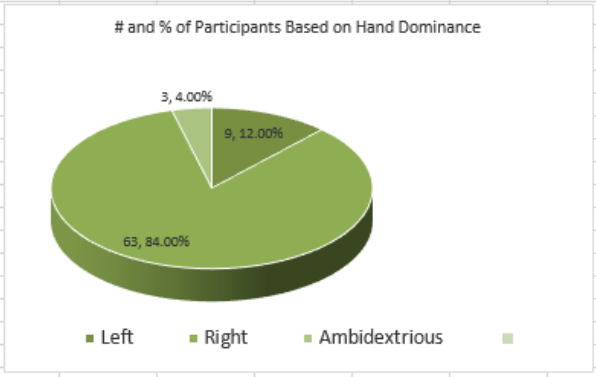
Table #1

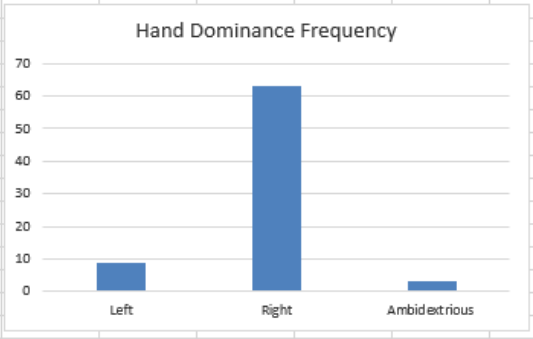
Intrarater Reliability – Interclass Correlation Coefficient (ICC) by Test and Trial

		95% Confidence Interval	
	ICC	Lower Bound	Upper Bound
Placing	0.960	0.937	0.975
Turning	0.948	0.918	0.967
Displacing	0.965	0.945	0.978
One-Hand Turning and Placing	0.961	0.938	0.975
Two-Hand Turning and Placing	0.946	0.915	0.966

Age	HD
19	1
27	1
19	1
26	1
19	1
34	1
24	1
43	1
26	1
20	2
22	2
18	2
22	2
32	2
35	2
24	2
43	2
24	2
46	2
28	2
24	2
52	2
38	2
26	2
22	2
24	2
25	2
26	2
38	2
58	2
25	2
24	2
23	2
24	2
25	2
23	2
29	2
47	2
64	2
24	2
23	2

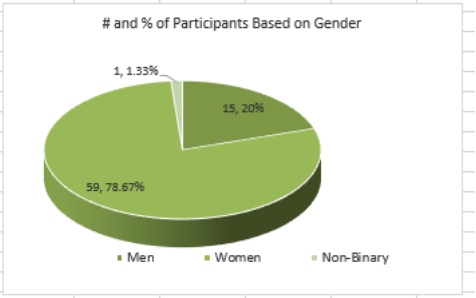
Hand Dominance		
Left	9	12.00%
Right	63	84.00%
Ambidextri	3	4.00%

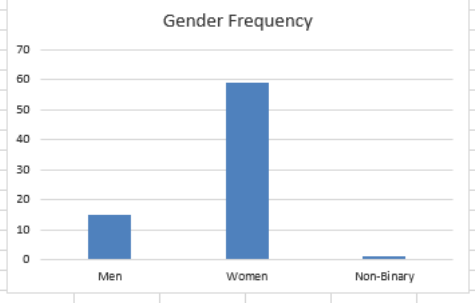




3	25		2
4	29		2
5	22		2
6	34		2
7	37		2
8	25		2
9	25		2
0	23		2
1	25		2
2	24		2
3	24		2
4	22		2
5	24		2
6	23		2
7	47		2
8	18		2
9	33		2
0	23		2
1	33		2
2	19		2
3	21		2
4	24		2
5	44		2
6	21		2
7	20		2
8	28		2
9	23		2
0	23		2
1	31		2
2	25		2
3	45		2
4	24		3
5	23		3
6	24		3
7	18		
8	18		

Gender		
Men	15	20%
Women	59	78.67%
Non-Binary	1	1.33%





Submission ID: 2132282

STRATEGIES FOR SUCCESSFUL IMPLEMENTATION OF MYOELECTRIC PROSTHESES FOR UPPER EXTREMITY AMPUTEES: A CLINICAL CASE STUDY

Author(s): Christine Eddow**,** Western University of Health Sciences Department of Physical Therapy Education

PURPOSE

Individuals who have suffered distal traumatic upper extremity amputation injuries experience a profound degree of functional disability combined with psychological distress. Evidence demonstrates unless individuals suffering traumatic amputation are not prepared to accept a prosthesis within the first six months of injury, they will likely not accept utilizing any type of prosthesis. With current technology, myoelectric prostheses offer patients vast improvements in the ability to perform fine motor manipulation tasks and enhance confidence due to improved cosmesis. It is imperative therapists understand strategies to prepare and transition patients in the use of a myoelectric prosthesis. The purpose of this retrospective clinical study is to demonstrate the successful use of strategies to prepare patients for use of a prosthesis and follow through with appropriate personalized functional training.

METHODS

Two male patients participated in preparatory therapeutic interventions to prepare for myoelectric prosthetic use followed by personalized instruction while learning to use a myoelectric prosthesis. The first subject was 32 years old male who suffered traumatic injury to the left hand resulting in amputation of the index, ring, middle, and small finger and the metacarpophalangeal joints - the thumb was intact. The second subject was a 23 year old male who suffered traumatic transradial amputation of the right hand proximal to the wrist level. Therapeutic interventions consisted of desensitization, soft tissue mobilization and compression emphasizing remodeling of the residual limb, graded motor imagery with emphasis on mirror box therapy, and neuromuscular reeducation with computerized electromyograph feedback (sEMG). The preliminary emphasis was to prepare the subject psychologically for acceptance of a prosthesis as well as to enhance the understanding of the prosthesis myoelectrode operation. Follow up therapy consisted of functional restoration with the prothesis including basic grasping and pinching skills then progressing to higher level functions including use of tools and utensils. Data was analyzed using comparative Quick DASH scores.

RESULTS

Both subjects were seen for a total of 16 weeks. The first subject demonstrated fair tolerance to his prosthesis but still demonstrated preference to using his uninvolved, dominant hand for most activities. His DASH score improved from 88.7 to 53.2. This second subject responded exceptionally well to the application of his prosthesis being able to perform highly complex skills including painting, writing, and playing musical instruments. His DASH score improved from 80.3 to 33.6.

CONCLUSION

In order for patients who have suffered traumatic distal upper extremity amputation to achieve optimal functional restoration using a prosthesis, it is imperative that therapists understand how to address psychological, sensory, and motor processes to prepare them for this transition. Using preliminary desensitization, graded motor imagery, and neuromuscular reeducation with biofeedback provides a positive foundation for the transition to utilization of myoelectric prostheses resulting in positive functional outcomes.

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Table 1: Comparative DASH Scores - Percentage of Perceived Disability

DASH SCORES			
%Perceived disability	Initial	Final	% Change
Subject 1			
	88.7	53.2	35.5
Subject 2			
	80.3	33.6	46.7

Subject 2: Mirror Box Therapy with sEMG Biofeedback

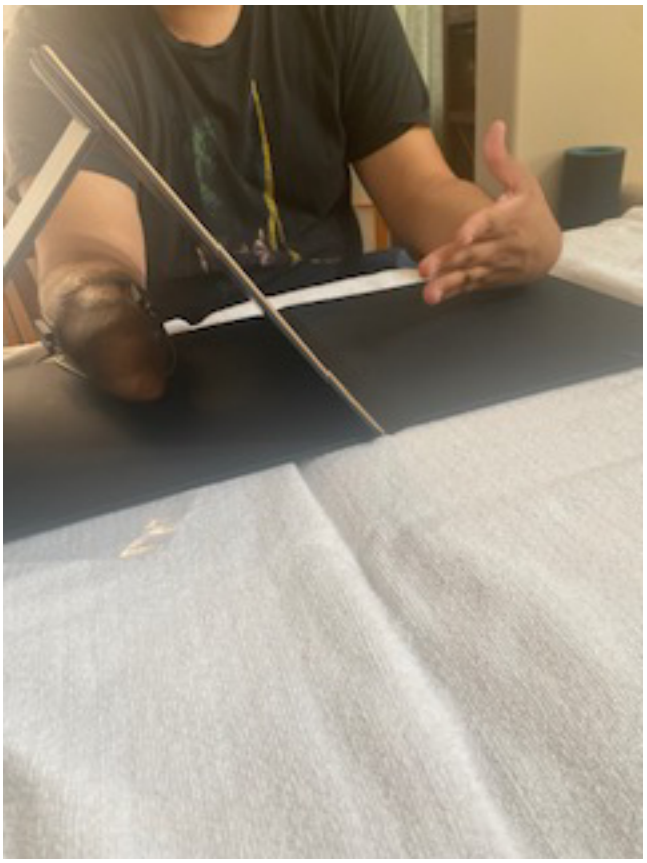
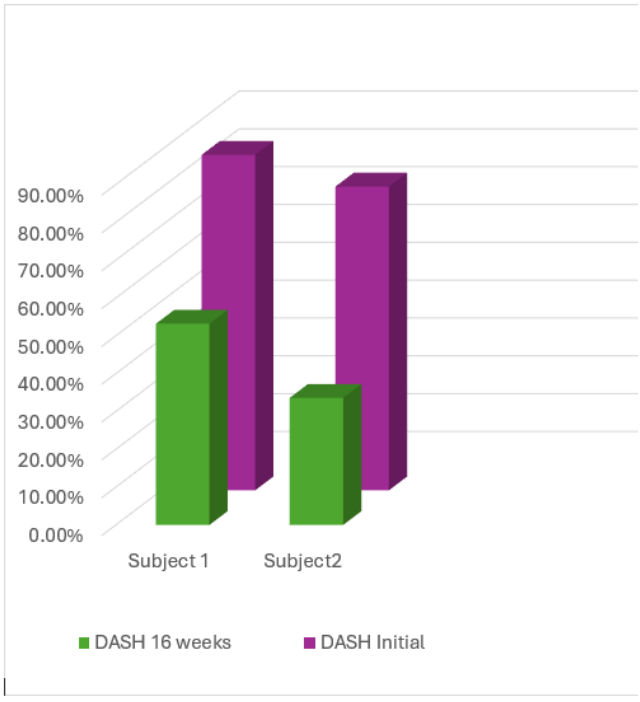


Figure 1: Comparative DASH Outcomes



Submission ID: 2132293

MEASURING WHAT MATTERS: VALIDATING THE HANDFULS HAND OUTCOME TOOL IN PEDIATRIC BURN SURVIVORS

Author(s): Ingrid Parry**,** Shriners Hospitals for Children**;** Sandra Taylor**,** University of California, Davis**;** David Greenhalgh**,** Shriners Hospitals for Children**;** Michelle James**,** Shriners Hospital for Children

PURPOSE

The aim of this study was to validate the Hand Accumulation and Dexterity Functional Limits- Shriners (HANDFULS) in children recovering from hand burns during the first two years after injury and compare their performance to that of non-injured children. The newly developed HANDFULS outcome tool is an easy-to-administer test that measures two critical constructs of hand function that are often impaired after burn or other injury to the hands. The first, palmar workspace volume (PWV), is the functional space created within the palm and fingers and is represented by the number of marbles held in the hand with knuckles turned downward. The second, in-hand manipulation, is the active collection and repositioning of items within the hand. The HANDFULS test captures the two constructs: the number of marbles that fit in the hand determines the PWV, and the timing of how long it takes to collect and position those marbles in the hand quantifies in-hand manipulation.

METHODS

This study was a prospective longitudinal cohort study. Children and adolescents between the ages of 2 and 18 years who had sustained a second or third-degree burn to at least one hand underwent testing with HANDFULS at 2, 6, 12, and 24 months post-injury. To examine change over time for in-hand manipulation (HANDFULS score or seconds per marble) and PWV, we fit mixed-effect models with a random intercept to account for clustering of hands within patients, and controlled for age, length and width of the hand, total body surface area burned (TBSA), and surgical intervention. The burn cohort HANDFULS scores at each time point were compared to a non-injured population of children from a previous study to determine recovery trajectory back to age-normative function.

RESULTS

A total of 119 patients with 165 hand burns were enrolled in the study. Subjects had a mean age of 8.5 (SD=+5.4) years, 56% male, and 56% white. The mean TBSA burned was 12.7% (SD=+17.5%), and surgery was performed on 48 (40.3%) subjects. The least squares mean for PWV was 6.6 marbles (SE=0.29) for all subjects at 2 months (baseline). Statistically significant improvements were found in PWV over time (p-value < .001), with an increase of 1.5 (SE=0.52) units (marbles held in hand) over the course of the study period. The recovery interval with the largest PWV change was between 2 and 6 months, with an increase of 0.96 (SE=0.36) units (P=.008), representing an increase in functional volume within the palm and fingers. Patients' HANDFULS scores also changed significantly over time, with a decrease of 0.95 seconds per marble over the course of follow-up (P=.0012), representing an improvement in in-hand manipulation. Similar to PWV, the largest change occurred between 2 and 6 months with a decrease of 0.60 seconds per marble (P=.009). Patients did not change significantly between 6 and 12 months or between 12 and 24 months (P values = 0.22 and 0.95, respectively). Compared to non-injured children, 45% of children with burns achieved age-typical PWV and 32% age-typical HANDFUL scores by 2 months after injury. These percentages increased to 78% and 78%, respectively, by 24 months after injury.

CONCLUSION

The HANDFULS outcome tool demonstrates sensitivity to change in key, problem-specific aspects of hand function in children following hand burn injury. These findings support the clinical use of HANDFULS as a valid outcome measure to track early functional recovery of patients with hand burns and can help guide early intervention for return to age-typical hand function recovery.

Submission ID: 2133049

COMPREHENSIVE PHYSICAL EXAMINATION AND PATIENT REPORTED OUTCOME ASSESSMENT FOR CHILDREN WITH BRACHIAL PLEXUS BIRTH INJURY: BENEFITS AND CHALLENGES

Author(s): Jenny M. Dorich, Cincinnati Children's Hospital; Kristen Davidge, Toronto Sick Kids; Amelia Brawner, University of Cincinnati; Roger M. Cornwall, Cincinnati Children's Hospital

PURPOSE

Brachial plexus birth injury (BPBI) is the most common cause of pediatric upper extremity (UE) paralysis. Up to forty percent of children with BPBI have incomplete recovery, experiencing permanent musculoskeletal sequelae and functional impairments that affect many aspects of health-related quality of life (HRQoL). The relative impact of these factors on overall HRQoL remains unknown; thus, clinicians lack clarity in focusing interventions on the factors most relevant to individual patient's overall HRQoL. Comprehensive assessment of all factors affecting HRQoL for each patient at the point of care (POC) is one way to individualize treatment. However, tolerance of this approach and feasibility is unknown. A recent multicenter study (Growing Up with a Plexus Injury – GUPI) used such an approach to prospectively assess patients at the POC, assessing clinician-, patient-, and parent-reported outcomes to capture the scope of HRQoL across the World Health Organization's International Classification of Functioning, Disability and Health (ICF). The current study surveys the assessors (i.e., clinicians and researchers) who administered these assessments to determine benefits and challenges of implementing comprehensive physical examination (PE) and patient-reported outcome (PRO) assessments in 8-18 year-olds with BPBI.

METHODS

In the prospective multicenter GUPI study, the impact of BPBI on HRQoL was comprehensively investigated using PE measures and PROs. The PE measures were guided by the iPLUTO coreset for children with BPBI. The iPLUTO coreset included the Mallet global shoulder function scale, individual joint active and passive range of motion (A/PROM), and the Semmes-Weinstein (SW) sensation assessment. The ICF-informed PRO assessments included both patient- and caregiver-PROs of UE function, pain, stigma, activity participation and global health. In the current study, the GUPI study assessors were subsequently surveyed with closed- and open-ended questions about assessor confidence, and the clinical value, ease, length, and accuracy of the assessments, and assessor perceptions of the patients'/caregivers' assessment experience. Close-ended responses were analyzed with descriptive statistics, and open-ended responses were evaluated qualitatively to expand on close-ended responses.

RESULTS

Surveys were sent to 16 assessors at the 4 North American BPBI centers involved in the GUPI study. We achieved a 69% response rate (n = 11). Ten of 11 (91%) respondents had > 1 year of study experience; 7 (64%) had completed assessments in > 20 patients. Overall, assessor confidence performing the assessments was strong (Figure 1A,D). Although, qualitative data revealed that assessor confidence with specific measurements decreased in children with cognitive limitations and those with more complex injuries/sequalae. Regarding PE assessments (Figure 1B), clinical value was rated highly overall, with more variability in the perceived value of SW testing than the Mallet and A/PROM. The Mallet was rated most favorably and A/PROM least favorably respective to ease, length and accuracy. Qualitatively, A/PROM were valued for guiding clinical decisions about treatment interventions but perceived to be limited in assessing patients' functional capabilities. Furthermore, PE assessments were found to emphasize the child's physical limitations over functional capabilities. Open-ended responses also revealed assessors perceived patient age, cognition, and tolerance for handling to impact accuracy and ease of performing the PE. Regarding assessors' perceptions of patient/parent experience with the PE (Figure 1C), the Mallet was rated most favorably and AROM/PROM the least favorably. However, qualitative data indicated that all PE assessments were perceived to create patient/caregiver concern by highlighting functional limitations. Regarding PROs (Figure 1E), clinical value, ease and accuracy were rated favorably, but the administration time was rated unfavorably. Open-ended responses revealed concerns for survey fatigue and survey accuracy. Nonetheless, PROs were valued for revealing HRQoL concerns not found with the PE and for providing the patient/parent "a voice."

CONCLUSION

As we move towards a more holistic and comprehensive assessment of HRQoL outcomes in children with BPBI, we must carefully consider the impact of these assessments on patients and families, in addition to assessor and clinic burden.

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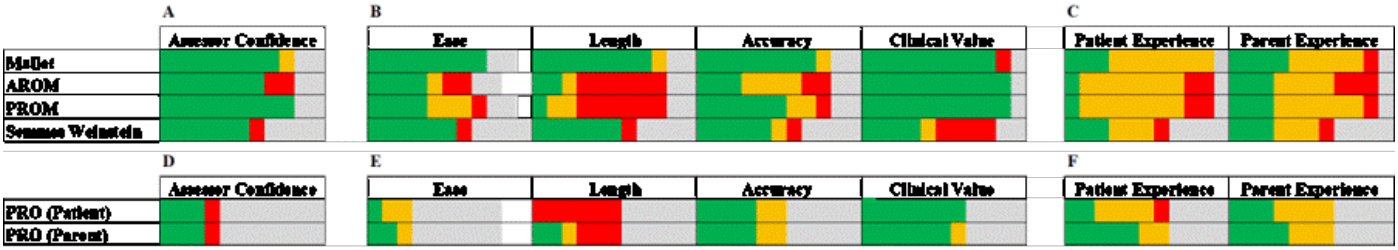

Figure 1: Assessors' responses to closed-ended questions regarding their overall confidence (A,D); their perceptions of ease, length, accuracy, clinical value (B,E); and their perceptions of patient and parent experience (C,F) with physical examination assessments (A-C) and patient reported outcome measures (D-F). Responses are grouped as positive (green), neutral (orange), negative (red), not applicable (grey), and missing (white).

Submission ID: 2133497

EFFECTIVENESS OF ORTHOTIC DEVICES AFTER CERVICAL SPINAL CORD INJURY: A SYSTEMATIC REVIEW

Author(s): April C. Cowan, The University of Texas Medical Branch; Madelynn Welch, The University of Texas Medical Branch; Shelby C. Bruggman, The University of Texas Medical Branch; Blake C. Gilbert, The University of Texas Medical Branch; Evan Kratochvil C. Kratochvil, The University of Texas Medical Branch; Sam C. Biskynis, The University of Texas Medical Branch; Hanna C. Tyer, The University of Texas Medical Branch; Riqiea C. Kitchens, The University of Texas Medical Branch; Claudia C. Hilton, The University of Texas Medical Branch

PURPOSE

a. Clear purpose of study - This study primarily aims to assess the effectiveness of the use of traditional orthoses and myoelectric devices in adult patients with cervical spinal cord injury and significant impairments in upper extremity function. b. Study rationale - Cervical spinal cord injury accounts for approximately 2-3% of trauma-related patients and 8.2% of trauma-related death. Spinal cord injury (SCI) from the third cervical level (C3) to the first thoracic (T1) vertebra can impact upper extremity function and subsequent performance of activities of daily living (ADLs).

METHODS

c. Study design - This systematic review was conducted between June-November 2024, using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines as specified by the American Occupational Therapy Association. A search of SCOPUS, Medline, CINAHL, CENTRAL, and PubMed was conducted to obtain articles relevant to the chosen topic. Keywords related to orthotic devices, cervical SCI, and myoelectric were used to search for articles detailing studies that examined the effectiveness of orthotics for use after cervical SCI. Titles and abstracts were initially screened by the research group to select articles for full review. Articles meeting the screening criteria were reviewed in full text formats to determine inclusion of the individual studies. d. Participant recruitment and selection - The following inclusion criteria were established for this review: (1) human participants with cervical SCI; (2) upper extremity interventions using orthotic devices; (3) therapeutic outcomes related to occupational function. Studies were excluded if (1) the evidence was considered to be outdated, which the team defined as articles published before the year 1990; (2) included participants younger than 18 years old; (3) article not available in English; (4) contained not yet published results, (5) included use of neuroprosthetics; (6) included use of functional electrical stimulation (FES); (7) included use of neuromuscular electrical stimulation (NMES); (8) included use of transcutaneous electrical nerve stimulation (TENS); and (9) included lower extremity (LE) orthoses or gait retraining. The authors limited the scope to studies that utilized an orthotic intervention without electrically invoked training so that we could focus on the outcomes associated specifically with orthotic interventions. Therefore, any studies using FES, NMES, or TENS were excluded, while studies using EMG, which only detects electrical signals rather than transmitting, were included. e. Data collection and analysis - After detailed screening, discussion, and author consensus, 19 articles met the inclusion criteria. Articles ranged from level 1B (well-designed individual randomized controlled trials) to level 4 (case series and/or low-quality cohort and case-control studies). Outcomes included EMG outputs, handgrip force, and multiple batteries of tests to quantify hand function. Of the studies included, 12 utilized traditional orthotic devices and seven used myoelectric orthotic devices.

RESULTS

f. Clear summary of findings - Strong evidence supports the effectiveness of orthotic devices for managing UE function in adults with cervical SCI to maximize participation in activities of daily living. Strong evidence supports the benefits of using traditional orthotic devices to improve ADL function, pinch strength, and overall hand function. Strong evidence supports myoelectric orthotic devices as an intervention to increase hand grip strength, range of motion, and pinch strength with some evidence supporting increases in muscle activation.

CONCLUSION

g. Recommendations based on findings - This review provides insight into the differences between types of orthotic devices for the management of the UE in adults post cervical SCI. The use of traditional orthotic devices versus myoelectrical orthotic devices may depend on the desired function of the UE or goals of the client and residual muscle activations may be required to move the hand and arm for use in ADLs. h. Clearly stated clinical implication of the research/meaning of the study to the audience - Rehabilitation efforts after cervical SCI can be geared toward increasing function of the upper limb through the use of orthotic devices. A variety of orthotic devices can benefit the recovery of hand and arm function and facilitate the effectiveness of occupational therapy (OT) intervention for people with cervical SCIs. This review provides insight for OT practitioners to make clinical decisions as to whether or not to use traditional or myoelectric devices, after consideration of the client's goals, desired activities of daily living, level of injury, zone of partial preservation, and current level of function.

Submission ID: 2133844

AN EXPLORATORY STUDY ON THE PREDICTORS OF LIFELONG PARTICIPATION IN ADULTS WITH UPPER LIMB MUSCULOSKELETAL DIFFERENCES

Author(s): Lexi Davidson, University of Toronto; Christine Novak, University of Toronto; Andrea Chan, University of Toronto, The Hospital for Sick Children; Kristen Davidge, Toronto Sick Kids; Samantha Anthony, University of Toronto, The Hospital for Sick Children; Emily S. Ho, University of Toronto, The Hospital for Sick Children

PURPOSE

Interventions for children with brachial plexus birth injury (BPBI) begin as early as 3 months of age, and primarily consist of surgical procedures and rehabilitation, with intent to restore function and enable occupational participation. Paediatric upper limb rehabilitation programs (0 to 18 years old) generally yield satisfactory outcomes in patients' participation into early adolescence. However, recent literature indicates psychosocial health concerns remain undertreated relative to physical sequelae in youths with BPBI. During transitions to adulthood, BPBI experiences are contextualized by increasing independence and age-related milestones, illustrated by new social demands, education or career choices, and physical maturation. The underlying mental or physical factors that influence participation into adulthood remain unrecognized. Without insight into participation outcomes for adults living with BPBI, there remains a concerning gap in understanding of the long-term efficacy of childhood interventions, as well as the psychosocial and occupational wellbeing of adults in this population. The aim of this exploratory study was to identify how mental and physical factors relate to participation of adults with BPBI as measured by a battery of standardized patient reported outcome (PRO) measures. Specific research objectives included: 1) to describe participation restrictions and satisfaction (USER-P) in young adults with BPBI relative to a matched control group of peers without upper limb pathologies; and 2) to identify the relationship between participation (USER-P) and functional status (QuickDASH), mental health (MCS-12), physical health (PCS-12), and pain (BPI).

METHODS

This exploratory observational study used a battery of PRO measures to compare participation between young adults with and without BPBI. Participants with BPBI were recruited through BPBI support organizations and word of mouth and visually verified via videoconference screening. Control participants were recruited through convenience sampling and verified through verbal confirmation of an absence of upper limb conditions. Participants 19 to 34 years of age were eligible. Adults enrolled in high school or with cognitive or lower limb pathologies were excluded. Participation (primary outcome) was measured using the Utrecht Scale for Evaluation of Rehabilitation-Participation (USER-P). The QuickDASH (functional status), Short Form-12 Mental (MCS-12) and Physical (PCS-12) Components Scales, and Brief Pain Inventory (BPI) measures were also used. USER-P Participation restriction and satisfaction were compared between adults with and without BPBI using Mann Whitney U tests, followed by ANCOVA to determine effects of covariates. Spearman correlations were used to evaluate the relationship among the variables.

RESULTS

The study included 26 young adults with BPBI aged 24.8 ± 3.1 years who were matched to 26 control participants aged 25.9 ± 4.0 years. The groups were matched for sex (F:M, 21:5), with close matching of BPBI (F:M:NB, 18:6:2) and control (F:M:NB, 21:5:0) group gender. The BPBI group included individuals with upper plexus palsy (n = 20, 77%), defined as no motor deficits in the hand, who resided in Canada (n = 15, 58%), USA (n = 8, 31%) and the UK (n = 3, 11%). After controlling for the MCS-12 and BPI, the BPBI group had significantly greater USER-P restrictions (' < 0.001) compared to the control group. However, having a BPBI did not have a main effect on USER-P satisfaction; rather, PCS-12 and MCS-12 were significant covariates of USER-P satisfaction. Within the BPBI group, USER-P participation restrictions showed moderate positive correlations with physical health (PSC-12, ' = 0.7, ' < 0.001) and mental health (MSC-12, ' = 0.5, ' < 0.001), as well as moderate and negative correlations with functional status (QuickDASH, ' = 0.6, ' < 0.001) and pain interference (BPI, ' = 0.6, ' < 0.002).

CONCLUSION

After adjusting for mental health and pain influence, adults with BPBI reported greater participation restrictions than control-group peers. Severity of BPBI-correlated participation restrictions was significantly associated with decreased upper limb function and physical health, and greater pain interference. This indicates the importance of holistic rehabilitation in adults with BPBI, including mental health and pain management. Notably, outcomes related to participation satisfaction were associated with lower mental and physical health irrespective of BPBI. Therefore, measures of participation satisfaction may be clinically useful to screen for overall concerns with health-related quality of life, but less useful for interpreting upper limb participation outcomes.

Submission ID: 2133851

UNDERSTANDING HEALTH LITERACY RELATED TO CMC ARTHROPLASTY: EXPLORING CLIENT PERCEPTIONS

Author(s): AJ Mullholand**,** Eastern Kentucky University**;** Shirley O'Brien, Eastern Kentucky University

PURPOSE

This study aimed to assess the perspectives of clients on the perceived benefit of a preoperative educational session focusing on postoperative recovery following carpometacarpal arthroplasty (CMC) surgery. The study addressed two questions. 1) Do clients perceive themselves as well prepared for CMC arthroplasty surgery and understand how long it will take to return to normal activities? 2) What are the perspectives of clients regarding an occupational therapy consultation pre-operatively focusing on enhancing comprehension of post-operative treatment?

METHODS

The study utilized a quantitative survey methodology to examine client perceptions of the perceived benefits of enhanced preoperative education. Descriptive statistics were used to analyze survey responses to Likert-scale items evaluating participants' understanding of the recovery process and their perceptions of the value of preoperative educational sessions. The application of this methodology enabled the investigation of participants' opinions within the Facebook Group, CMC- hand joint arthritis suffers United, utilizing a representative subset of the group.

RESULTS

Statistical analysis was conducted using Qualtrics crosstabulation tools. Analyses concluded statistically significant ($p < 0.1$) between: (1) misunderstanding of activity resumption and increased concern; (2) perceived preparedness and understanding of recovery; and (3) perceived understanding after their first therapy visit and their belief that therapy improved understanding and reduced concerns. Out of a sample of 25 participants (n=25), a majority of 72% (n=18) indicated either strong agreement or somewhat agreement regarding their understanding of the recovery process prior to undergoing CMC arthroplasty. While more than half of the participants reported having a solid understanding before the procedure, 33% (n=8) later expressed a lack of understanding regarding the duration required to resume normal activities. Additionally, 88% of participants (n=22) agreed or somewhat agreed that a therapist-led educational session would improve understanding of the surgical procedure and subsequent recovery. These findings reinforce the critical need to strengthen health literacy within this population to alleviate client concerns, improve confidence in recovery, and promote more informed participation in care.

CONCLUSION

While clients may initially perceive themselves as having a comprehensive understanding of CMC arthroplasty and the recovery process, they may still lack clarity on critical aspects of the postoperative timeline, specifically regarding the expected return to normal activities. Occupational therapists have the responsibility of facilitating individuals' preparedness for occupational performance, encompassing an obligation to adequately prepare clients before and following hand surgery. This study reveals a gap in the current research regarding the role of prehabilitation in hand therapy and represents a call to action for further investigation into the impact of how improving health literacy and setting realistic recovery expectations for those undergoing outpatient hand procedures may affect overall satisfaction and decrease client frustrations.

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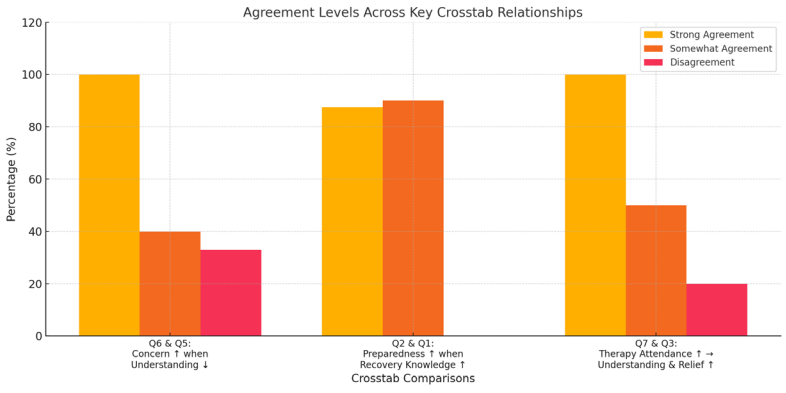

Submission ID: 2133872

A PILOT STUDY TO RE-NORM THE COMPLETE MINNESOTA DEXTERITY TEST

Author(s): Jacqueline Reese Walter, Jacksonville University; Diamonique Carroll, Jacksonville University; Brooke English, Jacksonville University; Crystal Fields, Jacksonville University; Shakara Johnson, Jacksonville University; Mark McGary, Jacksonville University; Eryn Owenby, Jacksonville University; Sarah Doerrer, George Washington University; Brandon Seth Powers, West Virginia University; Victoria Priganc, University of Vermont

PURPOSE

This pilot study aimed to establish up-to-date normative data for the Complete Minnesota Dexterity Test (CMDT). The CMDT includes five subtests that evaluate eye-hand coordination, gross motor control, and fine motor skills in the upper body. While the test has been shown to be reliable (Walter et al., 2024), the normative data hasn't been updated since 1957. The original norms were mostly based on young adult men who were in the workforce at that time (Layfayette, 1998) which doesn't reflect today's population. According to current recommendations, standardized tests like the CMDT should have their norms updated every 15 to 20 years to stay valid and ethical (Tulsky & Price, 2003). Because of this, our study focused on taking the first steps toward re-norming the CMDT so it can remain useful and accurate in modern clinical practice.

METHODS

After obtaining Institutional Review Board approval at Jacksonville University, participants were recruited using paper flyers posted in the Health Sciences Building. Participants were also recruited verbally as they walked past the evaluation tables in the main entranceway. Inclusion criteria were anyone over the age of 18 who was able to read and understand English. Individuals with a current upper extremity injury or back pain were excluded due to the fact that the test was administered in standing position. After written consent was obtained, participants completed the five subtests of the CMDT in accordance with the administration manual. In an attempt to control for confounding factors such as practice and fatigue, the sequence of the subtests was varied (for example, participant 1 completed subtests 1-2-3-4-5, participant 2 completed subtests 2-3-4-5-1, etc.). The average time to complete each subtest was then calculated for the participants in each of the following age ranges: 18-30 years, 31-40 years, 41-50 years, 51-60 years, 61-70 years, 71+ years. Additional demographic information was also collected including gender, handedness, as well as occupational and leisure pursuits. A G*power33 analysis determined that 1140 individuals will be needed to re-norm the CMDT.

RESULTS

A total of 25 participants completed the study. Most participants were aged 18–30 (n=16), and none were in the 71+ age group. The sample was 72% female and 28% male, with 96% right-handed and 4% left-handed. Future analysis will explore whether or not handedness, occupation, and hand-related leisure activities may influence CMDT subtest scores. Please see Tables 1, 2, and 3 for our results.

CONCLUSION

This pilot study showed that re-norming the CMDT is feasible and important for updating its scores. Having current norms will help occupational therapists better assess client performance, set goals, and track progress. Future research will continue in order to achieve the targeted number of participants needed. Continuing to add participants will also ensure more diverse participants from various age ranges. Additional data may also allow us to look at whether or not other factors such as gender, handedness, occupational pursuits, and leisure pursuits affect CMDT results.

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Tables 1, 2 and 3

Table 1

Participant Demographics: 25 Total participants ages 18-70

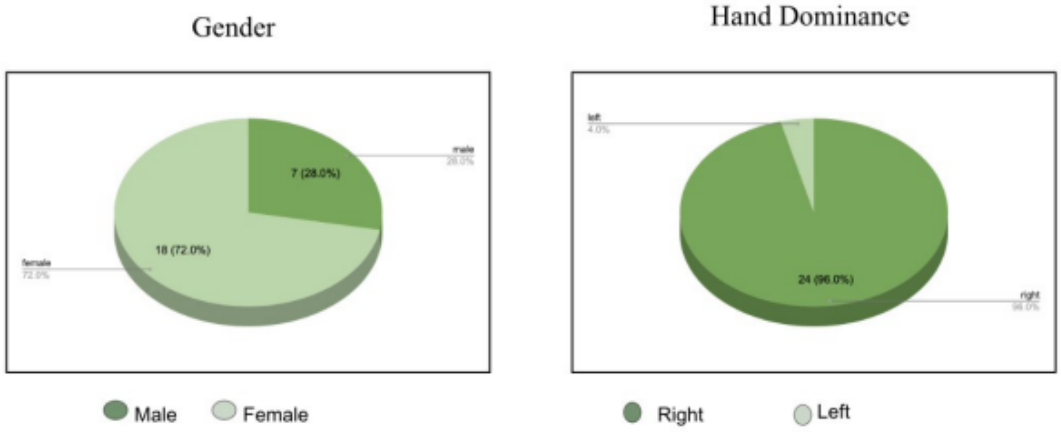

Table 2

Occupational and Leisure Pursuits

Occupational Examples	Leisure Examples
• Student	• Cooking/Baking
• Professor	• Arts and Crafts
• Dentist	• Reading
• Graduate Recruiter	• Physical Activity

Table 3

Average Time Scores

Age Range (years)	18-30	31-40	41-50	51-60	61-70	71+
Number of participants	16	5	1	2	1	0
Placing Test	63.5 s	63.9 s	63.6 s	59.8 s	84.7 s	-
Turning Test	55.8 s	53.9 s	69.6 s	54.2 s	75.4 s	-
Displacing Test	49.5 s	45.4 s	52.7 s	46.7 s	69.1 s	-
One-Hand Turning and Placing Test	77.0 s	69.5 s	75.3 s	75.6 s	96.3 s	-
Two-Hand Turning and Placing Test	47.9 s	43.8 s	49.4 s	46.5 s	65.1 s	-

Submission ID: 2133913

ADAPTATION OF THE BRIEF ACTIVITIES MEASURE FOR UPPER LIMB AMPUTEES: A DELPHI METHOD APPROACH

Author(s): Alexis L. Clapper**,** George Washington University**;** Sarah Doerrer**,** George Washington University**;** Michelle Intintoli**,** Medical Center of Orthotics and Prosthetics

PURPOSE

This research project aims to enhance and adapt the Brief Activities Measure for Upper Limb Amputations (BAM-ULA) by identifying two new occupation-based tasks using the Delphi Method. BAM-ULA is a performance-based outcome measure designed to assess functional abilities in individuals with upper limb amputations who use a prosthetic device.

METHODS

The Delphi Method is a structured communication technique that gathers expert consensus through multiple rounds of questionnaires and focus groups. This study involved three focus groups—rehabilitation specialists, individuals with shoulder disarticulations, and individuals with partial hand amputations—comprising a total of nine expert panelists. Participants were recruited using convenience sampling to ensure demographic diversity across the United States. Each focus group initially met independently for the first two rounds to discuss and identify relevant tasks based on their unique perspectives and experiences. In the final round, all groups convened collectively to reach a consensus on the proposed modifications to the BAM-ULA. Throughout the process, the student researcher and a faculty advisor conducted qualitative coding of emerging themes and patterns from each session. These findings were then presented in subsequent meetings for participant validation and refinement. During the first round, participants explored the functional role of prosthetic devices in daily activities, emphasizing that prostheses are primarily used for stabilization rather than for executing complex tasks. In the second round, participants identified specific tasks and activities that should be incorporated into the BAM-ULA, drawing from their lived experiences and considering their applicability in clinical settings. The final consensus meeting resulted in the addition of two new task items, the development of revised scoring metrics, and the removal of certain tasks deemed less relevant or impractical for individuals with upper limb amputations.

RESULTS

After the final focus group meeting, the participants reached a consensus on adding two new tasks to BAM-ULA: donning and doffing a prosthetic device and opening and closing a prescription bottle. These tasks were identified as critical activities that individuals with upper limb amputations frequently encounter in their daily lives. Additionally, the participants suggested removing the task of taking a wallet out of one's back pocket and tucking in a shirt, as this action is not typically performed by individuals with a unilateral upper limb amputation who would use their functioning arm to complete this specific task. The rehabilitation team also proposed conducting a detailed activity analysis for each task item and introducing a partial scoring system to more accurately capture functional performance and the nuances of task completion.

CONCLUSION

The inclusion of these new tasks in BAM-ULA will provide a more comprehensive assessment of functional performance for individuals with upper limb amputations. By incorporating bilateral occupation-based tasks that reflect real-life activities, the enhanced BAM-ULA will better capture the challenges and capabilities of these individuals, leading to improved rehabilitation outcomes. The findings of this study revealed that most prosthetic users primarily utilize their devices to perform bilateral tasks, highlighting the need for the BAM-ULA to incorporate a greater number of bilateral activities to more accurately reflect functional use. This project successfully utilized a modified Delphi method approach to identify and reach a consensus on new occupation-based tasks for BAM-ULA. The addition of donning and doffing a prosthetic device and opening and closing a prescription bottle, along with the removal of taking a wallet out of one's back pocket and tucking in a shirt, will enhance the measure's accuracy and inclusivity. This research contributes to the field of occupational therapy by providing a more robust tool for assessing functional performance in individuals with upper limb amputations. Future research should focus on piloting the adapted BAM-ULA across all levels of upper limb loss, with particular attention to bilateral amputees, whose needs are especially critical in prosthetic training and assessment.

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Demographic Characteristics of Participants

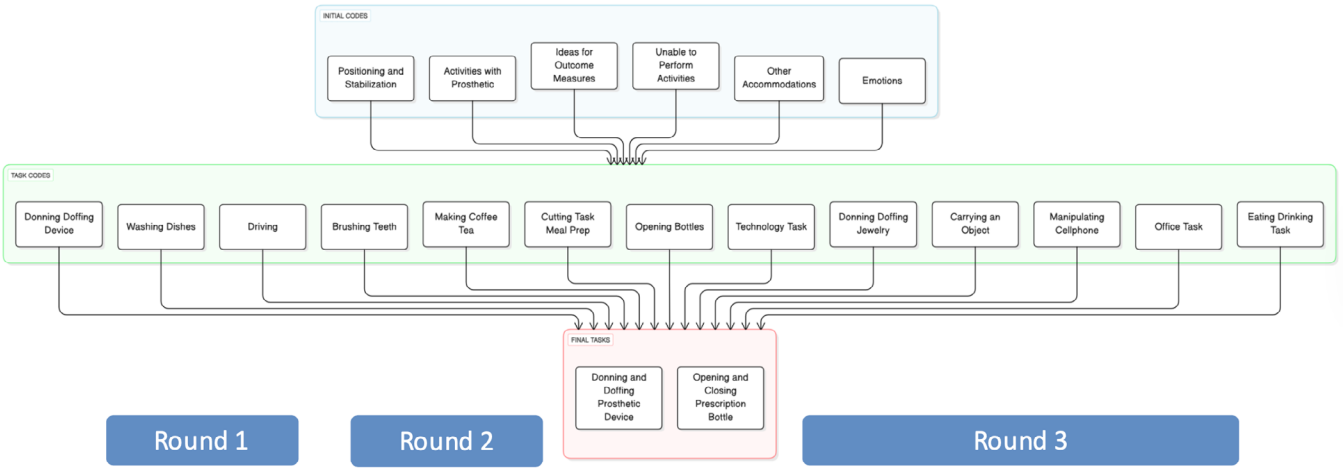
Table 1:
Demographic Characteristics of Amputee Participants

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Level of amputation	Shoulder Disarticulation	Partial Hand Amputee	Shoulder Disarticulation	Partial Hand Amputee	Shoulder Disarticulation
Gender	Woman	Woman	Man	Man	Man
Age	24	67	41	61	45
Race	White	White	White	White	White
Dominant side	No	No	Yes	Yes	No
Duration of time since amputation	Left	Right	Right	Right	Right
Duration of using a prosthetic device	1-2 years	4-6 years	1-2 years	8-10 years	10+ Years
Type of prosthetic device	Myoelectric	Myoelectric	Hybrid	Body-Powered and Myoelectric	Body-Powered and Myoelectric
Work status	Yes	Yes	Yes	Yes	Yes

Table 2:
Demographic Characteristics of the Rehabilitation Focus Group

	Participant 6	Participant 7	Participant 8	Participant 9
Profession	Occupational Therapist	Occupational Therapist	Prosthetist	Occupational Therapist
Gender	Woman	Man	Man	Woman
Age	30	40	38	33
Race	White	White	White	White
Length of time working with amputees	4-6 years	6-8 years	4-6 years	4-6 years

Overview of the Delphi Method Process



Submission ID: 2134290

HAND THERAPISTS' PERCEPTION OF PREFABRICATED ORTHOSIS USE FOR CONSERVATIVE MANAGEMENT OF TFCC INJURIES

Author(s): David Plutschack, Des Moines University; Megan Plantikow, Des Moines University; Jonah Lewis, Des Moines University; Tucker Aeschliman, Des Moines University; John Levis, Des Moines University

PURPOSE

Prefabricated orthosis use has become more prominent as a quick and less restrictive intervention to address pain, ROM, and functional use of the upper extremity for clients with TFCC injuries. While these orthoses are being used, limited research exists to study their use and efficacy in practice. The purpose of this survey study is to examine hand therapists' preferences of prefabricated orthoses in the conservative management of TFCC injury and therapists' perception of prefabricated orthoses' effectiveness in patient outcomes, specifically pain, weightbearing capacity, and functional outcomes.

METHODS

A 29-item mixed-method survey was administered, identifying perceived outcomes and prevalence of use for prefabricated orthoses in the conservative management of TFCC lesions. Questions were designed as either multiple-choice responses, Likert-style questions, or open-ended responses. The survey was peer-reviewed by the ASHT Research division. Following IRB approval, the survey was administered to all active ASHT members via email starting 10/8/2024. The survey remained open until 11/8/2024. Inclusion criteria included eighteen years or older, active members of ASHT at survey distribution, and be OT, PT, OTA, or PTAs.

RESULTS

167 ASHT members completed the survey. Results demonstrate that 57.0% prefer to issue a patient with a TFCC injury a prefabricated orthosis and 34.3% choose to issue the patient a custom orthosis (n=158). For the question related to prefabricated orthosis preference, results reveal that 68.2% state the WristWidget® is the most frequently preferred prefabricated orthoses for managing TFCC injuries followed by the Bullseye 16.2%, 6.10% who preferred prefabricated wrist cockups, 4.1% prefer the Comfort Cool® Ulnar Boost™, and 4.8% preferred other prefabricated orthoses (n=148). The survey consisted of four Likert-style questions regarding the WristWidget®, the Bullseye, and Comfort Cool® Ulnar Boost™ examining therapists' beliefs regarding the prefabricated orthoses ability to reduce pain, improve functional weightbearing, and improve performance in ADL and IADL tasks. For improvements in pain, 90.3% (n=144) of respondents replied either "strongly agree" or "agree" the WristWidget may improve pain in conservative management of TFCC injuries, compared to 49.6% (n=142) for the Bullseye orthosis, and 24.5% (n=143) for the Comfort Cool® Ulnar Boost™. For improvements in functional weight-bearing, 84.0% (n=144) of respondents replied either "strongly agree" or "agree" the WristWidget may improve functional weight-bearing in conservative management of TFCC injuries, compared to 45.5% (n=143) for the Bullseye orthosis, and 22.4% (n=143) for the Comfort Cool® Ulnar Boost™. For improvements in ADLs, 83.3% (n=144) of respondents replied either "strongly agree" or "agree" the WristWidget may improve ADL function in conservative management of TFCC injuries, compared to 45.1% (n=142) for the Bullseye orthosis, and 23.9% (n=142) for the Comfort Cool® Ulnar Boost™. For improvements in IADLs, 88.7% (n=142) of respondents replied either "strongly agree" or "agree" the WristWidget may improve IADL function in conservative management of TFCC injuries, compared to 48.3% (n=143) for the Bullseye orthosis, and 23.9% (n=142) for the Comfort Cool® Ulnar Boost™. The survey included one qualitative, open-ended prompt "In your professional experience, how has the use of prefabricated orthoses in managing TFCC injuries impacted patient outcomes and treatment approaches?". Four themes were extracted, including 1) Easy to use and subjectively improve patient compliance, 2) Pain reduction and improve functional outcomes, 3) Prefabricated orthosis use is dependent on severity of injury, and 4) The WristWidget ® is easy to utilize, and it improves patient outcomes in mild cases of TFCC injuries. Finally, the survey included one multi-select question posed as "Why do you prefer prefabricated orthoses for the conservative management of TFCC injuries? Select all that apply." Highest frequencies of responses include 18.3% reporting "ease of use", 16.2% reporting "pain reduction", 14.7% reporting "better patient satisfaction", and 13.8% reporting "cost" (n=557).

CONCLUSION

This study demonstrates hand therapists report a preference for prefab orthoses compared to custom fabricated for conservative TFCC treatment. Survey results identified the WristWidget® as the preferred prefabricated orthosis. Therapists report prefabricated orthoses

reduce pain, improve functional weightbearing, and improve ADL and IADL performance. Hand therapists commonly state prefabricated orthoses are easy to use, reduce pain, and improve functional outcomes. However, the use of prefabricated orthoses depends upon severity of injury. Results will be used for further efficacy studies for the use of prefabricated orthoses for TFCC injuries.

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Table 4.0 WristWidget®

	Pain (%)	Functional weightbearing (%)	ADL (%)	IADL (%)
Strongly agree	47 (32.6)	35 (24.3)	33 (22.9)	32 (22.5)
Agree	83 (57.6)	86 (59.7)	87 (60.4)	94 (66.2)
Neutral	7 (4.9)	14 (9.7)	18 (12.5)	10 (7.0)
Disagree	4 (2.8)	5 (3.5)	3 (2.1)	4 (2.8)
Strongly Disagree	1 (0.7)	1 (0.7)	0 (0.000)	0 (0.000)
Not applicable to my practice	2 (1.4)	3 (2.1)	3 (2.1)	2 (1.4)
Total:	n=144 (100)	n=144 (100)	n=144 (100)	n=142 (100)

Submission ID: 2134303

EXPLORING REHABILITATION PRACTICES FOLLOWING NERVE TRANSFER SURGERY FOR ADULT-ACQUIRED BRACHIAL PLEXUS INJURY: AN ONLINE SURVEY OF THERAPISTS

Author(s): Joshua C. Lucas, Duke University School of Medicine; Theresa Hallenen, Duke University Health; Joy Xiao, Duke University School of Medicine

PURPOSE

This survey study was aimed to collect current rehabilitation approaches used by Hand Therapists for adult patients after receiving nerve transfer surgery following acquired brachial plexus injury (BPI). Adult-acquired brachial plexus injury is usually caused by traumatic events, such as motor vehicle collisions and motorcycle accidents. It typically affects young adults in their peak age of productivity, resulting in potential severe upper extremity functional impairments, activity limitations and participation restrictions. In the US, the medical community increasingly prefers nerve transfer over nerve grafting for brachial plexus injuries. Although nerve transfer surgery is gradually gaining popularity, a dearth of high-level evidence exists to support rehabilitation programming following nerve transfer surgery. This study provides insight into current rehabilitation practices following nerve transfer surgery. These data will support future research related to rehabilitation programs tailored to this population.

METHODS

This study adopted a cross-sectional online survey design. The survey instrument was developed by an expert hand therapist (T.H.), who conducted a pilot test with a small sample of licensed occupational and physical therapists to evaluate the clarity, relevance, and comprehensiveness of the survey items. The finalized survey was then disseminated to members of the American Society of Hand Therapists (ASHT) via an email distributed by the organization on behalf of T.H. This survey will also serve as the preliminary survey of a larger modified Delphi study. Participants completed the survey administered through the Qualtrics platform. The survey utilized both close-ended and open-ended items to collect quantitative and qualitative data. After data collection, data was exported to Microsoft Excel for data cleaning, preliminary analysis and visualization. After removing missing values and irrelevant answers, each entry was matched to a unique ID generated by the participant as part of the survey. Thematic analysis was performed on NVivo (Version 14) to explore patterns and insights in qualitative data. Thematic analysis was initiated by reading all answers and recording emergent themes on memo and generating codes. An open coding process was used to capture concepts and explore patterns relevant to the research question. To ensure analytical rigor, codes were iteratively revisited as new patterns emerged, allowing for the development of nuanced themes and cohesion across the dataset. Analytical memos were used throughout the process to document reflections, interpretation of themes and potential biases. Codes were grouped into categories as appropriate. Counting codes and identification of dominant themes were supported by functions in NVivo.

RESULTS

A total of 30 hand therapist completed the full-length survey. Most survey respondents were occupational therapists (96.7%) and certified hand therapists (93.3%). More than half of the respondents had more than 15 years of professional experience (56.7%) and more than 15 years of clinical experience in hand therapy (53.4%). However, 69% of surveyed participants reported treating on average less than 5 clients with adult-acquired brachial plexus injury per year and 20% of participants reported not having experience treating clients following a nerve transfer surgery. A more detailed breakdown of participant characteristics is shown in Table 1. Survey results revealed significant variability in rehabilitation practices following nerve transfer surgery for adult-acquired brachial plexus injury, indicating a lack of consensus in many areas. The most prominent variability was observed in responses related to care management, particularly treatment visit frequency and caseload duration (Figure 1 and 2). In contrast, greater agreement was observed regarding patient-reported outcome measures, objective measures and the inclusion of range of motion exercises in home exercise programs, referral to mental health professionals for emotional challenges and positioning interventions for difficulty sleeping (Figure 3, 4, 5, 6 and 7). Throughout the survey, "it depends" was a very common response, reflecting the varied and complex nature of this patient population, client-centeredness of occupational and physical therapy professions, dynamic nature of working in an interdisciplinary team and in a larger healthcare ecosystem.

CONCLUSION

This exploratory survey study highlights the need for standardized, evidence-based rehabilitation guidelines that are comprehensive, client-centered, and adaptable. Future research should build on these findings to strengthen expert consensus, produce higher-level evidence, and support the development of accessible clinical protocols.

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Table 1: Survey Participants Characteristics

Profession	Occupational Therapist	29 (96.7%)
	Physical Therapist	1 (3.3%)
Certified hand therapist	Yes	28 (93.3%)
	No	2 (6.7%)
Years of professional experience	3-5 years	1 (3.3%)
	6-10 years	6 (20.0%)
	11-15 years	6 (20.0%)
	16-20 years	3 (10.0%)
	21+ years	14 (46.7%)
Years of experience in hand therapy	3-5 years	3 (10.0%)
	6-10 years	5 (16.7%)
	11-15 years	6 (20.0%)
	16-20 years	5 (16.7%)
	21+ years	11 (36.7%)
Number of clients with adult-acquired BPI per year (N=29)	1-5	20 (69.0%)
	6-10	4 (13.8%)
	11-20	2 (6.9%)
	21-30	1 (3.4%)
	31-40	0 (0.0%)
	40+	2 (6.9%)
Experience treating patients receiving nerve transfer secondary to acquired BPI	Yes	24 (80.0%)
	No	6 (20.0%)

Figures

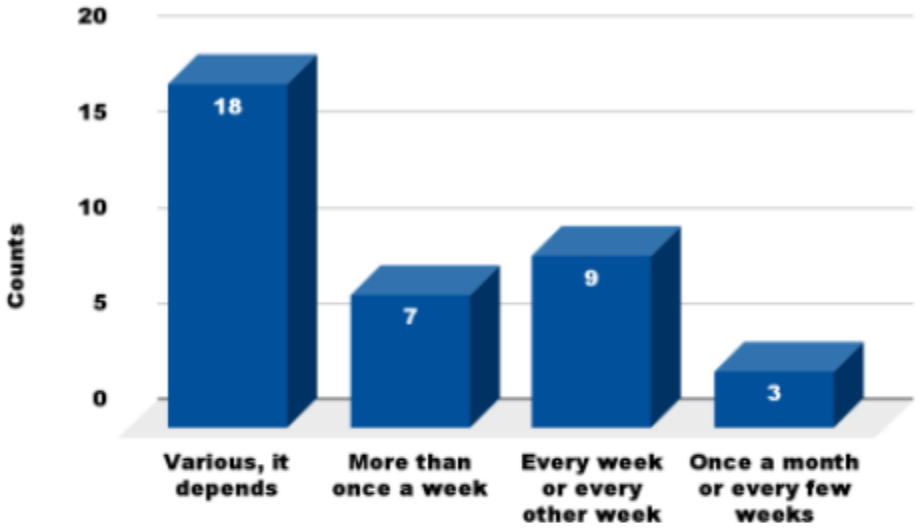

Figure 1. Treatment frequency when determining plan of care.

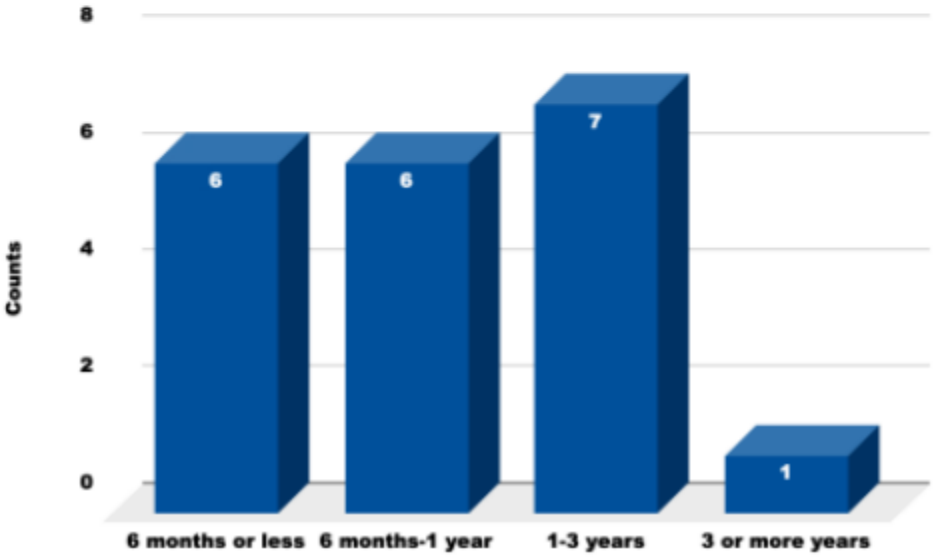

Figure 2. Typical duration of caseload management.

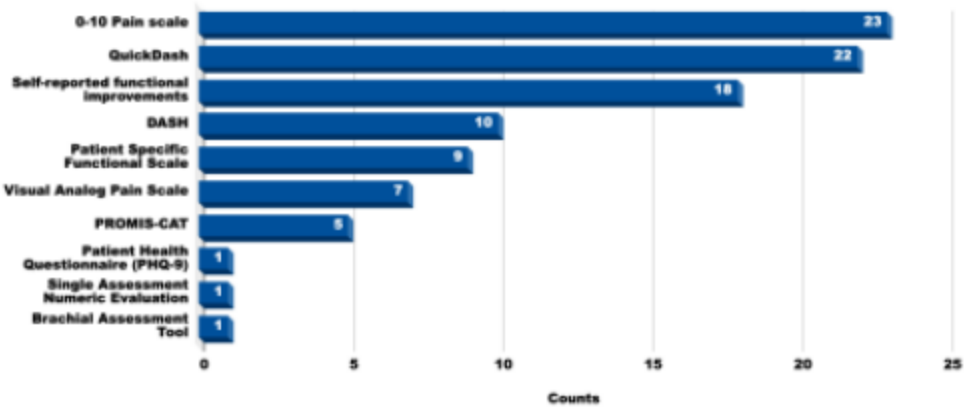

Figure 3. Choice of patient-reported outcome measures (PROMs).

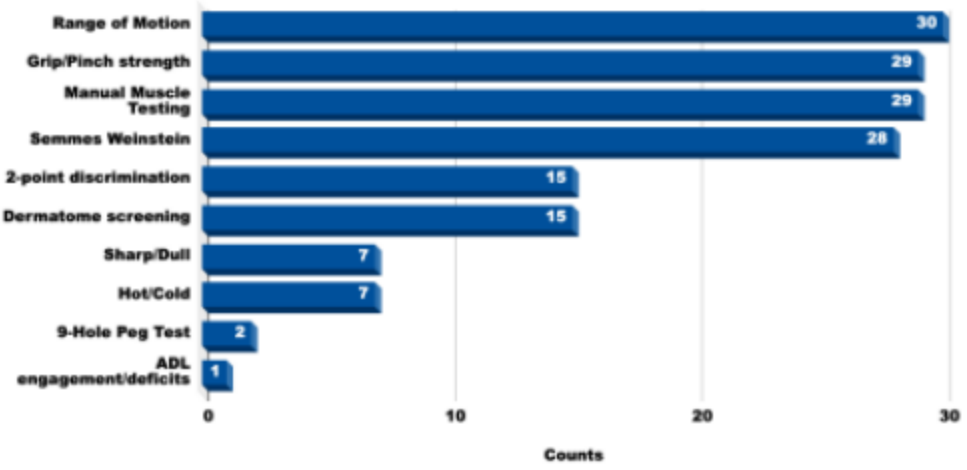

Figure 4. Choice of objective measures.

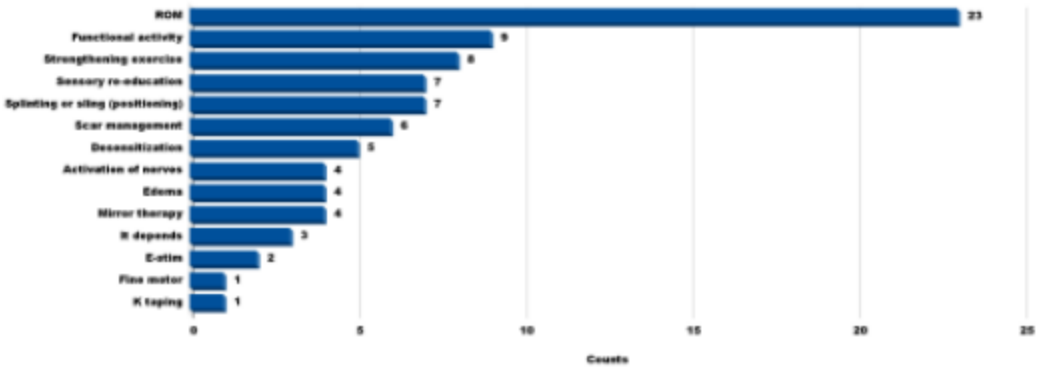

Figure 5. Content of a typical home exercise program.

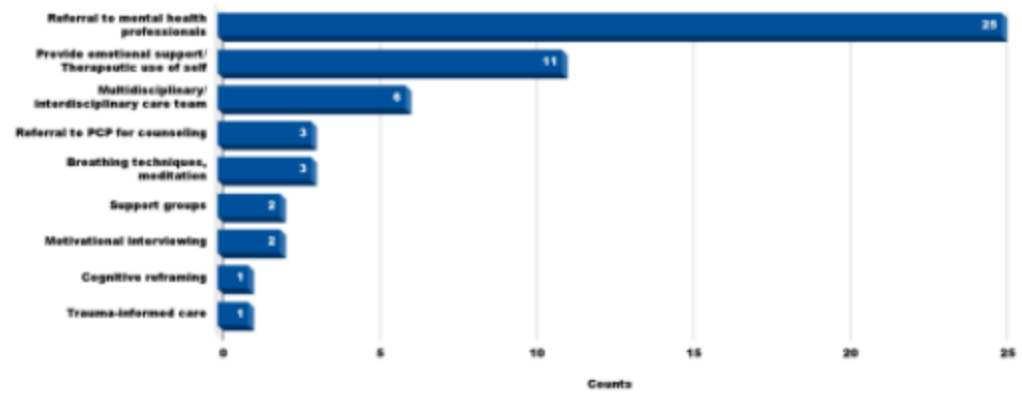

Figure 6. Interventions for patient-reported feelings of anxiety, depression or anger in the post-operative period.

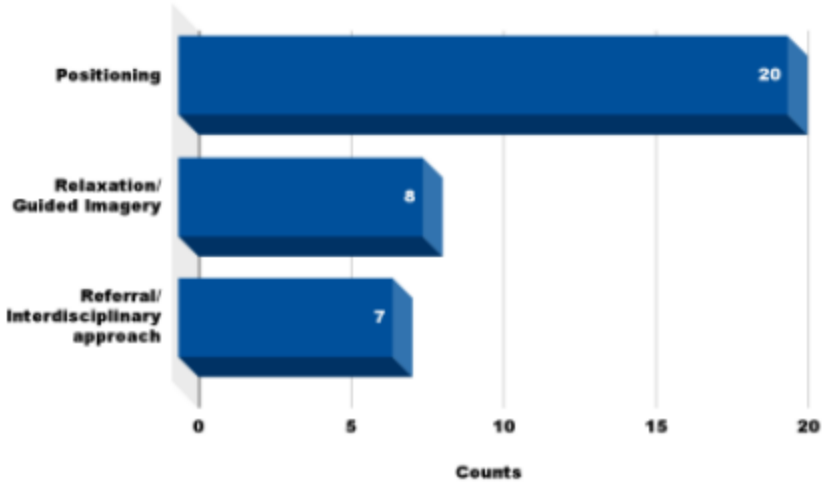

Figure 7. Intervention for difficulty sleeping.

Submission ID: 2134329

OBSERVED TREATMENT & PATIENT CHARACTERISTICS ASSOCIATED WITH CARPOMETACARPAL OSTEOARTHRITIS IN AN OUTPATIENT OCCUPATIONAL THERAPY SETTING

Author(s): Michele Auch**,** ATI Physical Therapy**;** Thomas Denninger**,** Institute for Musculoskeletal Advancement**;** Corey McGee**,** University of Minnesota**;** Adam D. Lutz**,** Director of Research, Institute for Musculoskeletal Advancement (i-MSKA)

PURPOSE

Thumb carpometacarpal (CMC) osteoarthritis is a prevalent degenerative condition that significantly impairs hand function, affecting grip, pinch strength, and fine motor tasks. It is a leading cause of upper extremity pain and disability, particularly among older adults and females. While conservative interventions—such as patient education, orthosis use, therapeutic exercise, manual therapy, and activity modification—are commonly employed, the optimal combination and sequencing of these strategies remain unclear. Despite existing clinical guidelines, there is limited data on the real-world application of rehabilitation approaches in outpatient settings. Previous studies have highlighted variability in musculoskeletal care across regions, providers, and practice environments; however, little is known about how these variations manifest in CMC osteoarthritis treatment specifically. Factors such as geographic location, clinician expertise, patient preferences, and insurance coverage likely influence intervention selection and intensity. This study aimed to describe and quantify current clinical practices for CMC osteoarthritis in outpatient occupational therapy, focusing on treatment duration, visit frequency, patient demographics, functional outcomes, and orthosis utilization. Understanding these patterns may help identify practice gaps, standardize care delivery, and optimize patient outcomes.

METHODS

A retrospective cohort analysis was conducted using data from a large rehabilitation-focused Patient Outcomes Registry. Patients initiating care from January 2022 onward were included if an occupational therapist was the provider of record and CMC osteoarthritis was documented in at least one of four recorded ICD-10 codes. Extracted data included demographics, surgical history, visit utilization, subjective reports, and initial and final patient-reported outcomes (PROs). Orthosis interventions—custom or prefabricated—were identified through billed CPT codes. The Upper Extremity Functional Index (UEFI) and Quick Disabilities of the Arm, Shoulder, and Hand (qDASH) were used as PROs. To harmonize scoring, qDASH values were reversed (subtracted from 100), ensuring higher scores consistently reflected better function. Descriptive statistics were reported as counts (%), means (± standard deviation), and medians with 95% confidence intervals (CI). Comparative analyses of PRO changes and visit utilization were performed using analyses of covariance (ANCOVAs), adjusting for baseline characteristics. Statistical significance was set at ’ = 0.05.

RESULTS

A total of 123 patients met inclusion criteria, with a majority being female (n = 94; 76%). The mean age was 63.6 ± 10.6 years. Surgical history was present in 34% of patients (n = 42). The average episode of care comprised 8.7 ± 10.3 visits. Orthosis use was incorporated in 24% of treatment plans, alongside range of motion, strengthening, and manual therapy interventions. Among patients with recorded PROs (n = 110; 89%), the UEFI was preferred, utilized in 68% of cases. ANCOVA analyses revealed significant main effects for surgical history on initial PRO ($p < 0.001$), final PRO ($p = 0.024$), and visit utilization ($p = 0.004$). Patients with surgical history exhibited lower baseline function (initial PRO: 37.3; 95% CI: 29.8, 44.9) but achieved higher terminal function (final PRO: 71.4; 95% CI: 61.9, 80.9) compared to non-surgical patients (initial PRO: 50.7; 95% CI: 44.9, 56.6; final PRO: 61.2; 95% CI: 53.0, 69.4). Surgical patients also utilized more visits (12.3; 95% CI: 8.3, 16.3) relative to non-surgical patients (6.7; 95% CI: 3.6, 9.7). Orthosis use demonstrated a significant association with improved final PRO scores ($p = 0.020$), with patients receiving orthosis achieving higher terminal function (72.2; 95% CI: 61.2, 83.2) compared to those without orthosis use (60.3; 95% CI: 53.2, 67.5).

CONCLUSION

This multi-center analysis of outpatient occupational therapy care for CMC osteoarthritis identified key treatment and patient characteristics associated with functional outcomes. Surgical history was consistently linked to lower baseline function, greater improvements in PROs, and higher visit utilization. Notably, the inclusion of orthosis perscription was independently associated with superior terminal function, regardless of surgical status. These findings suggest that orthotic management may provide additive benefits in the conservative and post-surgical treatment of CMC osteoarthritis. The observed variability in intervention use highlights opportunities to refine treatment protocols, inform clinical guidelines, and promote evidence-based standardization across practice settings. Further research is warranted to delineate optimal care strategies and enhance outcome predictability in this patient population.

Submission ID: 2134855

CLINICAL DOCUMENTATION PRACTICES AND PERSPECTIVES OF HAND THERAPISTS: A CROSS-SECTIONAL SURVEY STUDY

Author(s): Katherine Loomis**,** University of Southern California**;** Shawn Roll**,** University of Southern California

PURPOSE

Large-scale research using real-world hand therapy (HT) clinical data can provide insights into field-wide variability in practice patterns, helping to inform efforts to improve care effectiveness to meet diverse patient needs. Such research requires the synthesis of accurate clinical data from a wide range of HT settings; however, currently there is little knowledge on the field-wide state of clinical documentation. Therefore, the purpose of our study was to explore therapists' perspectives related to documentation features, processes, content to: (1) establish foundational knowledge on nationwide documentation practices and (2) identify important considerations for development of future large-scale practice-based research efforts in HT.

METHODS

We conducted a cross-sectional web-based survey study, distributed through the American Society of Hand Therapists and to authors of recent Journal of Hand Therapy and Hand Therapy publications. An initial invitation email and 2-week reminder were sent, and the survey was open from 06/26/2024 to 7/7/2024. Participants were eligible if they were U.S.-based occupational or physical therapists who had treated HT patients within the past year. Multiple choice, multiple selection, and numeric entry questions elicited information on (1) professional and practice setting characteristics, (2) clinical documentation features (3) clinical documentation processes, (4) the importance level and reporting of multidimensional patient factors. Clinician responses were examined via descriptive analyses to identify trends and variations across the content areas, as well as via comparative analyses (Mann-Whitney U, Pearson's Chi-squared, and Fisher's exact tests, with Benjamini-Hochberg adjustments) to identify potential differences in (1) documentation processes based on practice setting and (2) the extent to which patient factors were captured based on clinicians' perceptions of their importance to hand therapy care.

RESULTS

Of the 201 recipients who opened the survey, 190 (95%) completed the participant screening page and 165 (82%) completed all survey sections. Clinicians who completed the survey hail from 40 different states and are predominantly occupational therapists (94%) and certified hand therapists (86%) with a median of 20 years of HT experience. These clinicians mainly practice in freestanding or hospital-based outpatient clinics (49% each) located mostly in suburban environments (62%), followed by urban (30%), and rural (8%) environments. Among responding clinicians, 98% use electronic medical record (EMR) systems (29 identified), with 75% linked to larger healthcare entities or networks. The median minutes typically needed to complete various documentation types range from 10-25, with initial evaluations having the most variability (10-120 minutes). Most clinicians (84%) reported they typically finish documentation by the end of the day, though only 31% during or immediately following therapy sessions (Fig. 1a). Clinicians frequently record clinical measures: 42% complete formal reassessments at least every few weeks and 68% often or routinely complete weekly solitary measures (Fig. 1b). Yet, 69% also reported only rarely or occasionally having enough time to document to their preferred standard. We found no significant differences in processes (time spent on documentation, frequency of measurement, completion timeframes, adequate time for documentation) between clinicians practicing in hospital-based vs. freestanding outpatient clinics. Multidimensional patient factors (n=14) clustered into 3 tiers based on clinicians rating them as 'more important' vs. 'less important' to care (Fig. 1c), with Tier 1 factors (n=6) rated as more important by 88-95% of clinicians, Tier 2 (n=2) by 71-78%, and Tier 3 (n=6) by 46-58%. Most factors are consistently captured in at least one type of clinical documentation (Tier 1 factors by 100% of clinicians, 7 of the remaining 8 by >90%). Initial evaluations captured factors most comprehensively (median capture rate across factors: 95%), followed by formal reassessments (59%), discharge summaries (44%), treatment notes (29%), and intake forms (24%; Fig. 1d). For 3 of 8 factors expected to change over time, clinicians rating them as more important on average capture them in more types of documentation ($p < 0.001$, $p=0.001$, $p=0.004$).

CONCLUSION

Our findings provide a preliminary overview of HT documentation practices for future efforts toward large-scale practice-based research. Generally, hand therapists report measuring frequently, comprehensively capturing patient factors, and completing documentation in a

somewhat timely manner. However, there is some concern about the accuracy and inter-clinician consistency of content due to the variety of EMR systems, the lack of adequate time for documentation, and the impact of beliefs on the documentation of outcomes.

Uploaded File(s)

Figure 1

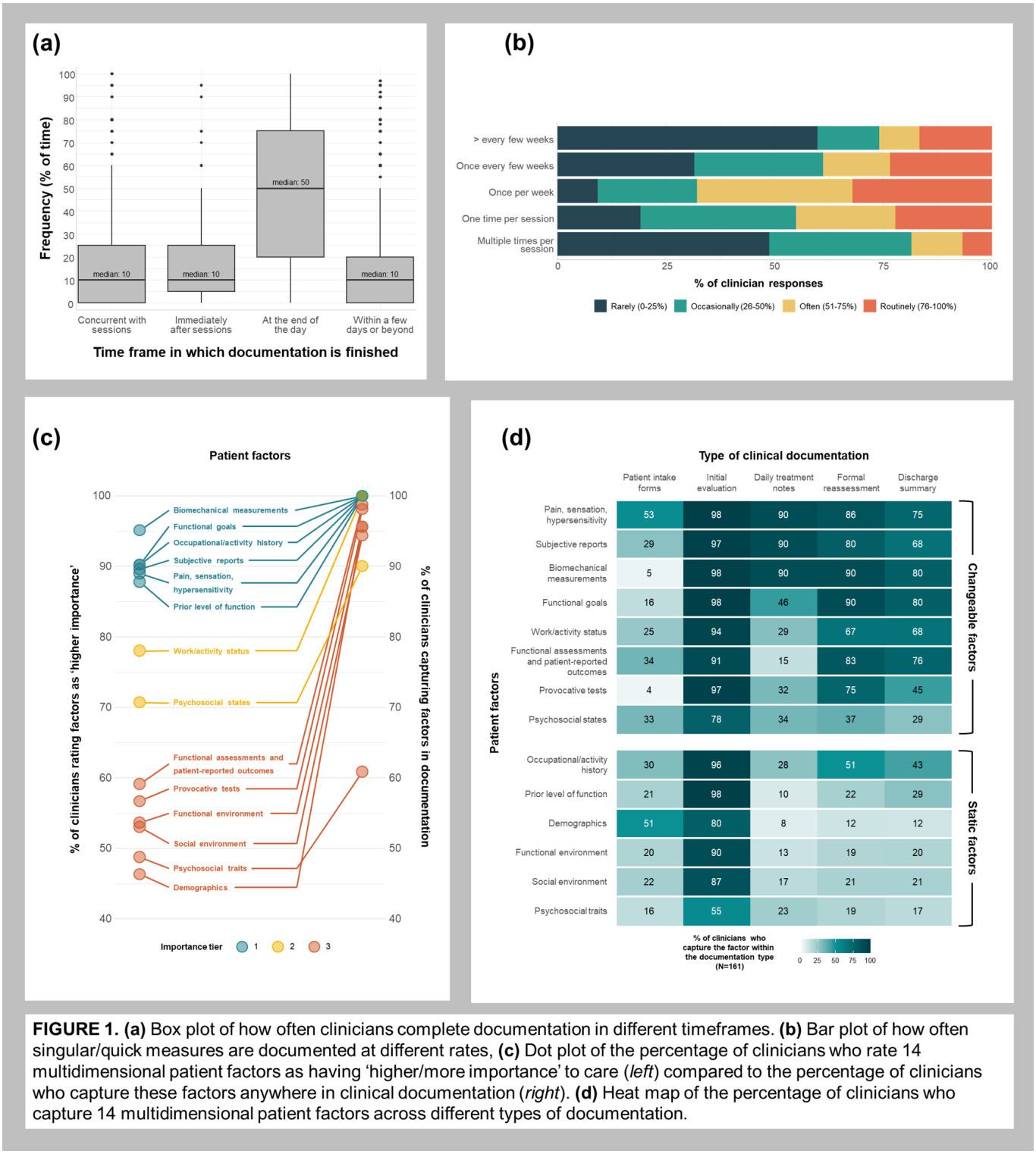

FIGURE 1. (a) Box plot of how often clinicians complete documentation in different timeframes. **(b)** Bar plot of how often singular/quick measures are documented at different rates, **(c)** Dot plot of the percentage of clinicians who rate 14 multidimensional patient factors as having 'higher/more importance' to care (*left*) compared to the percentage of clinicians who capture these factors anywhere in clinical documentation (*right*). **(d)** Heat map of the percentage of clinicians who capture 14 multidimensional patient factors across different types of documentation.

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