



# Implementing Supplemental Education on Seating and Positioning in the Inpatient Rehabilitation Setting

Hannah Miles, OTS<sup>1</sup>, Peter Giroux, PhD, MHS, OTR/L, FAOTA<sup>2</sup> and Chuck Crenshaw OTR/L, ATP<sup>2</sup>  
University of Mississippi Medical Center<sup>1</sup> and Methodist Rehabilitation Center<sup>2</sup>



## OVERVIEW OF CAPSTONE SITE

### Methodist Rehabilitation Center Main Patient Populations: TBI, CVA, SCI, Ortho, Amputation Inpatient Rehabilitation Facility

Methodist Rehabilitation Center is an inpatient rehabilitation facility that provides comprehensive services for patients with medical conditions that include stroke, traumatic brain injury, spinal cord injury, neurological disease, musculoskeletal injuries, joint and back pain, and post-amputation. Methodist Rehabilitation Center: History and Mission (2020) states “In response to the love of God, Methodist Rehabilitation Center is dedicated to the restoration and enhancement of the lives of those we serve. We are committed to excellence and leadership in the delivery of comprehensive services”. Methodist Rehabilitation Center is located in the capital city of Jackson and has seven floors that can accommodate 124 patients (Methodist Rehabilitation Center: About MRC, 2020). At Methodist, each diagnosis is provided with a treatment team of physicians, therapists, and nurses who are specially qualified to provide medical care. Another aspect of specialized care that an occupational therapist can offer in this setting is providing services as a certified Assistive Technology Professional. Methodist Rehabilitation Center has several physical therapists and one occupational therapist on staff that have an ATP certification.

## LITERATURE SUMMARY

There is evidence within the literature that highlights the importance of occupational therapy treatment for patients (CVA, TBI, SCI, and amputee) and how a wheelchair education and maintenance program can be beneficial to patients and caregivers in the inpatient rehabilitation setting. An occupational therapist can address many aspects of neurological patients’ care like cognition, function, community reintegration, and interpersonal skills. All of these aspects are encompassed in the Occupational Therapy Practice Framework’s definition of occupations as “various kinds of life activities in which individuals, groups, or populations engage, including activities of daily living, instrumental activities of daily living, rest and sleep, work, play, leisure, and social participation” (Occupational Therapy Practice Framework, 2014, p. 19).

CVA, TBI, and lower extremity amputee patient populations can be challenging to assess for appropriate seating and mobility options at times. New or inexperienced therapists may require assistance from another therapist with an Assistive Technology Professional certification to provide patients with the most appropriate seating solution. Poor seating and positioning in a wheelchair can contribute to negative effects of a patient’s health and well-being. Giesbrecht et al. (2013) explains that poor seating for patients can contribute to development of poor posture, deformity, and formation of pressure ulcers. A key factor in determining appropriate seating for patients involves assessing the position of the pelvis. A pelvis in an abnormal position causes spinal compensation and can disturb a patient’s center of gravity (Allam & Schwabe, 2013).

At Methodist Rehabilitation Center, there are many patients who utilize assistive technology for various self-care activities and mobility. The HAAT model highlights focusing on the person engaging an activity within their chosen environment prior to introducing the assistive technology (Cook & Polgar, 2015, p. 7). HAAT is similar to the Person-Environment-Occupation model because its core concepts involve the human, activity, context, and additionally the assistive technology. The model simplistically ties together key elements of occupational therapy practice in a way that specifically addresses the needs of patients who rely on assistive technology.

## NEEDS ASSESSMENT

### Phase I Needs Assessment

After distributing a needs assessment survey via email to the capstone mentor, the student received a response on July 8, 2020. The capstone mentor provided valuable information to help guide the direction of the capstone project. The student also received an additional response from another occupational therapist at the facility. According to the responses, there is already programming in place for brain injury support and spinal cord patient support. However, the capstone mentor noted a need for educational groups for brain injury and assistive technology.

### Phase II Needs Assessment

After distributing the phase II needs assessment to occupational therapists, physical therapists, and therapy managers at Methodist Rehabilitation, the student received 5 responses as of March 14, 2020. These responses have provided valuable information necessary to progress my capstone project at the facility. All participants agreed that there is a need for an in-service or educational program for therapists related to custom seating/mobility options for stroke, orthopedic, and amputee patients. Participants provided a variety of suggestions for other populations to include in education regarding custom seating/mobility. The responses include: Traumatic Brain Injury, Debility, Spinal Cord Injury, Neurological Degenerative Diseases (MS, Guillian Barre, and ALS), and Major Multiple Trauma. Participants all agreed that an educational program or in-service about custom seating/mobility options would improve communication between therapists providing care for patients in these populations.

## PROJECT GOALS / OBJECTIVES

- Project Goal**
- The student will develop an inservice for occupational and physical therapists specifically regarding seating and positioning considerations for CVA, TBI, and amputee patient populations and will also participate as a presenter in a Grand Rounds presentation focused on seating and positioning.
- Objectives**
- The student will distribute a phase II needs assessment survey to inpatient therapists to identify specific needs to address at the site.
  - The student will observe seating and positioning from both an inpatient and outpatient setting.
  - The student will research and identify evidence-based information to utilize within inservice and Grand Rounds presentations.

## PROJECT DEVELOPMENT and/or IMPLEMENTATION

### Literature Review

In preparation for the project at the capstone site, the student researched information to create a literature review. The student utilized textbooks and various research articles to gather data to provide evidence on occupational therapy’s effectiveness within the inpatient rehabilitation setting. Other areas of research included common diagnoses at the facility and the custom wheelchair evaluation process. Methodist Rehabilitation Center sees a wide variety of patient populations, but the most common include cerebrovascular accident, traumatic brain injury, spinal cord injury, orthopedic injuries, and amputations. Additionally, Methodist Rehabilitation Center has therapists who also have their Assistive Technology Professional Certification. Therapists without an ATP certification can complete the custom wheelchair evaluation while collaborating with a vendor, however, Methodist utilizes their ATP therapists to complete all the custom wheelchair evaluations that come through the facility.

### Goals & Objectives

After completing the literature review, the student created goals and objectives for the capstone project. Initially, the student created goals and objectives for three different potential project directions. However, after discussion with the capstone mentor and results from the phase II needs assessment, a different project direction with its own goals and objectives were created to accurately update the purpose and plan of execution for the capstone project.

### Phase I Needs Assessment

Prior to arriving at the capstone site, the student developed a phase I needs assessment using a survey format with open-ended questions and Likert scale questions. The survey was distributed via email. Two responses were received. These responses provided the student with insight into how to further plan for the capstone project. The information gathered was useful in initiating thought processes for project implementation.

### Phase II Needs Assessment

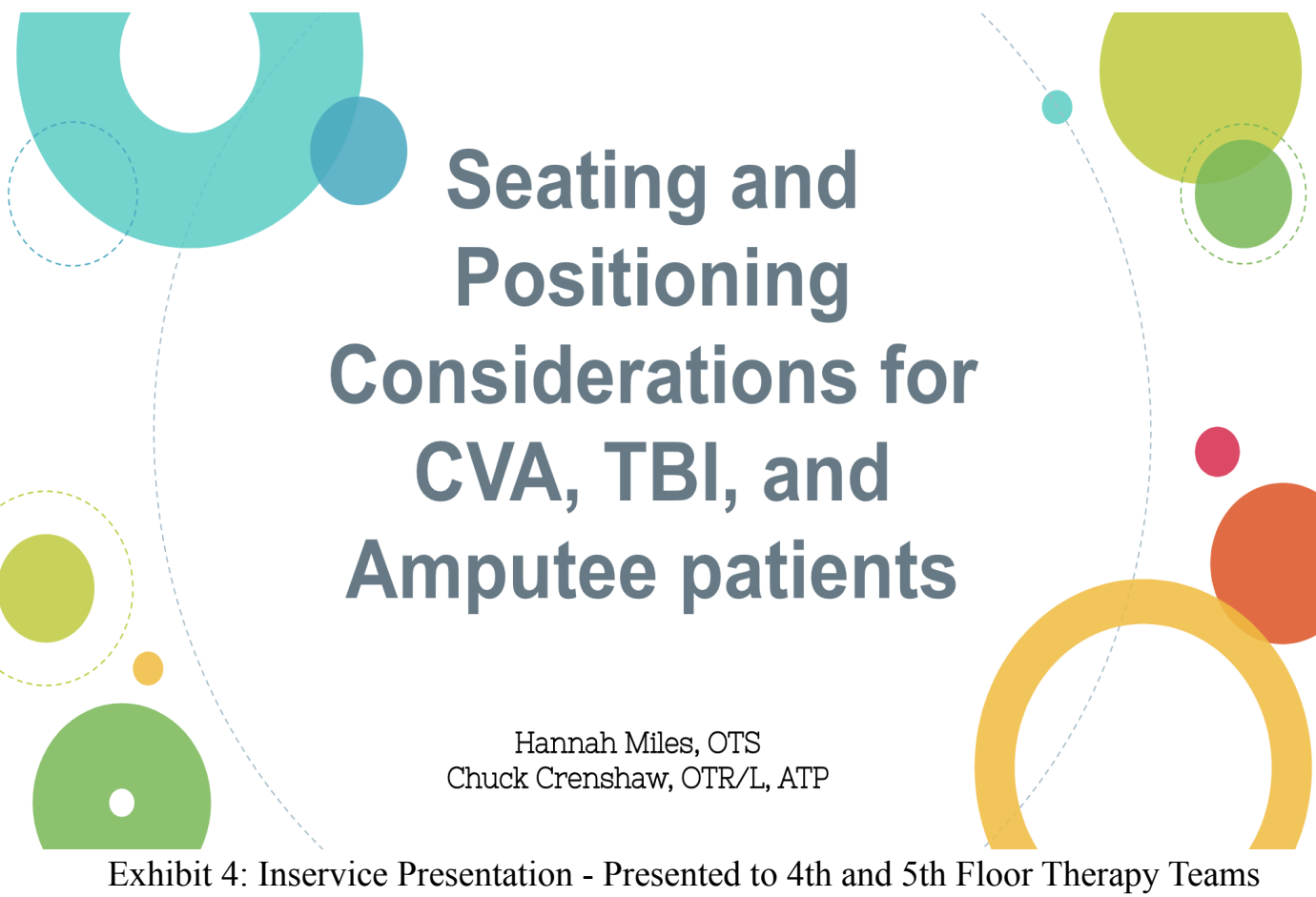
During the student’s first four weeks at the capstone site, she observed occupational and physical therapists treating patients and completing custom wheelchair evaluations. During this time, the student began treating a full caseload by week two. By week five, the student developed and distributed a phase II needs assessment survey to physical therapists, occupational therapists, and therapy managers at the site to assess potential project ideas. The student received 5 completed surveys from participants which provided useful data that was utilized to further formulate a capstone project that would benefit the site.

### Project Implementation and Evaluation

By week nine, the student developed an educational in-service in the form of a powerpoint on seating and positioning for CVA, TBI, and amputee patient populations. By week eleven and twelve, the student presented the educational in-service to 4th and 5th floor therapists to facilitate increased dialogue regarding seating and positioning at the facility. Additionally, the student distributed a satisfaction survey to therapists who participated in the in-service to determine the effectiveness of the in-service and gather feedback on its strengths and weaknesses. Nine satisfaction surveys were returned from fifth floor therapists who participated. Six satisfaction surveys were returned from fourth floor therapists who participated. Out of the fifteen satisfaction surveys returned from both floors fourteen participants reported that the presentation was adequately effective at promoting discussion and dialogue on all the objectives. One participant reported the presentation as being somewhat effective at promoting discussion and dialogue on all the objectives. Participants additionally engaged in a question-and-answer session after each of the in-services.

The student participated as a presenter in a Grand Rounds presentation focused on seating and positioning at the facility. The student presented a basic review of seating and positioning portion of the presentation while four other presenters provided more detailed information related to seating and positioning within the TBI, SCI, and amputee populations and additionally within the outpatient setting. The four other presenters consisted of the capstone mentor, Chuck Crenshaw, OTR/L, ATP, Jacob Long, PT, ATP/SMS, Heather Maloney, PT, ATP/SMS, and Erin Bischofberger, PT, ATP/SMS. Prior to the date of the presentation, the group practiced together two times and edited the powerpoint as necessary. The Grand Rounds presentation was presented to an in-person audience as well as an online audience consisting of therapists from various Methodist Rehabilitation campuses and UMMC. Approximately fifteen therapists attended the presentation in person. The presentation provided continuing education credit to the therapists who viewed either in-person or online.

Throughout the student’s time at the capstone site, the mentor progressed her to completing custom wheelchair evaluations almost independently. By the end of the fourteenth week, the student was able to complete a custom wheelchair evaluation, collaborate with the vendor, and fax all necessary paperwork with minor verbal cues for instruction. The student regarded this additional experience within a clinical specialty as a highly valuable portion of the student’s overall project. It provided the student with additional insight into the seating and positioning process from a hands-on perspective.



**Educational In-services on Seating and Positioning for CVA, TBI, and Amputee Patients**

- Presented to MRC Fourth and Fifth Floor Therapy Teams

**Grand Rounds Presentation – The Hips Don't Lie: Optimizing Wheelchair Seating Solutions**

- Presented to In-person and Virtual Audience
- Provided CE Credit for Therapists

**Outcomes from Implementation of Supplemental Education on Seating and Positioning**

- Therapists with Increased Knowledge and Discussion Regarding Seating and Positioning
- Improved Provision of Seating Systems for Patients

## LIMITATIONS



References Available upon Request



Exhibit 1 and 2: Grand Rounds Presentation - The Hips Don't Lie: Optimizing Wheelchair Seating Solutions

## PLAN FOR PROJECT EVALUATION

Therapists who attended the in-service were provided with a satisfaction survey to provide feedback and suggestions. The survey was composed of Likert scale questions and one open-ended question. Fifteen satisfaction surveys were returned from both fourth and fifth floor therapy teams. Fourteen surveys reported that the objectives of the presentation were effectively met. One survey reported that the objectives of the presentation were somewhat met. The results of the survey are depicted in Table 1 below. Participants also engaged in discussion and dialogue after the in-services which provided insight on how the presentation was received.

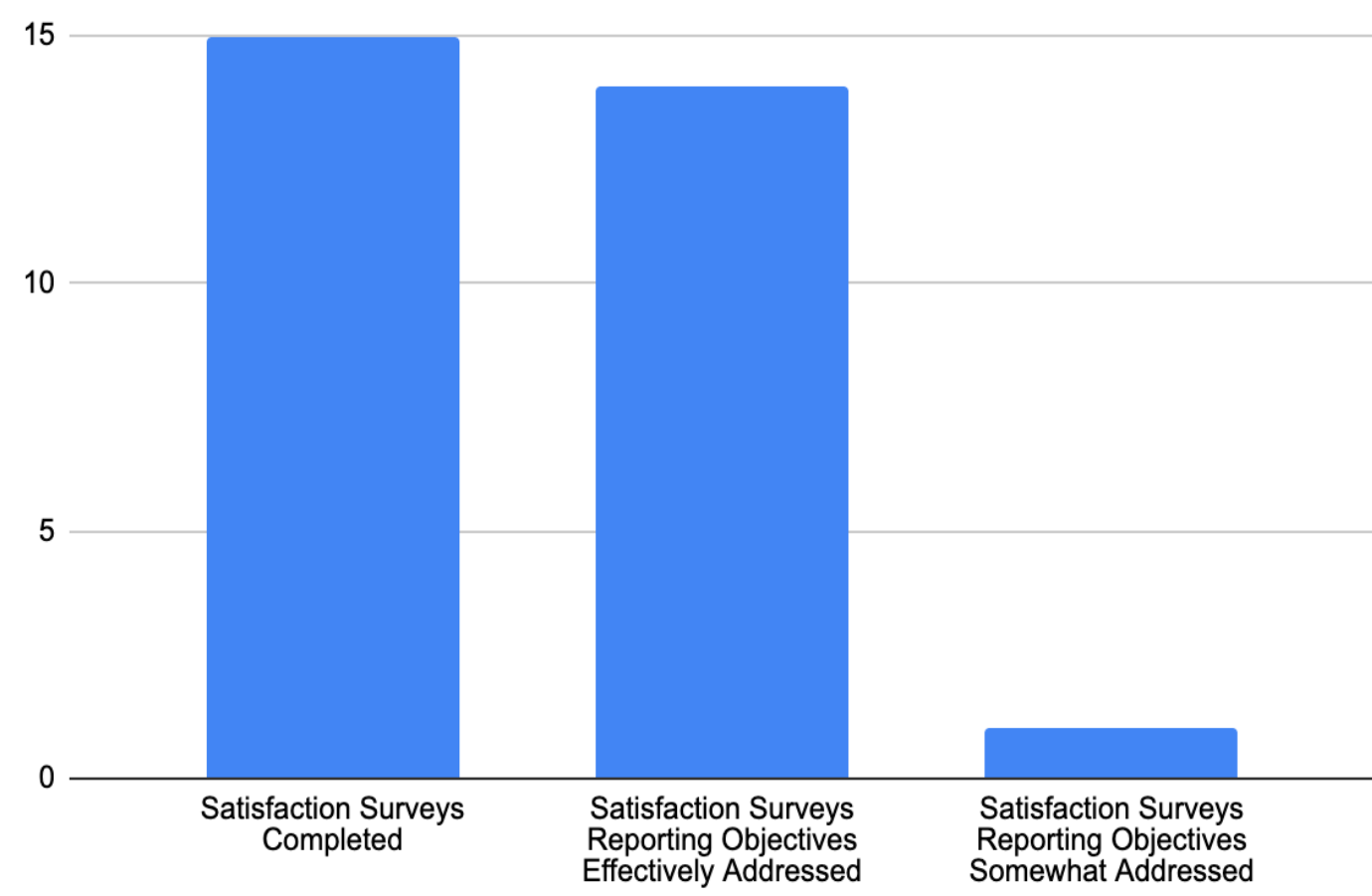


Table 1: Survey Results

## PROJECT SUMMARY AND FUTURE RECOMMENDATIONS

Overall, the project (educational in-services and Grand Rounds presentation) has increased awareness for therapists regarding the impact that seating and positioning has for patients. Per report of the capstone mentor, the amount of therapists inquiring about seating and positioning topics has increased since the in-services were presented. The capstone mentor reports an increase in requests for custom wheelchair evaluations as well. During the question-and-answer sessions after each in-service the participants were engaged and participated in discussion. Since therapists have an increased knowledge base and are more comfortable engaging in dialogue about seating and positioning, hopefully this will also lead to improved provision of seating systems for patients. I would recommend for continued presentations at the site on seating and positioning to facilitate discussion. I think that this site would benefit from dialogue on seating and positioning to allow it to be a more approachable topic for newer or inexperienced therapists. Another idea that was discussed between my Grand Rounds co-presenters and I was a potential wheelchair seating, hardware, and equipment hands-on lab for therapists to participate in. This would be very beneficial and allow therapists to learn more detailed information related to seating and positioning like how to adjust hardware on a wheelchair.