

## Therapeutic Casting of the Upper Extremity Level I

Instructor: Amanda Hall, PT, MPT, PCS, ATP

### Course Description:

This course will provide the practitioner with the knowledge base and practical skills for use of casting materials to manage common upper extremity impairments in the neurologic and pediatric populations through therapeutic casts and splints. Participants will learn to identify appropriate candidates for casting, problem solve which materials and techniques are appropriate for various clinical presentations, and evaluate progress. The course will emphasize the importance of the use of the therapist's manual intervention before and during casting to maximize therapeutic effects. Attendees will learn to align casts for optimal function. The course will include multiple opportunities to learn and apply hands-on practical skills which will can be carried over to the clinical setting after course completion. Audience: occupational therapists/OTAs, physical therapists/PTAs.



### Course Objectives:

At the conclusion of the course, participants should be able to:

1. Discuss candidate identification for serial casting using the ICF model, including rationale, assessment, considerations, precautions, and contraindications.
2. Contrast various materials used for serial casting and splinting, with their different properties and benefits for use for varied therapeutic goals.
3. Describe a variety of casting techniques that might be employed depending on patient presentation and goals.
4. Apply a therapeutic serial cast of the upper extremity.
5. Fabricate an upper extremity therapeutic splint with appropriate joint alignment, padding, and use of casting materials.

### Tentative Course Schedule

7.5 hours

Schedule

8:30-9:00am Registration

9:00-9:30am Lecture: Casting Framework, ICF Model with a manual therapy lens

Serial casting

Use of casting material for UE splints: indications

9:30-10:00am Manual therapy techniques in preparation for casting

10:00-10:30am Lab: Casting techniques

1. Circumferential wrapping

2. Selective reinforcement

3. Combination of materials

5. Creating an anchor

6. Use of elastic tension and direction of pull to influence tissue and joint mobilization

7. Wrapping around the thumb

8. Selective support on one side of an extremity

9. Cutting materials for specialized applications

10:30-10:45am Lecture and demonstration: Casting Materials and Tools

1. Required tools
2. Properties of materials
3. Principles of material selection
4. Safety considerations

10:45-11:00am UE Serial casting demonstration

11:00-11:30am Lab: Serial Casting of the UE in pairs: partner 1 leads

11:30-11:45 Small group activity: review of casts: alignment, function, trouble-shooting and clinical fixes and techniques

11:45-12:15 Lab: Serial Casting of the UE in pairs: partner 2 leads

12:15-12:30 Small group activity: review of casts: alignment, function, trouble-shooting and clinical fixes and techniques

12:30-1:00 Lunch

1:00-2:00pm Lab: Fabrication of Circumferential Wrist-Hand Orthosis

1. Demonstration
2. Fabrication Lab

2:00-3:00pm Lab: Fabrication of Clamshell Elbow Splint

1. Demonstration
2. Fabrication Lab

3:00-4:00pm Lab: Fabrication of CIMT Splint

1. Demonstration
2. Fabrication Lab

4:00-5:00pm Review of splints, finishing, trouble shooting

5:00-5:30pm Question and answer

### **Instructor Biography:**

Amanda Hall, PT, MPT, PCS, ATP received her Master of Physical Therapy from the University of Washington in 2001. She was certified as a Pediatric Clinical Specialist through the ABPTS in 2011, and as an Assistive Technology Professional (ATP) in 2017. She has built her knowledge base in orthotics, casting, and splinting over 17 years of clinical practice, which has included a wide range of pediatric and neurologic settings, including outpatient, NICU, inpatient rehabilitation, complex care, and orthotic/equipment clinic. She developed a system for therapeutic casting based on evidence-informed practice with a focus on differential diagnosis, manual therapy, developmental kinesiotherapy, and biomechanical alignment of casts, with specific use of casting materials. Her framework has a strong focus in patient-centered treatment and adaptive design. As a result, she has received mainstream media attention as the “Madcaster”, including features in MTV, UsWeekly, and ABC. At the Orthotics, Prosthetics, and Equipment Department of the HSC Pediatric Center in Washington, DC, she provides serial casting for upper and lower extremities as well as orthotic, equipment, and assistive technology evaluations. Amanda teaches physical and occupational therapists casting and orthotic design, encouraging individualized treatment and a developmental kinesiotherapeutic approach. For CSM 2019, Amanda presented “*Therapeutic Casting: A Modern Clinical Pathway to Improve Outcomes*” as a pre-conference course. She has been selected to present “*Orthotic Device Design Using Movement System Diagnoses As A Guide*” at APPTAC 2019.