

Definition of Hand Therapy and Scope of Practice of Certified Hand Therapists

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Definition of Hand Therapy:

Hand therapy is the art and science of rehabilitation of the upper limb, which includes the hand, wrist, elbow, and shoulder girdle. It is a merging of occupational therapy and physical therapy theory and practice that combines comprehensive knowledge of the structure of the upper limb with function and activity. Using specialized skills in assessment, planning, and treatment, hand therapists provide therapeutic interventions to prevent dysfunction, restore function, or reverse the progression of pathology of the upper limb in order to enhance an individual's ability to execute tasks and to participate fully in life situations.

Certified Hand Therapists:

Hand therapists are certified or licensed occupational therapists or physical therapists who, through advanced education, clinical experience, and independent study have become proficient in the treatment of pathological upper limb conditions resulting from trauma, disease or congenital or acquired deformity. A Certified Hand Therapist (CHT) is an occupational therapist or physical therapist who has passed a rigorous examination and met the standards established by the Hand therapy Certification Commission, Inc. (HTCC).

Scope of Practice and Domains of Hand Therapy:

The *Scope of Practice of Hand Therapy* includes the domains described below. Domains describe major areas of responsibility in hand therapy. The first three domains include assessment and treatment of hand therapy patients. In compliance with state and federal law, treatment is based on the results of assessment and may be provided on a one-to-one basis, in a group, or by consultation. The fourth domain includes knowledge areas that serve as a foundation for the other domains in practice. Hand therapy practice domains and their associated tasks are listed below.

DOMAINS OF HAND THERAPY PRACTICE

1. Assess Upper Limb and Relevant Patient Characteristics
2. Determine Prognosis and Individualized Plan of Care
3. Implement Plan of Care and Therapeutic Interventions
4. Basic Science and Fundamental Knowledge

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Domain 1: Assess Upper Limb and Relevant Patient Characteristics

- Review medical, surgical, pharmacologic, imaging, neurodiagnostic history and co-morbidities
- Conduct patient, family, and caregiver interviews pertaining to hand therapy needs
- Perform an upper limb screen and systems review
- Select, perform and interpret assessment of: accessory motions, activities of daily living, dexterity and coordination, edema and swelling, function, functional capacity and work site, muscle function, pain, patient-reported outcomes, posture, joint range of motion, sensibility, special signs and tests of the upper extremity, strength, sympathetic status, tightness, vascular status, and wounds
- Interpret examination findings based on basic science, fundamental knowledge, and knowledge of conditions of the upper limb to diagnose, validate the diagnosis, and to consider differential diagnosis
- Assess the need for orthotic or prosthetic intervention
- Identify complications associated with medical condition(s)

Domain 2: Determine Prognosis and Individualized Plan of Care

- Determine prognosis, rehabilitation potential, and expected functional outcomes and timeframe based on condition, medical, or surgical management and planned interventions
- Establish goals specific to the assessment
- Interpret data considering complications and contraindications to select interventions for the patient: adaptive and assistive devices, edema management, ergonomics, joint protection and energy conservation, manual therapy, modalities, neuromuscular reeducation, orthotics, pain management, posture and positioning, prosthetics, scar management, self-care and home management, sensory re-education and desensitization, therapeutic activity, therapeutic exercise, work conditioning and return-to-work programs, wound care and management
- Establish an individualized plan of care based on hand and upper extremity treatment guidelines and medical or surgical management by integrating basic science, fundamental knowledge, best clinical evidence, clinical experience, and patient goals
- Recognize the need to consult with or refer to other health care professionals
- Modify the plan of care based on reassessment, outcomes, and patient characteristics
- Formulate a recommendation about readiness to return to life or work activities and for discharge

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Domain 3: Implement Plan of Care and Therapeutic Interventions

Implement and modify therapeutic interventions, including, but not limited to adaptive and assistive devices, edema management, ergonomics, joint protection and energy conservation, manual therapy, modalities, neuromuscular reeducation, orthotics, pain management, posture and positioning, prosthetics, scar management, self-care and home management, sensory re-education and desensitization, therapeutic activity, therapeutic exercise, work conditioning and return-to-work programs, and wound care and management.

Domain 4: Basic Science and Fundamental Knowledge

- The foundation of the practice of hand therapy is comprehensive understanding of:
 - Surface anatomy of the upper limb
 - Anatomy and physiology of connective tissue and the integumentary, skeletal, muscular, nervous, vascular, and lymphatic systems
 - Age-specific upper limb function
 - Kinesiology and biomechanics relative to the upper limb
 - Pathomechanics and pathophysiology relative to the upper limb
 - Etiology and pathology of medical conditions that may manifest with signs or symptoms in the hand or upper limb
 - Histology of bone and soft tissue healing and repair
 - Physiology and psychology of pain
 - Properties of heat, water, light, electricity, and sound as they apply to physical agent modalities and electrodiagnostic tools
 - Psychological reactions to impairment
 - Research design and statistics
 - Principles of evidence-based practice
 - Physical properties of orthotic and prosthetic materials

- Knowledge areas related to *assess, plan* and *implement* domains require comprehensive understanding of:
 - Communication techniques and principles
 - Posture and its effects on the upper limb
 - Differential diagnosis
 - Surgical, non-surgical, and medical management of conditions of the hand or upper limb including expected outcomes and complications

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- Post-surgical, non-surgical, medical and therapeutic intervention guidelines and protocols
- Assessment tools, tests, and measures and their psychometric properties
- Pharmacology as it relates to the scope of hand therapy practice
- Diagnostic imaging of the upper limb
- Electrodiagnostics of the upper limb
- Anticipated outcomes of medical and/or therapeutic intervention
- Anticipated physiological and psychological effects of therapeutic interventions
- Rationale, indications, precautions, and contraindications for interventions
- Therapeutic interventions (methods, techniques and tools)
- Concepts and principles of orthotic devices, prosthetic devices, and ergonomics

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Treatment Techniques and Tools used in Hand Therapy

A variety of techniques and tools may be used for therapeutic intervention with hand and upper limb patients, including, but not limited to adaptive and assistive devices, desensitization, edema management, ergonomic modification, joint protection, lymphedema management, manual therapy techniques, physical agent modalities, biofeedback, neuromuscular re-education, custom and pre-fabricated orthotics and prosthetics, patient education, pain management, posture awareness and modification, sensory re-education, telehealth, taping, therapeutic activity, therapeutic exercise, work conditioning and return-to-work programs, and wound care and scar management.

Conditions of Hand and Upper Limb Patients

Theoretical knowledge and technical skills are applied, using good clinical judgment, in assessment and treatment of individuals with diagnoses related to the upper limb (hand, wrist, elbow, shoulder girdle, cervical area or multiple joints). Diagnoses may include adhesions or tightness, amputations, arthritis and rheumatic diseases, congenital anomalies or differences, crush injuries and mutilating trauma, cumulative trauma disorders, cysts and tumors, developmental disabilities, dislocations and subluxations, Dupuytren's Disease, edema, factitious disorders, fractures, infections, ligamentous injury and instability, lymphedema, muscular injuries, nerve injuries and conditions, neuromuscular diseases, pain, replantation and revascularization, spinal cord and central nervous system injuries, tendon injuries and conditions, thermal and electrical injuries, vascular disorders, and wounds and scars.

Such patients may be referred to a hand therapist following a variety of medical or surgical interventions including amputation, arthrodesis, arthroplasty and joint replacement, fasciectomy and fasciotomy, fracture fixation and bone graft, ganglionectomy, injection, ligament repair and reconstruction, nailbed repair, nerve block and sympathectomy, nerve decompression, nerve repair, nerve graft, nerve transfer, replantation and re-vascularization, scar release and revision; skin graft and flap, synovectomy, tenosynovectomy, tenovagotomy, tendon repair and graft, tendon transfer, tenolysis, and use of pharmaceutical agents.