
I. Introduction:

a. The American Society of Hand Therapists (ASHT) is dedicated to promoting excellence in rehabilitation of the upper limb to ensure delivery of optimal care to our patients/clients.

i. “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 and/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.”

b. This document provides the minimum standards for the practice of hand therapy.

c. This document also acknowledges and sustains the social, cultural and environmental principles of occupational therapy and physical therapy.

d. Hand Therapy is practiced by both occupational therapists and physical therapists. As such, both the Standards of Practice for Occupational Therapy and the Standards of Practice for Physical Therapy apply to each respective profession and are in addition to the standards in this document.

i. This document does not supersede local, state, federal laws and regulations. The work contained in this document has been developed based on the World Health Organization (WHO) standards set forth in the International Classification of Function and Disability (ICF). The APTA unanimously voted to endorse the WHO standards set forth in the ICF in 2008. The AOTA stated that the WHO ICF model “complemented” its revised scope of practice in 2001.

ii. This model has been adopted to use the same uniform language and framework used in ASHT’s parent organizations’ (AOTA and APTA) scopes of practice and in compliance with national and international healthcare governing bodies. The ICF classification components are Body Structures and Function, Activities and Participation, Environment, and Personal. These are interwoven throughout hand therapy practice. These components have been identified in this document.
iii. The WHO ICF is a classification of health and health-related domains. These domains describe changes in body function and structure, what a person with a health condition can do in a standard environment (their level of capacity), as well as what they actually do in their usual environment (their level of performance and participation in life roles). These domains are classified from body, individual and societal perspectives by means of two lists: a list of Body Structures and Function, and a list of domains of activity and participation. In ICF, the term functioning refers to all body functions, activities and participation, while disability is similarly an umbrella term for impairments, activity limitations and participation restrictions. ICF also lists environmental factors and personal factors that interact with all of these components.

iv. The medical model views disability as a feature of the person, directly caused by disease, trauma or other health condition requiring medical care. The social model of disability sees disability as a socially created problem. Problems of this nature may be created by an unaccommodating physical environment brought about by attitudes and other features of a social environment. The WHO ICF is based on a bio-psychosocial model, as it is an integration of medical and societal models that interact between health conditions (diseases, disorders and injuries) and contextual factors.

II. Education (Body Structures & Function, Activities & Participation, Environment, Personal WHO ICF Domains are all represented by Educational requirements)

a. Graduate from Occupational Therapy/Physical Therapy accredited program
b. Passed national Occupational Therapy/Physical Therapy Registration Exam
c. Completes all additional requirements as necessary (Foreign Educated Therapists)
d. Certified/Registered and/or Licensed by individual State
e. Maintains required continuing education hours as required by state
f. The hand therapist is responsible for maintaining current knowledge of evidence-based research regarding diagnosis, examination, evaluation, assessment and intervention methods pertaining specifically to the upper limb.
g. The hand therapist is responsible for applying evidence-based medicine to the practice of hand therapy where indicated.
h. The hand therapist further develops base educational knowledge and/or clinical judgment and reasoning through concentrated study of the upper limb.
III. Professional Responsibility (Body Structures & Functions, Activities & Participation, Environment, Personal all represented)

a. Adhere to Occupational Therapy/Physical Therapy Code of Ethics
b. Responsible for direction, delivery, and outcome of care
c. Compliant with local, state and federal requirements in delivery of services
d. Competent knowledge of legislative, regulatory, political, societal, cultural, environmental, and reimbursement issues
e. Communicate with referral source, patient, 3rd party payer, and/or other team members as needed in delivery of services

IV. Examination/Evaluation

a. Obtain and review medical, psychosocial, and vocational/avocational history and interview patient and/or caregiver (Body Structures & Functions, Activities & Participation, Environment, Personal all included)

i. Past and current patient/client history (Body Structures & Functions, Activities & Participation, Environment, Personal Domains all represented)

ii. Demographics (Body Structures & Function, Activities & Participation, Environment, Personal represented)

iii. General health status (Body Structures & Function, Activities & Participation, Environment, Personal all represented)  
   Co-morbidities (Body Structures &Function,Environment, Personal represented)
   Chief complaint (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
   vi. Medications (Body Structures &Function,& Personal represented)
   vii. Medical/surgical history (Represents Body Structures & Function)
   viii. Social history (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
   Present and pre-morbid functional status/activity (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
   Social/health habits (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
   xi. Employment (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
   xii. Growth and development (Body Structures & Function, Environment, Personal represented)
   xiii. Imaging (Represents Body Structures & Function)
   xiv. Patient Goals (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

b. Evaluations include, but are not limited to the following assessments:
i. General

1. Body mechanics during self-care, home management, work, community, tasks, or leisure activities (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

2. Ergonomic performance during work, school, play (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

3. Environmental home and work barriers (Environment, Personal both represented)

4. Self-care and home management (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

5. Measure and characterize pain (Body Structures & Function, Personal represented)

6. Signs and symptoms of healing stages (Body Structures & Function, Personal represented)

7. Job/Work/Life Roles (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
ii. Lymphatic, skin and connective tissue

1. Peripheral circulation (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

2. Activities, postures and positions that produce or alleviate trauma to tissues (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

3. Assistive, adaptive, ergonomic, orthotic, protective, supportive or prosthetic devices and equipment that may produce or alleviate trauma to the tissues (Body Structures & Functions, & Personal)

4. Skin Characteristics: (Body Structures & Functions)
   a. Normal characteristics
      i. protective barrier
      ii. temperature regulation
   iii. metabolic functions
      □ organ functions
      □ sensation
      □ vi. mobility
         b. Pathological characteristics
            i. integrity
            ii. vasomotor changes
            iii. pseudomotor changes
            iv. trophic changes
            v. sensory changes
            vi. mobility
   5. Activities, postures and positions that aggravate the wound or scar or that produce or alleviate trauma (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

6. Signs of infection (Body Structures & Function, & Personal)
   b. Depth
   c. Location
   d. Size
   e. Odor
      f. Color
   8. Scar tissue characteristics: (Body Structures & Functions)
      a. Banding
      b. Pliability/Mobility
      c. Sensation
      d. Texture
e. Size (length, depth, width)
f. Integrity
g. Color
iii. Muscular and skeletal systems
1. Limb girth (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

2. Functional strength testing (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

3. Biomechanics (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

4. Muscle strength and endurance (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
   a. Manual muscle testing
   b. Grip strength testing
   c. Pinch strength testing

5. Joint integrity and mobility (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

6. Palpation (Body Structures & Function)

7. Range of Motion (Body Structures & Function)

8. Orthotic Evaluation: (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
   a. Biomechanics of orthotic design
   b. Properties of orthotic materials
   c. Components, fit alignment and ability to care for orthotic devices (static & dynamic) and equipment, including donning/doffing
   d. Evaluate need for orthotic devices used during functional activities (how it affects/enhances participation in life situations/roles)
   e. Safety and precautions during use of orthotic devices

   a. Biomechanics of fit
   b. Ability to care for prosthetic device including donning/doffing
   c. Use during functional activity
   d. Safety during use
   e. Assess for temporary prosthesis
   f. Impact of participation in life situations/roles

10. Evaluation for assistive and adaptive devices: (Body Structures & Function, Activities & Participation, Environment, Personal all represented)
    a. Assistive, adaptive, or ergonomic devices and equipment use during functional activities and life situations/roles
    b. Components, fit, alignment and ability to care for assistive or adaptive devices or equipment
    c. Safety during use of assistive or adaptive equipment
iv. Nervous system
1 Peripheral nerve tests and measures (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

2 Dexterity, agility, coordination (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

3 Initiation, execution and termination of movement patterns (Body Structures & Function)

4 Sensory integrity tests and measures: (Body Structures & Function,
Activities & Participation, Environment, Personal all represented)

a. Temperature
b. Light touch/deep pressure
c. Sharp/dull
d. Localization
e. Vibration
f. Stereognosis
g. Graphesthesia

c. Identify impairments, functional limitations (i.e. functional capacity evaluations), and disabilities based on the result of assessment and the impact of results on individual’s successful participation in life situations/roles

(Body Structures & Function, Activities & Participation, Environment, Personal all represented)

d. Determine prognosis and plan of care

(Body Structures & Function, Activities & Participation, Environment, Personal all represented)

i. Integrate basic science, fundamental knowledge, and available evidence with results of examination and patient goals into an individualized plan of care

ii. Determine rehabilitation potential and expected functional outcomes as related to individual’s ability to resume/participate in life situations/roles

iii. Determine needs of an at risk population (i.e. industrial, athletic, and performing artistic groups) and develop wellness and prevention programs in order to enhance their participation in their life situations/roles

iv. Establish functional and measurable goals of intervention with an anticipated time frame for attainment

v. Establish frequency and duration of intervention in communication with patient
vi. Select appropriate intervention techniques in communication with patient

vii. Document plan of care, including rehabilitation potential, goals and interventions

viii. Identify appropriate resources to which patient can be referred in order to enhance/facilitate their participation in life situations/roles

ix. Consult with and refer to other health-care professionals

V. Interventions (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

a. Interventions are based on the examination, evaluation, diagnosis, prognosis, evidence-based medicine, patient goals, and plan of care

b. The hand therapist is responsible for delivery of care

c. Documentation will be according to standards established by practice setting, agencies, external accredited programs and payers

d. Interventions are altered in accordance with changes in response or status

e. Interventions are interdisciplinary when appropriate

f. The hand therapist selected interventions/instruments when providing treatment to the upper quarter of the body may include, but are not limited to

i. Biofeedback techniques, electrical, thermal, etc.

ii. Compression therapy

iii. Desensitization
iv. Design and/or selection of adaptive, assistive, and/or ergonomic devices
v. Ergonomic and activity modification in work, school, home and/or leisure
   vi. Exercise
   vii. Functional Activity
   viii. Therapeutic Activity
ix. Hand Writing Techniques
x. Joint protection instruction/energy conservation instruction
   xi. Manual Therapy
      1. Joint Mobilization
      2. Nerve Mobilization
      3. Edema Mobilization
      4. Myofascial Release
      5. Therapeutic Massage
   xii. Modalities (Thermal, electrical and mechanical) such as:
      1. Contrast Baths
      2. Cryotherapy
      3. Diathermy
      4. Fluidotherapy
      5. Hot packs
      6. Iontophoresis
      7. Laser/Light
      8. NMES/Electrical Stimulation
      9. Paraffin
     10. Phonophoresis
     11. TENS
     12. Ultrasound
     13. Whirlpool
xiii. Nutrition instruction
1. Effects on tissue healing
2. Effects on vascularity

xiv. Orthotic design, selection, fitting, fabrication and training

xv. Patient/Family Education

xvi. Prosthetic training

xvii. Fabrication of a temporary prosthesis to be used during functional activities.

xviii. Scar Management
1. Hypertrophic/Keloid management
2. Pressure therapy (i.e. pressure gloves, elastomer, ottoform, wraps, etc.)
3. Scar mobilization/massage techniques
4. Skin management

xix. Sensory Re-Education

xx. Taping Techniques

xxi. Training in ADL/Adaptive/Assistive and Ergonomic Devices

xxii. Training in compensatory techniques

xxiii. Wellness Education

xxiv. Work hardening

xxv. Work Conditioning

xxvi. Wound care management: part of hand therapy treatment that facilitates healing, prevents edema, infection, excessive scar formation, and minimizes wound complications, treatment may include
1. Assessment of wound healing status

2. Patient education

3. Selection and application of dressings

4. Cleansing of the wound and surrounding areas

5. Application of topical medications

6. Use of physical agent modalities

7. Application of pressure garments and orthotic devices

8. Selective or non-selective debridement of devitalized tissue

a. Wound care management can include debridement, which is divided into three categories – selective, non-selective, and surgical. Selective and non-selective debridement has long been recognized within the scope of practice for hand therapy. Surgical debridement is outside the scope of hand therapy practice. Selective and non-selective debridement are defined as identification and removal of devitalized (non-living) tissue, such as dried blood or dead skin, that prevents wound healing. Selective debridement can be accomplished without anesthesia by the use of several tools, including high pressure water, chemical agents, or mechanical means such as the use of scissors, scalpel or forceps (tweezers), which is sharp debridement. Nonselective debridement can be accomplished without anesthesia utilizing techniques that include topical application (e.g., wet-to moist dressings, enzymatic product).

9. Adapting activities of daily living to promote independence during wound healing

   xxvii. CPM  (Continuous Passive Motion)

   xxviii.  EMG/NCV Studies (electromyograph/nerve conduction velocity)

V. Reexamination  (Body Structures & Function, Activities & Participation, Environment, Personal all represented)

   a. The hand therapist performs a reexamination as necessitated by the patients’
needs and progress, as well as when necessitated by federal/state/insurance regulation or facility requirements to determine progress or change in status and modifies the plan of care accordingly.

VII. Discharge

a. The hand therapist discharges the patient/client when goals or actions have been achieved or when the patient/client no longer progress towards goals or the patient/client will no longer benefit from occupational therapy or physical therapy services.

b. The hand therapist implements a discharge or transition plan based on patient/client goals.

VIII. Other professional roles

a. Researcher
b. Peer reviewer
c. Mentor
   i. Students
   ii. Hand Therapists
   iii. (Non)skilled therapy staff
d. Consultation Services
e. Advocate for profession
f. Specialization
   i. Certified Hand Therapist (CHT)
   ii. Additional Certifications
g. Supervision of COTA and PTA
h. Educator
   i. Administrator/Supervisory/Director/CEO
j. Writer/Documenter
k. Participant in professional development
l. Entrepreneur
REFERENCES


7. AOTA Commission on Practice. Occupational Therapy Practice Framework: Domain and


APPENDIX

The World Health Organization

I. Based on the text by Kelley Lee copyright 2009
II. Created in 1948 as the United Nations specialized agency for health. 1) Preceded in history by previous international cooperative efforts dating back for centuries. 2) Influenza pandemic of 412 BC 3) Plague of Athens in 430 BC (probable Typhus) 4) Black Death of the 14th century (Bubonic Plague) 5) From 1851-1938 there were 14 International Sanitary Conferences to set out quarantine and hygiene practices. 6) 1920 League of Nations Health Organization was formed after the First World War 7) International Federation of Red Cross was established "in view of a worldwide crusade to improve health, prevent sickness, and alleviate suffering."
8) After World War II, destruction of physical and economic infrastructures as well as large scale movement of populations led to spread of disease and decreased the ability of governments to respond to health needs.
9) The first post WWII meeting of the UN was focused on emergency relief and the UN Children's Emergency Fund (UNICEF) was created (1946) and UN Relief and Rehabilitation Administration (UNRRA) (1943)
10) Brazilian and Chinese delegations of the UN jointly argued that "medicine is one of the pillars of peace." and they jointly proposed that a general conference be convened to establish an international health organization.
11) In Paris, France a committee of 16 medical experts met from March- April of 1946 to organize the new international health collaboration. 12) June 1946 - International Health Conference opened under the UN and was attended by all 51 UN members as well as 13 non-members states.
III. Agreed on the constitution
IV. Set up interim commission until the organization could be completed formally
V. WHO Constitution came into ratification finally on April 7, 1948 and in September 1948
the WHO elected Brock Chisholm as its first Director General (was one of the 16 medical experts consulted in Paris, France)

1) Brock Chisholm - Director General from 1948 – 1953

VI. Dealt with STD's, viral diseases, malaria, parasitic diseases, TB, as well as nutrition, maternal and child health, environmental sanitation, public health, and post war mental health issues

VII. Russia and the Eastern Bloc countries left the WHO in 1949 due to political differences of opinion

VIII. Chisholm stated "The world was sick and the ills from which it was suffering were mainly due to the perversion of man, his inability to live at peace with himself. The microbe was no longer the main enemy; science was sufficiently advance to be able to cope with it admirably, if it were not for such barriers as superstition, ignorance, religious intolerance, misery and poverty."

1) Marcelino Candau - Director General from 1953 - 1973

1956 Established International Health Regulations which were no longer merely recommendations but were binding to all member states.

Determine Plague, Cholera, Yellow Fever, Smallpox, Typhus, and Relapsing Fever were all necessary for quarantine.

XI. Soviet Union and the Eastern Bloc countries returned as member states. 1) Halfdan Mahler - Director General 1973 - 1988

XII. Expanded immunization to include Polio, Diphtheria, Whooping Cough, Tetanus, Measles, and Tuberculosis.

XIII. Initiated a global program to eradicate Polio

XIV. Initiated a global program to eradicate Aids - UNAIDS

XV. Developed an international code of marketing of infant formula products due to the rise of infant morbidity with their use compared to breast milk which angered the baby formula manufacturers.

XVI. Developed a List of Essential Medicines which together could provide effective and safe treatment of the majority of diseases. They are defined as "those that satisfy the priority health care needs of the population."

1) Hiroshi Nakajima - Director General 1988 - 1998

XVII. Oral Polio vaccine

XVIII. Leprosy elimination Strategy

XIX. Global Programme to Eradicate Dracunculiasis (guinea worm) 1) Gro Harlem Brundtland - Director General 1998 - 2003

XX. 2001 - Presented a proposal for an evidence based prequalification system for inclusion on the list of Essential Medicines which is still meeting with opposition form pharmaceutical companies.

XXI. Framework Convention on Tobacco Control

XXII. WHO Commission on the Social Determinants of Health

XXIII. Commission on Macroeconomics and Health

1) Lee Jong-Wook - Director General 2003 - 2006 when he passed away unexpectedly

XXIV. Dealt with the SARS outbreak of 2002-2003.

XXV. By 2005 the outbreak was declared over. 1) Margaret Chan - Director General 2007- present has continued the work of her
predecessors with minimal changes.