

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.” (JHandTherapy; 2009(22) 361-376)
- 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 and physical therapy.
- d. Hand Therapy is practiced by both occupational and physical therapists. As such, both the Standards of Practice for Occupational Therapy^{2,3} and the Standards of Practice for Physical Therapy⁴ 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).⁵ The APTA unanimously voted to endorse the WHO standards set forth in the ICF in 2008.⁶ The AOTA stated that the WHO ICF model “complemented” its revised scope of practice in 2001.⁷
 - 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 (BS&F), Activities and Participation (A&P), Environment (E), and Personal (P). These are interwoven throughout hand therapy practice. These components have been identified in this document.⁸
 - iii. The WHO ICF is a classification of health and health-related domains. These domains describe changes in body function and structure, what a

- 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.^{5,8}

II. Education^{2-4, 8-9} (all domains of WHO ICF)

- a. Graduate from Occupational/Physical Therapy accredited program
- b. Passed national Occupational/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.

III. Professional Responsibility (all domains of WHO ICF)

- a. Adhere to Occupational/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^{1-5,9}
- a. Obtain and review medical, psychosocial, and vocational/avocational history and interview patient and/or caregiver (all)
 - i. Past and current patient/client history (all)
 - ii. Demographics (BS&F, A&P, E, P)
 - iii. General health status(All)
 - iv. Co-morbidities (BS&F,E, P)
 - v. Chief complaint(All)
 - vi. Medications(BS&F,& P)
 - vii. Medical/surgical history(BS&F)
 - viii. Social history(All)
 - ix. Present and pre-morbid functional status/activity(All)
 - x. Social/health habits(All)
 - xi. Employment(All)
 - xii. Growth and development(BS&F, E, P)
 - xiii. Imaging(BS&F)
 - xiv. Patient Goals (All)

 - b. Evaluations include, but are not limited to the following assessments:
 - i. General^{1-5,9}
 1. Body mechanics during self-care, home management, work, community, tasks, or leisure activities(All)
 2. Ergonomic performance during work, school, play(All)
 3. Environmental home and work barriers(E, P)
 4. Self-care and home management(All)
 5. Measure and characterize pain(BS&F, & P)
 6. Signs and symptoms of healing stages(BF&S, & P)
 7. Job/Work/Life Roles (All)

 - ii. Lymphatic, skin and connective tissue^{1-5,9}
 1. Peripheral circulation(All)
 2. Activities, postures and positions that produce or alleviate trauma to tissues (All)
 3. Assistive, adaptive, ergonomic, orthotic, protective, supportive or prosthetic devices and equipment that may produce or alleviate trauma to the tissues. (BS&F, & P)
 4. Skin Characteristics: (BS&F)¹⁰⁻¹²
 - a. Normal characteristics
 - i. protective barrier
 - ii. temperature regulation

- iii. metabolic functions
 - iv. organ functions
 - v. 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(All)
6. Signs of infection(BS&F, & P)
7. Wound characteristics: (BS&F)
- a. Bleeding/Drainage
 - b. Depth
 - c. Location
 - d. Size
 - e. Odor
 - f. Color¹³
8. Scar tissue characteristics: (BS&F)
- a. Banding
 - b. Pliability/Mobility
 - c. Sensation
 - d. Texture
 - e. Size (length, depth, width)
 - f. Integrity
 - g. Color¹³
- iii. Muscular and skeletal systems^{1,-5,9}
- 1. Limb girth(All)
 - 2. Functional strength testing(All)
 - 3. Biomechanics (All)
 - 4. Muscle strength(All)
 - a. Manual muscle testing

- b. Grip strength testing
 - c. Pinch strength testing
 - 5. Joint integrity and mobility(All)
 - 6. Palpation(BS&F)
 - 7. Range of Motion(BS&F)
 - 8. Orthotic Evaluation: (All)
 - 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
 - 9. Prosthetic Evaluations: (All)
 - 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: (All)
 - 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^{1-3,5,9}:
- 1. Peripheral nerve tests and measures(All)
 - 2. Dexterity, agility, coordination(All)
 - 3. Initiation, execution and termination of movement patterns(BS&F)
 - 4. Sensory integrity tests and measures: (All)
 - 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.^{1,3,5,9} (All)
- d. Determine prognosis and plan of care^{1,3,5,9} (All)
- 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 measureable 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^{1-5,7,9} (All)
- 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 therapists selected interventions/instruments when providing treatment to the upper quarter of the body may include, but are not limited to^{1-3, 5, 7, 9}
 - i. Biofeedback techniques
 - 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 management¹³
 - 2. Pressure therapy (i.e. pressure gloves, elastomer, ottoform, wraps, etc.)¹³
 - 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^{1-3, 5, 7, 9, 15-18}
 - 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

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

VI. Reexamination^{1, 3, 5, 9}(All)

- 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^{1-3, 5, 9} (All)

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

VIII. Other professional roles¹⁻⁹

- 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

IX. Appendix: The World Health Organization

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Authors: Mike Cricchio, Kim McVeigh, Mike Lee, Sean Clancy, Eileen Kane, Dan Bash, and Barbara Winthrop Rose

Contributors: Jerry Coverdale, Dorit Haenosh Aaron, and Caroline Stegink-Jenson

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." ¹
 - 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.²
 - 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."³
 - 1) Marcolino Candau - Director General from 1953 - 1973
- IX. 1956 Established International Health Regulations which were no longer merely recommendations but were binding to all member states.
- X. 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."⁴
 - 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 from 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.

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