

***OCCUPATIONAL THERAPY DEFINITIONS***

***THE BEERY-BUKTENICA DEVELOPMENT TEST OF VISUAL-MOTOR INTEGRATION, SIXTH EDITION***

*The Beery VMI-6 is a standardized test that measures the extent to which individuals can integrate their visual and motor abilities. It is standardized for children ages 2 to 100 years old.*

*Visual Motor Integration: This subtest assesses a child’s ability to copy various shapes of increasing complexity from a model.*

*Visual Perception: This subtest assesses a child’s ability to see a shape and identify a matching shape that is identical in formation and size from a field of similar shapes.*

*Motor Coordination: This subtest assesses a child’s ability to draw a line within a designated path to form a shape.*

***THE PEABODY DEVELOPMENTAL MOTOR SCALES 2ND EDITION***

*The PDMS-2 is a standardized test that measures interrelated fine motor abilities for children birth to seventy-one months.*

*Grasping:**This subtest is comprised of twenty-six items of grasping various size objects (pellets, inch cubes and marker), isolated finger movements, and manipulative skills.*

*Visual Motor Integration:**This subtest is comprised of seventy-two items for example, imitating and copying lines and shapes, scissor skills, imitating block designs and refined coloring.*

***THE BRUININKS-OSERETSKY TESTS OF MOTOR PROFICIENCY***

*The BOT-2 is a standardized, norm-referenced measure. It is an individually administered measure of fine and gross motor skills of children and youth, 4 through 21 years of age. It is intended for use as a discriminative and evaluative measure to characterize motor performance.*

*Fine Motor Precision: This subtest consists of test items that require precise control of finger and hand movements. Emphasis is placed on precision; therefore, the items are not timed.*

*Fine Motor Integration: This subtest requires the student to reproduce drawings of various geometric shapes that range in complexity from a simple circle to overlapping pencils. This subtest also measures the ability to integrate visual stimuli with motor control.*

*Manual Dexterity: This subtest utilizes goal-directed test items that involve reaching, grasping, and bimanual coordination with small objects. These test items are timed.*

*Upper Limb Coordination: This subtest consists of test items that measure visual tracking with coordinated arm and hand movements.*

***THE SENSORY PROFILE – SCHOOL COMPANION***

*The Sensory Profile School Companion is a standardized assessment tool for measuring a student’s sensory processing abilities and their effect on the student’s functional performance in the classroom and school environment. It is used with students ages 3 years 0 months to 11 years 11 months. It is a teacher questionnaire that consists of 62 items. The items are organized into sensory groups: Auditory, Visual, Movement, Touch, and Behavior. The teacher questionnaire yields four Quadrant Scores (Registration, Seeking, Sensitivity, and Avoiding), four School Factor scores (1, 2, 3 and 4) and Section Scores for four sensory groups and one behavior group.*

*After scoring, the classifications that the student can fall under are as follows:*

*Typical Performance: Reflects scores that indicate a typical performance or typical sensory processing abilities.*

*Probable Difference: Reflects scores that indicate questionable areas of sensory processing abilities.*

*Definite Difference: Reflects scores that indicate definite sensory processing problems.*

***THE SENSORY PROFILE***

*The Sensory Profile is a caregiver questionnaire which measures children’s responses to sensory events in everyday life (for children 3-10 years of age). There are 125 items in the profile. Caregivers complete the questionnaire by reporting how frequently their children respond in the way described by each item. It contains sections corresponding to each sensory system, sections which indicate the modulation of sensory input across sensory systems, and sections which indicate behavioral and emotional responses that are associated with sensory processing. It can also reflect children’s responsiveness to sensory input across sensory systems.*

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***SENSORY PROCESSING***

Sensory processing involves the brain’s ability to register and perceive sensory information through specialized sensory systems. It underlies the development of all motor and social skills, as well as the ability to learn and perform complex adaptive behaviors. In addition to the senses of sight, hearing, taste, and smell, sensory processing involves three other specialized and powerful sensory systems, which include the vestibular, tactile, and proprioceptive sensory systems. Accurate sensory processing is necessary for children to interact successfully in their environment.

***VESTIBULAR PROCESSING***

*The vestibular system is the system that gives children information about their body in relation to gravity, and information about how fast and in which direction they are moving. Information received from this sensory system interacts with other sensory information to give children their perception of space and position, as well as orientation within that space. The vestibular system forms the basic relationship of children to gravity and the physical world around them. It is considered important to learning because of its influence on balance, ocular motor control, muscle tone, arousal, posture and the readiness to initiate tasks.*

***SOMATOSENSORY PROCESSING***

*Tactile and proprioceptive functions are sometimes referred to as somatosensory perception. Tactile processing pertains to the sense of touch on the skin, with both discriminative and protective functions. Proprioceptive sensory input gives children the internal awareness of what position their limbs and bodies are in space, information about joint and muscle movement, as well as the force and speed with which their muscles are moving. Efficient processing of tactile and proprioceptive input contributes to the child’s adequate development of body scheme and motor planning skills, and is believed to serve as a foundation for appropriate social, emotional, and academic development.*

***PROPRIOCEPTIVE PROCESSING***

*Proprioceptive sensory input gives children the internal awareness of what position their limbs and bodies are in space, information about joint and muscle movement, as well as the force and speed with which their muscles are moving.*

***TACTILE PROCESSING***

*Tactile or touch sensory input, is the sensory input that children receive through their skin by touching or by being touched. It involves registering or being aware of being touched, localizing where they are being touched, and the properties of what they are touching, such as texture, shape, and/or size. Tactile defensiveness refers to the tendency of children to respond negatively or adversely to certain types of tactile stimuli.*

***NEUROMUSCULAR STATUS/POSTURAL STABILITY***

*The neuromuscular system is the foundation for all gross motor and fine motor movements. The components of nervous and musculoskeletal system functioning include reflexes, range of motion, muscle tone, muscle strength, endurance and postural stability. Postural stability refers to a child’s ability to maintain appropriate balance against gravity, both statically and dynamically. In order to accomplish this, children must make appropriate postural reactions to maintain their center of gravity within the base of support, which requires adequate strength, range of motion, trunk control, and joint stability of the upper and lower extremities.*

***MOTOR PLANNING/PRAXIS SKILLS***

*Motor planning, also referred to as praxis, is getting organized to do something novel. It is the conscious attention and effort required to master a new task or activity. Praxis includes ideation (conceiving of a complex sequence of unfamiliar movements), motor planning (organizing oneself to perform these actions), and execution (carrying out the sequence of motor acts). It is the result of efficient sensory registration and integration. Motor planning is necessary for efficient gross motor and fine motor control, as well as efficient bilateral integration and sequencing skills.*

***BILATERAL COORDINATION/BILATERAL INTEGRATION***

*Bilateral coordination is the ability to use both sides of the body at the same time*

*in a controlled and organized manner. This can mean using both sides to do the*

*same thing, as in pushing a rolling pin, using alternating movements such as when*

*walking, or using different movements on each side, such as when cutting with*

*scissors while holding and controlling the paper with the other hand.*

***GROSS MOTOR SKILLS***

*Gross motor skills refer to the movement and coordination of the large muscles of the body, postural reactions, balance, and transitional movements such as sitting, walking, or running. Participation in both gross motor and fine motor activities is highly dependent upon adequate strength, range of motion, and joint stability of both the upper and lower extremities, in addition to adequate balance and postural reactions.*

***FINE MOTOR SKILLS***

*Fine motor skills (or dexterity) refer to the use of the small muscles of the hand for in-hand manipulation, proper tool use, and mature prehension and grasping patterns. In-hand manipulation skills include translation (linear movement of an object from the palm to the fingers or fingers to palm), simple rotation* *(movement of an object less than 180 degrees around an axis using isolated finger and thumb motions), complex rotation* *(movement of an object more than 180 degrees around an axis using isolated finger and thumb motions), and shift (alternating movements of the finger and thumb pads). Motoric separation of the two sides of the hand is an important component of fine motor skill development, which allows the skilled digits of the radial side of the hand (thumb, index, and middle finger) to perform small, coordinated, skilled movements, and the powerful ulnar portion of the hand (ring and little fingers) to provide additional muscle power during prolonged grasp of items.*

***IN-HAND MANIPULATION SKILLS***

*In-hand manipulation skills refer to the ability to move and position objects within one hand without the assistance of the other hand.  Examples include moving a coin from the palm to the fingertip, twirling a pencil within the fingers and turning a coin from heads to tails.*

***VISUAL MOTOR SKILLS***

*Visual motor skills are described through three main components of visual perception, motor coordination, and visual motor integration. Visual perception is the ability to visually discriminate between item characteristics such as shape and color to complete a task. Motor coordination is needed to produce skilled movements of the hands and fingers in object manipulation. Activities that require the coordinated, integrated movements of the hand and eye are referred to as visual motor tasks. Such tasks would include placing beads on string, writing letters on lined paper, and cutting out a shape within specific guidelines.*

***ORAL MOTOR/FEEDING SKILLS***

*Oral motor skills refer to the movements of the muscles in the mouth, jaw, tongue, lips and cheeks. The strength, coordination and control of these oral structures are the foundation for feeding related tasks, such as sucking, biting, crunching, licking and chewing. In addition to the development of oral motor skills, there are other sensory related functions that come into play when examining an individual’s feeding abilities, including effective sensory modulation is important for being able to tolerate different smells, tastes and textures, as well as for maintaining a functional state of arousal and attention during mealtime and throughout the day. Accurate discrimination of touch and muscle/joint information, as well as the development of motor planning abilities, must be in place so that one can feel and move food effectively within one’s mouth. Occupational therapy services related to swallowing are restricted to the oral motor phase in which the* *food is developed into a food bolus of an appropriate size so that it can be easily passed from the front to the back of mouth.*

***SELF-CARE SKILLS***

*Self* *care skills refer to the skills required to perform tasks related to caring for one’s own feeding, dressing, toileting, grooming and hygiene.*

***ORGANIZATION OF BEHAVIOR AND SOCIAL PLAY SKILLS***

Organization of behavior refers to a child’s performance of goal-directed behaviors, purposefulness of play, self-initiation of activities, creativity of play, and reactions to changes in the environment. This area also includes attention span and organization of an activity for successful performance. Sensory modulation refers to the function of the central nervous system that enables the brain to regulate behavioral responses to sensory stimuli. Efficient sensory modulation allows children to pay attention flexibly to relevant stimuli in the environment and “tune out” unimportant sensory information.