Assimilating Therapeutic Practice into Everyday Life by Creating the Best Environment for our Clients
Michelle Lindsey

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The Questions

• Do you see yellow or white better
• Would you paint your bedroom the color blue or red
• What food would you choose- fruit or doughnut
• Are you a visual or auditory learner
• Are you more like a teacher / student
• Are you more creative or stick to the norm
Rocio Story

the beauty of one’s Life can only be measured by the quality of Love in it

(Rusty Berkus, 1982)
I’ve learned that an act of love, not matter how great or small is always appreciated.

(Jackson Brown, 1995)
Types of Communication

• Skill in Interpersonal Relationships and Communication
  – Health professionals must be able to interact with patients and their families, students, visitors, administrators, supportive personnel, other health professionals and business contacts throughout the day
  – The health professional must understand the dynamics underlying different types of human relationships

(Ruth Purtilo, 1990)
The Authority-Dependency Relationship

• Characterizes much of the interaction in the health care field - meaning
  – Accept responsibility as a supervisor
  – Accept constructive criticism from others
  – Involves caring, listening, and diplomacy

• Listening is a priority

(Ruth Purtilo, 1990)
How to Build a Relationship

• *The Art of Loving*, by Erich Fromm discusses 4 elements
  1. Concern – encouraging the growth or development of the other person
  2. Responsibility – responding to the other not simply out of duty but rather as a innate desire to meet the needs of the other person
  3. Respect – realizing the individuality of the other person
  4. Knowledge – trying to discover what is important to the other person

Only upon a foundation of genuine caring can trust grow

(“Trust” – the basis for a feeling of relatedness)

(Ruth Purtilo, 1990)
“Each of us tends to think we see things as they are, that we are objective. But this is not the case. We see the world, not as it is, but as we are – or as we are conditioned to see it.”

Stephen R. Covey

(Susan Tappert, 1993)
Belief System

“Remember, as long as you believe something, your brain operates on automatic pilot, filtering out input from the environment and searching for references to validate your belief, regardless of what it is. People with beliefs have such strong levels of certainty they are often closed off to new input.”

Tony Robbins

(Susan Tappend, 1993)
Be Open to a New Approach

• Client will always teach you
• Listen to the client’s nervous system – the system will talk to you
• Enjoy bringing client to higher level of consciousness
• One will get a response - input

(Jurgen Jora, 1997)
Clinical Learning Environment

Client’s C.N.S. —> Response —> Client’s External World —> Response —> Client’s C.N.S.

Therapist’s C.N.S. —> Response —> Therapist’s External World —> Response —> Therapist’s C.N.S.

Input —> Response —> Input

(Jurgen Jora, 1991)
Who Are the Clients?

• Client will have been diagnosed brain injured, mental retarded, cerebral palsy, autistic, etc.

• Many problems begin within the brain out of some accident which occurred before, during, or after birth, that either interfered with the brain’s ability to take in the information or with the brain’s ability to respond to it

(Glenn Doman, 1994)
Mental Retardation

- Mental retardation – Characterized by significant cognitive limitation and impairment in at least two adaptive skill areas (e.g., communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, health and safety) with onset prior to age 18.

- Functionality can be measured by IQ range but functional level and support needs are better indicators. Mental retardation can be accompanied with many other health problems such as seizures, vision and/or hearing impairments, communication disorders, behavior problems, and cerebral palsy.

- Causes of mental retardation are chromosomal, genetic, infections, head injury, i.e. etc.

Cerebral Palsy

• Describes a group of non-progressive disorders of movement that begin during childhood. Caused by brain damage that can result from congenital, prenatal, perinatal, or postnatal factors such as genetic disorders, birth trauma, infections, head injuries, and near-drowning or suffocation. **Extent of brain damage, body parts affected, and state/quality of the muscle tone are used to classify persons with CP.**

1. Terms describing affected areas.
   1. Monoplegia – affects one extremity
   2. Hemiplegic – affects one side of the body
   3. Paraplegia – affects lower extremities
   4. Diplegia – affects all four extremities, but upper body less involved
   5. Quadriplegia – all four extremities severely involved

Cerebral palsy (cont.)

2. Terms to describe muscle tone
   1. Spastic – increased muscle tone
   2. Athetoid – hypotonia and involuntary, irregular movements
   3. Ataxic – difficulty with balance and fine motor control
   4. Dystonic – rigid movements and abnormal posture
   5. Atonic – extremely low muscle tone
   6. Mixed type
Cerebral palsy (cont.)

3. Signs of Cerebral Palsy
   1. Presence or absence of specific reflexes during the first year of life
   2. Abnormally high muscle tone (hypertonic)
   3. Abnormally low muscle tone (hypotonic)
   4. Decreased range of motion

Seizure Disorder

- Defined as abnormal electrical activity in the brain
- Epilepsy is a seizure disorder that involves recurrent seizures and occurs with other disabilities.
- Several categories of seizures
  1. Partial – focal
  2. Generalized – convulsive
  3. Unclassified epileptic seizures
- Symptoms mistaken for seizures
  1. Breath-holding spells
  2. Fainting – syncope
  3. Migraines
  4. Movement disorders including tics
  5. Sleep disorders

Seizure Disorder

- Barometric Pressures
- Full Moon- Greece Study/ “Mania”/ Sleep-Wake Cycles
- Every Bone and CELL IN OUR BODY has its own resonant frequency

Polychronopoulos-Lunar Phases and Seizure Occurrence: Just an Ancient Legend?
Primal Energetics, 2006
Shake that Seizure
American Epilepsy Society-The Influence of the Full Moon on Seizure Frequency
Raison- The Moon and Madness Considered
How to Handle the Dreaded Barometric Pressure Headache
Autism and Pervasive Developmental Disorder

1. Characterized by deviant or abnormal development – not developmental delay

2. Categorized as a pervasive developmental disorder

3. Four common features of autism
   1. Significantly impaired social interaction and responsiveness skills
   2. Delayed and deviant language skills
   3. Ritualistic and compulsive behavior
   4. Onset that occurs prior to 30 months of age

Autism and Pervasive Developmental Disorder

- Autism also occurs with brain damage. The cause of this damage is not determined. Some studies suggest the cause may be genetic anatomical, physiological, and/or biochemical.
- Some characteristics demonstrated in infancy are
  1. Indifference to touch
  2. Avoidance of eye contact
  3. Irritability
  4. Lack of interest in play
  5. Sleep disturbances
- Strategies for working with individuals with autism are
  1. Highly structured settings
  2. Extensive parental involvement
  3. Behavior modification
  4. Increasing attention skill
  5. Language training

Autism

• Autism Study
• The INDIGO CHILD
• Dannie Tamet’s Story
• Sally Rogers research- 0-3 year olds
• Food Allergies-Gluten/ Dr. Feingold/ The FDA/ Dr. Mark Hyman

Caroll- The Indigo child
CBS News –Danniel Tamet/ Sally Rogers
Hyman- Ultra Prevention
Hersey-Why Can’t My Child Behave
Down Syndrome

- Defined as the presence of an extra twenty-first chromosome.
- Features include
  1. Hypo-motor Moro reflex
  2. Joint hyper extensibility
  3. Flat facial profile
  4. Anomalous auricles
  5. Skeletal anomalies
  6. Short metacarpals and phalanges in the hands
  7. Tendency toward atlantoaxial dislocation – this is important for therapists to be aware of
  8. Congenital cardiac anomalies – present in 40% of individual with Down’s syndrome

(Darcy Umphred, 1990)
Down Syndrome

• Life Span has increased from 25 years in 1983 to 56 years in 2007
• 60-80 percent of children have hearing deficits
• Children have visual deficits
• Correlations with obesity and Alzheimer’s
Tracking the Brain
The Human Body is a delicately balanced machine that is synergetic ... everything working together for the benefit of all. Compare it to a racing machine which works best when it is in tune ... each part functioning at its peak ... all parts working in harmony to make the machine work at optimum capability.

(The Diagram Group, 1983)
By understanding the brain and its functions, its strengths and its weaknesses, we can live more fully, understand our own abilities and behavior (and that of others) more readily, and make better use of our own physical, mental, and emotional potential.
The Brain

• Our brain is responsible for the following:

  1. Affection
  2. Growth
  3. Body temperature control
  4. Coordinated movement
  5. Balance
  6. Sleep
  7. Learning
  8. Taste
  9. Speech
 10. Moral judgment
 11. Problem solving
 12. Hand-eye coordination
 13. Aggression
 14. Creativity
 15. Meditation
 16. Sexuality

(The Diagram Group, 1983)
There are Two Nervous Systems

1. Central Nervous System (CNS) – the brain and spinal cord form the body’s control center, receiving and transmitting information via the peripheral nervous system (PNS). The PNS is divided into two sections.
   – The somatic nervous system is concerned with conscious actions and reflexes and supplies parts of the body under voluntary control.
   – The autonomic nervous system controls unconscious activities such as heartbeat and breathing.

(The Diagram Group, 1983)
Autonomic Nervous System
Made Up Of:

1. Sympathetic System – Nerves work as a unit, dealing particularly with the body’s reactions to emergency. In times of physical danger or stress, they cause sweating, increase blood pressure, and mobilize the body’s system for fight or flight.

2. Parasympathetic System – Nerves work individually, stimulating muscles to work, producing digestive juices and generally keeping the body’s systems ticking over at a steady, normal rate.

(The Diagram Group, 1983)
Important Points About the Brain

• The brain depends on nerves to connect the body’s sense organs and muscles.
• The brain is just a complex outgrowth of the spinal cord.
• The spinal cord and the brain make up the body’s central nervous system that is responsible for receiving sensory data, making decisions, and sending out commands to muscles.
• The spinal cord appears to be a simple structure. The functions it performs include reflex actions and transmitting nervous impulses to and from the brain.
• Thus! The spinal cord and the brain share many important features.

(The Diagram Group, 1983)
Nerves and Neurons

- Billions of tiny active units making up the nervous system
- Designed to communicate electrochemically with one another.
- Each neuron receives and transmits signals through thousands of tiny “wires” linking it with other neurons in the nervous system.

(The Diagram Group, 1983)
Transmission of Information

– Signals course through the nervous system in a relay where electrical impulses alternate with chemical messengers.

– The maze of “wires” between these switchboards largely consists of ordered bundles of nerve fibers known as tracts.

– Each tract is made of axons projecting from cell bodies located in one “switchboard” and ending at one or more other “switchboards”.

(The Diagram Group, 1983)
Nerve Pathways

- A signal speeding through the nervous system manages to find the exact region of the brain designed to handle it.
- The same region may also send directions that reach specific muscles.
- The brain is built like a telephone exchange, with nerve fibers as its wiring and special neuron clusters as the switchboards controlling signals flowing in or out.
- When a pathway has been severed, its central nervous system may report incoming calls. “Phantom Limb”

(The Diagram Group, 1983)
Nervous System Facts

• Contains 100 billion active neurons, each with 20,000 different connections
• Interprets information from 260 million light receptors in the eyes

NEUROLINK RESEARCH- DR. ALLAN PHILLIPS D.O.
Sensory Integration

• Is the process of organizing sensory inputs so the brain produces useful body responses and also useful perceptions, emotions, and thoughts

• The brain sorts, orders, and puts all individual sensory inputs together into whole brain function

• Impulses integrated to memory
• Integration= perceptions
• Perceptions= relationships
• Goal= ADAPTIVE RESPONSE

Ayers, 1979
The Diagram Group 1983
Sensory Integration

• Drive in nervous system to be organized and obtain sensory information from the environment

• Integration of information stems from early developing system which is basic to growth and learning
The brain is calling to the muscles to move – similar to a telephone conversation between the brain and muscles.

All of a sudden there is a disconnection whether the cord was cut or a signal dropped.

Since this disconnection has occurred, the muscles aren’t able to move – however, with certain advances in medicine and unique techniques – we can learn to help the muscles and brain reconnect – visual, verbal, and tactile cuing will be of the utmost importance in this process of regeneration.
Types of Cuing

• Verbal meaning – constantly giving the brain verbal instruction to move
• Visual – having client constantly look at the muscle while performing the movement as extra input.
• Tactile – touching the muscle in such a way to get it to fire more
  • Practice this Cuing when staff training and when writing Home Exercise Programs
Tapping

• Tap tendon
• Causes a response similar to a quick stretch of the entire muscle response
• Brisk muscle contraction
• Example
  – Goal is to bend elbow. Tap bicep muscle as client is bringing food to his/her mouth
Types of Cuing
Tapping- An Example of A Cuing System

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Therapy Treatment

- Therapy should integrate not only look at neuromuscular techniques – technique involving the nervous system but also sensory integration.
- Therapy practice today and in the past has stemmed from various clinical models.
- The model most familiar with and used by most physicians is the diagnosis model (DX) - for example “a CT scan shows brainstorm shearing thus the client will never walk again.”
- Means if this test shows this, then this is the diagnosis.
Have Faith/Belief - Never Give Up Hope

• With this in mind most people assume that when they are given a diagnosis – this is how it will be

• They create in their minds a self-fulfilling prophecy and therefore their mind/body respond to these thought patterns, whether it be negative or positive

• Remember the Rocio Story
Other Models

- Statistical – using statistics to assure progress or no progress
- Behavioral model – certain behaviors predict diagnosis
- Philosophical – this is the only approach
- The newest model is the **Systems Model**
  - “Movements emerge as a result of an interaction among many systems, each contributing to different aspects of control”
  - This model takes into account a client’s overall physical, emotional, mental, and spiritual wellbeing
The Systems Model

• This model is what most therapists, clinicians/families would benefit from
• It allows us to look deeper into the cause of the problem without immediately making an assumption or judgment
Systems Model

(Jurgen Jora, 1991)
Systems Model

• In other words – the therapist will examine the client as a whole to identify his/her problems and their possible causes

• The therapist can carry out specific evaluations to confirm his/her analysis of the causes of the client’s problems

• Always interpreting each single evaluation in terms of the global picture of the charts, since his/her problems may be interactions

• When therapist look at the systems model, they started to try and focus on not only neurological techniques involving the NS but also sensory integration techniques
Examples Of Systems Model

• Simona
• Gerald
Visual System

• 20/20 Vision
• Visual Perception
• Eye Teaming Abilities
• Eye muscular tone
• Depth Perception

Kaplan,2006
www.pavevision.org
www.covid.org
www.nora.cc
Examples of Treatment Techniques Using Systems Model Approach

- Pressure on Tendon Theory
- Reciprocal Motion
- Vision
- Auditory Cuing
- Colors/ Vision/ Lighting
- Motor Rhythm
- Olfaction
• Lets learn how to improve tone, balance, coordination, mobility, strength, focus, and communication in clients with special needs
Putting it all together

- **Tonic / Postural**
  - Muscles responsible for upright posturing because tight with pathology develop contractures triceps/quads, hamstrings/adducts/pec major
  - Phasic – all muscles become week and inhibited gluts/abs

- **Phasic**
  - Muscles become weak and inhibited
  - Gluts/abs

- **Tone**
  - State of normal tension of tissues by virtue of which the points are alert and ready to function in response to stimulus
  - Primitive nervous system reflexes
  - Resting state of muscles
  - Degree of resistance to stretch
  - When body is under stress, primitive movement patterns occur, ATNR

- **Tonic**
  - More resistance to stretches
  - Greater degree of tension

- **Analogy**
  - Rubberbands
  - 1 no stretch – hypotonic
  - 2-3 hypertonic

- **Clonus**
  - Form of movement marked by contractions and relaxations of muscle, occurs in implied rapid succession
  - Response to quick stretches to spastic muscle group – just fires – muscle belly
  - To reduce – put slow prolonged stretch to muscle
  - Example – leg stretches – put foot into dorsiflexion

- **Theory**
  - Reflexes
  - Break up to change the posture
  - ATNR – rotation at head

- **Tonal patterns**
  - Use ones for function
  - Break up other ones
  - By breaking up one pattern, actually stretching other areas
  - Can’t change tone ever – just strengthen areas with no tone
Using Principles
Pressure on Tendon

– Rood principle

– Apply pressure on tendon of muscle belly or tendonous insertion

– Get relaxation of agonist muscles and firing of antagonist muscle

– Example

• A client with an elbow flexion contracture or high tone client can’t extend arm

• Apply pressure to belly of bicep muscle and/or tendon, arm will relax into extension [bicep muscle relaxes, triceps muscle fires, and is activated to cause arm extension]
Using Principles
Pressure on Tendon
Pressure on Tendon Theory

• Based on Golgi tendon organs – receptors that provide subconscious awareness of body position, muscle tension and movement
• They contribute to coordinated movement on an efficient basis since they do so without conscious effort they lie in series with muscle fibers and respond to both contractions and stretch of muscles
• When the stimulus is great enough to evoke a response, the nerves that supply the muscle in which the stimulated Golgi tendon organs are located and its synergy are inhibited
• The activity in the nerves that supply the antagonists is enhanced on the ipsilateral side
• On the contralateral side the opposite effects are produced
• They are reflex responses that occur by way of the gray matter of the spinal cord called autogenic inhibitor
Golgi Tendon

• Golgi tendon organs function normally as a protective mechanism in situations in which a muscle is elongated beyond its physiologic limits

• A muscle tear may be prevented by the relaxation of the muscle provided by the reflex action of the Golgi tendon organs
Overflow Principle

• Theory that resist good side to get overflow to bad side

• Techniques – rowing with quick stretch sitting face to face with client

• Example
  – Client’s left arm displays low tone
  – Rowing – apply increased resistance to right arm
  – Get overflow to left arm
Body Movement – Reawakening Neglected Side

- Causing client to feel movement sense of awareness of side that may be neglected or has low tone
- Client is supine – therapist holds client’s leg – applies rhythmic and oscillations or joint compression like movements to client’s bad side – sense of movement or moving of the affected side can be felt – can also apply to good side to get overflow to bad side
- Have client use eyes and verbal cues to help further initiate movement on affected side
Reciprocal Motion

- Integration of the nervous system
  - Gives a smoother guided movement of antagonists/agonist working together
  - Need for reciprocal motion in walking/crawling/creeping
  - Clients may lack reciprocal motion because movement pattern development affected by damage to the brain
  - Client needs retraining/re patterning
Reciprocal Motion Examples

- Resurator (bicycle)
- Foot prints
- Plastic bag on foot
- Theraband – Ace wraps
- Skates
- Pawing
- Without shoes
- Gravity/antigravity bicycling
- Mimicking biking
- Supine – with partner bicycling feet to feet
- Rocker Board
- Gymnastic Flooring System

- Using bottle caps
- Musical tape
- Manual resistance with creeping/crawling
- Masking tape on floor
- Drumming
- Stepping on cups
- Use visual aides – red dots
- Heel squeakers
- Kicking ball
- Paper plates on feet
- Hoola hoop
Proprioceptive System (SI)

- Made up of receptors in our muscles, joints, and connective tissue
- Gives us information as to where our body is in space
- How much pressure we use to grip things
- Commonly referred to as the position sense
- Provides information about range, force, and direction of movement
- Smooth continuous movement
- Unconscious
- Contributes to muscle tone, posture, and equilibrium
Proprioception

• Sensation of movement within joint
• Smooth movement where body is in space
• Examples
  • Slapping foot on ground
  • Pressing hand on foot at ground
  • Provides grounding
  • Body awareness
  • Initiates nervous system to activate
Visual System (SI)

- Comprised of the eyes and the part of the brain that interprets what we see
- Even though may not need glasses to correct vision, may have difficulty with moving eyes together and/or interpreting visual input
- This has a great impact on motor skill development
- Orienting and protective responses related to peripheral vision
Blinders

- Vision is processing system highly developed
- Integrates areas of perception development
- Body image, positions in space, spatial relationships
- Interrelated with other sensory systems that when in tact – helps those systems
Auditory System (SI)

- Comprised of the ears and the part of our brain that interprets sound
- If one has no hearing loss, interpreting and processing auditory sounds may still be difficult
- Ex-rhythmical
- Predictable music
Auditory Response – Blowing, Sounds
Therapist Voice – “Strong Tool”

• Even, constant sound leads to
  – Adaptation of the auditory system
  – Inhibition of auditory sensitivity
  – Auditory system = many connections = can affect many areas of CNS
  – Regulation of muscle tone (because connected to cerebellum)
Auditory Research

• “We Got the Beat”
• “Clinical Guide to Sound and Light” - Budzynski
• Jeffrey Thompson - Neuroacoustic
Colors / Vision / Lighting

- Colors of the room, clothes, objects
- Colors or light – Brightness alerts the central nervous system and increases tone - facilitating effect
- Dark colors – decreases muscle tone, a calming of the client’s mood, and a generalized inhibitory response
  - Cool colors, darkened room, monotone color schemes
- EVERY COLOR HAS A CERTAIN WAVELENGTH AND ENERGY- ISSAC NEWTON in 1672
Colors / Affects

• Blue – acts as a sedative, lowers fevers, releases inflammation
• Yellow – stimulates the lymphatic system, motor and sensory nerves, digestion and increases hormone production
• Green – balances the physical body and cerebrum, stimulates pituitary and acts as a germicide
• Red – energizes the nervous system, stimulates senses, activates circulatory system
• Orange – relieves cramps, builds bone, stimulates thyroid and stomach, strengthens lungs

(Paula Horan, 1992)
Examples of Using Color

• Red- appetite suppressant, to increase tone, water, Thailand trip
• Blue- appetite depressant, to decrease tone, blue transparencies
• Pink- decrease anger
• Yellow- visual, follow yellow brick road, yellow plate or yellow background, yellow legal pads

www.ColorMatters.com
The Physiological Effect of Color on The Suppression of Human Aggression
Best Treatment Environment

- Isolated room
- Blank walls
- With one floor mat
- Choose colors
- Best lighting – sun
Lighting

- **Fluorescent or luminescent lighting**
  - Emitted by a high-frequency pulse
  - This high frequency flutter is irritating and causes distraction
  - May cause undesirable output
- **Incandescent lights**
  - Come from hot sources and emit a constant light without a frequency
  - This brightness has the potential of altering the CNS response
- **Sun**
  - Primary source in a clinical setting
  - Good psychologically
- **Colors used best for learning**
  - Yellow – color easily perceived with clients with vision impairments
  - Can help with motor learning/safety
  - Example
    - School painted yellow lines in sidewalk
      - visually impaired students could find their way to classrooms
- **Introduce simple shapes and letters**
  - outline them in color
- **Put pictures on a plain black background**
- **Place color sheets on changing apparatus**
  - treat client enclosed in this area

(Darcy Umphred, 1994)
LIGHTS

• Consumer Energy Report
• Light Experiment
• Helen Irlene-Scotopic Sensitivity Syndrome
3. Motor Rhythm (Beats)

- Music – helps clients develop timing and rhythm to a movement sequence
- Consistent sound waves, tempos, and beats help develop stimulus for movement
- Integrates nervous system
- Gives a smooth guided movement of antagonists/agonist working together
- Examples
  - Patterning – verbal cuing
  - Beat 1,2,3
  - Use with movement activity like walking similar to rhythm used for army march
- Incorporate treatment with music therapy
- Marching
- Clapping
- Musical tape with beats
- Drumming
- Bells
- Bottle caps on feet
- Singing
- Toys that make noise
- Squeaky feet shoes
Motor Rhythm (Beats)
Aromatherapy

• Works through autonomic nervous system
• Has pathways through limbic and hypothalamus—responsible for emotions, endorphin release, neurotransmitter release, regulation of blood pressure, breathing
• Studies—Japan, East Carolina University with Alzheimer’s patients
• Used for visual/auditory assistance

• Use natural smells from environment in treatment—i.e. oranges/lemons/salt shakers with herbs/necklaces/diffusers/therapist wears smell

Fermhealth-Grapefruit Oil Extract
Aroma Therapeutix
Loy—East Carolina University—Link Between Scent and Memory
Scents-ible Solutions, LLC—What is Aromatherapy?
Aromatherapy Smells

- Lemon- good for memory, work productivity
- Rosemary/orange-good for creativity
- Orange- stimulating, good for awakening, creativity
- Tea Tree Oil- Yeast infections, athletes foot, insect bites
- Peppermint- digestion, arousal, vertigo, nausea
- Lavender- “help”, relaxing, good for pain, inflammation, attention deficit disorder, headaches
- Grapefruit- sexual attraction properties
- Rosemary/ Frankincense- stimulates appetite
Additional Factors for a more Quality Based Assessment

- **Background history**
  - Past medical history
  - Programs
  - Medications
  - Equipment
  - Living situations
  - Goals
  - Reason for referral
Additional Factors for Assessment of Client

– Testing
  • Mental status
  • Where testing occurred
  • Tests used
  • Who present
  • Eye tracking – visual issues peripherally
    – Visual perception – temporal and spatial processes
    – Eyes vision – binocular control, fix, focus, follow
  • Focusing – is room quiet or loud
  • Direct therapy toleration
    – Doesn’t like tactile stimulation
    – Fear of movement
  • Following commands or not
  • How much cuing – verbal/visual/tactile
  • How much motivation
    – Arousal – sleep/wake, reward/punishment, learning/memory, agitation
  • Emotions
  • Memory
  • Ears/hearing – sound regulation, focus, tracking, figure/ground, spatial localization
  • Attention – postural, visual, auditory
Additional Factors for Assessment of Client

- **Behavior/Communication**
  
  - Verbal/nonverbal – if nonverbal, how do they communicate records/switch system
  - Likes/dislikes – used to help make therapy better (motivators)
  - Behaviors toward self/others
  - How they respond to learning? Do they need a demonstration or require auditory stimulation prior to visual kinesthetic input
  - Social/emotional – self concept, joint focus, awareness of others, self expression – laughing, crying, etc., purposeful communication, integration of emotions
  - Psychosocial development – bonding, interaction, sense of self
Additional Factors for Assessment of Client

– **Observations**
  - Dependent/Independent
  - ADL’s
  - Posture – scoliosis – example – explanation of convexity/concavity will this lead to contractures
  - Range of motion – is it contracture or decreased range, joint limitation, or muscle
  - Eye/hand – types of grasp, mechanics of tool use, visual monitoring and directing, product of tool use
  - Postural mechanisms – stability/mobility, righting/rotation, skills in and around midline, (right/left, top/bottom, front/back)
Observations Continued

– State of the motor pool
  • Is there
    – Spasticity: location and extent
    – Hypotonicity: location and extent
    – Rigidity: location and extent
  • Tremor (non-intentional): location and extent
  • Postural development – muscle tone, joint stability, midline stability

(Darcy Umphred, 1996)
Observations Continued

• Synergies (volitional or reflexive) / Patterns
  – What segments and in what order?
  – Which muscles or joints does the client use to perform specific movements?

• Postural integration
  – Can the client hold in desired spatial positions?
  – Can he control the proximal system and/or weight bearing components while other segments are moving?
Observations Continued

- Position changes
  - Sitting to supine
  - Roll to right
  - Roll to left
  - Supine to prone
  - Supine to sitting
- Observe active movement patterns
- **Motor function**: state recovery level; strength where appropriate; dysmetria incoordination, tremor, clonus, if noted.
- Involved R/L upper extremity
- Involved R/L lower extremity
- Uninvolved extremities, trunk, neck, and face
Observations Continued

• **Specific pattern of trajectory of the movement**
  – How smooth or jerky is the movement?
  – What is the specific pattern of the trajectory, velocity, and acceleration curves?

• **Accuracy**
  – How accurate is the client in placement of the body or extremity in the specific desired location?
  – Does the accuracy change as the distance or speed of the task increases or decreases?

• **Task content**
  – Is the task a new plan or retrieval of a previous learned activity?
  – Is the difficulty of the total plan specific to one of the previous components or a combination of factors?
  – Does the task have an emotional component that is affecting the motor outcome?

(Darcy Umphred, 1996)
Observations Continued

• **Sensation (intact, minimal, moderate, or severe impairment)**
  – Light touch
  – Deep touch
  – Sharp/dull
  – Hot/cold
  – Proprioception
  – Other
  – Vestibular
Observation

• **Balance**
  – Sitting and standing static balance control
  – Dynamic balance between various spatial position such as sit to stand, walking or higher level of activities
  – Picking up objects off of floor

• **Speed of movement (assessing quality)**
  – How fast can the client move?
  – What are the movement responses to speed demands?
  – Is the rate of movement throughout the desired range appropriate for the task?

• **Timing**
  – Can the client start and stop a movement pattern appropriately or are there delays in either initiation or stopping?
  – Is the timing of muscle sequencing appropriate for the task?
Observation

• **Reciprocal movements**
  – Can the client change direction of a movement? If so, how easily is it performed, what rotary components are present or absent, and are the patterns limited to only certain movement combinations?
  – What is the turn around delay?
    • Does the client smoothly change direction?
    • Does the initial pattern come to a halt before the reciprocal pattern is begun?
    • Does the arms and legs move reciprocally during walking?
Observation

• Memory / motivator
• Perception-functional: (indicate denial/neglect, visual field, etc. and when observed.)
• Transfers
  – i.e. Rising from a chair
• Ambulatory
  – Devise (s)
  – Orthosis (es)
  – Shoe modifications
  – Assistance (amount)
  – Balance
  – Endurance
Observation

– **Stairs**: (include brace/device, amount of assistance)
  - With rails
  - Without rails
– Gait deviations: (specify stance or swing phase, with and/or without orthosis)
– Turning
– Abrupt stops
– Standing and reaching
– Tandem walking
– Assess coordination
Checklist/Additional Assessment

Qualities

• Communication Impairments
  – Difficulty maintaining topic
  – Poor listening
  – Changes in reading
  – Word-retrieval problems
  – Hyper verbal speech

• Cognitive Impairments
  – Memory difficulties
  – Impaired concentration and attention
  – Slowing of mental processing speed
  – Loss of judgment
  – Indecisiveness

• Rare Symptomatology
  – Subdural and epidural hematomas
  – Seizures
  – Tremor

(Darcy Umphred, 1996)
Checklist/Additinal Assessment Qualities

- Neuromedical
  - Headaches
  - Musculoskeletal
  - Olfactory Problems
    - Diminishing taste and smell
  - Vestibular/Balance Problems
    - Dizziness
    - vertigo
  - Auditory Disturbance
    - Tinnitus
    - Hearing Loss
  - Visual Disorder
    - Blurred vision
  - Sleep Disturbances
  - Pain Issues

- Behavioral – Emotional
  - Irritability
  - Anxiety
  - Depression
  - Fatigue
  - Avoidance of crowds
  - Low frustration tolerance
  - Loss of emotional control
  - Fluctuation in mood and behavior
  - Impulsivity
  - Paranoia
  - Obsessional disorder
  - Lack of motivation
  - Agitation

(Darcy Umphred, 1996)
Assessment/Recommendations

• Assessment – things to think about besides problems – think Top Down Approach
  – *What can the therapist do to help the client move more normally to accomplish functional activities?
  – **What handling and inhibition techniques to normalize tone use?**
  – Sensory retraining
  – Peripheral retraining
  – Motor planning
  – Improve cognition
  – Respiratory training – breathing exercises
  – Cuing
  – **Decide what the final limitations may be**
    • Cognition
    • Lack of support
    • Respiratory/cardio problems

(Donna Cech, 1993)
Assessment/Recommendations

• **Recommendations**
  – How many times – etc.

• **Goals**
  – Functional/measurable
  – Keep in mind when creating goals
    • Sensory integration ideas
    • Neuro therapy ideas
    • Systems approach
  – **Home exercise program**
  – **Copies of evaluation to all** – make it multidisciplinary
    • Parents
    • Doctors
    • Teachers
    • Group home
    • Etc.
Home Exercise Programs

• Goals or objectives of treatment
  – Include
    • Measurable outcome
    • Time expected to achieve goal
  – Long-term goals – final measurable outcome expected at conclusion of progress
  – Short-term goals
    • Should be smaller goals working up to long-term goal
    • Help in decision-making process
    • Transfer goals onto home Exercise Program should be written in terms understandable to individuals or caregivers helping with the program

(Carolyn Kisner, 1990)
Motor Learning Concepts – How Does One Learn?

• Factors that affect learning
  – Arousal – is client fatigued?
  – Attention – is client in quiet room?
  – Motivation – need toy, another individual, etc.?
  – Memory – verbal/visual/tactile
  – Type of movement required – rolling is boring, rolling toward money is exiting
  – Practice schedule
    • Mass practice – daily sessions
    • Distributed – 3 x per week, 2 x per week, 1 x per week
    • Random – no fixed schedule, client practices at own pace

(Darcy Umphred, 1996)
Motor Learning Concepts – How Does One Learn?

– Type of practice
  • Whole learning – practice entire task
  • Pure-part learning – parts learned separately and then put together
  • Progressive – components of skill combined in sequence
  • Whole-part – practice whole to parts and parts to whole

– Type of reinforcement

– Environmental concept
  • Walk in room
  • Walk around mall
Home Exercise Programs

• An example of HEP
  – Be creative
  – Be functional
  – If program reports perform range of motion one time a day, if unable do one time a day, can incorporate ROM into functional activities
  – Remember – client can do range of motion activities for arms by
    • Mopping the floor
    • Cleaning tables, etc.
  – HEP will always need to be modified if progress or no progress
  – Treatments may need to be broken down into parts
HOME PROGRAM

In therapy, we are working on
1. Balance
2. Walking
3. Transfers
4. Range of Motion

In order to help your client progress in these areas,
I recommend the following activities:

Use visual/verbal cues as needed
May use toy as motivator

Example

1. Walk to and from functional activities with supervision using Meywalker
2. Staff to assist client in a range of motion program (see attached sheets) one time a day for client’s arms and legs in supine position or other position of choice

This home program has been explained to me. I agree to help the family follow through.

Parent’s/Caregiver’s Signature __________________________ Practitioner’s Signature __________________________
Conclusion
In Conclusion

I would like all of you to leave this seminar today with the knowledge that you can help a special needs client improve his/her motor skills, gain greater independence, improve his/her self-esteem, and assist with his/her growth and enrichment in order to succeed in a wide variety of environments.
In Conclusion

Remember – Be creative and progressive and don’t be afraid to make a difference in a special needs client’s life
All things grow with love.

(Jackson Brown, 1995)
People need People.

(Jackson Brown, 1995)
Love is unconditional.

(Jackson Brown, 1995)
Faith begins where reason ends.

(Jackson Brown, 1995)

*Human beings, in developing within themselves that Divine Ray of Intuition, will manifest Wisdom, will become six-pointed stars, stars of wisdom,*

*and will bring about the Dawn of the New Day,*

*The Day of Peace, of Harmony and Power.*

(Eugene Fersen)


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Assimilating Therapeutic Practice into Everyday Life by Creating the Best Environment for Our Clients
By Michelle Lindsey

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Michelle Lindsey, PT, MBA, CPT is a physical therapist and the owner of Rising Star Therapy Specialist, LLC. Michelle Lindsey received her undergraduate degree in Kinesiology at Indiana University. She then attended The Finch University of Health Sciences: Chicago Medical School in Chicago, Illinois where she received her bachelor’s degree in Physical Therapy. She also received her Masters in Business Administration Health Care Management at University of Phoenix. Michelle has been practicing physical therapy for twelve years. Michelle also has experience in many facets of the fitness profession. She was a competitive gold medal figure skater for 16 years, an elite marathon runner where she was in the 1997 United States Maccabiah Open Track and Field Team, a triathlete, a professional speed skater and has also competed as a figure model in many competitions. She has received a special recognition award from the United States Tennis Association in 2001 for coaching and directing a team for the Special Olympics. Additionally Michelle has delivered many in-services to school; day programs, group homes, and state operate services on the topic she will be speaking about.

Michelle views her clients as unique individuals with varied skills and abilities. Her goal is to encourage them to develop to their fullest potential in a comfortable, compassionate, and respectful environment that promotes and maintains their health, fitness, and quality of life. By putting faith in her client’s abilities, she strives to help them believe in themselves, inspires them to extend beyond their best efforts, and teaches them how to remain motivated and focused. She stresses these and other key lessons to ensure that her clients have a lifetime of success and happiness.