

Summary sheet – Margaret Rood

Margaret Rood's Principles/Assumptions

- a. Utilization of controlled sensory stimulation.
- b. Utilization of developmental sequences
- c. Utilization of activity to demand a purposeful response
- d. Normalization of tone and muscular responses
- e. Sensorimotor control is developmentally based.
- f. Muscular responses of the agonists, antagonists, and synergists are believed to be reflexively programmed according to a purpose or plan
- g. Repetition/practice is necessary for motor learning.

Rood's 4 sequential phases of motor control

- a. Reciprocal inhibition/innervation: - an early mobility pattern
- b. Co-contraction: - a simultaneous contraction of the agonist and antagonist that provides stability in a static pattern. - utilized to hold a position or obj. for a long (ish) duration
- c. Heavy work:- aka. "mobility superimposed on stability"
- in these patterns, proximal muscles contract & move while distal segments are fixed.
- d. Skill: - the highest level of control and combines stability & mobility
- these patterns consist of stabilized proximal segment while distal segments move in space.

Rood's motor development sequences: (8 Ontogenic motor patterns)

- a. Supine withdrawal:
 - total flexion while in supine position (arms cross the chest, legs flex & abduct)
 - utilized to gain trunk stability and elicit flexion responses
- b. Rollover:
 - arm & leg on the same side flex as the trunk rotates
 - utilized to elicit lateral trunk responses as well as for person who are dominated by tonic reflexes
- c. Prone extension:
 - upper trunk and head extension while in prone position
 - shoulder abd, extend, and externally rotate, while hips and knees extend off the support surface
 - results in an isometric contraction of the extensors and abductors
- d. Neck co-contraction:
 - lift head into extension against gravity while in prone position
 - utilized to develop head control
- e. Prone on elbows:
 - trunk extension
 - utilized to inhibit tonic neck reflexes & provide trunk and proximal limb stability
- f. Quadruped:
 - assumes an "on all fours" position
 - to develop limb and trunk co-contraction patterns
- g. Standing:- first static followed by active weight shifting
- h. Walking:- gait patterns are integrated into functional activities

Rood's 3 major reactions

these occur in response to stimulation of specific receptors

- a. Homeostatic responses:- via autonomic nervous system (incr. or decr. arousal level)
- b. Protective responses:- via spinal & brain stem circuits (protective withdrawal responses)
- c. Adaptive responses:-integrate multiple regions of the nervous system

Rood's evaluation procedures

- a. Eval distribution of muscle tone:-thru clinical observations and palpation techniques
- b. Determine level of motor control based on Rood's developmental sequence
- c. Determine therapeutic activities

Rood's intervention techniques

- a. Utilize controlled sensory input to evoke desired motor responses
- b. Apply facilitation techniques to stimulate or maintain control of a muscle group:
 - Fast brushing: provide sensory input to the skin over the muscle being facilitated
 - Stretch/tendon tapping: apply a quick stretch to the desired muscle
 - High frequency vibration: 100-300 cycles per second
 - Quick icing: apply over a muscle group for stimulation
 - Heavy joint compression: apply manually and longitudinally thru a joint in a weight bearing position
 - Resistance utilizing gravity
- c. Apply inhibition techniques to quiet/relax/dampen overactive muscle groups:
 - Gentle rocking
 - Slow stroking over the posterior rami of the spine
 - Slow rolling: from supine to side-lying and back in rhythmical pattern
 - Tendinous pressure over the muscle insertion
 - Maintained stretch to an overactive muscle group
 - Neutral warmth: wrapping the person or body part in a blanket
 - Prolonged icing
- d. Engage in appropriate activities