NDT

Reflex-Inhib-iting Patterns	Patterns of movement that inhibit abnormal muscle tone or reflexes. -initiated at key points on the body to inhibit the abnormal muscle pattern of the more distal body part. -controls muscle tone distribution -pattern is applied to the proximal end of the body part to allow voluntary movement in the distal part.
handling	The technique used to move a patient through reflex-inhibiting patterns and facilitation of righting and equilibrium reactions. -used to influence postural tone and inhibit abnormal patterns. -regulates coordination of agonists, antagonists, and synergists. -facilitates normal automatic responses -completed passively at first and then gradually withdrawn as the patient gains the ability to move in normal patterns. -constantly changes to inhibit undesired responses and facilitate desired responses during activity.

NDT (cont)

inhibition of primitive reflexes and abnormal postural and limb movements

development of normal patterns of posture and movement

improvement of the quality of movement and performance of the involved side

postural reactions are considered the basis for the control of movement	these reactions include righting, equilibrium, protective responses

loss of postural control results in overuse of the sound side and limits functional movements

NDT (cont)

Sensory Stimul-ation	Sensory stimulation techniques are used to facilitate muscle activity when hypotonic muscles are observed. -always done when the patient is in a reflex-inhibiting pattern. -stopped if the response is abnormal or results in hyperactive tone. -three types of sensory stimulation 1. Weight bearing – pressure and resistance are used to increase muscle tone and decrease involuntary movements. 2. Placing and Holding – the patient's limb is moved to various positions with assistance from the therapist, and then the patient is instructed to hold each position. 3. Tapping – manual muscle facilitation through one of four techniques: a. joint compression to increase tone and maintain posture b. inhibitory tapping by releasing the body part and catching it after a very short fall to stimulate stretch reflexes c. alternate tapping by very lightly pushing the patient to and from mid position d. sweep tapping where the therapist sweeps a hand over the desired muscles in the desired direction of movement to activate synergic patterns

PNF

techniques are superimposed on patterns of movement (diagonals) and posture, focusing on sensory stimulation from manual contacts, visual cues, verbal commands

D1 flexion	-shoulder flexes, adducts and externally rotates -elbow flexes/extends -forearm supinates -wrist flexes toward radial side -fingers flex and adduct -thumb flexes and adducts
d2 extension	-shoulder extends, abducts and internally rotates -elbow extends -forearm pronates -wrist extends toward ulnar side -fingers extend and abduct -thumb extends and abducts
d2 flexion	-shoulder flexes, abducts and externally rotates -elbow extends -forearm supinates -wrist extends -fingers extend and abduct -thumb extends and adducts
d2 extension	-shoulder extends, adducts and internally rotates -elbow flexes -forearm pronates -wrist flexes toward ulnar side -fingers flex and adduct -thumb opposes

brunnstrom

Basis – Synergies and reflexes that are a normal part of early development should be included as a part of the sequence of return of motor function in hemiplegia.

STNR	When the head and neck are flexed forward, the upper extremities flex and the lower extremities extend. When the head and neck are lifted, the upper extremities extend and the lower extremities flex.

brunnstrom (cont)

ATNR	When the head is rotated to one side, the upper and lower extremities to the front of the head extend, while the upper and lower extremities to the back of the head flex.

rood

4 components	1. Normalization of tone and facilitation of desired muscle responses is acquired through the use of appropriate sensory stimuli. 2. Sensorimotor control is developmentally based and must occur sequentially. 3. Movement is purposeful. Activities are used to create a purposeful response in the patient and elicit the correct movement pattern. 4. Repetition is necessary to establish sensorimotor responses.
reciprocal inhibition/innervation	an early mobility pattern that is primarily a reflex governed by spinal and supraspinal centers

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rood (cont)

reciprocal inhibition/innervation	an early mobility pattern that is primarily a reflex governed by spinal and supraspinal centers
co-contraction	defined as a simultaneous contraction of the agonist and antagonist that provides stability in a static pattern
heavy work - distal stability = proximal mobility	mobility is superimposed on stability
skill	considered the highest level of control and combines stability and mobility

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