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| **Objectives** | **Subject: Anatomical Structures** | **Subject:****Function/Explanation**  | **CourseLevel topic should be taught** |
| **1**. are able to name the stimuli which are used in PNF in order to facilitate motor control | Items under objectives 3 Basic Principles |  | 1&2 |
| **2.** are able to describe the receptor and receptor systems which contribute to motor control. | Afferent systems :2.1.Somato sensory system2.1.1 Proprioceptive System:- Muscle spindle,Golgi Tendon Organ, Receptors in Ligaments and capsule, | 1.1detect the velocitydetect tensiondetect compression and tractiondetect position in space and in relation to other body parts | 1&2 |
|  | 2.1.2 Exteroceptive System 2.1.2.1 Skin receptors2.1.2.2 Visual System- eye2.1.3 Auditory System-hearing organ2.1.4 Vestibular System-inner ear | - touch, temperature, mechano stimuli -Body-schema 1.2.2 - Recognition of objects and faces; Space Perception; Feed-forward – and Feedback System1.3 - Hearing and Space Perception ; Feed-forward and Feedback System1.4 - direct influence to postural tone, Balance and Balance reaction ; Feedback System | 1&2 |
| **3.** are able to describe reflexes which contribute to motor control | spinal cord:-synapses-„monosynaptic reflex“ | synaptic mechanism:excitation / inhibition ( Summation of stimuli )reciprocal innervation loop | 1&2 |
| **4.** are able to describe the different motor (sub-) systems which contribute to motor control. | Descending motor system: Dorsolateral System orpyramidal and extra pyramidal tract | - important for the control of distal musculature and for steering the extremities and manipulating the environment- selective movement- Voluntary movement | 3 |  |  |
|  |  Brainstem:Ventromedial system:  | - control of axial and proximal musculature- | 4 |
|  | Locomotion:- | - activate and modulate the Central Pattern Generator  | 4 |
|  | Spinal cord:Central Pattern Generator  | generated reciprocal movement of the leg | 3 |
|  | Frontal lobe: premotor area: | - Planning of movement and posture ( Feed-forward System ) | 3 |
|  | Basal ganglia: | -regulation of movementpattern throughcontrolling of movementsequences, musclestrength and posturalcontrol | 4 |
|  | Cerebellum:  | - Balance - control the execution of movement , adjustment processor  | 3 |
|  | Thalamus | - filtered, sorted and organized sensory and cortical information  | 4 |
| **5.** demonstrate knowledge of principles of motor learning and how they can be usedwithin the PNF concept. | Principals of Motor learning  |  Please refer Marianne and Nicola’s power point “Definition of Motor learning” **AND** “12 principle” for “Practical Application of Motor Learning”. | 1&2 |
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