**Final-Term Assignment/Paper (spring -020)**

**Neurological Physical Therapy**

**DPT 8thSemester**

**Instructor: Dr. M.Jaffar**

**Time: 6-hours (9am-3pm) Max Marks: 50**

**ID: 13432**

*NAME: NAVEED AHMAD*

Q1. What is spinal cord injury? Write about complete and incomplete spinal cord injury. (10)

ANS:

Spinal card injury is damage to spinal card that results in a loss of funtion such as mobility or feelings.

COMPLETE SPINAL INJURY:

When complete injury occurs, motor and sensory function cease below the level of injury, pain, touch, temperature and inhalation are evaluated as part of sensory evaluation.

INCOMPLETE INJURY:

* Some tracts and cord mediated functions remain intact
* Potential for recory of function
* Possible syndromes
* Brown-sequard syndrome
* anterior cord syndrome
* central cord syndrome

Q2. Explain the following?(10)

1. Central cord syndrome
2. Anterior cord syndrome
3. Brown sequards syndrome
4. Cauda equina syndrome.

ANS:

**CENTRAL CORD SYNDROME:**

* Hyper extension injury of neck
* Pain, temperature and position sense
* Motor weakness of upper limbs is more than lower limbs due to spatial
* Deep tendon reflexes diminished or lost in upper limbs while exaggerated in lower limbs
* Bladder/ bowel involvement is early

**CLINICAL MANIFESTATION:**

* Due to hyper extension of c spine
* Disproportional greater UL weakness
* Sensory loss is usually minimal
* Some control over the boll and bladder
* Recovery is possible

**Anterior cord syndrome:**

* Usually caused by cervical flexion, which compresses and damages the anterior part of the spinal cord or anterior spinal artery
* Motor function is lost bilaterally
* Pain and temperature sensation are lost bilaterally

**Brown sequard’s syndrome:**

* Damage to one half of the cord either side
* Penetrating injury that affects one side of the cord
* Ischemia, infections or inflammatory diseases (tuberculosis, multiple sclerosis)& spinal card tumor
* Ipsilateral sensory and motor loss
* Contra lateral pain and temperature sensation loss

**CAUDA EQUINA SYNDROME**

Injury to nerves within the spinal card as they exist the lumber and sacral regoins

* Usually fractures below L2
* Specific dysfuntion depends on level of injury

**EXAM FINDINGS**

* Flassid type paralysis of lower body
* Bladder and bowel imparment

**Q3: Name cranial nerves and write its functions.Also write effectiveness of MRP. (10)**

**ANS:**

Each of twelve pairs of nerves which arise directly from the brain, not from the spinal cord, and pass through separate apertures in the skull.

**NERVE NAME FUNTION**

Olfactory smell (not usually tested)

Optic visual acuity

Oculamotor opening of eyelids, eye movement (upward/medial, upward / lateral, medial, downward/ lateral

Trochlear eye movement (downward/ lateral)

Trigeminal facial sensation, chewing movements

Abducens eye movement (lateral)

Facial facial muscle movement (execpt chewing muscle) and eye closing

Auditory (vestibulocochlear)hearing and balance

Glossophryngeal taste on the posterior third of the tongue

Vagus uvula (plat muscle) swallowing

Accessory shoulder shrug

Hyploglossal tongue movement

**EFFECTIVENESS OF MRP:**

* Recognition and analysis the problem
* Select the most essential missing component
* Explain clearly to the patient by speech demonstration
* Monitor the patients performance and give verbal feedback
* Re-evaluate through out each session
* Provide an enriched enviroment in which patient will be motivated towards recovery of mental and physical abilities

Q4. Name balance and coordination tests.What is MRP? (10)

ANS:

**BALANCE TEST:**

* Static balance
* Stroke leg test
* Rhomberg test
* Single leg stance test
* Dynamic balance
* Berg balance test
* Reactive balance
* Pastor day and marsden test
* Anticipatory balance
* Funtional reach test

**COORDINATION TESTS:**

* Finger to nose
* Finger to therapyist finger
* Finger to finger
* Mass grasp
* Pronation/ supination
* Rebound test
* Taping(hand and foot)
* Finger opposition
* Drawing a circle
* Heel on shin
* Hypotonia

**MRP:**

* It is task oriented approch to improving motor control, focusing on the releaning of daily activities.
* Retraining of motor control bassing an understanding of normal movement & analysis of motor dysfuntion
* Emphasis of MRP is an practice of specific activities, the trainig of cognitive control over muscle and movement
* Component of activities and conscios elemination of unnecessary muscle activity
* In rehabilitation program involve real life activities included

**PRINCIPALS:**

* Neroplasticity
* Elemination of unnecessary muscle activity
* Feedback and practice
* Importance of inter realtionship between postural adjustment and movement
* Real life activities
* Trainig motor control not muscle strength
* Progression from cognitive control over muscle and movement component to automatic activities
* Enviromental for recovery and leaming
* Problem solving process
* Recognition
* Analysis
* Decision making
* Action taking
* Re-evaluation

**Q5. Define PNF? Discuss the following. (10)**

1. **Irradiation**
2. **Slow reversal**
3. **Rhythmic stabilization**
4. **Contract and hold relax.**

**ANS:**

**FNP:**

Proprioceptive neuromuscular facilitation is a form of stretching designed to increase flexibility of muscle and increase ROM

PNF is a progressive stretch involving muscle contraction and relaxation it is used to stimulate the neuromuscular system in an effort to exite proprioceptors in order to produce a desire movement PNF is a specific treatment approach that attempts to make movement more efficient to improve function during activities of daily leaving

**Irradiation**

The spread of response to stimulation is called irradiation

**Slow reversal**

Involves isotonic contraction of the agonist followed immediately by an isotonic contraction of the antagonist

Used for development of active ROM

**Rhythmic stabilization:**

Uses and isometric contraction of agonist followed by an isometric contraction

Used to increase strength endurance

**Contract and hold relax:**

It is similar to hold relax, except that after pushing against the stretch, instead of relaxing into a passive stretch, the athlete pushes into the stretch

For example:

An hamstring stretch, this could mean engaging the muscle to raise the leg further, as the trainer pushes in the same direction.

**END**