**ID : 6928**

**Final term exam**

**Subject: neurological physiotherapy**

**Instructor: Dr M. Jaffar**

**Q1:what is spinal cord injury? Write about complete and incomplete spinal cord injury.**

**Ans: spinal cord injury :**

A spinal cord injury is damage to the spinal cord that causes temporary or permanent changes in its function.

**1: inComplete spinal cord injury:**

A incomplete injury means that the ability of the spinal cord to convey massage to or from the brain is not completely lost. Additionally some sensation and movement is possible below the level of injury

**2: complete spinal cord injury:**

A complete injury is indicated by a total lack of sensory and motor function below the level of injury.

The absence of motor and sensory function below the injury area does not necessarily mean there are remain intact axons or nerves crossing the injury site just that they are not functioning appropriately as a result of the trauma.

**Q2: Explain the following?**

1. **Central cord syndrome:**

CCS is the most common form of cervical spinal cord injury. It is characterised by loss of motion and sensation in arms and hands. It is usually result from trauma which causes damage to the neck , leading to major injury to the central corticospinal tract to spinal cord.

 B – **Anterior cord syndrome:**

ACS is central diagram specialty. Neurosurgery anterior spinal artery syndrome is syndrome which is caused by ischemia of the anterior spinal artery resulting in loss of function of the anterior two – third of the spinal cord

 C – **Brown seqaurd’s syndrome :**

Damage to one half of the spinal cord on either side. Penetrating injury that affects one side of the cord. Ischemia, infectious or inflammatory disease and spinal cord Tumor. Ipsilateral sensory and motor loss . Contra lateral pain and temperature sensation loss.

 **D- cauda equina syndrome:** injury to nerves with the spinal cord as they exit the lumbar and sacral regions , usuallay fractures below L2 . Specific dysfunction depends on level of injury. Clinical manifestation are loss of bowel and bladder control , loss of sweating , marked reduction of blood etc

**Q3: name cranial nerves and it’s function. Also write effectiveness of MRP?**

**Ans: cranial nerves names**

-1 is olifactory

-2 is optic

-3 is oculomotor

-4 is trochlear

-5 is trigeminal

-6 is abducens

-7 is facial

-8 is vestibulo cochlear

-9 is glossipharyngeal

-10 is vagus

-11 is spinal accessory

-12 is hypoglossal

**B) Function**

Olfactory function is smell ( not usually tested )

Optic function is visual acuity

Oculomotor Function is opening of eyelid, eye moment all.

Trochlear Function is eye moment downward and medial only

Trigeminal facial sensation and chewing movements

Abducens Function is eye movement lateral

Facial function is facial muscle movement except chewing muscles and eyelid closing

Auditory hearing and balance

Glossipharyngeal Function is taste on the posterior third of tongue

Vagus Function is uvula (palate muscle) and swallowing

Accessory function is shoulder shrug

Hypoglossal Function is tongue movement.

**C) effectiveness of MRP:**

-Recognition and analysis the problem

-select the most essential missing component

-explain clearly to the patient by speech and demonstration

-moniter the patient performance and give verbal feedback

- Re -evaluate throughout each session

- provide an enriched environment in which patient will be motivated toward recovery of mental and physical abilities.

**Q4: name balance and coordination test ? What is MRP .**

**Ans: for balance :**

finger to nose

Finger to therapist finger

Finger to finger

Alternate nose to finger

Finger opposition

Mass grasp

Pronation and supination

Rebound test

Tapping hand

Tapping foot

Alternate heel to knee heel to toe

Toe to examiner finger

Heel on shin

Drawing a circle

Flexion or opposition holding

**For coordination:**

Dysdiadochokinesia

Dysmetrica

Dyssynergia

Hypotonia

Tremor ( intention)

Tremor ( resting )

Tremor ( postural)

Asthenia

Rigidity

Bradykinesia

Disturbance of posture

**What is MRP:**

1)It is a task oriented approach to improving motor control , focusing on the relearning of daily activities.

2) Retraining of motor control basing on understanding of normal movement of analysis of motor dysfunction

3) emphasis of MRP is on practice of specific activities, the training of cognitive control over muscle and movement

4) components of activities and conscious elimination of unnecessary muscle activity

5)in rehabilitation program involve – real life activities included.

**Q5: define PNF?**

**Ans: propriceptive neuromuscular facilitation:**

 PNF is the form of stretching designed to increase flexibility of muscles and increase range of movement. pNF is a progressive stretch involving muscle contraction and relaxation. Or

Manually therapy approach that uses propriceptives input to improve neuromuscular function during human movement.

**Discuss the following:**

1. **Irradiation:** the spread of response to stimulus

-the response to stimulus increase in intensity and duration

- properly applied resistance lead to irradiation and reinforcement

-increase facilitation in the synergistic pattern of movt.

Not perfect rule because each pt reach differently

-For example hip flexion—— abdomanlis

-supinator / pronator——rotators

1. **Slow reversal:**isotonic contraction of the antagonist followed immediately by an isotonic contraction of agonist .

The initial contraction facilitate agonist contraction

-slow reversal hold :

Isotonic contraction of agonist followed immediately by an isometric contraction which hold command given at the end of each active movement.

-strength at specific point.

1. **Rhythmic stabilisation:** isometric contraction of against followed by isometric contraction of antagonist to produce contraction and stability of the two opposing muscles

 Command is always hold

1. **Contract and hold relax:** stretching technique

-Contracture tightness and flexibility

-isotonic resistance to antagonist ms , pt relax and passively moves into agonist pattern

-in hold relax isometric contraction of antagonist against resistance followed by a concentric contraction of the agonist.

 The end.