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18/MHS06/007

MEDICAL LABORATORY SCIENCE

ANA 208 ASSIGNMENT

GROSS ANATOMY

**ANSWER.**

1. **Differences between Neurocranium and Viscerocranium.**

The Neurocranium and Viscerocranium make up the cranium (skeleton of the head). The two bones are similar but also differ in many aspects which include;

|  |  |
| --- | --- |
| Neurocranium | Viscerocranium |
| * Neurocranium covers the **brain and meninges.** | * Viscerocranium covers the **mouth, nose and orbits**. |
| * It forms the **posterior part** of the cranium. | * It forms the **anterior part** of the cranium. |
| * Neurocranium is made up of **Calvaria**- skull cap at roof and **Basicranium** at floor. It contains proximal parts of **cranial nerves and vasculature.** | * Viscerocranium contains **facial bones.** |
| * Neurocranium is composed of **eight bones** (four singular bones and two sets occurring as bilateral pairs) | * Viscerocranium is composed of **fifteen bones** (three singular bones and six occurring as bilateral pairs) |

1. **Femoral triangle.**

The femoral triangle is a triangular depression on the front of the upper one – third of the thigh immediately below the inguinal ligament.

* **Boundaries;**
* **Superiorly:** by the inguinal ligament.
* **Laterally:** by the medial border of Sartorius.
* **Medially:** by the lateral border of Adductor longus.
* **The Apex:** is formed by the medial border of Sartorius crosses to lateral border of Adductor longus.
* **The Base:** is formed by inguinal ligament.
* **The Roof:** is formed by skin and fascia (superficial and deep)
* **The floor:** is formed **medially** by the adductor longus and pectineus and **laterally** by psoas major and iliacus.
* **Contents of femoral triangle;**

The contents of femoral triangle include;

* Femoral artery and its branches.
* Femoral vein and its tributaries.
* Femoral sheath and its contents.
* Femoral nerve.
* Nerve to Pectineus.
* Femoral branch of genitofemoral nerve
* Lateral cutaneous nerve to the thigh.
* Deep inguinal lymph node.

1. **Muscles of lower limb that participates during 1 metre social distancing at the period of COVID-19.**

This generally refers to those muscles that help the body to achieve gait. Gait is the manner of walking. So, it includes the muscles that aid the body in movement. (walking- gait cycle).

**Gait cycle** is the activity of one limb between two repeated events of walking. There are eight phases OF gait combined into two major phases;

1. **STANCE PHASE**
2. **SWING PHASE**

**STANCE PHASE**

* **PHASE OF GAIT:**

1. **Heel Strike( initial contact)**

**Mechanical goals and muscles responsible**

* Lower fore foot to ground controlled by **TIBIALIS ANTERIOR** which act as Ankle dorsiflexors.
* Continue deceleration controlled by **GLUTEUS MAXIMUS** which acts as Hip extensors.
* Preserve longitudinal arch of foot controlled by **FLEXOR DIGITORUM BREVIS** which acts on intrinsic muscles of foot and **TIBIALIS ANTERIOR** which acts on long tendons of foot as flexors

1. **Loading response (flat foot)**

**Mechanical goals and muscles responsible**

* Accept weight controlled by **QUADRICEPS MUSCLE** which act as knee extensors.
* Decelerate mass controlled by **SOLEUS** and **GASTROCNEMIUS** which act as Ankle plantar flexors.
* Stabilize Pelvis controlled by **GLUTEUS MEDIUS** and **MINIMUS** which act as Hip Abductors
* Preserve longitudinal arch of foot controlled by **FLEXOR DIGITORUM BREVIS** which acts on intrinsic muscles of foot and **TIBIALIS POSTERIOR** which acts on long tendons of foot as flexors

1. **Mid stance**

**Mechanical goals and muscles responsible**

* Stabilize knee controlled by **QUADRICEPS MUSCLE** which act as knee extensors.
* Control dorsiflexion controlled by **SOLEUS** and **GASTROCNEMIUS** which act as Ankle plantar flexors.
* Stabilize Pelvis controlled by **GLUTEUS MEDIUS** and **MINIMUS** which act as Hip Abductors
* Preserve longitudinal arch of foot controlled by **FLEXOR DIGITORUM BREVIS** which acts on intrinsic muscles of foot and **TIBIALIS POSTERIOR** which acts on long tendons of foot as flexors

1. **Terminal stance off (heel off)**

**Mechanical goals and muscles responsible**

* Accelerate mass controlled by **SOLEUS** and **GASTROCNEMIUS** which act as Ankle plantar flexors.
* Stabilize Pelvis controlled by **GLUTEUS MEDIUS** and **MINIMUS** which act as Hip Abductors
* Preserve arches of foot controlled by **ADDUCTOR HULLICIS** which acts on intrinsic muscles of foot and **TIBIALIS POSTERIOR** which acts on long tendons of foot as flexors

1. **Pre swing (toe off)**

**Mechanical goals and muscles responsible**

* Accelerate mass controlled by **FLEXOR HALLUCIS LONGUS** and **FLEXOR DIGITORUM LONGUS** acts as long flexors of digits.
* Preserve arches of foot controlled by **ADDUCTOR HULLICIS** which acts on intrinsic muscles of foot and **TIBIALIS POSTERIOR** which acts on long tendons of foot as flexors
* Decelerate thigh to prepare for swing controlled by **ILIOPSOAS** and **RECTUS FEMORIS** which act as flexor of hip.

**SWING PHASE**

1. **Initial swing**

**Mechanical goals and muscles responsible**

* Accelerate thigh controlled by **ILIOPSOAS** and **RECTUS FEMORIS** which act as flexor of the hip.
* Clear foot controlled by **TIBIALIS ANTERIOR** act as Ankle dorsiflexors

1. **Mid swing**

**Mechanical goals and muscles responsible**

* Clear foot controlled by **TIBIALIS ANTERIOR** which act as Ankle dorsiflexors

1. **Terminal swing**

**Mechanical goals and muscles responsible**

* Decelerate thigh controlled by **GLUTEUS MAXIMUS AND HAMSTRING MUSCLES** which act on Hip muscles.
* Decelerate leg controlled by **HAMSTRING MUSCLES** which act as knee flexors.
* Decelerate leg controlled by **TIBIALIS ANTERIOR** which act as Ankle dorsiflexors
* Extend Knee to place foot (prepare for contact) **QUADRICEPS MUSCLE** which act as Knee extensors.

1. **Corona virus and its effect in the body**

Corona virus is a very deadly virus whose origin is not certain but has been found to be air borne so is easily contacted. It’s major symptoms include;

* Coughing.
* Regular sneezing
* Inability to breathe well

The virus is transmitted when droplets released from the infected person when coughing or sneezing enters the body of a healthy person through the **eyes, nose** or **mouth.** Now, nose and mouth is connected to the nasal cavity which marks the beginning of the respiratory system.

Therefore, the virus passes through the nasal cavity to the rest of the respiratory system. It affects the respiratory system by weakening of the various parts and causing blockage which prevents the free flow of air in and out of the body and therefore results in the above symptoms listed.

**Anatomy of Respiratory System.**

Respiratory system consists of two main portions;

1. Conducting portion.
2. Respiratory portion.

**Conducting Portion;** is made up of two portions.

* Upper part
* Lower part

**The Upper part** is made up of the;

* Nasal cavity
* Paranasal sinuses
* Pharynx
* Larynx

**The lower part** consists of the;

* Trachea
* Bronchi
* Terminal bronchioles

**Respiratory portion** is made up of;

* Respiratory Bronchioles.
* Lungs: Alveolar duct, Alveolar sac and Alveoli.

The respiratory system is filled with **smooth muscles** and consists of different cells. It is lined by **pseudostratified ciliated epithelium.**

So, the corona virus affects the **respiratory system** of the body.