

**WEEK 13    MODULE 13 CONCUSSIONS, NEUROMUSCULAR AND JOINT DISEASE.**

**UPON COMPLETION OF THIS MODULE THE STUDENT WILL COMPREHEND:**

- 1) **MILD TRAUMATIC BRAIN INJURIES.**
- A) **CONCUSSIONS-TRAUMA INDUCED ALTERATIONS OF MENTAL STATUS WITH OR WITHOUT LOSS OF CONSCIOUSNESS.**
  - 1) **COMMON IN CONTACT SPORTS.**
  - 2) **HIGHEST INCIDENCE PROFESSIONAL BOXING, NEXT FOOTBALL, WRESTLING AND SOCCER.**
  - 3) **INCIDENCE INCREASES WITH AGE.**
  - 4) **MEMORY MOST SUSCEPTIBLE TO ALTERATIONS.**
  - 5) **RETROGRADE AMNESIA, BRIEF MEMORY LOSS OF PERIOD BEFORE THE INJURY.**
  - 6) **ANTEGRADE AMNESIA, MEMORY LOSS OF EVENTS AFTER THE INJURY.**
  - 7) **GRADING OF CONCUSSION TABLE 3.2**
    - A) **GRADE I (MILD) TRANSIENT AND CONFUSION LESS THAN 15 MINUTES.**
    - B) **GRADE II (MODERATE) TRANSIENT CONFUSION GREATER THAN 15 MINUTES.**
    - C) **GRADE III (SEVERE) LOSS OF CONSCIOUSNESS AND CONFUSION.**
  - 8) **NO ATHLETE RETURNS TO ACTIVITY UNTIL TOTALLY ASYMPTOMATIC.**
  - 9) **STANDARDIZED ASSESSMENT OF CONCUSSION FIGURE 3.1 (SAC) PAGE 25.**
  - 10) **SECOND IMPACT SYNDROME OCCURS FROM REPEATED CONCUSSION.**
  - 11) **HEAD INJURY EVALUATION:**
    - A) **AIRWAY.**
    - B) **BREATHING.**
    - C) **CIRCULATION.**
  - 12) **IMMOBILIZE THE SPINE OF ANY UNCONSCIOUS ATHLETE UNTIL RADIOGRAPHIC EVALUATION.**
  - 13) **FACE MASK REMOVAL, TECHNIQUE, FIGURE 3.2.**
  - 14) **SAFE HELMET REMOVAL, FIGURE 3.3.**

- B) INTRACRANIAL BLEEDING.
  - 1) SIGNS & SYMPTOMS - WORSENING HEADACHE, & RECURRENT VOMITING, WORSENING DISORIENTATION, DECREASED CONSCIOUSNESS, INCREASED B/P, DECREASED PULSE, UNEQUAL PUPILS.
  - 2) TYPES OF BLEEDING.
    - SUBDURAL HEMATOMA UNDER DURA, BUT ABOVE THE BRAIN MAY CAUSE BRAIN HERNIATION.
    - EPIDURAL HEMATOMA - BLEEDING BETWEEN DURA AND SKULL (FROM SKULL FRACTURE.
- C) POST CONCUSSIVE SYNDROME (PCS) HEADACHE, DIZZINES, DECREASED MEMORY, TINNITUS, AND ATAXIA, CHANGES IN ATTENTION PHOTOPHOBIA, HYPERACUSSIS, AND DEPRESSION.
- D) SYNCOPE, LOSS OF CONCIOUSNESS.
- E) SEIZURES - ELECTRICAL BRAIN DYSFUNCTION.
  - 1) GENERALIZED TONIC CLONIC.
  - 2) ABSENCE (PETIT MAL)
  - 3) CLEARING FOR ATHLETIC ACTIVITY - LENGTH OF TIME SINCE LAST SEIZURE AT LEAST ONE YEAR.
  - 4) NO WATER SPORTS, AUTO RACING, HAND GLIDING, ROCK CLIMBING OR PARACHUTING.
  - 5) POORLY CONTROLLED SEIZURE NOT CLEARED FOR ATHLETIC ACTIVITY.
  - 6) TREATMENT DILANTIN, TEGRETOL, DEPAKOTE, NEURONTIN AND ACTIVAN.
- F) BRAIN INFECTION.
  - 1) MENINGITIS - INFLAMMATION OF BRAIN OR SPINAL CORD LINING.
    - VIRAL, BACTERIA, FUNGAL.
    - SIGNS AND SYMPTOMS: FEVER, SEVERE HEADACHE, VOMITING, PHOTOPHOBIA, STIFF NECK, NUCHAL RIGIDITY KERNIG AND BRUDZINSKI SIGN, FIGURE 3.4.
  - 2) ENCEPHALITIS INFLAMATION OF THE BRAIN, DIAGNOSIS BY MRI, CAUSES VIRUSES.
- G) HEADACHES TYPES OF HEADACHES PAGE 33.
  - 1) BENIGN - EXERTIONAL.
  - 2) TENSION (BITEMPORAL).
  - 3) VASCULAR MIGRAINE AND VARIANTS (POSITIVE FAMILY HISTORY) AURA, UNILATERAL, PHOTOPHOBIA, NAUSEA, NOISE SENSITIVITY.
  - 4) POST TRAUMATIC.
  - 5) HYPERTENSION.

- 6) TUMOR OR ANEURYSM.
  - 7) MENINGITIS - ENCEPHALITIS.
  - 8) INTRACRANIAL HEMORRHAGE.
  - 9) ALTITUDE.
  - 10) TREATMENT NON-STEROIDAL ANTI-INFLAMMATORY AGENTS.
  - 11) REFER ALL HEADACHES EXCEPT CLEAR-CUT TENSION HEADACHES.
- H) NEURO MUSCULAR AND JOINT DISORDERS.
- 1) SCOLIOSIS LATERAL CURVATURE OF THE SPINE.
  - 2) ASEPTIC OR VASCULAR NECROSIS CAUSED BY REPEATED TRAUMA WITH LOSS OF CIRCULATION TO THE JOINT AREA.
  - 3) EPIPHYSIS ENDS OF LONG BONES (IT IS) INFLAMATION.
  - 4) APOPHYSIS BUMO ON BONE WHERE TENDONS INSERT (IT IS).
  - 5) ARTHRITIS INFLAMATION OF THE JOINT SPACE WITH THE EFFUSION (FLUID).
  - 6) GOUT ARTHRITIS DUE TO URIC ACID DEPOSITION IN JOINTS MOST COMMON IN GREAT TOE (HALLUX).
  - 7) MYOSITIS INFLAMATION OF MUSCLE MAYBE DUE TO TRAUMA OR DRUGS, OR COLLAGEN VASCULAR DISEASES (LUPUS, OR RHEUMATOID ARTHRITIS).
  - 8) RHABDOMYOLYSIS, DESTRUCTION OF MUSCLE TISSUE MAY BE DUE TO HEAT, DRUGS, VIRUSES, DEHYDRATION. MAY LEAD TO RENAL FAILURE.