

First Aid

Lec 1 (Introduction To First Aid)

- The victim should be helped **quickly and efficiently**
- All of the following include Medical supplies except
(Elastic bandage - Hot water bottle - **Piece of sugar** - Cotton)
- All of the following include Certain treatment except
(Alcohol – **Scissors** - Piece of sugar - Antipyretic)

a. Medical supplies:

- Elastic bandage
- Sterile gauze
- Hot water bottle
- Sling
- Thermometer
- Adhesive tape
- Scissors
- Cotton
- Tongue depressor
- Torch
- Ice bag
- Plastic gloves

b. Certain treatment:

- Alcohol
- Antipyretic
- Anti-diarrhea
- Piece of sugar
- Disinfectant solution as betadine



- At the scene of an emergency situation, do a **10 seconds**

Survey

- The First Aider Should **Wear Gloves**

- What Is The Basic Life Support Mechanisms **(ABC)**? And In What It Used For?

- **A: AIRWAY**
- **B: BREATHING**
- **C: CIRCULATION**

It Used To **Check Assess The Of Victim**

- AVPU scale is used to assess **level of responsive** **(MidTerm)**

- **A: Alert**
- **V: Verbal Stimuli**
- **P: Painful Stimuli**
- **U: unresponsive**

- To Open The Airway We Should Use Technique **Head-Tilt/Chin-Lift**

- Responsive victim is **breathing**

- Any Operation In First Aid **Do Not Exceed 10 Sec**

- Average Breathing Rates:

- Adults → **12 - 20** times per minutes
- infant and young children → **20 - 30** times per minutes

- Check Unresponsive Victim's Pulse By Feeling At The Side Of The Neck **Carotid Artery Pulse**

- We Use the sample to help you collect the victim's history

- **S:** Signs and symptoms
- **A:** Allergies
- **M:** Medications
- **P:** Past history
- **L:** Last oral intake
- **E:** Events leading to the injury

- LLFAS can remind you how to examine an area

- **L:** Look at the area
- **L:** Listen to the victim
- **F:** Feel
- **S:** Smell

Lec 2 (CPR)

- (CPR) Is A First Aid Technique To Help People Who Suffer A “Cardiac Arrest”

- A Defibrillator Is An Electrical Device Which Can Be Used To Help Restart Someone's Heart.

- In Victim's Assessment Start With (ABC), But If The Victim Not Respond To (ABC) We Start Performing CPR, With CAB

- **C:** Compressions
- **A:** Airway
- **B:** Breathing

- The Average Heart Rate For Adult Is 60 : 90 Beat/Min

- Push Down 30 Times At A Rate Of 100 - 120 Compressions / Minute

-We Should Place Hands In The Centre Of The Person's Chest, Over The Breastbone (Sternum)

CPR: chest compression

- ☐ Ensure your elbows are locked and your shoulders positioned above the chest.
- ☐ Push down to a depth of **5 – 6cm**
- ☐ Ensure you release fully after each compression. Do not 'lean' on the victim's chest.

- Give **Two Rescue Breaths** After Every **Thirty Chest Compressions**

- Compression-Only CPR Is Giving Continuous Chest Compressions Of Approximately **100 Compressions Per Minute**, Without Giving Rescue Breaths

Lec 3 (Bleeding)

- **Bleeding:** It Is Escape Of Blood From The Blood Vessels And Refers To Lost A Little Amount Of Bleeding

- **Hemorrhage:** It Is Escape Of Blood And Refers To Lost A Large Amount Of Bleeding In Short Time

- **Arterial Bleeding:** Is Bright Red , Rapid Flow And It Most Difficult To Control

- **Venous Bleeding:** Is A Darker Red , Steady Flow And It Easier To Control

- **Capillary Bleeding:** Is Bright Red , Often Slow Ooze If Continuing For Many Hours Blood Loss Can Become Serious As In Haemophilia

- The **Most Dangerous** Of Bleeding Types Is **Arterial Bleeding**

- The **Least Dangerous** Of Bleedign Types Is **Capillary Bleeding**
- Forms Of External Bleeding : **Hematemesis - Melena - Epistaxis**

Hematemesis: vomiting of blood.

Melena: tary stool (black feces due to presence of blood).

Epistaxis: bleeding from nose

- Type Of Pulse In Hemorrhatege Is **Rapid And Weak Pulse (Thready Pulse)**
- First Aid managing **bleed** :

- **B : Barrier**
- **L : Locate & Examine**
- **E : External direct pressure**
- **E : Elevation**
- **D : Dressing**

- the 3 Ps techniques to stop bleeding

- **Direct pressure on wound**
- **Elevated part above heart level**
- **Pressure point :on the nearest blood supply to wound**

- Internal Bleeding The Skin Is **Unbroken & Blood Is Not Visible**

- Internal Bleeding Is **More Dangerous** Than External Bleeding

- The Most Important Sign In Internal Bleeding Is **Contusion**

- Check breathing and pulse rate and level of responsiveness at **10-minute intervals**

- **First aid for epistaxis** : Sit the victim down and Lean slightly forward to prevent blood from running into victim's throat.

Lec 4 (Wound)

- **intact skin** (جلد سليم (لا يوجد به جروح)
- Acute wounds usually **heal uneventfully in the predicted amount of time**
- Chronic wounds take a **longer time to heal**
- Which Type Of Wound Make Oozing Pus? ***Infected Wound***
- Which Type Of Wound Is Difficult To Heal? ***Colonized Wound***
- Contusion is **The only closed wound**
- Which Type Of Wound Consider **Closed Wound (Injury To The Soft Tissue) ?**
Contusion (Midterm)
- Which Type Of Wound Is The Top Layer Of Skin (Epidermis) Is Removed ?
Abrasion
- Which Type Of The Wound That Is Treated In The Hospital (Regular Edge)?
Incision

- **Laceration** It Is Cut Skin With **Irregular Edges**

- Which Type Of The Wound Involves The **Cutting Or Tearing Off A Body Part** ?
Amputation

- **Signs** Includes: (Redness , Swelling , Bleeding And Loss Or Impairment Of Function)

- **Symptoms** Include: (Pain , Pus Drainage And Heat)

- **Complications Of Wounds** (Infections - Scarring - Loss Of Function - Tetanus)

Lec 5 (Burn)

- Burn Is **Damage of The Skin Layers**. It May Involve Superficial Skin Layer

- Burn Is **Considered Type of Wound**

- Layers of Human Skin:

1- **Epidermis** الطبقة الخارجية

2- **Dermis**

3- **Subcutaneous Tissue** (الدهون)

4- **Muscle**

- Classification of Burn:

1- **Causative Agent**

2- **The Depth**

3- **The Extent of Burn (Rule of Nines)**

- Causes Of Burns:

(Hot Liquid - Steam - Fire - Radiation - Sun - Electricity - Chemicals)

- Causative Agents:

1- Thermal

2- Chemicals

3- Electrical

4- Radiation

- The Burn Effect Is Local (مكان الحرق فقط) or Systemic (تأثير عال الجسم كله)

- **First Degree Burn (Superficial)** Is Epidermis Is Affected And It Not Serious Unless Involve A Large Area Of Body, Healing Occurs Without Scarring Within A Week

- **Second Degree Burn** Is Associated with Edema And *Blister Formation* (Vesicles) In Which Superficial Layer of The Skin Is Destroyed and It Sensitive to Cold air

- **First & Second-Degree** Burns with Large Area (10% or more of body area) Requires Hospitalization

- **Third Degree Burn** Is Painless Rapid Transportation to The Hospital Is Very Important

- Which degree burn is making Blister Formation? * 2nd degree * (Exam)

- Which degree burn is **Painless?** * 3rd degree * **(Exam)**

- **Rule of Nines:** The Rule is a Quick Way to Calculate the Extent of Burns

- **Complications of Burns:** (Infection - Severe Pain, Shock - Poisoning - Scarring and Psychological Consequences) **(Exam)**

- **Objectives Of Burn's First Aid:**

1- Reduce Local Effect

2- Cool the Burn Under Water For 10 Minutes

3- Protect the Burn with Sterile, Non-Adhesive Bandage (ضمادة لاصقة)

4- Prevent the Infection

5- Don't Break Blisters

6- Relieve Pain

7- Transport Quickly to Hospital

- First Aid for **Thermal Burn:**

1- Lay Victim Down, And Turn His Head to One Side (left side)

2- Soaking the Burned Area in Iced Water

3- Remove Any Constrictive Items Like Ring

4- Cover the Burned Area with A Clean Dry Cloth

5- Immobilize Badly Burned Limb (عدم تحريك الاطراف المحروقة حرق شديد)

6- Covering the Victim with Blanket

7- Doing ABC If the Victim Becomes Unconscious (غير واعي)

8- Carefully Transport to Hospital

- **In Case of Clothes Catching Fire** We Should **Rolling the Victim on The Floor, Use Blanket, Coat**

- **Don't Apply Any Lotion or Ointment**

- **First Aid for Chemical Burn:**

- 1- Ensure the Area Is Safe**
- 2- Flood the Burn with Water For 20 Minutes**
- 3- Immediate Transport to The Hospital**

- **First Aid for Electrical Burn:**

- 1- Never Go Near the Person Until He Still Contact with Power Source**
- 2- Try to Turn Off the Power Source and Care for Any Life-Threatening Conditions.**
- 3- If Necessary Give Emergency Resuscitation.**
- 4- Immediate Transport to The Hospital**

- **First Aid for Sun Burn:**

- 1- Rest in Shade**
- 2- Give Cold Drink**
- 3- Immerse or Irrigate with Cold Water**
- 4- Use Cold Cream or Skin Lotion**
- 5- Transport to The Hospital If Burn Is Severe**

Lec 6 (Fracture)

- **Muscles:** soft tissues (نسيج رخو), There are more than 600 in the body
- **tendons** اوتار: Strong tissues which are attached the bones
- Which type of tissue attached the bones? *tendons*
- **Bones:** about 200 bones in different sizes and shapes form the skeleton
- **Joints** مفصل: Point of junction between two bones or more
- **fracture:** a fracture is a complete break, or a crack (شرخ) in a bone
- **Closed fracture:** the skin is not broken (intact skin)
- **Open, compound fracture:** an open wound ,It occurs when the bones go out of the skin or enter something into the skin and breaks the bone, such as a bullet.
- **Dislocations** الخلع: is the movement of a bone at a joint away from its normal position, this caused by a violent force (صدمة قوية)
- The most famous dislocation is the shoulder dislocation (خلع الكتف)
(Exam)
- **Sprains** تمزق الاربطة: is the tearing of ligaments at a joint (usually heal quickly)

- **Strains الشد العضلي**: is a stretching and tearing of muscles or tendons, caused by lifting something heavy or working a muscle too hard

- Causes of fracture (**Trauma - Osteoporosis هشاشة العظام - Overuse**)

- **Sings and symptoms**:

1- Severe pain at or near the site of the fracture

2- Localized tenderness (ليوننة المكان)

3- Deformity at the site of fractures

4- Swelling

5- Loss of function

6- Crepitus (coarse bony grating) صوت طرقعة او احتكاك

7- Blood drained from orifices (الفتحات) like nose, ear

8- Shock in severe injuries

- First aid for **closed fracture**:

1- Assess for responsiveness (must be dealt with before fracture)

2- Cut clothing surrounding injured area

3- Check signs and symptoms of fracture

4- Compare the shape of the injured and uninjured limbs

5- Control bleeding & cover all wounds before splinting

6- Immobilize the body part by splint; you may use victim's body as a splint

7- Tie the bandages firmly enough but not so tight

- After immobilization, **elevate the affected part above heart level**

- All fractures **should be splinted before moving the victim**

- **Don't:**

1- Reduce open fracture but cover with sterile dressing then apply splint.

2- Massage the affected area

3- Straighten the broken bone

4- Move without support to broken bone

5- Move joints above / below the fracture

6- Give oral liquids / food

- First aid for Strains and sprains:

By **"RICE"** procedure

- **R—Rest the injured part.**

- **I—Apply Ice pack or a cold pad.**

- **C—Provide comfortable support with mild Compression from an elastic bandage**

- **E—Elevate the injured part**

- **Do not try to replace a dislocated bone** into its socket because this may cause further injury.

- **Do not move the victim** until the injured part is secured and supported, unless she is in immediate danger.

- **Remove bracelets, rings, and watches** in case of swelling.

- **Do not allow the casualty to eat or drink** because anesthetic may be needed.

Lec 7 (Shock)

- Shock is a **state of organ hypo-perfusion** with resultant cellular dysfunction and death.

- this shock is **considered tissue shock**

- types of Shock ***chain***

c: Cardiogenic

h: Hypovolemic (most common type in first aid & emergency)

a: Anaphylactic

i: Infectious(sepsis)

n: Neurogenic

- Which type of shock is **common in emergency situations?** ***Hypovolemic shock*** **(Exam)**

A) Low blood flow:

1- Hypovolemic (Response to **acute volume loss** by hemorrhage or burn)

2- Cardiogenic Caused by the **failure of the heart**. (Arrhythmias, heart failure)

B) Mal-distribution of blood flow:

1- Septic leads to Infectious

2- Anaphylactic caused by a drug or a foreign protein that causes the release of histamine ***histamine -----> Anaphylactic***

3- Neurogenic (can occur **within 30 minutes** of a spinal cord injury **at the fifth thoracic (T5) vertebra** or above)

- which shock is causes **release histamine**? ***Anaphylactic***

(Exam)

- Signs and symptoms of **Hypovolemic shock (poor tissue perfusion)**:

TVC ARCUBE

T- thirst

V- Vomiting

C- Cyanotic

A- Anxious

R- Respirations shallow

C- Cool & moist skin

U- Unconscious

B- BP low

E- Eyes blank

- Signs and symptoms of **Cardiogenic shock (cause of heart disease)**:

Similar to Hypovolemic shock but in addition:

1- Distended jugular veins

2- Absent pulse

3- Severe crushing chest pain

- Signs and symptoms of **Septic shock**:

- most symptom in septic shock is ***Fever*** (Hyperthermia)

- Signs and symptoms of **Anaphylactic shock**:

1- Skin eruptions and large welts. حساسيه شديده بالجلد

2- (Edema) around the face.

3- Weak and rapid pulse.

4- (Breathlessness) and cough due to ***narrowing of airways*** and ***swelling of the throat***.

- Which type of Shock is characterized by Edema in the face? ***Anaphylactic shock***

- Signs of **neurogenic shock** is similar to hypovolemic shock

- First aid of Hypovolemic shock:

1- Lay victim down

2- Elevate the feet slightly

3- Ensure patent airway

4- Start resuscitation procedure

5- Loosen clothes at neck, chest and waist

6- Keep victim warm

7- Avoid unnecessary movement

8- Avoid giving victim any fluid

9- Assessment to the patient's

10- Transfer victim to hospital

Lec 8 (Unconsciousness)

- Unconsciousness is state in which a person is **unable to respond** to stimuli and appears to be asleep.

- Levels of consciousness:

Alert: **Completely awake** & acting appropriately.

Lethargic: Sleepy, but **aware of surroundings**.

Stuporous: Will **awaken to vocal stimuli**, prefers to remain asleep.

Obtunded: Will **awaken to painful stimuli** only.

Comatose: **nothing will awaken the patient**.

- Causes of unconsciousness:

Head injury

Disturbance of the blood supply to the brain

Abnormal blood sugar

Presence of poison

Disturbance of the electrical activity of the brain (seizures)

Kidney diseases

- Symptoms:

- 1- sudden inability to respond
- 2- slurred speech
- 3- rapid heart rate
- 4- confusion
- 5- dizziness or lightheadedness

- Symptoms of Unconsciousness is subjective

- First aids for unconscious:

- 1- Open the victim's airway passage
- 2- Assess level of responsiveness
- 3- Control any severe bleeding
- 4- Place the victim in one side
- 5- Keep victim warm
- 6- try to discover the cause of the unconsciousness

- Common forms of unconsciousness (Fainting اغماء, Epilepsy صرع)

- Fainting: sudden brief loss of consciousness and may occur to strong people

- sign and Symptoms for fainting:

1- Dizziness

2- Weakness

3- Seeing spots

4- Visual blurring

5- Pale skin

6- Cold sweat

7- Weak rapid pulse

8- Nausea or even vomiting

- First aid for fainting:

1- Prevent the person from falling

2- put his/her head down between his knees

3- Clear a space

4- Tight clothing

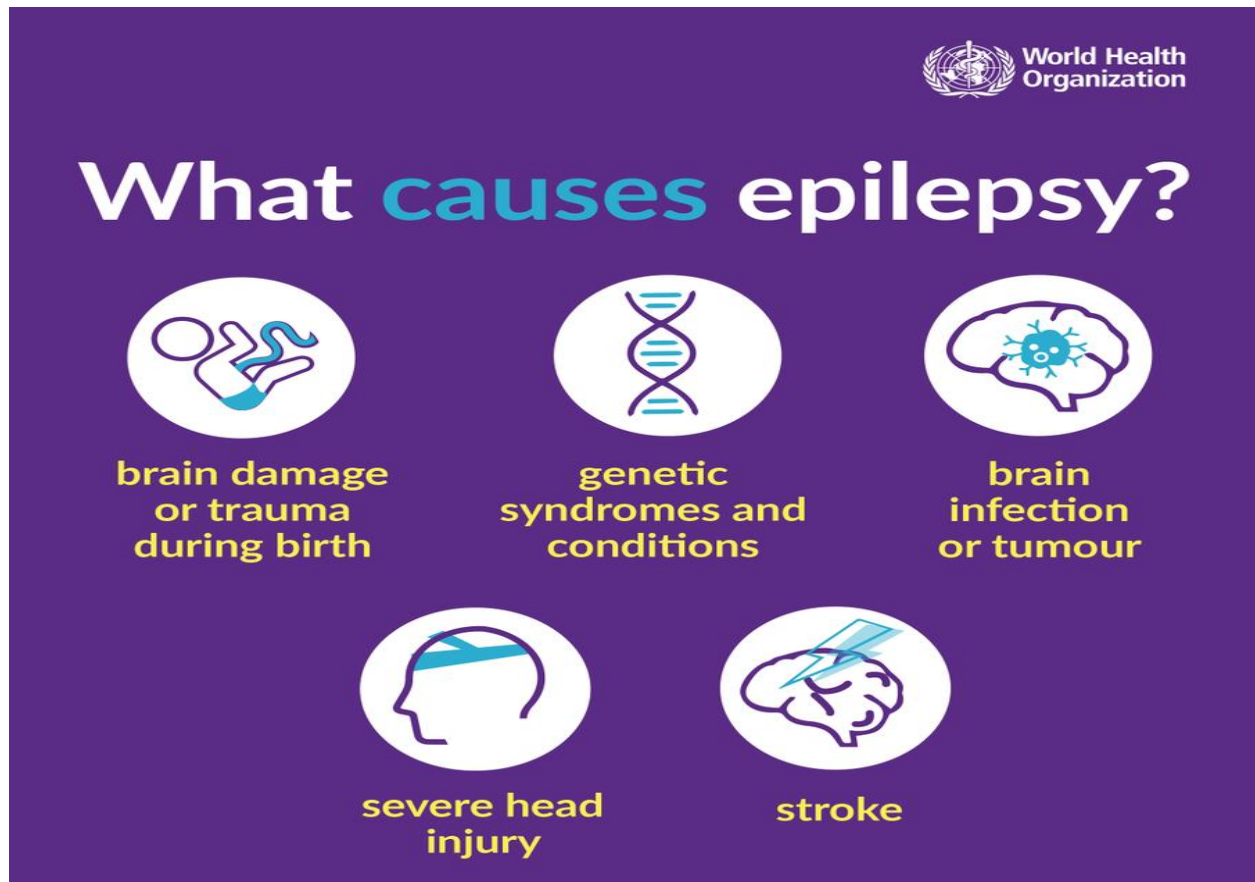
5- check any sign of injury if he fallen

6- Fresh air & a cold

7- give a drink just in recovery situation

- Epilepsy: is a neurological disorder causing seizures or periods of unusual behavior

- causes epilepsy:



- Epilepsy triggers:

- 1- stress
- 2- electronics
- 3- cigarettes
- 4- bright light
- 5- change in medications

- Signs and symptoms for epilepsy:

- 1- Aura
- 2- Sudden onset of unconsciousness
- 3- convulsion
- 4- grinding of the teeth, frothing at the mouth
- 5- passes urine / stool involuntary
- 6- tongue may be cut between the teeth

- First aid for epilepsy:

- 1- Stay with the victim
- 2- Loosen any tight neckwear

- Don't do that:

(Exam)

- 1- DO NOT restrains a person's movement
- 2- DO NOT put any object between teeth
- 3- Do NOT perform CPR
- 4- DO NOT shout
- 5- DO NOT gives stimulants

Lec 9 (Hypoglycemia/ hyperglycemia)

- Blood glucose level (BGL) in normal from 70 to 110 mg/DL

(Exam)

- diabetes mellitus (hyperglycemia): it elevate levels of glucose in the blood (if BGL < 180)

- types of diabetes:

A) Insulin Dependent Diabetes Mellitus- **juvenile (IDDM)** 5-10% of cases

- Common causes: genetic cause or immune response

- Controlled by **injecting exogenous insulin**

B) Non-Insulin Dependent Diabetes Mellitus- **adult (NIDDM)** 90-95% of cases

- Common causes: exhaustion of pancreas

- Controlled by **weight reduction and oral hypoglycemic**

c) Gestational diabetes

- Signs and symptoms of **diabetes:**

- **three Ps (polyuria - polydipsia - polyphagia)**

- **Glycosuria (if BGL < 180 MG/DL)**

- **Inadequate disposal of food**

- (increase lipolysis) **sudden weight loss**

- **sudden vision changes**

- **tingling or numbness**, dry skin, skin lesions and recurrent infections

- Blood glucose tests:

1- Fasting blood glucose (FBS)

2- Random blood sugar (RBS)

- Diabetes Emergencies: (Hypoglycemia - Diabetic Ketoacidosis (DKA))

- the hypoglycemia is most dangerous

- hypoglycemia: low blood sugar and called insulin shock (if BGL > 45)

- hypoglycemia lead to:

1- Autonomic nervous system activation

2- Decreased cerebral glucose level

- Diabetic Ketoacidosis: is an absence inadequate amount of insulin.

- causes: (Infection (40%) - Missed insulin (25%))

- signs of DKA:

1- Hyperglycemia

2- Dehydration loss

3- Acidosis

4- Abdominal pain

5- fruity odor on the breath

- Which is **important sign in DKA?** *Fruity odor on the breath*

(Exam)

- first aid is same in Hypoglycemia and hyperglycemia