

# 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 Bleeding Types Is Capillary Bleeding
- Forms Of External Bleeding : Hematemesis - Melena - Epistaxis

**Hematemesis:** vomiting of blood.

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

**Epistaxis:** bleeding from nose

- Type Of Pulse In Hemorrhage 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 (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 عالجسم 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(شخ) 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 (ليونة المكان)

3- Deformity at the site of fractures

4- Swelling

5- Loss of function

6- Crepitus (coarse bony grating) صوت طرقة 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 need.**

## 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. حساسية شديدة 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, Epilepsy, صع اغماء**)

- 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:

The infographic is titled "What causes epilepsy?" in large white and blue text. It features five circular icons, each representing a cause of epilepsy:

- brain damage or trauma during birth**: Represented by a brain with a blue wavy line.
- genetic syndromes and conditions**: Represented by a blue DNA double helix.
- brain infection or tumour**: Represented by a brain with a blue virus-like cell.
- severe head injury**: Represented by a profile of a head with a blue lightning bolt.
- stroke**: Represented by a brain with a blue lightning bolt.

The background is dark purple, and the WHO logo is in the top right corner.

- 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