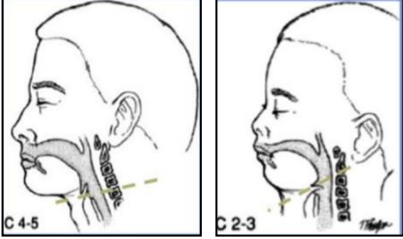


Unit9: First aid for infants and children
Lesson1: Anatomy and physiology (structure & function)

Differences in anatomy and physiology between infants, children and adults:

Best of luck: Martha Taleb Saeed

	Infants & children	Adults
Respiratory tract مجرى التنفس	Undeveloped	Developed
Tongue اللسان	Large	Small
Nasal passage الممر الأنفي	Small	Large
Tonsils اللوز	Large	Small
Airway مجرى الهواء	Shorter	Longer
Respiratory rate سرعة التنفس	Faster	Slower
Heart rate سرعة نبضات القلب	Faster	Slower
Bones العظام	Soft & developing	Developed & strong
Epiglottis لسان المزمار	Larger	Shorter
Pharynx البلعوم	Smaller	Larger
Larynx الحنجرة	Small	Big
Lung size حجم الرئة	Small	Big



Lesson2: Assessment of an infant or child for first aid
How to act during emergency?



DR ABC:

Danger (is it safe?/ check for hazards) + take your precautions (first aid kit + wear PPE “Personal Protective Equipment” such as gloves)

Response (tap the shoulder of the casualty and ask: Are you OK?)



Airway (head-tilt chin-lift maneuver/ jaw thrust maneuver)



Breathing (check chest movement/ look, feel, listen for breathing)



Circulation (check heart pulse/ injuries or bleeding)

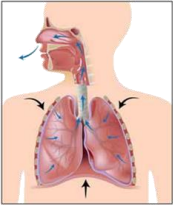
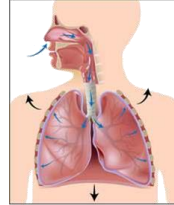


No breathing / Only gasps / No heart beats

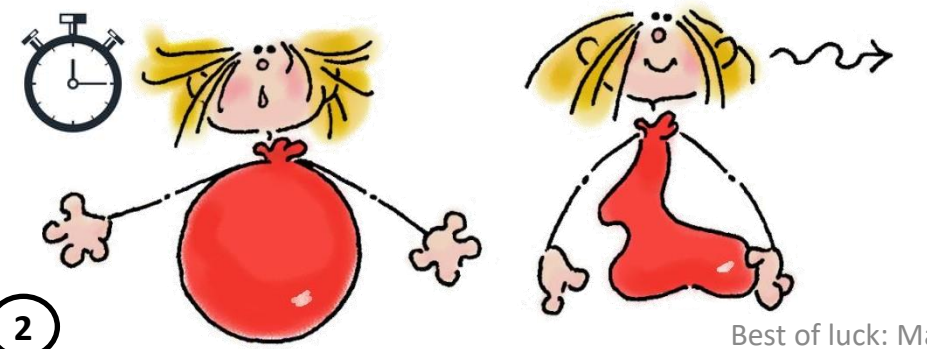


Give one electric shock using **AED** (Automated External Defibrillator)
+ Call 999 + put the patient on their back on a flat surface or floor

Unit9: First aid for infants and children
Lesson3: Respiratory emergencies in infants and children

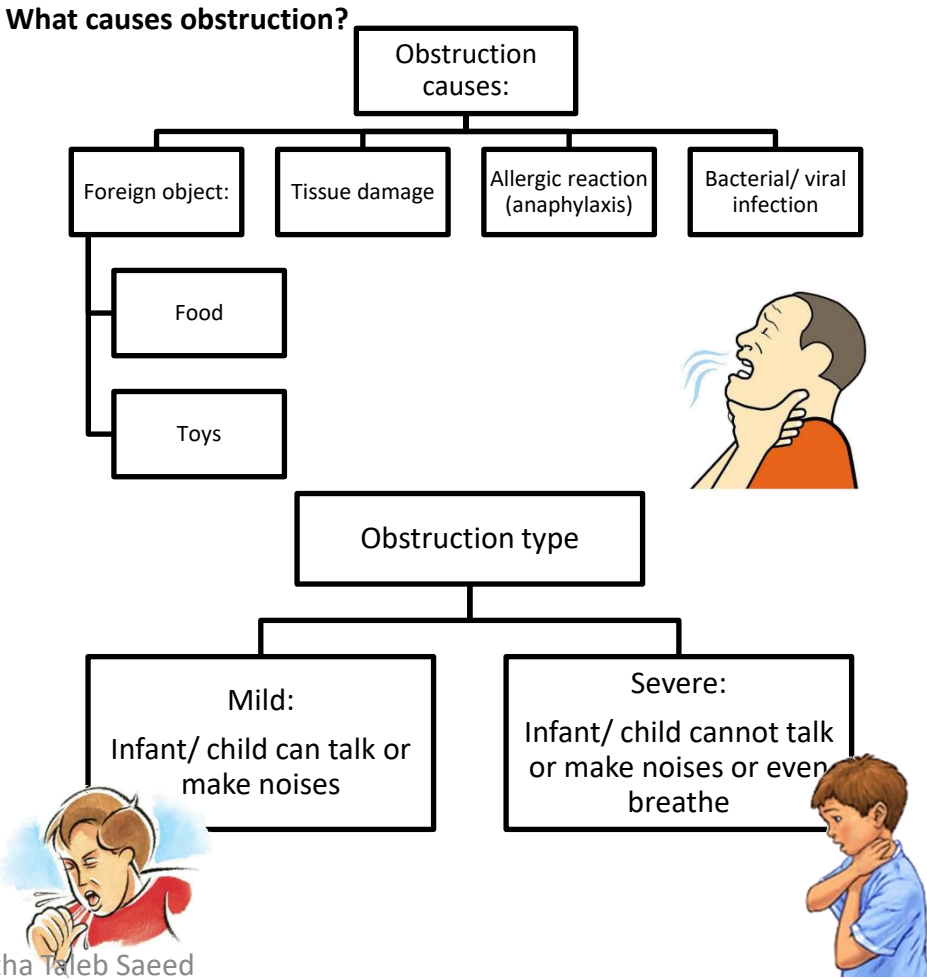
Process	Respiration (breathing)	
Broken down into:	<u>Ex</u> piration (exhalation)	<u>In</u> spiration (inhalation)
Definition	Breathing out air	Breathing in air
Illustration		

	Breaths count
Toddlers/ children/ infants	20-30 breaths/ minute
Adults	12-20 breaths/minute



Respiratory emergency (obstruction/ choking):

When obstruction happens?
Obstruction occurs when there is something gets stuck in the airway.



Unit9: First aid for infants and children
Lesson3: Respiratory emergencies in infants and children

Best of luck: Maitha Taleb Saeed

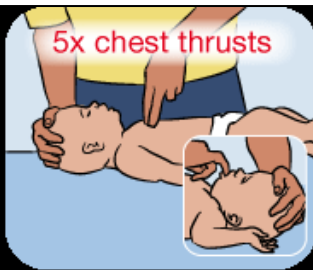
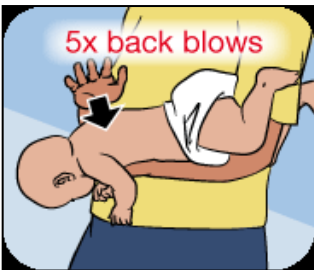
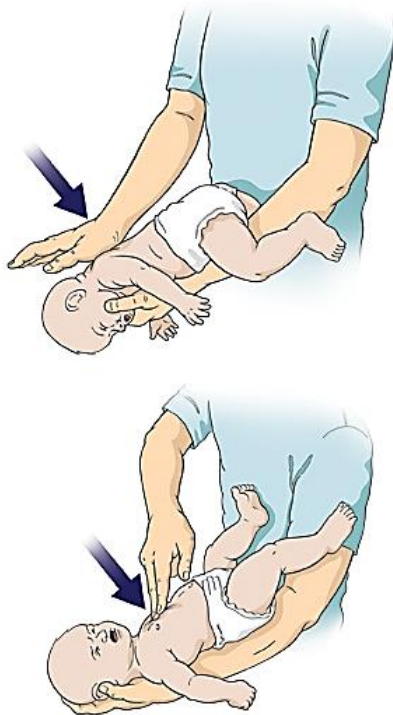
Obstruction first aid:

Adults:

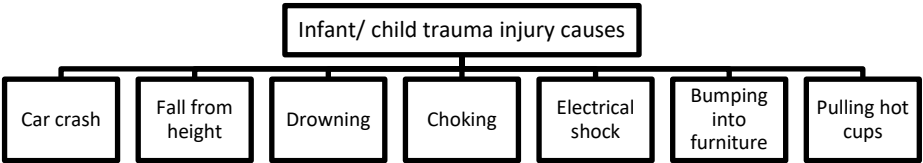
- 1) Slap them on the back 5 times with your palm.
- 2) Do abdominal thrusts until the object that blocking the airway comes out.

Infants:

- 1) Hold the baby face down and rest them on your forearm with supporting their head and jaw.
- 2) Give 5 slaps on the back with your palm.
- 3) Apply 5 thrusts on the chest.
- 4) Repeat the step 2&3 until the thing that blocking the airway comes out.



Unit9: First aid for infants and children
Lesson5: Infant or child trauma patient




Injuries:

External bleeding

When to call the emergency?

- *There is a lot of bleeding.
- *Bleeding is not stopping even with pressure.
- *You see signs of shock.
- *Head/ neck/ spinal injury is suspected.
- *You do not know what to do.




Puncture injuries
(caused by something piercing the skin)

First aid notes:

If the object is not still in the body: apply pressure.

If the object stuck in the body: do not remove it.



Internal bleeding

Internal bleeding signs:


- *Pain in chest or abdomen.
- *Bruises.
- *Breathlessness.
- *Coughing or vomiting blood.
- *Signs of shock without external bleeding.

First aid notes:

Rest the victim.

Monitor them for signs of shock.

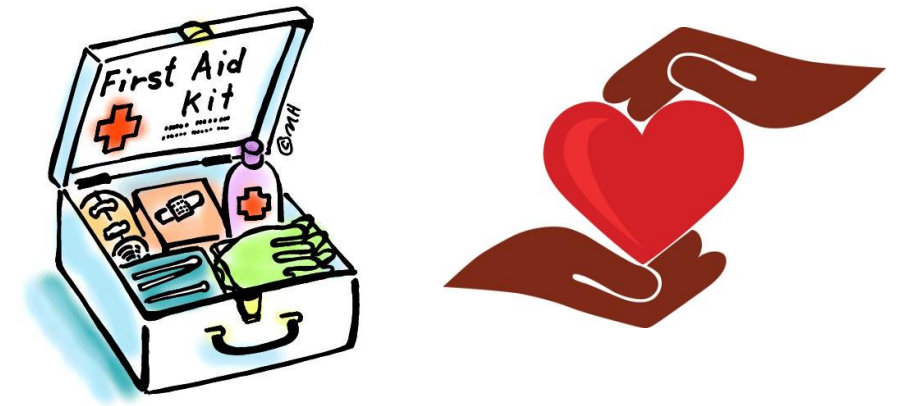
Give CPR if needed.



Unit9: First aid for infants and children
Lesson6: Attending to the feelings of the patient and their family

You should take care of the victim: (care attitude) “How?”

- 1) Reassure the patient (keep positive)
- 2) Keep the patient informed about what is happening
- 3) Show concern (ask if they want to inform family / friends)
- 4) Have interpersonal skills (talk to them)
- 5) Stay professional (ask about how the accident happened)
- 6) Maintain privacy (tell the emergency staff only)
- 7) Personal space (keep curious people away)
- 8) Make the patient more comfortable



What are the benefits of caring attitude?

- 1) Help the patient to feel comfortable & reassured
- 2) Help the patient relax
- 3) Encourage communication
- 4) Keep patient & family calm & reassured
- 5) Build self-confidence & good reputation for the caregiver



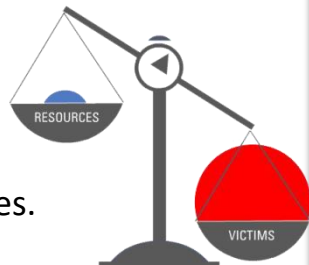
Unit10: First aid for infants and children
Lesson1: What is a mass casualty incident?

What is a Mass Casualty Incident (MCI)?

MCI: any incident where the number of casualties is greater than the resources available.

Which one could be considered a MCI?

- ☐ 20 people with minor injuries.
- ☒ 5 people with a life threatening injuries.

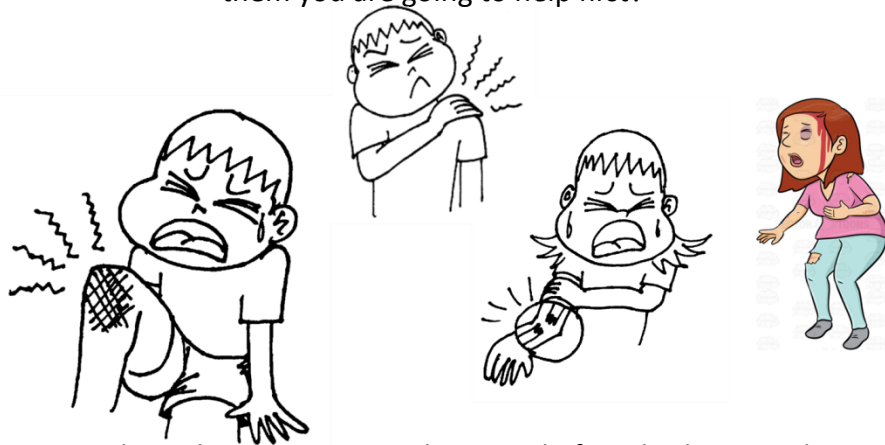


What are the bases we should consider to classify an incident as a mass casualty incident?

- ✓ Available resources.
- ✓ Number of injured people.
- ✓ How serious their injuries are.



Imagine that there is a MCI and here are the victims.... Which one of them you are going to help first?



Deciding who is most urgently in need of medical care and transportation to the hospital is called mass casualty **triage**

Triage: the process of deciding the order of treatment for casualties.

Remember: before entering the scene check for hazards “danger”.



Situation awareness (what to do during a triage/ management)

Hazards at the scene

Type of incident
(e.g. car crash/
building collapse)

Number of casualties
(rough numbers are OK)

Type of injuries
(minor or serious?)

Access the scene
(are the roads clear or blocked?)

Call for professional help
(call 999)

Recruit help
(you cannot handle it alone ask for help)

Divide up 4 treatments areas

When help arrives tell them all the details

Ensure your own safety

(wear PPE: Gloves/ gowns/ masks/ eye protection) + wash your hands



Evaluate the scene

Check for danger/ hazards

(traffic/ electric lines/ smoke/ fire/ falling rocks/ violence/ bad weather)

Bystanders

Can provide assistance/ maybe emotionally shocked and need support

Moving casualties

(do not move the casualties unless there is immediate threat)

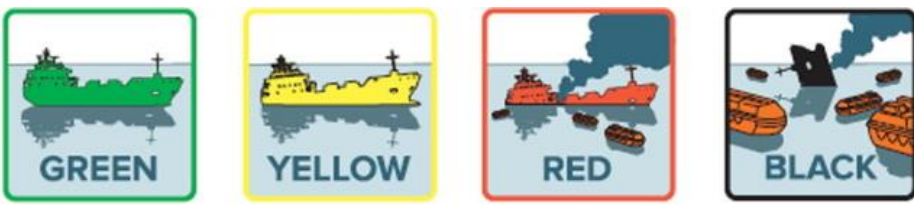
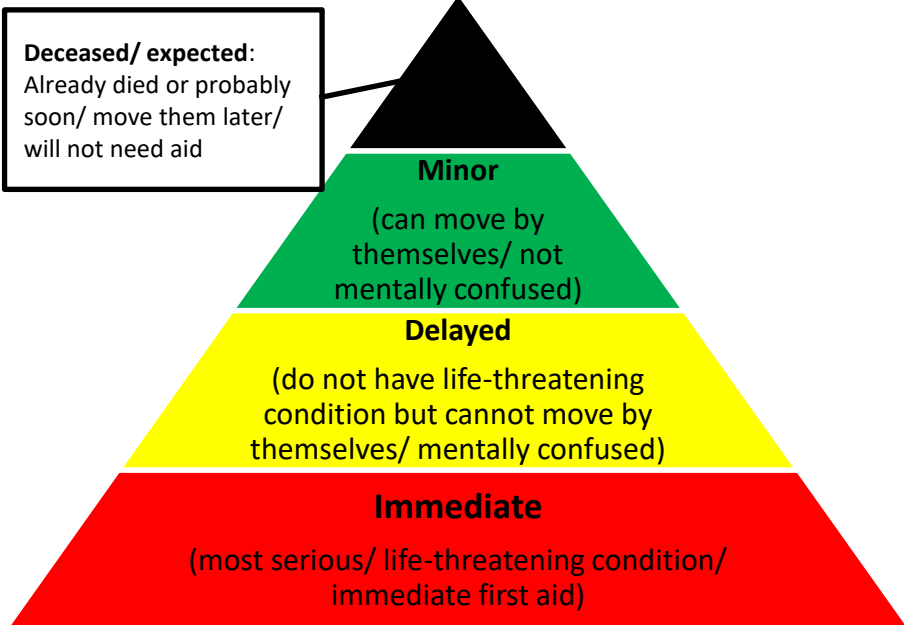
Is the scene safe to enter?



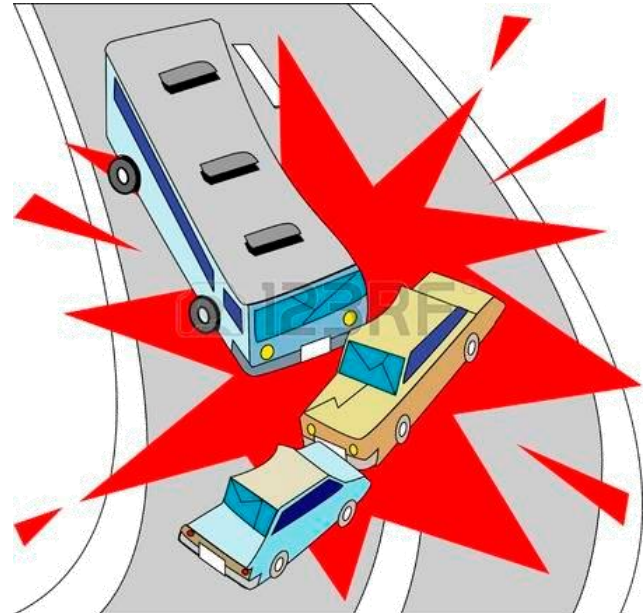
Review activity2/ 3/
5/ 7/ 8/ 9

Unit10: First aid for infants and children
Lesson3: What is a mass casualty incident?

Levels of treatment areas/ triage color coding

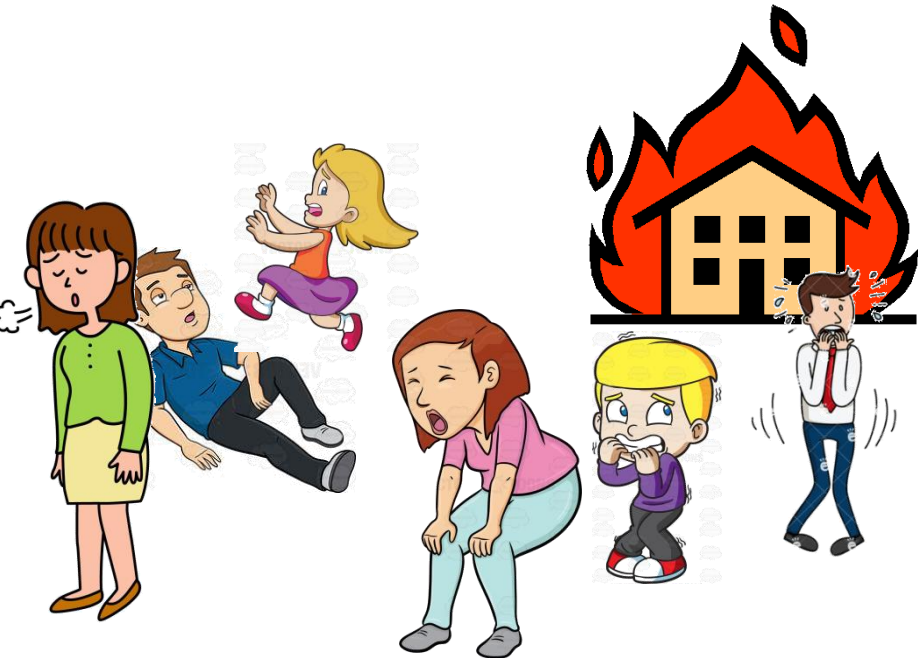


Triage color coding	Leadership command
Immediate	Take this person to the red zone. They need immediate first aid.
Delayed	Move this person to the yellow zone. Get someone to stay with them. If they become worse, alert a first aider. If they are unconscious, show them the correct recovery position
Minor	I need you to move to our green zone and wait there. Help is on the way and will be here soon
Deceased	We will come back to move this person. They will not receive aid



Triage Category	Typical injuries
RED	Airway/Breathing Uncontrolled/Severe Bleeding Severe burns Signs of Shock Open chest/abdominal wounds
YELLOW	Burns with no airway problems Major/multiple bone or joint injuries Back injuries with or without spinal cord injuries
GREEN	Minor fractures Minor soft tissue injuries
BLACK	Obvious Death Obvious nonsurvivable injury Respiratory Arrest Cardiac Arrest

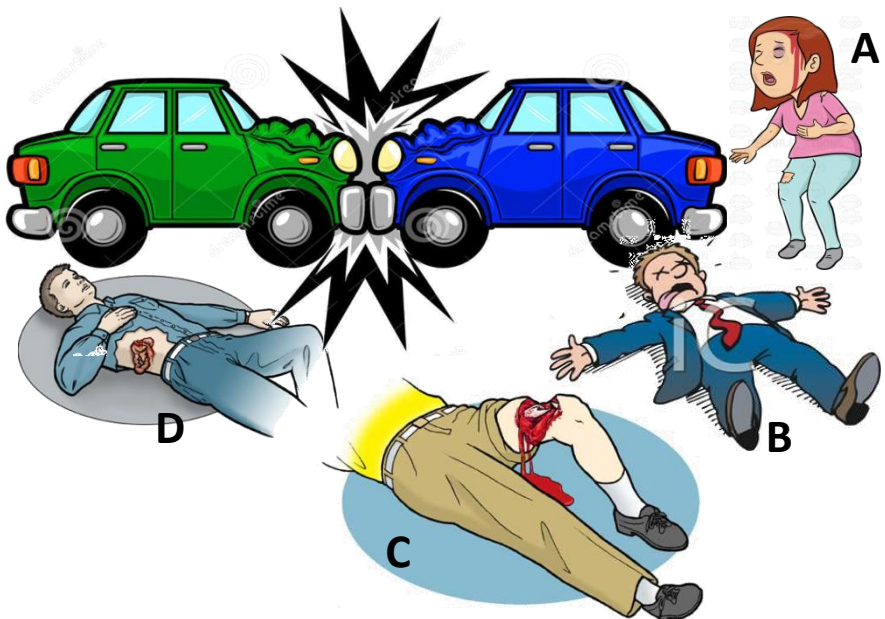
Which one of 2 scenes is considered a Mass Casualty Incident (MCI)?



Type of incident:
How many casualties?
What type of injuries can you see? (classify them according to the triage color code)

Access to the scene:

☐ MCI

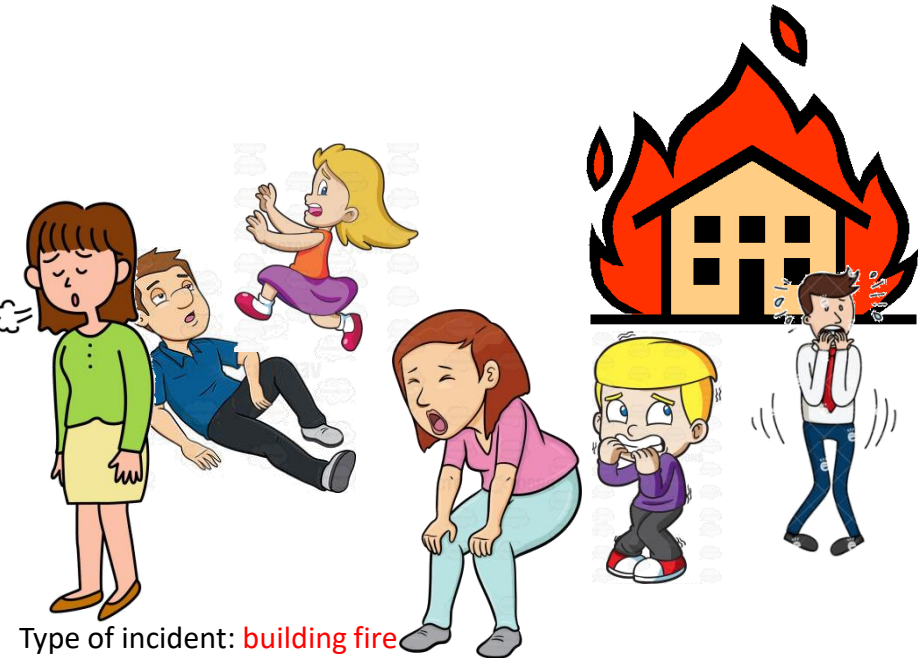


Type of incident:
How many casualties?
What type of injuries can you see? (classify them according to the triage color code)

Access to the scene:

☐ MCI

Which one of 2 scenes is considered a Mass Casualty Incident (MCI)?



Type of incident: **building fire**
How many casualties? **6**
What type of injuries can you see? (classify them according to the triage color code)
No signs of injuries just emotionally disturbed and frightened.
Access to the scene: **the scene is on fire**

☐ MCI



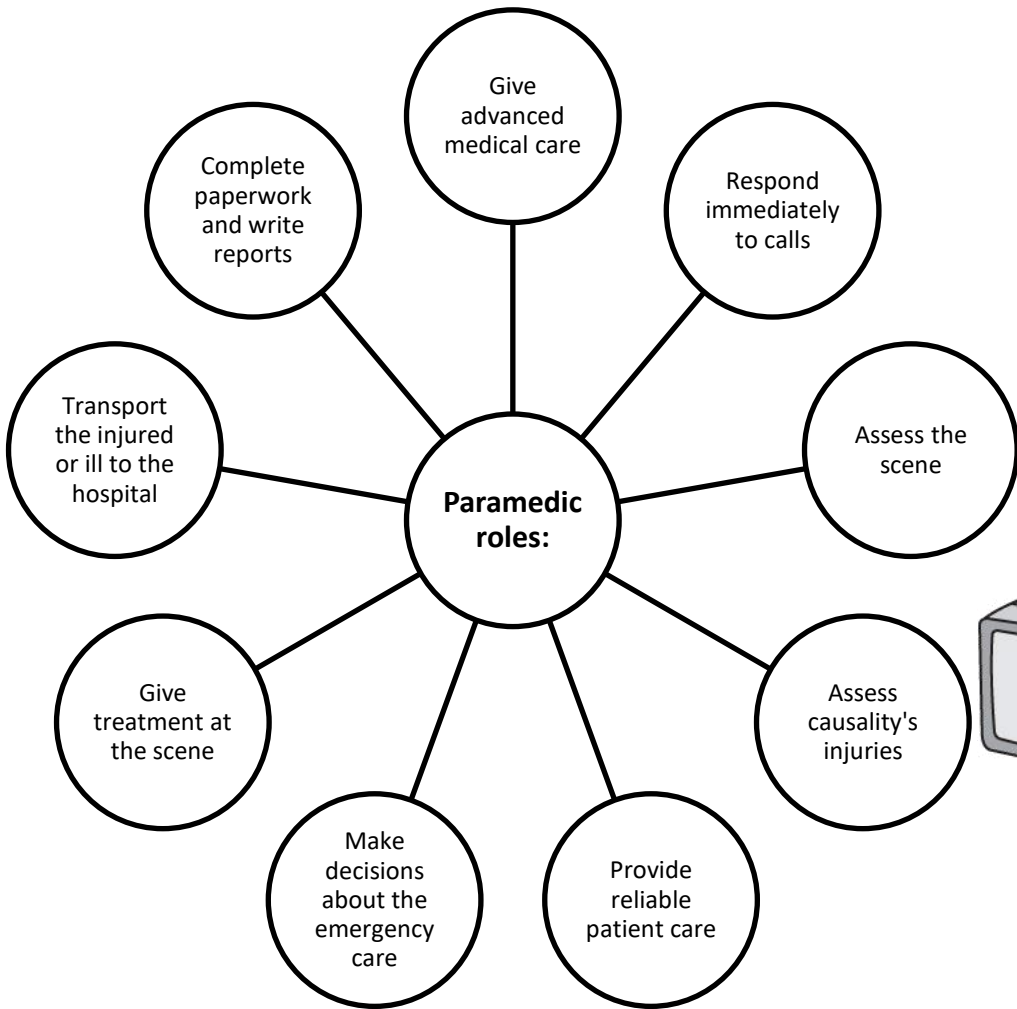
Type of incident: **car crash**
How many casualties? **4**
What type of injuries can you see? (classify them according to the triage color code)
B is already dead (black area "deceased")
A/C/D need immediate help (red area)
Access to the scene: ---

☒ MCI

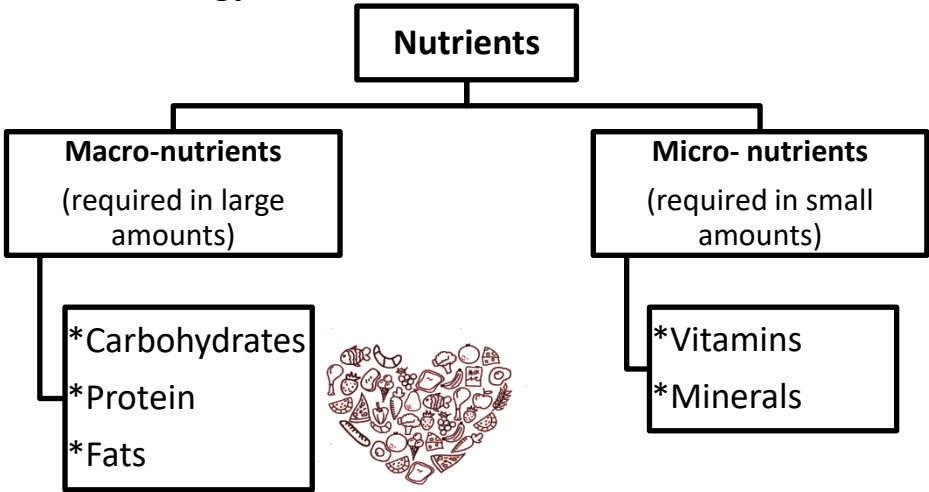
Unit10: First aid for infants and children
Lesson1: The responsibilities of a paramedic

Paramedics may be required to:

- *Perform cardiac support.
- *Perform emergency respiratory procedures.
- *Give IV (intravenous) fluids
- *Apply dressing and bandages to wounds.
- *Stabilize head & neck injuries.
- *Resuscitate drowning victims.
- *Perform emergency childbirth procedure.
- *Assess health situations.
- *Give medication.



Unit5: Advanced nutrition
Lesson1: Energy and nutrient needs



What are the factors that controls our consumption of nutrients?

1. Age
2. Gender
3. Body size
4. Physical activity
5. Medical condition

Why do we need nutrients?

1. Provide energy
2. Help stay healthy & fight infection
3. Good for the brain to function
4. For growth, development & repair
5. Strengthen the immune system

Best of luck: Maitha Taleb Saeed

What is a “food based dietary guideline”? Why is it important?
A guideline that tells you what foods you should consume/ eat with recommended quantities. (what to eat and how much)

What is the name of the guideline that the UAE use?
UAE Food Dome.



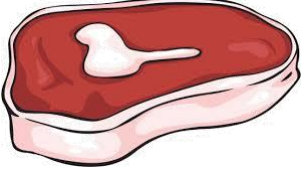



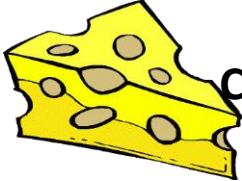



Main food groups	Main nutrients they provide
Fruit	Fiber/ vitamins/ minerals
Vegetables	
Cereals and their products	Carbohydrates/ fiber/ B vitamins
Milk and dairy products	Calcium
Meat, eggs and legumes	Protein/ iron
Fats	Omega3/ omega6

Healthy, active, adult women need 2000 Calories a day.

Tips/ guidelines for healthy eating:

- Eat variety of foods including fruit/ vegetables/ lean meat/ fish/ legumes/ cereals
- Reduce unsaturated fat intake
- Reduce sugar intake
- Reduce sault/ sodium intake
- Drink plenty of water
- Exercise regularly
- Keep a healthy BMI (Body Mass Index)



Food group	Item used to measure a serving size
 <p>Milk/ pasta/ cereals</p>	 <p>Cup</p>
 <p>Meats</p>	 <p>Palm of the hand</p>
 <p>Butter/ fat spread</p>	 <p>Plastic box</p>
 <p>Cheese</p>	 <p>Matches box</p>
 <p>Oils</p>	 <p>Spoon</p>

FOOD DOME

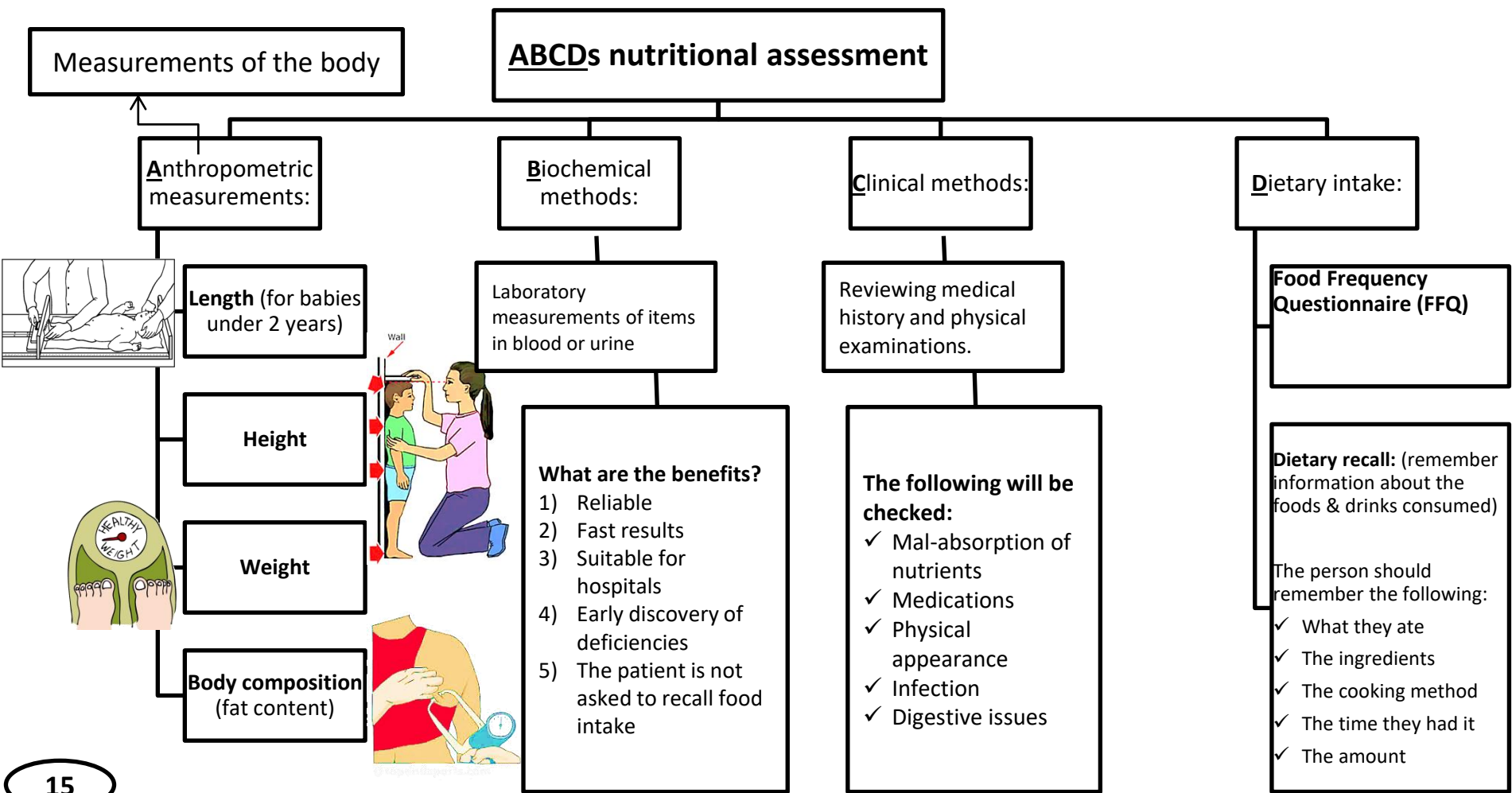
DIETARY GUIDELINES FOR ARAB COUNTRIES



Practice medium activity like walking 30 minutes most days

Meat, eggs and legumes	Vegetables	Cereals and their products	Fruit	Milk and dairy products
<ul style="list-style-type: none"> • Choose low fat or lean meat. • Consume legumes at least 3 times a week • Consume more fish as possible 	<ul style="list-style-type: none"> • Eat more dark green vegetables like spinach and orange vegetables like carrots 	<ul style="list-style-type: none"> • Eat at least half of cereals of whole grain • Eat more of fortified cereals and their products 	<ul style="list-style-type: none"> • Eat variety of fruit • Choose fruit during their seasons • Drink fresh fruit juice 	<ul style="list-style-type: none"> • Consume low fat milk and their products • Consume milk fortified with vitamin D
Suggested daily servings				
2-4 servings/ day	3-5 servings/ day	6-11 servings/ day	2-4 servings/ day	2-3 servings/ day
One serving =	One serving =	One serving =	One serving =	One serving =
50-80g meat, chicken or fish, ½ cup cooked legumes, one egg	1 cup raw vegetables, ¾ cup vegetables juice	1 slice, ¼ Arabic bread, 30g cornflakes, ½ cup cooked cereals	1 medium piece of fruit, ¾ cup fruit juice	1 cup milk, 45g cheese, 1 tbs cream cheese

How to assess nutritional status?



Unit5: Advanced nutrition

Lesson3: Calculate body mass index (BMI)

$$BMI = \frac{weight\ (kg)}{height^2\ (m^2)}$$

Accurate weight measurement:

- 1) Make sure the scale is calibrated before measuring the weight.
- 2) Do not weight after having a big meal or doing strenuous exercises.
- 3) Make sure that your not wearing heavy clothes or shoes.
- 4) Morning is the best time to measure weight.
- 5) Take the weight in kilograms (Kg).

Accurate height measurement:

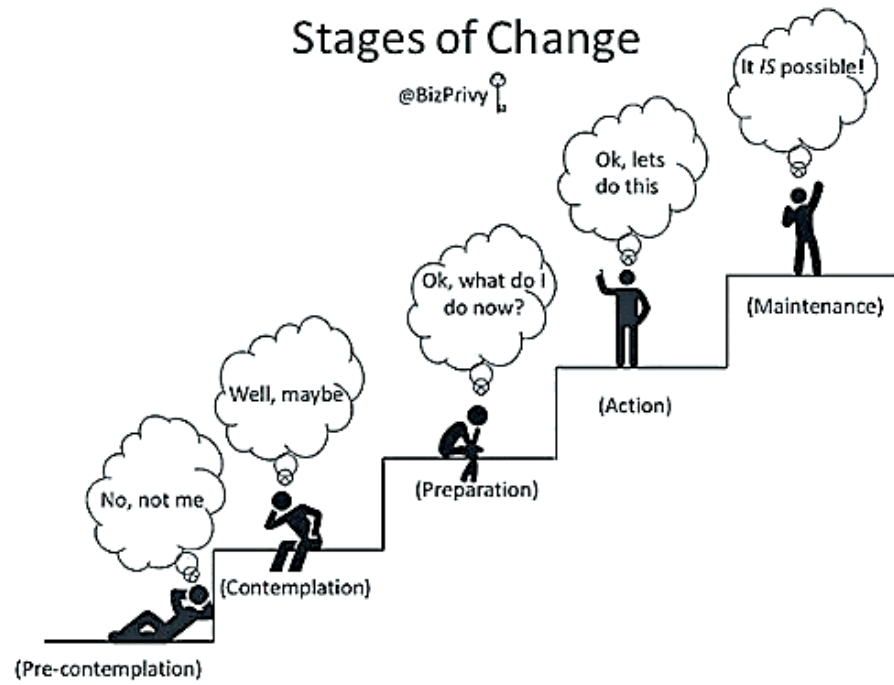
- Take off your shoes.
- Stand straight with good posture.
- Keep your heels against the wall and feet together.
- Look straight.
- Take the height in meters (m).




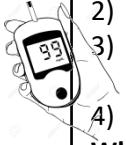

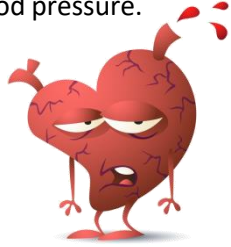
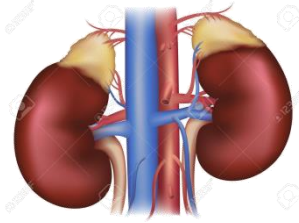
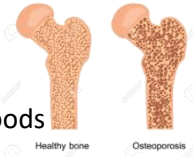


Before the person decides to lose weight they should consider the following:

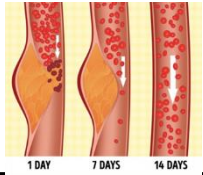
- Why do they want to lose weight?
- Are they ready to lose weight?
- How will they lose weight?

You can use the following model to help you lose weight:



Non-communicable disease	Diabetes 	Heart disease	Renal disease	Bone disease 
Definition and how it happens	Problems in producing “type1” or responding “type2” to insulin	When the arteries (coronary artery) are blocked with fatty layers (plaque/ cholesterol) which may lead to heart attack	Condition of the kidneys 	Osteoporosis (weak/ brittle bones) and osteopenia
Controlling strategies and dietary recommendations <div>   </div>	How to control blood glucose? 1) Eating healthy diet. 2) Do physical activities. 3) Take prescribed medication. 4) Check blood glucose When to measure blood glucose/ sugar? *Before: a meal/ exercise/ going to sleep. *Two hours after a meal. *Hyperglycemia (high blood sugar) hypoglycemia (low blood sugar). *Change in physical activity. Healthy eating guideline for diabetes: *Choose low-fat & low-sugar snack. *Choose wholegrain (fibers are good for digestion and keep you full for longer). *Eat whole fresh fruit & vegetables. Reduce sugar and saturated fat intake.	Dietary changes: *Cut down on saturated & trans fats. *Eat healthy fats (unsaturated) found in salmon/ trout/ mackerel/ nuts/ seeds/ avocados. *Reduce salt intake and processed food. (sodium increase blood pressure and harm the heart) *Eat plenty of fruit & vegetables. *Eat starchy food without adding fat to them they are full with fiber. *Potassium help to lower blood pressure. 	Dietary guidelines: * Reduce protein intake. (too much protein means that the kidneys must work extra hard because of the byproducts they produce) * Increase simple sugar & vegetables fats intake to get enough calories. * Reduce potassium intake by <u>avoid eating</u> : XAvocados XBananas XMilk & dairy products XNuts & seeds XPotatoes * DASH diet prevent the formation of kidney stones. * Reduce phosphorus intake. 	Dietary guidelines: Take enough calcium + vitamin D Calcium sources: *Milk & dairy products (yoghurt/ cheese). *Dark green leafy vegetables. *Sardines with the bones. *Soy products. *Fortified foods like cereals. Vitamin D sources: *Sun *Eggs *Oily fish *Fortified foods  Avoid: *Caffeine and carbonated sugary drink “soft/ fizzy drinks” (reduce Ca absorption)... replace them with low-fat milk or water.

Unit5: Advanced nutrition
Lesson4: Blood glucose monitoring and dietary advice for the management of diabetes mellitus, overweight and obesity



Therapeutic diets

DASH diet

(Dietary Approaches to Stop Hypertension)

Recommendations include:

Whole grain bread, cereals & potatoes (6-8 servings)

Fruit & vegetables (4-5 servings each)

Low-fat milk and dairy products (2-3 servings)

Grilled lean meat & poultry (2 or less servings)

Nuts, seeds & legumes (4-5 servings weekly)

Unsaturated fats & oils (2-3 servings)
"saturated fats should be avoided" such as: processed food/ lard/ coconut oil.

Reduce sugar intake.

Allergy diets



Anaphylaxis (severe reaction to certain foods)

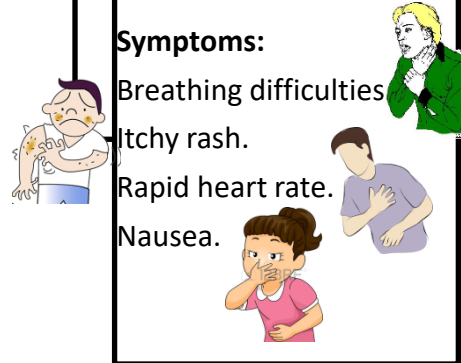
Symptoms:

Breathing difficulties

Itchy rash.

Rapid heart rate.

Nausea.



Major food allergens:

Eggs

Fish

Gluten (wheat)

Milk

Peanut

Soy



Tips to avoid cross-contamination:

*Check food labels for the allergen.

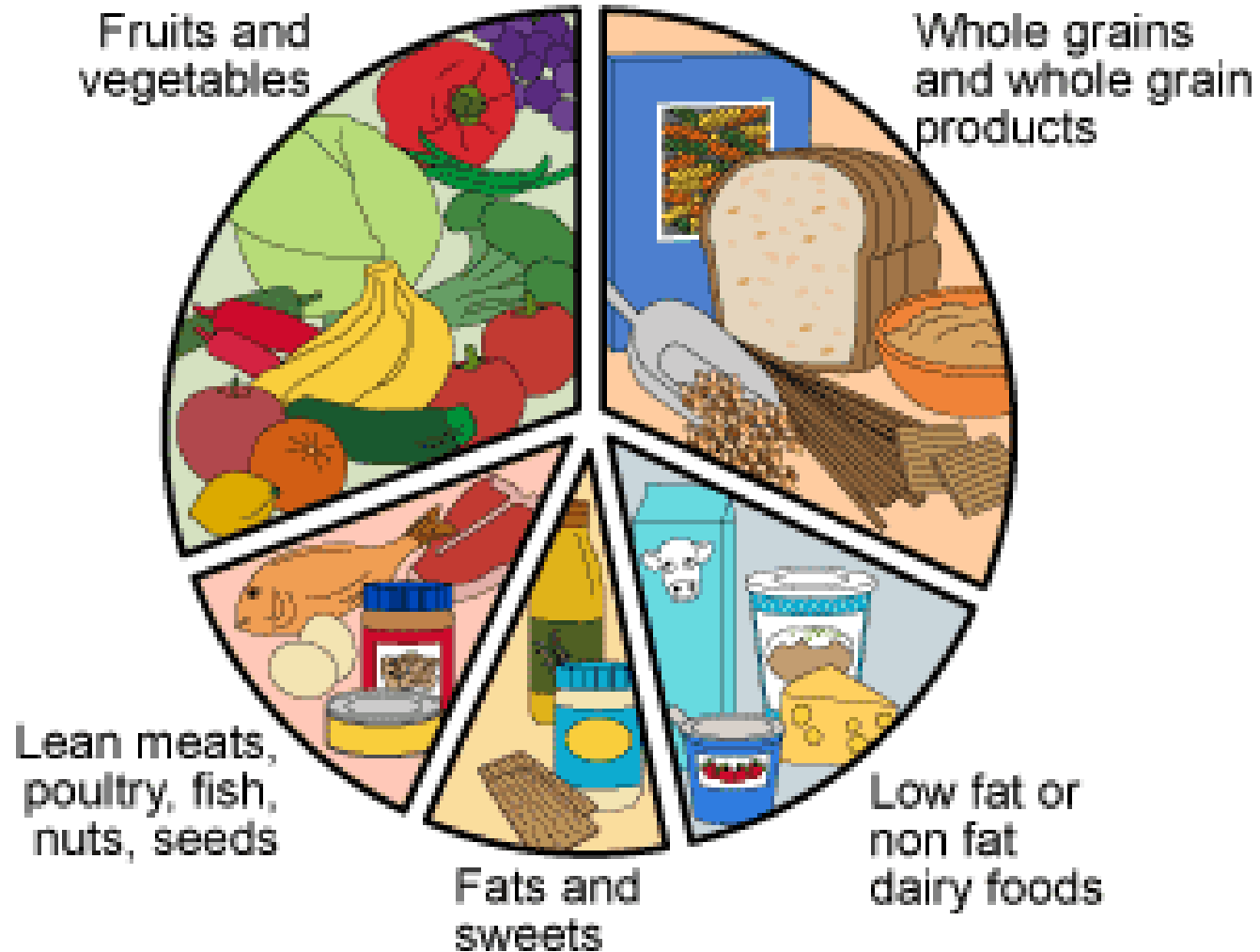
*Don't store the allergen with other food.

*Use separate preparation area.

*Clean the area carefully after using the allergen.

*In restaurants tell them about your allergy.

DASH Diet



Unit6: Physical activity

Lesson1: The impact of physical activity on health and well-being

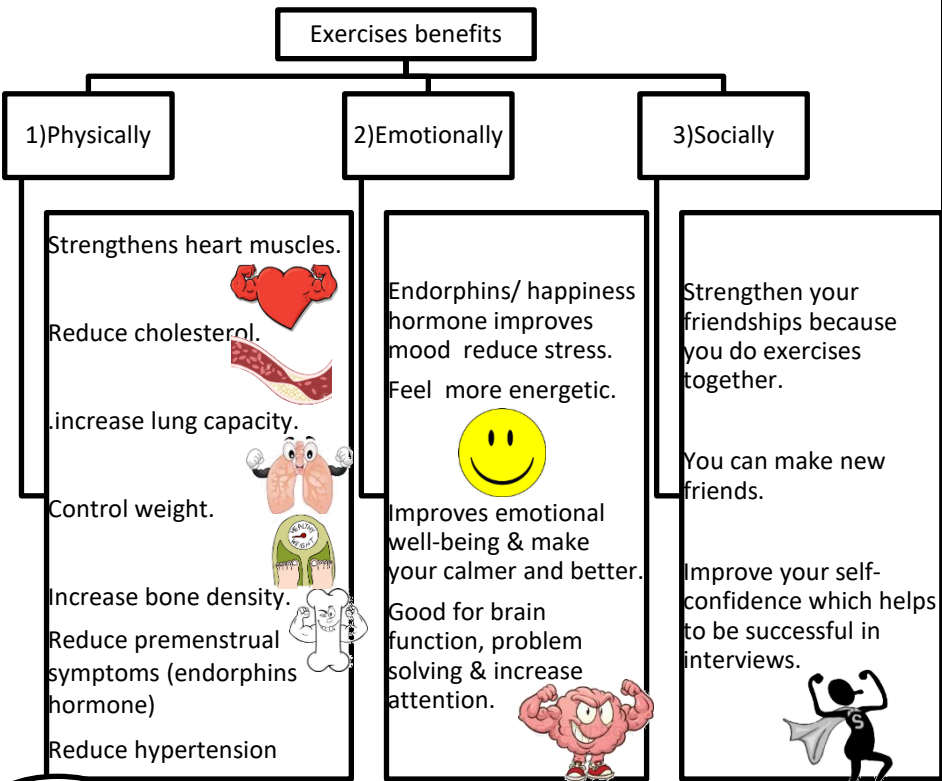
What is physical activity?

A movement that increases your heart rate from resting.

Physical activity examples:

Brisk walking/ running/ sports/ housework/ gardening.

What are the benefits of physical activities (exercises)?



Unit6: Physical activity

Lesson2: How much physical activity and what type?

How much physical activity?			
Category	Age range	Minimum time for exercises	Recommended time for extra health benefit
Children & teenagers	5-17	60 min/ day	More than 60 min/ day
Adults	18-64	Moderate-intensity activity: 150 min/ week vigorous—intensity activity: 75 min/week	300 min/ week of moderate-intensity activity

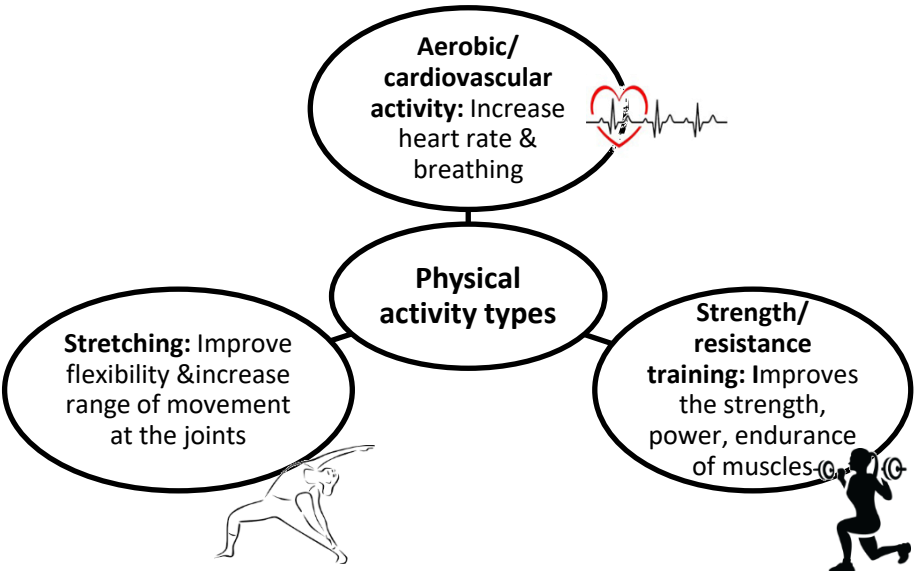
Exercise intensity: how hard your body works while doing physical activity.

Moderate-intensity activities (working at 70-80% of MHR)	Vigorous-intensity activities (working at 80-85% of MHR)
<ul style="list-style-type: none">✓ Brisk waking (5 km/ hour)✓ Cycling leisurely (less than 16 km/ hour)✓ Swimming leisurely✓ Dancing✓ Heavy housework✓ Gardening	<ul style="list-style-type: none">✓ Running✓ Skipping✓ Cycling (over 16 km/ hour)✓ Swimming laps✓ Sports✓ Hiking✓ Rollerblading

Unit6: Physical activity
Lesson2: How much physical activity and what type?

How to calculate your Maximum Heart Rate (MHR)?
 $220 - \text{.....(your age)} = \text{..... Beats Per Minute (BPM)}$
Maximum heart rate: BPM

Different types of physical activity:



Note: people who do not exercise enough have a 20-30% increased risk of early death compared to people who exercise regularly.

Unit6: Physical activity
Lesson3: Barrier to physical activity

Why people do not exercise? (barrier: things that stop people from doing exercise)

10 Common Barriers to Exercise



Sedentary lifestyle: is a type of a lifestyle with little or no physical activity.





Fitness components

Cardiovascular endurance

Ability to exercise for a long time.

Help with:

1. Burning fats
2. Reducing stress
3. Increasing O₂
4. Removing wastes

Muscular strength

Ability to apply force to overcome resistance (weight lifting).

Help with:

1. Avoiding injuries
2. Good posture
3. Dependence when getting old

Muscular endurance

Ability of a muscle to work repeatedly for a long time.

Help with:

1. Bone density
2. Preventing bone fracture & osteoporosis

Flexibility

Range of movement at your joints.

Help with:

1. Preventing injuries
2. Improve posture
3. Keeping healthy joints
4. Improve balance

Body composition

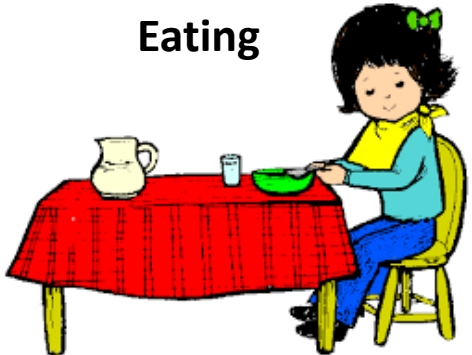
Body fat percent (body proportion that is made up of muscle)

Help with:

1. Burning fat reduce developing diabetes & heart disease.
2. Low fat content helps improving joints movement.

Activities you do while setting:

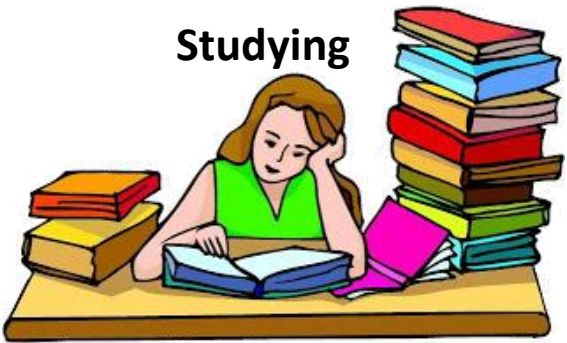
Eating



Travel by car



Studying



Watching TV



Using iPad



Using laptop



Rice and pasta

1 serving is

1 cup cooked rice, pasta,
noodles or couscous



Bread

1 serving is

2 thin slices wholemeal bread, 1 ½ slices
wholemeal soda or 1 pitta pocket



Potato

1 serving is

2 medium or 4 small potatoes



Porridge and muesli

1 serving is

⅓ cup dry porridge oats or ½ cup
of unsweetened muesli



Cereal flakes

1 serving is

1 cup flaked type breakfast cereal



Measure up

Disposable plastic cups are handy
to check serving sizes



Milk

1 serving is

1 glass (200ml) milk



Yogurt

1 serving is

1 small pot (125g) yogurt
or 1 bottle (200ml) of yogurt drink



Cheese

1 serving is

2 thumbs width and depth (25g)
of hard or semi-hard cheese such
as cheddar or edam, or soft cheese
such as brie or camembert



Oil

1 serving is

1 teaspoon of oil per person when cooking



Reduced-fat or light spread

1 serving is

1 portion pack reduced-fat or light
spread for 2 slices of bread



Small fruits

1 serving is

2 mandarin oranges, 2 kiwis,
2 plums or similar size fruit



Berries

1 serving is

6 strawberries, 10 grapes/cherries or
16 raspberries



Juices and smoothies

1 serving is

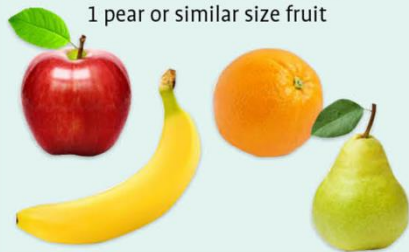
1 glass (150ml) of unsweetened 100% fruit
or vegetable juice can count as a portion.
But **only one glass** counts, further glasses of
juice don't count toward your total 5-A-DAY



Medium fruits

1 serving is

1 apple, 1 banana, 1 orange,
1 pear or similar size fruit



Dried fruit

1 serving is

1 heaped dessertspoon of raisins or
sultanas, 2 figs, 3 prunes or
1 handful of dried banana chips



Cooked vegetables

1 serving is

½ cup of cooked vegetables,
fresh, frozen or tinned



Soup

1 serving is

1 bowl homemade vegetable soup



Measure up

Dessertspoons and
disposable plastic cups are handy
ways to check serving sizes.



Large fruits

1 serving is

½ grapefruit, 1 slice of melon,
1 slice of pineapple, 2 slices of mango



Tinned and cooked fruit

1 serving is

⅔ cup of fruit tinned in own
juice or stewed fruit



Salad vegetables

1 serving is

1 bowl of mixed salad, 1 medium
tomato or 5cm piece of cucumber



Meat and poultry

1 serving is

50–75g cooked lean meat
(half size of palm of hand)



Fish

1 serving is

100g cooked fish



Beans, peas and lentils

1 serving is

$\frac{3}{4}$ cup or 6 dessertspoons



Eggs

1 serving is

2 eggs



Nuts and seeds

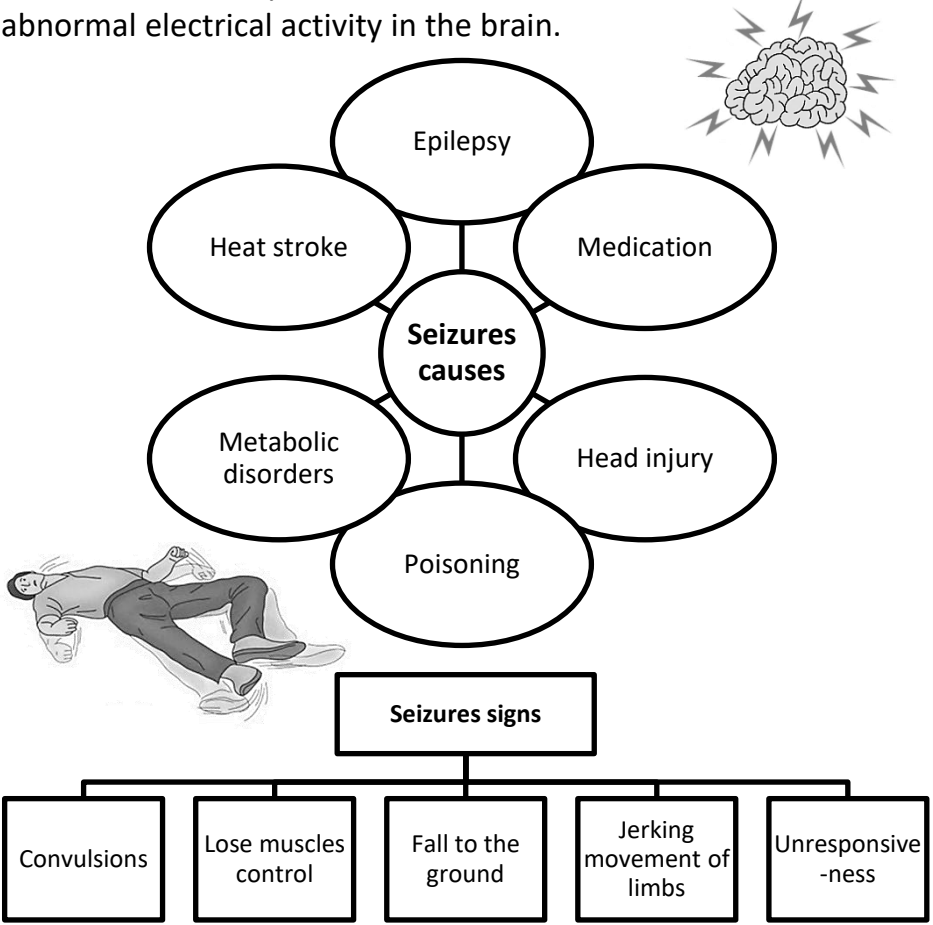
1 serving is

40g nuts or seeds



Unit9: First aid for infants and children
Lesson4: Seizures in infants and children

Seizure: involuntary movement of the muscles because of abnormal electrical activity in the brain.



Seizure first aid:

- 1) Remove anything that may harm the victim during the seizure.
- 2) Do not hold them or try to stop them from having the seizure.
- 3) Put something soft under the victim's head.
- 4) Call the emergency.



After the seizure:

- ✓ If the patient unresponsive and not breathing give CPR.
- ✓ If they have breathing difficulties check for obstruction.
- ✓ If they are vomiting put them into the "recovery position".

