HEALTH SCIENCE

TERM 3 REVISION

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What is MCI

A mass casualty incident (MCI) is:

- Any incident where the number of casualties is greater than the emergency medical resources available.

What classifies an incident as an MCI?

An incident is classed as an MCI is based on:

- How many medical professionals such as paramedics or first aiders are available.
- The type and amount of medical equipment available.
- The number of injured people.
- How serious the people's injuries are.

What is Hazard

Hazard is any source of danger

Possible hazards could include:

- Traffic
- Fire/smoke/fumes
- Falling rocks
- Unstable buildings
- Fallen electric lines

Natural vs. man-made disasters

Natural disasters	Man-made disasters
Occurs naturally such as: • Earthquakes • Landslides • Floods • Storms • Wildfires	**Occurs by humans** such as: • Road accidents and transport accidents • Conflicts (war) • Explosions • Industrial accidents • Man-made fires

How to manage mass casualty incident

The two priorities in a mass casualty situation are:

1- Manage the situation (Check for hazard and evaluate the scene then call emergency)

ABCDEF mass casualty management:

- **A = Assess** → Think about what equipment and resources will be needed
- **B = Breathing** → Is there smoke or fumes that will cause breathing problems?
- **C = Cars** → Are you on a road with fast moving cars that could cause another accident?
- **D = Other dangers** → Are there any other dangers? You should look for things such as falling or unsafe buildings, damaged roads, fallen trees or road signs.
- **E = Electricity** → Stay away from electricity lines and ask other people to move away too.
- **F = Fires** → Fires are very common at MCIs. If you have a fire extinguisher, and it is safe to do so, you can try to put out small fires. If the fire is too big for you to manage, wait for the Civil Defence to arrive.

2- Providing first aid

- First aid for burns.
- Emergency care for electrical injuries.
- Giving cardiopulmonary resuscitation (CPR).
- Stopping severe bleeding.
- First aid for broken bones

What is Triage

Triage is the process of sorting people who are injured into the order that they should be treated.

People with life-threatening injuries should be treated first and people with minor injuries last.

What is SALT triage method

The SALT triage method aims to move the casualties away from the scene of the accident to safer areas where they can receive treatment.

- Step 1: Sort → The walkers (Green), The wavers (Yellow), The still (Red)
- Step 2: Assess
- Step 3: Lifesaving interventions → First Aid
- Step 4: Treatment and transport

RED: Immediate

life-threatening injuries.
Examples:

- Cardiac arrest
- Major burns
- Major trauma injuries
- Uncontrollable bleeding

YELLOW: Delayed

Serious, but not life-threatening injuries.
Examples:

- Broken bones.
- Minor amputations as missing fingers/toes
- Flesh wounds.
- Possible head injury.

GREEN: Minor

Minor injuries.
Examples:

- Minor cuts.
- Minor fractures as broken fingers
- Minor burns
- Sprains

BLACK: Dead or expected to die

This category is for people who have already died or will die soon.
They will have injuries that are too serious to survive, even with medical attention.

What is Disaster

- Unexpected event that hurts or kills people and causes a lot of damage
- Happen at any time, often without any warning
- Can be natural or man-made

Actions to take during disasters

Earthquake	Floods	Wadi floods	Sandstorms
Stay calm → think clearly and make quick decisions **Stay where you are** → moving in an earthquake is dangerous **Drop, Cover & Hold:** ➢ **Drop** ➢ **Cover** →protect your body from falling objects, cover your head with your arms, get under a table ➢ **Hold**	• Don't drive if there is heavy rain or flooding. •Drive slowly and carefully. & If you can't see the road pull over and stop. • Do not drive if water is more than 10cm deep it may damage engine →car stop • After going through water, check your car brakes and engine	• listen to weather forecasts and check for warnings. • Stay away from wadis if it is raining. • Do cross, fast-flowing or deep water. • Do not park your car in valleys or wadis if it is raining. • Call 999 if there is an emergency.	• Stay indoors, close windows and turn off the AC and stay away from windows and doors. • If you are outside, cover your nose and mouth to protect you from the sand and dust. • If you are driving, turn on your lights, close the windows and turn off the AC • Drive slowly. If the visibility is so low that, stop your car somewhere safe.

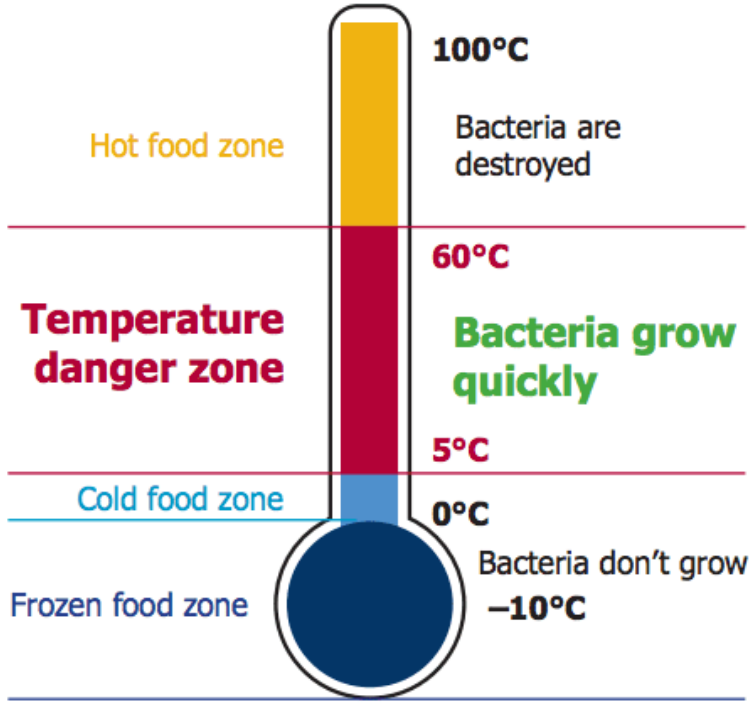
What is foodborne illness?

- An illness that happens as a result of eating foods that contain disease-causing microorganisms → More common bacteria and can also include viruses, fungi, parasites, or chemicals

Bacterial Growth

They need certain conditions to grow:

- **Time** → bacteria double every 15 minutes
- **Warmth** → bacteria need warmth to multiply
- **Food** → bacteria need nutrients to grow
- **Water** → bacteria need moisture to grow



Examples of disease-causing microorganisms:

- Campylobacter
- Escherichia coli (E. coli)
- Salmonella
- Listeria

Advanced

What is foodborne cross-contamination?

When particles of an allergy-containing food accidentally land on another food that is normally safe to eat
Can happen quite easily if people preparing food are not careful

Three main types of cross-contamination:

1. Food-to-food
   (Raw food to cocked food) (Contaminated food to uncontaminated food)
2. Equipment-to-food
   (Countertops, cutting boards, utensils, storage containers, and factory equipment)
3. People-to-food
   (Bodies or clothes to food, Cough , Not washing hands)

Five keys to safer food (How to prevent foodborne illness)

1. Keep clean

A) Handwashing

Before: handling food & eating

After: going to the toilet, handling raw meat or poultry, blowing your nose, handling rubbish, handling cleaning products, touching animals or playing with pets

B) Cleaning plates and kitchen equipment:

Sanitize all equipment in contact with both raw food and the mouth Using soap and hot water, then dry because bacteria group in damp areas,

C) Protect food from pests

(Cover food - Rubbish bins should be covered - Remove rubbish regularly - Keep house pets away from food preparation areas)

2. Separate raw and cooked food

- While shopping, keep raw meat, poultry and seafood separate from other foods
- In the fridge, store raw meat seafood and poultry on shelves or sections below cooked foods
- Store food in containers with lids to stop raw and cooked foods from touching
- Wash plates that have been in contact with raw foods, and always use a clean plate for cooked foods

Five keys to safer food (How to prevent foodborne illness)

3. Cook thoroughly

- Proper cooking can kill almost all dangerous bacteria (Cooking food to 70 degrees Celsius)
- Use a thermometer to check that the food has reached 70 degrees & make sure thermometer is cleaned and sanitised after each use
- If you don't have a thermometer, you can:
  - Cook meat and poultry until the juices are clear and the inside is not pink
  - Cook eggs and seafood until piping hot the whole way through
  - Boil liquid-based foods like soups and stews. Allow them to remain boiling for at least one minute

4. Keep food at safe temperature → below 5 degrees Celsius

5. Use safe water and raw materials

- Safe water is free from dangerous bacteria and chemicals
- Be careful when buying raw materials
- Wash and peel fruits and vegetables

Food Allergy vs Food Intolerance

	Food Allergy	Food Intolerance
System Involved	Immune system reaction to specific food	Digestive system reaction to specific food
Definition	Body reacts to the food and tries to fight against it as it sees the food as a threat	Body cannot properly digest certain food causing irritation to the digestive system
Food/Types /Triggers	• Milk • Cheese • Nuts • Bread • Seafood • Eggs	• Lactose → Milk, cheese, yoghurt & Dairy products • Gluten → Wheat, Bread, barley and rye. It is used in foods like bread, pasta, cereal, pastries, cookies and doughnuts
Symptoms	• Rashes or hives • Itchy mouth • Swelling of face, tongue and lips • Trouble breathing	• Gas • Stomach cramps/bloating • Heartburn • Headaches
Common symptoms	Nausea - Abdominal pain - Diarrhoea - Vomiting	
	life-threatening	Not life-threatening

Advanced

Anaphylaxis:

Anaphylaxis is a severe allergic reaction to certain foods and it can lead to death. A person who has an anaphylaxis reaction needs immediate emergency medical care.

Symptoms of anaphylaxis include:

- Difficulty breathing
- Rash on the skin
- Rapid heart rate
- Nausea

- If someone has a severe reaction, they may go into a state known as anaphylactic shock.
- The sufferer should be treated with an injection of adrenaline that comes in the form of an auto-injector and an ambulance should be called immediately.
- Most people with severe allergies carry an adrenaline auto-injector with them.

Purpose of therapeutic diets

- Therapeutic diet is a special diet plan given by a healthcare professional
- It controls the intake of certain foods or nutrients based on the nutritional needs and health status of a person

Nutrient Modification

- Add or remove certain food from the diet.
- Used to help fight diseases.

- Low sugar diet → Diabetes
- Low sodium (salt) → Hypertension (High Blood Pressure)
- Low fat diet → Overweight/Obese/Cardiovascular diseases
- High fibre diet → Overweight/Obese/Cardiovascular diseases
- low sodium, potassium and phosphorus → Renal diet

Texture Modification

- To make food easy to chew and swallow
- For people who have difficulty in chewing and swallowing
- For people who don't have teeth to properly chew
- Difficulty in swallowing → Dysphagia

Types of texture modification of foods:

A) Soft

Food is cooked or cut so it can be easily chewed

B) Minced and moist

Food is soft, easily mashed with a fork

C) Puree diet

Food is smooth, moist and lump-free

Overweight and obesity

Overweight = BMI between 25-29.9
Obese = BMI above 30

If a person is overweight or obese, it increases their risk of developing other diseases such as diabetes, heart disease and cancer

A doctor advice:

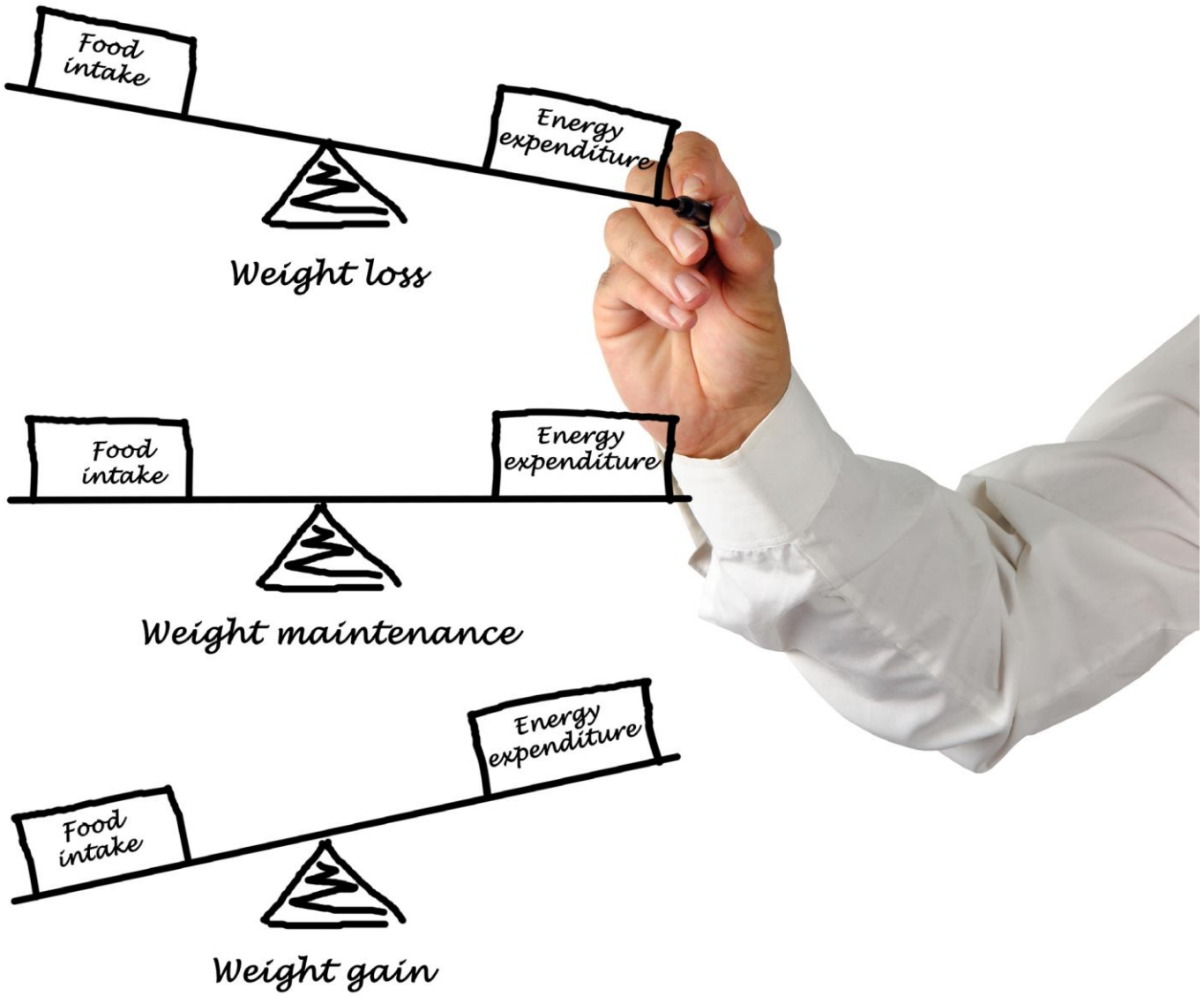
1. Lower their weight
2. Reducing the number of calories
3. Increasing physical activity levels

Energy balance Equation

Energy balance = energy input – energy output

Food & Drinks

1. **Physical Activity**
2. **BMR =** Basal metabolic rates, breathing and blood circulation
3. **Thermal effect of food**



Energy balance

Diet for overweight

Low

- Saturated fats
- Sugar
- Processed foods
- Sodium and salt

High

- Variety of foods each day
- Fruit and vegetables every day
- Protein, lean meat, fish, eggs and legumes
- Enough cereals and their products
- Calcium – milk and dairy products
- Fibre; this will help with digestion and keep you feeling full for longer
- Consume enough water every day

What is Insulin

- Insulin is a hormone produced by the pancreas
- Main role is to control the amount of glucose in the blood
- It helps the cells to take glucose from blood and use it as energy

What is glucose

A type of sugar found in foods and can be produced by the body after breaking down certain foods that you eat

The following can help to prevent the cause of type 2 diabetes:

- Maintain a healthy weight
- Eat a balanced diet
- Exercise regularly
- Don’t smoke