	الملف ملخص الوحدة الخامسة prevention Disease

موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف الثاني عشر ⇦ علوم صحية ⇦ الفصل الثاني

روابط مواقع التواصل الاجتماعي بحسب الصف الثاني عشر

| روابط مواد الصف الثاني عشر على تلغرام			
الرياضيات	اللغة الانجليزية	اللغة العربية	التربية الاسلامية

Dis-ease/ illness

(condition that stops the body from working normally)

**Communicable disease (CD)/ infectious:**

can be spread/ passed

Examples: COVID-19 (caused by corona virus)

Non-communicable disease (NCD)/

non-infectious:

cannot be spread/ passed

Examples: cardiovascular (heart) disease/ cancer/ respiratory diseases/ diabetes

What are the causes?

Pathogens/ germs/ microbes:

Bacteria

Viruses

Virus

Parasites طفيليات & فطريات fungi

Fungus
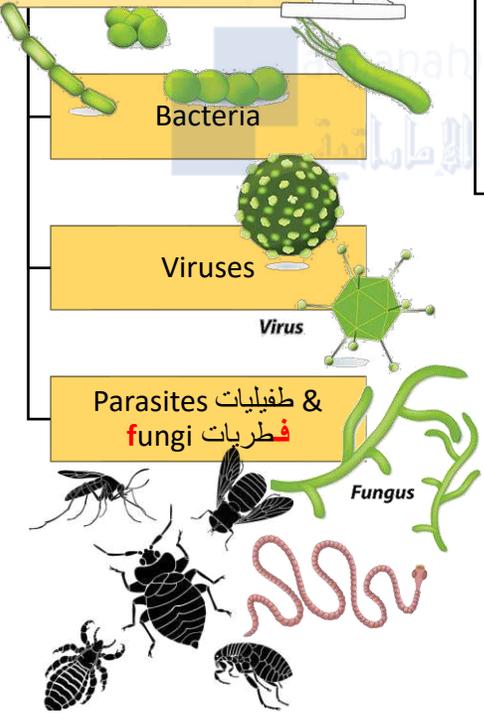
How infection happens?

1) Person-to-person (contact with an infected person)

2) Consume contaminated foods & drinks

3) Insect bites

4) Air (airborne particles & droplets)

How to prevent CDs?

1) Practicing good personal hygiene.

2) Cleaning & disinfecting shared areas.

3) Social distancing from sick people.

4) Keep a healthy immune system by living a healthy lifestyle (eating healthy/ exercising/ getting enough sleep).
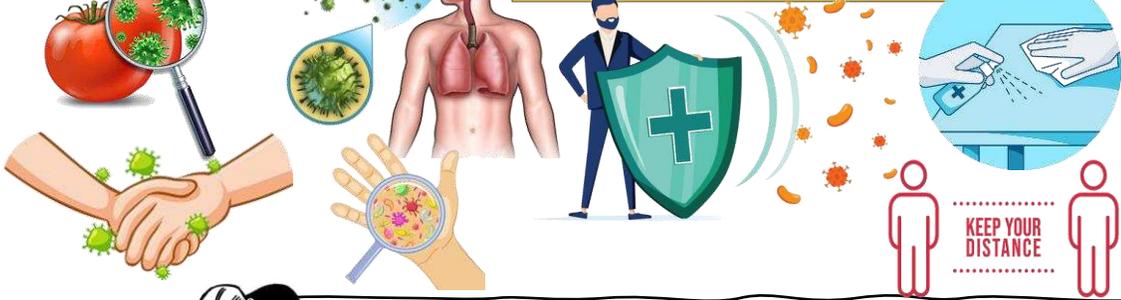
Caused by:

**Risk factors**

(something that may cause a bad thing to happen)

Modifiable (M) قابل للتعديل

Can be changed/ controlled

Non-modifiable (NM) غير قابل للتعديل

Cannot be changed/ controlled

Unhealthy lifestyle (negative behaviors):

Sedentary lifestyle (lack of physical activity)

Overweight/ obesity

Unhealthy diet

High blood pressure

High cholesterol

Type2 diabetes

Smoking

Stress

Environmental factors

Family history (genetics)

Gender (male/ female)

Ethnicity/ race (النسل/ العرق): a large group of people with the same customs or origin

Age (the older someone gets, the more chances of developing NCDs)

Prevent: to stop something from happening. يعوق/ يمنع

1

Modifiable Risk Factors
Things we CAN change!

- ABDOMINAL OBESITY
- HIGH BLOOD PRESSURE
- SMOKING
- DIABETES TYPE 2
- PSYCHOSOCIAL FACTORS
- HIGH CHOLESTEROL

Non-Modifiable Risk Factors
Things we cannot change

- ETHNICITY
- AGE
- GENDER
- FAMILY HISTORY

2

How to stop diseases from happening?
(**disease prevention**)

Personal health behaviors
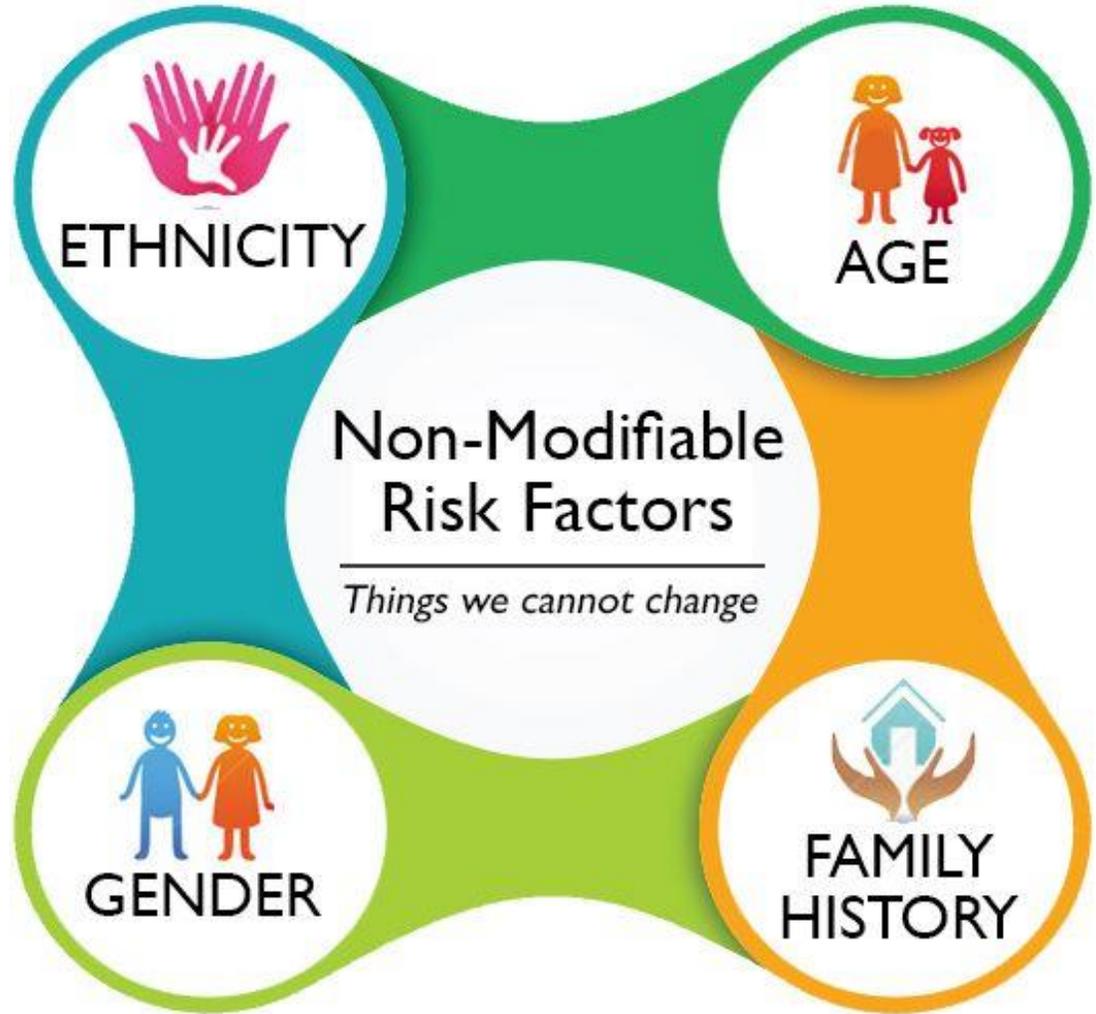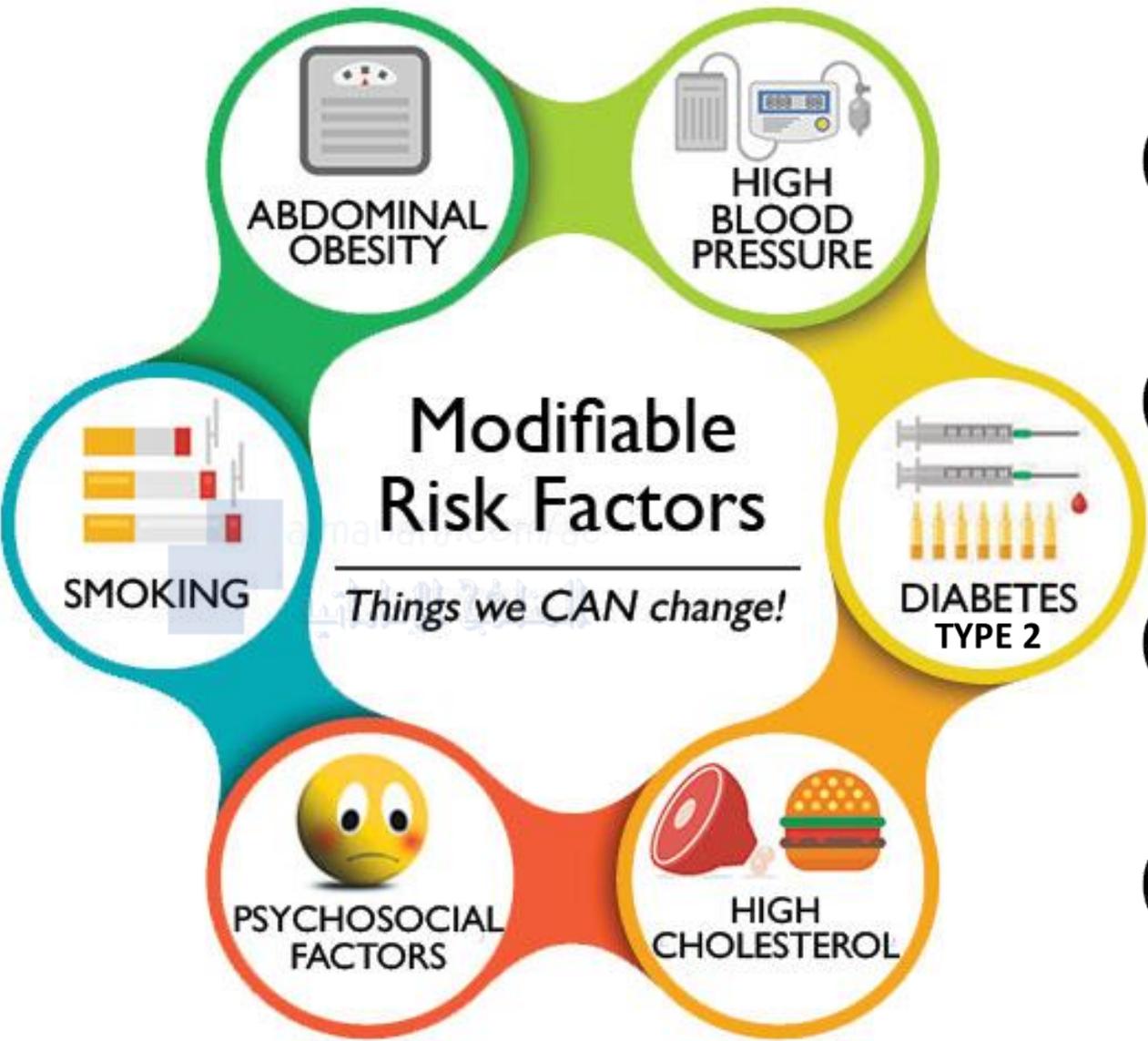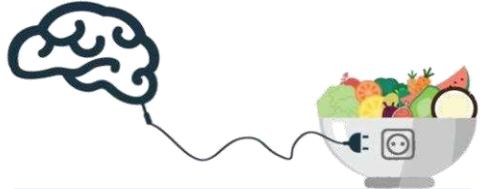
Medical care

A healthy diet & mental health:
Improving your diet may:
1- improve mood
2- lower stress levels
3- help you to think clearly

Positive behaviors/ healthy
(positively affect health)

Negative behaviors/ unhealthy/ M risk factors
(negatively affect health)

Immunization التحصين

Screening فحوصات المسح

Eat healthy balanced diet
(Why?)

Drink enough water
(keep hydrated)

Get enough sleep
(How?)

Being physically active

Good personal hygiene
(brushing teeth/ taking a shower/ wearing clean clothes/ combing hair/ washing hands etc.)

1) Selecting healthy food maintain healthy weight & reduce the chances of developing NCDs

2) Consuming enough nutrients (protein/ carbs/ healthy fats/ vitamins & minerals) protect you

(e.g., Ca^{2+} prevents osteoporosis & helps to build strong bones)

3) Controlling cholesterol protects against heart diseases (cut down fast food/ unhealthy snacks/ processed foods)

For healthy sleep:
1) Sleep 7-9 hours a night
2) Go to bed at the same time each night
3) Don't eat heavy food before bed
4) Avoid drinking caffeine before bed
5) Don't use TV, laptops or phones in the bedroom

Definition
Benefits (health dimesions)
How much is enough?
Types

It is important! Why?
Because it protects you from CDs through:
1) Killing germs (bacteria/ viruses)
2) Keeping body clean & healthy
3) Stopping the spread of infection

WARNING

Over time; getting no enough sleep can lead to:
Type2 diabetes
Obesity
Hypertension
Heart diseases
Poor mental health
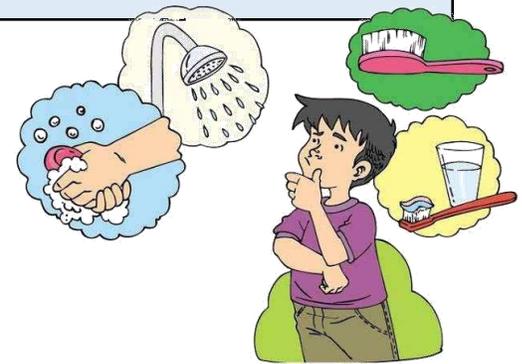
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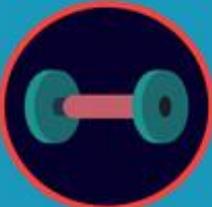
After touching an animal or pet food

After touching garbage

After using the bathroom

Before & After cleaning a wound
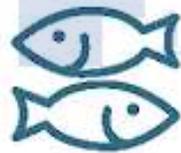
After touching raw fish, meat, or poultry

After coughing, blowing your nose, or sneezing

Before preparing or eating food

Before inserting & removing contacts

When to wash your hands?

✓ Before, during & after preparing food

✓ Before eating

✓ After using a bathroom

✓ After blowing your nose, coughing, or sneezing

✓ After touching someone who is sick

✓ Before & after giving first aid

✓ After touching any animals

Physical activity

WHO **definition**: "any bodily <u>movement</u> produced by the skeletal muscles that requires <u>energy</u> expenditure"

The **benefits** of physical activity (why is it important?):

How much is enough? (according to WHO **recommendations**)

Exercise intensity/ type (**intensity**: how hard the body works while doing exercises)

Conditions:
1) Movement
2) Increases heart rate (faster heart beats)

Physical health:

Strengthen heart muscles & reduce the risk of heart disease & stroke

Reduce cholesterol.

Increase lung capacity.

Control weight.

Increase bone density

Recommendations for exercise		
Category	Children & teenagers	Adults
Age range	(5-17 years old)	(18-64 years old)
Minimum amount	Moderate to high-intensity activity (60 mins/ day)	Moderate-intensity activity (150 mins/ week) High-intensity activity (75 mins/ week)
For further benefits		300 mins of moderate-intensity physical activity or more
Recommended exercises	Activities that strengthen muscles (3 times/ week)	✓ Aerobic activities (running/ swimming) 10 mins at a time ✓ Weight training (2 times/ week)

Mental & emotional health:

Endorphins hormones improve mood & reduce stress & work as a pain killer.

Improve energy levels.

Improve emotional well-being & make you calmer and better.

Raise brain function, problem solving & increase attention.

Social health: (exercising in a group)

Make new friends.

Improve self-confidence.

Learn leadership skills.

Get motivated to exercise.

Moderate-intensity activities (working at 70-80% of MHR)	**High-intensity activities** (working at 80-85% of MHR)
✓ Brisk walking (5 km/ hour) ✓ Cycling leisurely (less than 16 km/ hour) ✓ Swimming leisurely ✓ Dancing ✓ Heavy housework ✓ Gardening	✓ Running ✓ Skipping ✓ Cycling (over 16 km/ hour) ✓ Swimming laps ✓ Sports ✓ Hiking ✓ Rollerblading

MHR: Maximum Heart Rate سرعة القلب القصوى

6

Immunization

التحصين
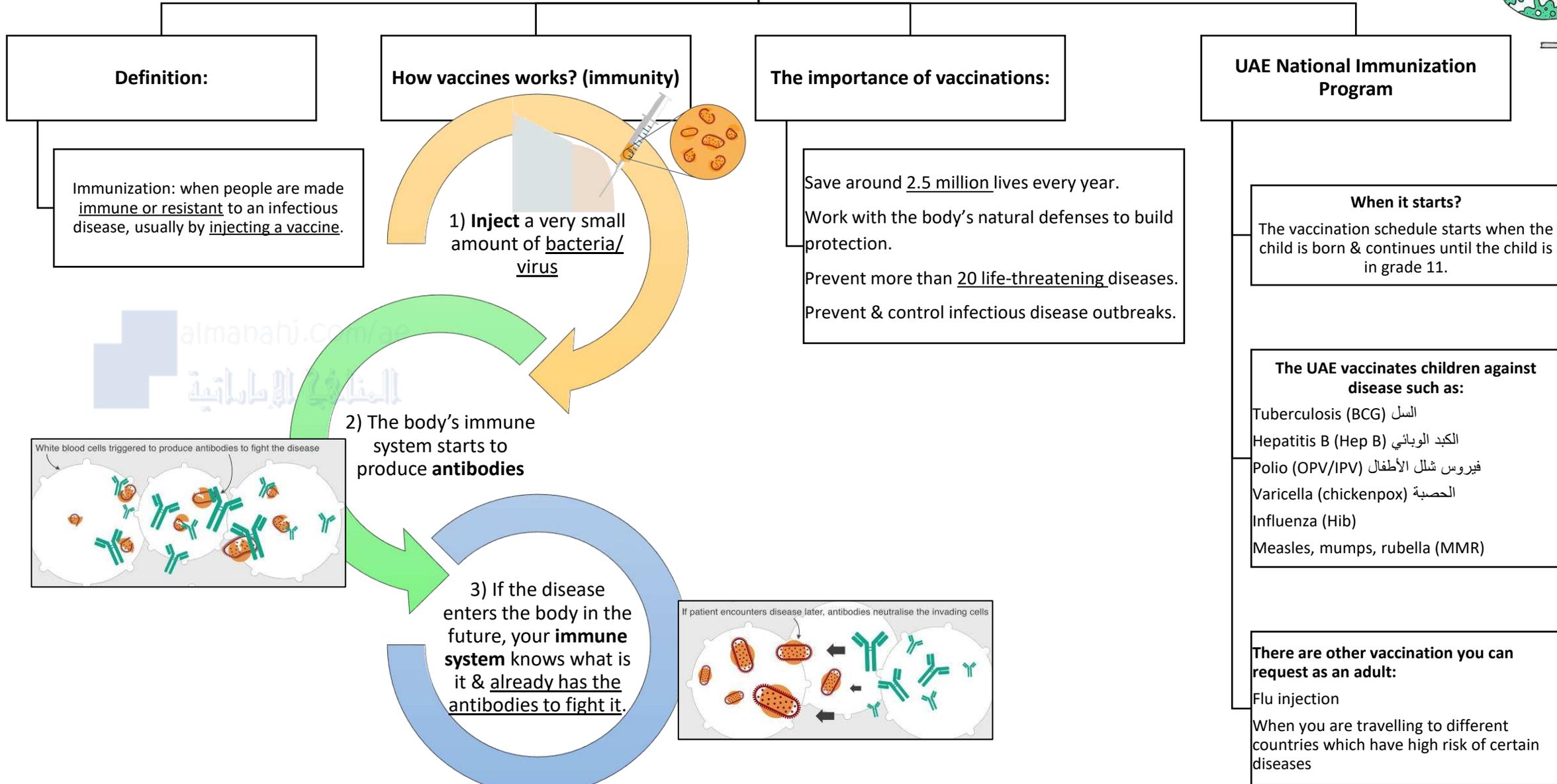
Definition:

Immunization: when people are made immune or resistant to an infectious disease, usually by injecting a vaccine.

How vaccines works? (immunity)

1) **Inject** a very small amount of bacteria/ virus

White blood cells triggered to produce antibodies to fight the disease

2) The body's immune system starts to produce **antibodies**

3) If the disease enters the body in the future, your **immune system** knows what is it & already has the antibodies to fight it.

If patient encounters disease later, antibodies neutralise the invading cells

The importance of vaccinations:

Save around 2.5 million lives every year.

Work with the body's natural defenses to build protection.

Prevent more than 20 life-threatening diseases.

Prevent & control infectious disease outbreaks.

UAE National Immunization Program

When it starts?

The vaccination schedule starts when the child is born & continues until the child is in grade 11.

The UAE vaccinates children against disease such as:

Tuberculosis (BCG) السل

Hepatitis B (Hep B) الكبد الوبائي

Polio (OPV/IPV) فيروس شلل الأطفال

Varicella (chickenpox) الحصبة

Influenza (Hib)

Measles, mumps, rubella (MMR)

There are other vaccination you can request as an adult:

Flu injection

When you are travelling to different countries which have high risk of certain diseases

7

Active immunity

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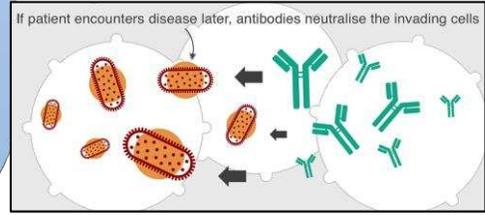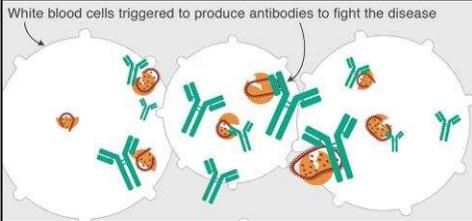
Immunization = vaccination = vaccine = dose

How vaccines activate the immune system & strengthen it?

Vaccine = injecting weakened or dead bacteria/ virus in small amount to activate the immune system.

Immune system

B cell

Antibodies

Antibody

HEY! I REMEMBER YOU!

Bacteria   White blood cell
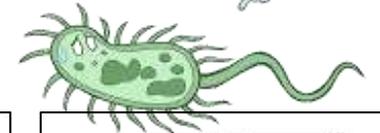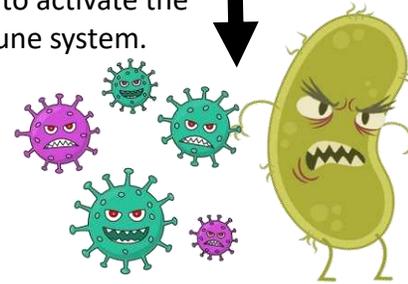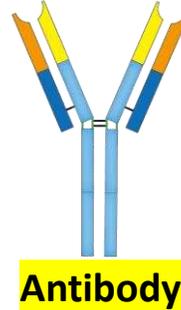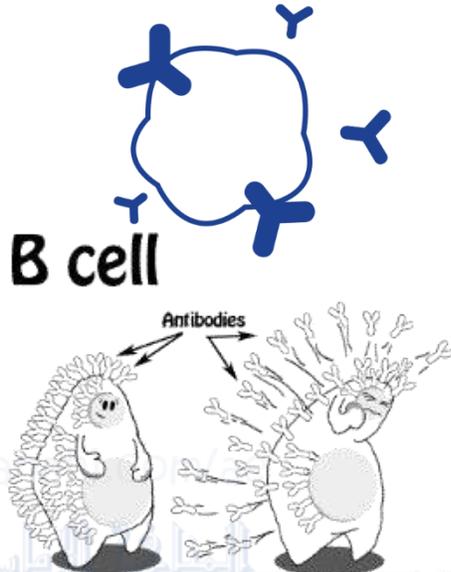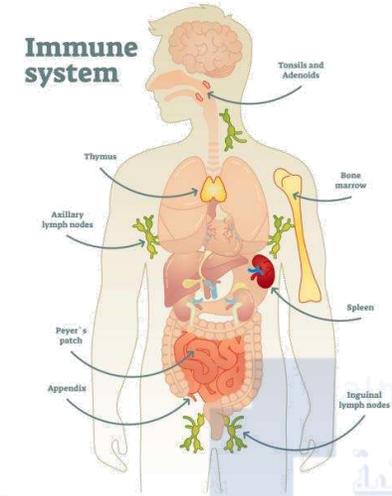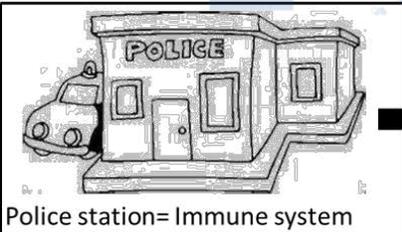
Police station= Immune system | Policemen= White blood cells | Policemen's guns= Antibodies | Criminals= Pathogens | Policemen fight criminals and protect the society | The police keeps a criminal record for each criminal
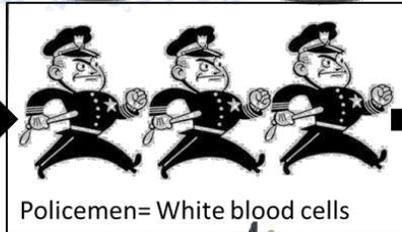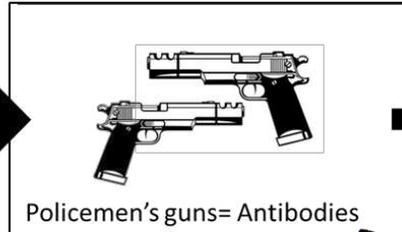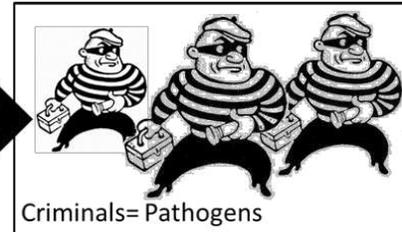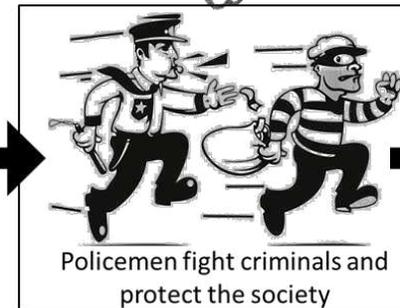
How the immune system works?

M.I.G

8

HOW DO VACCINES WORK?

Often a weakened form of the disease is injected into the body.

(Some vaccines are not injected but inhaled, such as some types of the flu vaccine)
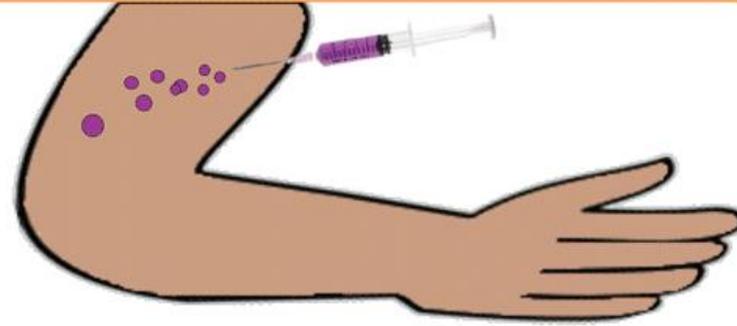
The body thinks the weak virus is a threat. It builds up lots of antibodies (or teams of ninjas).

WANTED
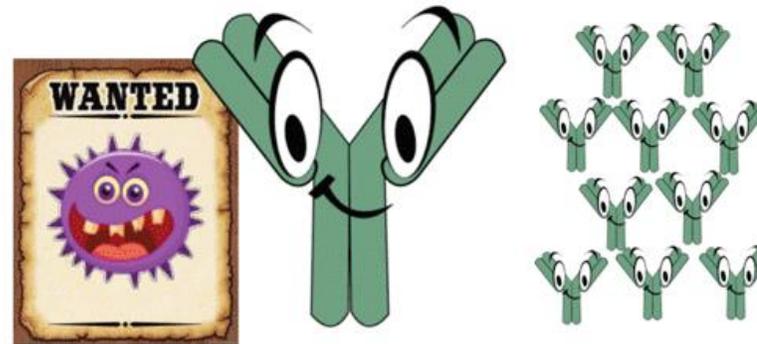
If the disease attacks the body, the antibodies are ready to catch and destroy them.
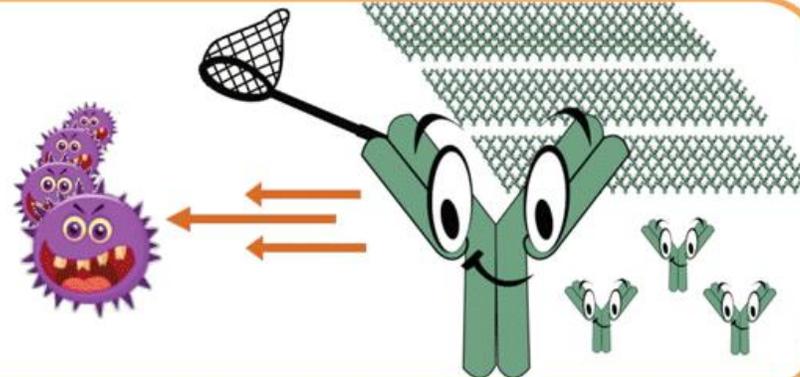
Protect Your Health with **Vaccination**

Childhood and School Immunization Schedule

	After Birth	2 months	4 months	6 months	12 months	18 months	Grade 1	Grade 9	Grade 11
BCG	●								
Hep B	●	●	●	●					
Hib		●	●						
DTaP/ DPT / Tdap		● (DTaP)	● (DTaP)	● (DPT)		● (DTaP)	● (DTaP)		● (Tdap)
OPV/ IPV		● (IPV)	● (IPV)	● (OPV)		● (OPV)	● (OPV)		● (OPV)
PCV		●	●	●		●			
MMR					●	●			
Varicella					●	●			
Rubella								● (Female)	
HPV									● (Female)

(Hexavalent bracket covers 2 months; Hexavalent at 4 months; Pentavalent at 6 months; Tetravalent at 18 months)
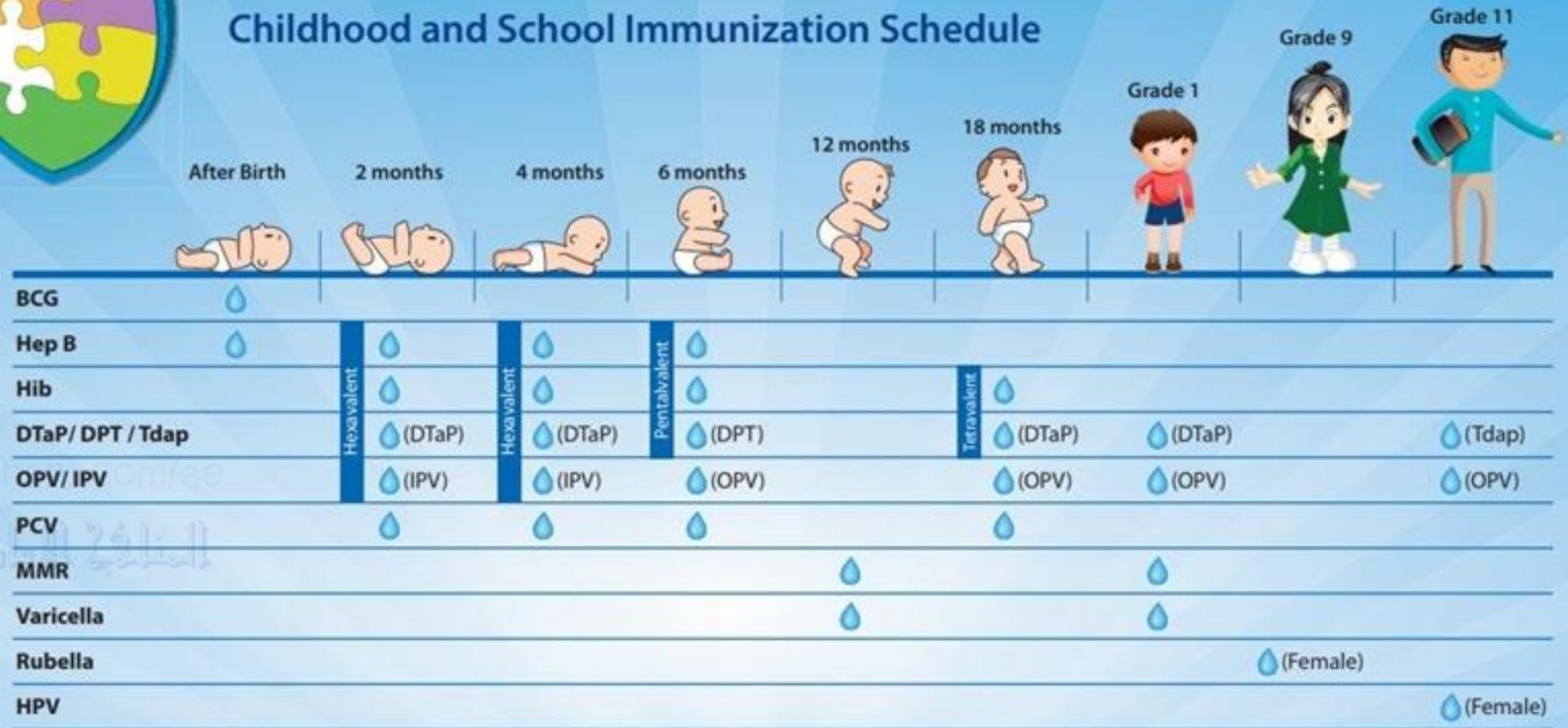
Legend:
BCG: Bacillus, Calmette-Guerin (against tuberculosis)
DPT: Diphtheria, Pertussis and Tetanus
DTaP: Diphtheria, Tetanus, and acellular Pertussis
Hep B: Hepatitis B

Hexavalent: DTaP, Hib, Hep B and IPV
Hib: Haemophilus Influenzae Type B
HPV: Human Papillomavirus
IPV: Inactivated Poliovirus Vaccine
MMR: Measles, Mumps and Rubella

OPV: Oral Poliovirus Vaccine
PCV: Pneumococcal Conjugate Vaccine
Pentavalent: DPT, Hib and Hep B
Tdap: Tetanus, reduced Diphtheria and reduced Pertussis
Tetravalent: DTaP and Hib

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HEALTH AUTHORITY - ABU DHABI

10
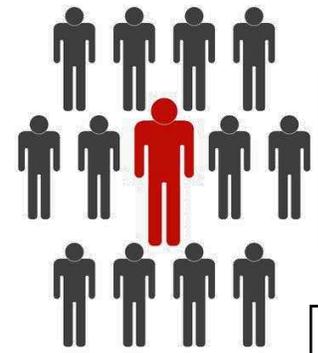
Screening (routinely check up) "e.g., PCR test"
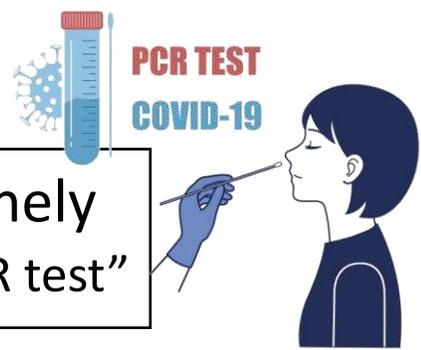
Negative result (there is nothing wrong! Normal result! Healthy!)

Positive result (possibility of a disease)

Further check ups
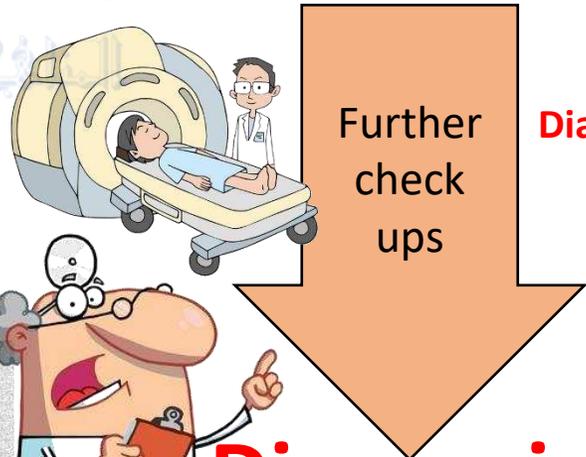
Diagnostic tests

Diagnosis

(determine the causes of symptoms "exact disease")

Screening test VS	Diagnostic test
Carried out on healthy people	Carried out on someone who has symptoms
Applied to a group of individuals	Applied to a single person
Results are not conclusive (positive/ negative)	Results conclusive and final
Less accurate	More accurate
Less expensive	More expensive
Not a basis of treatment	Basis for treatment

تذكري فحوصات المسح screening tests ليست نهائية وليست دقيقة وتكون نتيجتها إما "إيجابية" أو "سلبية".
نتيجة المسح الإيجابية تدل على وجود مشكلة واحتمال وجود مرض.
لكي نتأكد من وجود المرض بالفعل يجب أن نقوم بعمل فحوصات إضافية (فحوصات تشخيصية diagnostic tests).
مثال: يمكن أن يدل اختبار المسح على وجود نقص في مستوى الحديد، ولكن لا يأكد وجود فقر دم "أنيميا".

The difference between screening & diagnosis tests

Screening tests
To check for early signs of a disease
For large numbers of people
One simple test, such as a blood test
Low cost, to be able to afford testing for large numbers of people

نحتاجه عشان نطمن ع الصحة بشكل عام وم نقدر نعتمد عليه لتشخيص الأمراض

Diagnostic tests
To confirm the presence (or absence) of a disease
For one person who has signs or symptoms of a disease, or has had a positive screening result
More in-depth testing which may include lots of different tests
Higher costs, because of the need for more accurate testing

نتيجته نهائية ويستخدم لتشخيص المرض.
من كلمة "diagnosis"

General screening tests for adults

In your 50's & 60's

12) Osteoporosis risk assessment

13) Colorectal القولون والمستقيم (bowel cancer) screening

14) Sight & hearing impairment tests

In your 40's

8) Cardiovascular risk assessment

9) Eye checks for glaucoma (a condition that can cause blindness)

10) Breast screening (females only)

11) Prostate screening (males only)

In your 20's & 30's

1) Blood pressure

2) Cholesterol & glucose levels

3) BMI, waist & hip measurements

4) Dental check & cleaning

5) Skin cancer checks

6) Cervical screening (females only)

7) Diabetes risk assessment

As you get older you will need more screening tests

كل م كبر الشخص بالعمركل م زادت الفحوصات الطبية إللي لازم يخضع لها. مثلاً في عمر الخمسين بتخضع لما يقارب للـ14 فحص طبي.

Screening test name	Checks:
Pap smear	Cervix cancer سرطان عنق الرحم
Mammogram	Breast cancer سرطان الثدي
Colonoscopy	Bowel cancer سرطان القولون
Fasting glucose levels test	Diabetes السكري

Colonoscopy

Pap smear

MAMMOGRAM

13

For	To screen for	Types of test	Screening frequency
People over 20 years old	Obesity	Body mass index (BMI) & waist circumference	Once a year
People over 20 years old	Hypertension (high blood pressure)	Blood pressure measurement	Every 2 years (more if high risk)
People over 20 years old	Diabetes High cholesterol	Fasting blood glucose/ lipids test	Every 3 years (more if high risk)
People over 50 years old	Bowel cancer	Test to find blood in stools or colonoscopy	Once a year
Women 25-65 years old	Cervical cancer	Pap smear test	Every 3 years
Women 40-69 years old	Breast cancer	Mammogram	Every 2 years
Men over 45 years old	Prostate cancer	Blood test or physical examination	Every 2-3 years

Infection
العدوى

Definition:

Infection happens when germs enter the body & multiply

Causes?

Bacteria/ viruses/ fungi/ parasites

Spread through:
Person-to-person contact (unclean hands)

Unclean medical equipment (needles)

How an infection spread?
3 things are needed:

1) A source: (where germs are found)
Includes:
Surfaces in public places/ home
Skin
Medical equipment

2) A person: with a way for the germs to enter their body

3) Transmission: the way germs are moved to a person

Meningitis

Urinary tract infection

Types of infections

Surgical infection: an infection in the area of operation العدوى الجراحية

Bloodstream infection: an infection in the blood تعفن الدم

Pneumonia: an infection in one or both lungs الالتهاب الرئوي

Meningitis: an infection of the brain & spinal cord التهاب السحايا

Urinary tract infection (UTI): affects the kidneys & bladder عدوى مجاري المسالك البولية

STAY AT HOME

HOTEL QUARANTINE

STOP

How to prevent & control infection?

Preventing hospital infections:

Infection control program (explaining how to identify & prevent infections)

Screening

Hand washing

Having good hygiene & proper cleaning of facilities & medical equipment

Quarantine (isolate the infected person until they are fully recovered) الحجر

Procedures for the decontamination of people & the environment

Personal protective equipment (PPE)

Infection control in day-to-day life:

Wash hands regularly & properly

Prepare & handle food properly

Clean & disinfect surfaces in the home

Cough or sneeze into a tissue

Don't share personal items with others

Stay home when you are sick

Avoid touching wild animals

Get vaccinated against CDs (e.g., COVID-19)

HOTEL

COVID 19 Vaccine

15

Antibiotic resistance

Antibiotics kill bacteria & prevent infections from spreading

Overusing antibiotics

Antibiotics are no longer effective in killing bacteria

We cannot control infection anymore!

- **Antibiotic resistance مقاومة المضاد الحيوي**
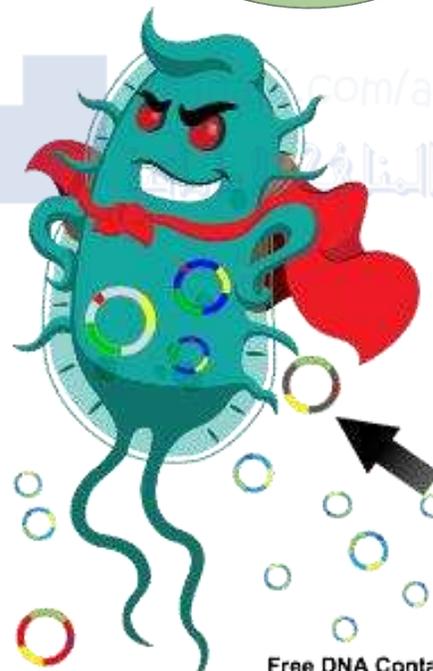
Free DNA Contain Antibiotic Resistance Genes (ARGs)

Ibuprofen

Diclofenac

ANTIBIOTIC