

2.1 What are diseases

disease : medical condition that stops the body from working normally.

disorder : disruption of the normal functions of the body because of the presence of disease

disease cause : pain in the body - parts of the body to stop working - in some cases, death

any part or of the body can affected by diseases

important of understand the signs and symptoms of diseases in different body systems is to recognise when you need to get medical help

Sign :	evidence of disease can be seen by others as skin rash or cough	Symptom :	physical change or feeling experienced as pain
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Classifications of diseases تصنيف الأمراض

	Communicable diseases معدي	Non-communicable diseases غير معدي
meaning	can be passed or spread from one person to another	cannot be passed from one person to another
Examples	influenza (flu) زكمة	epilepsy صرع
	COVID-19	hypertension ارتفاع ضغط الدم
	gastroenteritis التهاب المعدة والأمعاء	Diabetes السكري
	malaria	multiple sclerosis تصلب متعدد

	Acute diseases	Chronic diseases مرض مزمن
meaning	lasts for short time less than 3 months	lasts a long time but sometimes last for whole life
Examples	COVID-19	arthritis
	common cold	diabetes
	pneumonia التهاب رئوي	asthma ربو
	influenza (flu)	allergies حساسية

The systems of the body

Systems of human body works together to maintain body's' functions : essential for life, movement, cognitive function, growth, repair & more

The main systems of the body

Musculoskeletal system : muscular, skeletal systems provide structure of body and allows to move

Nervous system : sends signals around the body to respond to stimulation

Respiratory system : responsible for breathing

Digestive system : breaks down the food that we eat in the body

Circulatory system : vessels & organs through which **blood flows & oxygen and nutrients transported through body**

Immune system : protect from illness and disease

Medical specialists : Medical doctors provide care & treatment to sick & injured patients.

Doctor can practice general medicine, where treats all types of illnesses.

complete advanced training & education in specific field of medicine to become medical specialist

medical specialists in different body systems :

Orthopaedic surgeons	Neurologists
healthcare professionals specialise in bone & joints disorders. They identify & treat injury & provide rehabilitation & advice about how to reduce more damage	specialist doctors trained in diagnosis & treatment of nervous system disorders(brain, spinal cord, nerves, muscles)
Pulmonologists	Gastroenterologists
medical doctors specialised knowledge & skills in diagnosis & treatment of conditions & diseases of respiratory system	include in how digestive system work and diseases & disorders that can occur
Cardiologists	Immunologists
specialised in circulatory system, its diseases & disorders	Specialise in diagnosing, treating, and managing asthma, types of allergies & diseases of immune system

كل درس عبارة عن وظيفة الجهاز ومن شو بيتكون وامثلة عحالات مرضية بتأثر عليه ومريضين شائعين

2.2 Diseases and disorders of the musculoskeletal system

musculoskeletal system **provides body form, stability & support & allows movement**

bones عظام	muscles عضلات	Ligaments الأربطة	انسجة ضامة ليفية بتربط العظام بالعظام
joints مفاصل	مكان التقاء عظمتان أو أكثر	tendons الأوتار	حبل من انسجة قوية مرنة بتربط العضلات بالعظام
cartilage الغضروف	نسيج ضام مرن يحمي العظام والمفاصل	Connective tissue	نسيج الضام

206 bones in adult	300 bones in infant
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عدد عظام الأطفال أكثر لأنه مع الكبر يلتحموا سوا

Conditions affecting the musculoskeletal system

more common in older people, but it affect people of any age

condition affect musculoskeletal system

arthritis (affects joints)	osteoporosis (affects bones)	osteopenia	rickets
sarcopenia (اضطراب بالعضلات)	spine back & neck pain	Other pain disorder & inflammation- causing diseases	

Inflammation : التهاب part of body become swollen red and painful

Stiffness : صلابة **Lack** : قلة **grinding, grating** : مثل الطحن + مرفق صورة تحت **pain** : ألم **artificial** : صناعي

<u>non-communicable chronic</u>	Arthritis
What is?	cartilage breaking down between bones in joints (bone grinding direct on another) cause inflammation joints
Problem	it makes difficult to do everyday tasks
<u>more common</u> :	in adults over 65Y but it can also develop children, teenagers, young adults women more likely than men to get it
signs & symptoms	pain & inflammation around affected joint lack of motion stiffness after sleeping or sitting a long time Grating : feeling of rubbing bones together inside joint
Treatment	managed by : (medication *reduce pain, inflammation and swelling) (physiotherapy, exercises to strengthen muscles surrounding affected joint (surgery to replace affected joint with an artificial one (knee replacement

Over 100 different types but 2 common of arthritis types : osteoarthritis, rheumatoid arthritis



<u>non-communicable chronic</u>	Osteoporosis
What is?	develops slowly & causes bones to become weak and porous (loss bone density & strength can cause to break easily)
<u>affect :</u>	develop as people reach middle-age who don't exercise. low levels of calcium & vitamin D in diet lead to weaker bones women>men
signs & symptoms	Bones broke easily back pain loss of height stooped or bent over posture
Treatment	calcium-rich foods in diet like spinach, sardines, almonds, beans, milk and yogurt reducing fizzy drinks and caffeine get enough vitamin D from food and non-food sources like sunlight and nutritional supplements do weight-bearing physical activity like running, walking and weightlifting medication slows down the weakening of bones

70% UAE population deficient in vitamin D

مسامية مثل يلي بالصورة : porous انحنى : stooped, bent over



2.3 Diseases and disorders of the nervous system

The nervous system recap

made up of (**brain**, spinal cord, **nerves**)

help parts of body communicate & allow brain to control what's going on

Central nervous system CNS	Peripheral nervous system PNS
brain & spinal cord . found in centre of body	nerves away from central part of body. found in arms & legs

Conditions affecting the nervous system

Diseases & disorder affect nervous system very common :

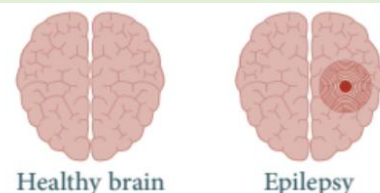
epilepsy : disorder causes seizures	Parkinson : مرض اعصاب تنكسية يؤثر على الحركة
Alzheimer disease : disorder impacts mental functions and memory	Sciatica : اضطراب يؤثر عاكبر خلية عصبية يسبب آلام الظهر

seizure : نوبة reaction abnormal brain activity cause sudden body movement & loss of consciousness

<u>non-communicable chronic</u>	Epilepsy
What is?	affecting central nervous system causes abnormal brain activity which can lead to seizure
<u>more common:</u>	in young children & older adults, most cause cases are unknown. it can be caused by brain injury, serious illness, high fever, stroke
signs & symptoms Seizures main symptom & might :	stiff body with arching back sudden uncontrolled movements have noisy, difficult breathing fall become unresponsive or unconscious
Treatment	anti-epileptic drugs (reduce or stop the seizures) diet contain high levels of healthy fats & low carbohydrates brain surgery sometime used to remove or alter area of brain that causes seizures

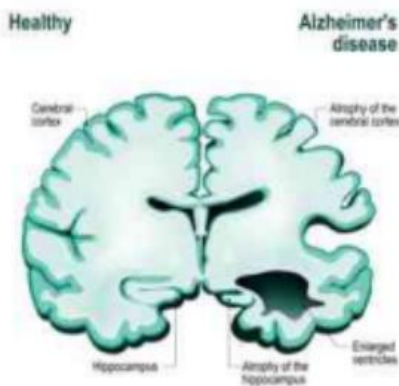
destruction : دمار mood swings : تقلب مزاج trouble : مشكلة

cells : خلايا concentrating : تركيز waste away : يتلف familiar : عام



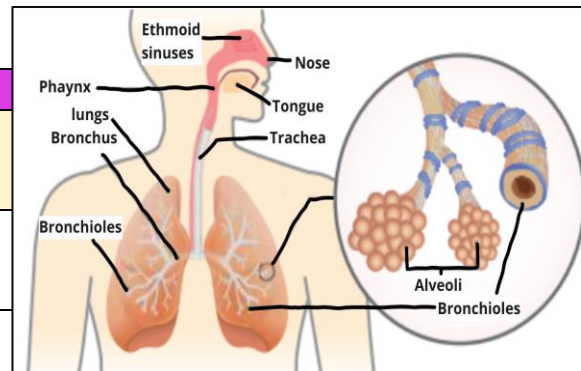
<u>non-communicable</u> <u>chronic</u>	Alzheimer's disease
What is?	Degenerative disease causes brain cells to waste away and die.
problem	memory loss and loss ability to do everyday tasks
<u>affect :</u>	usually 65Y and older If family member has this disease is higher risk of developing it
Signs & symptoms :	memory loss getting lost in familiar places
Main symptoms	Forgetting people's names or names everyday things trouble with words & following conversations difficulty concentrating or thinking behaviour changes as mood swings or depression
Treatment	no cure for alzheimer medications can help memory problems or slow down the destruction of brain cells non-drug treatment (activities to improve memory by using music or photos and speak about past events so that will helps improve mood and memory)

most common type is dementia



2.4 Diseases and disorders the respiratory system

	respiratory system recap
meaning	group of tissues and organs in body it allows you to breathe
main function	supply oxygen to all parts of body
main parts	nose & mouth trachea bronchus lungs bronchioles alveoli

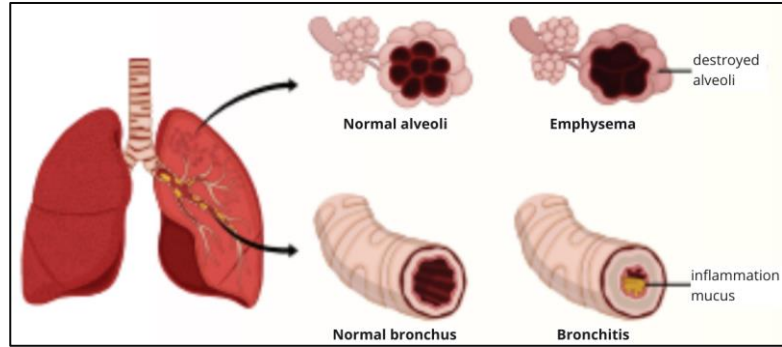
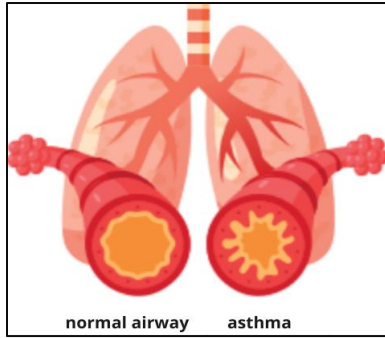


common diseases & disorders affect respiratory system :

asthma : affect airway (passage between mouth & lungs)	chronic obstructive pulmonary disease (COPD) lungs disease	COVID-19
Pneumonia : infection of air sacs (alveoli) in lungs	other viruses affect respiratory system	

inhaler : جهاز استنشاق infection : عدوى swell : يتضخم exposed : معرض للخطر medications : ادوية

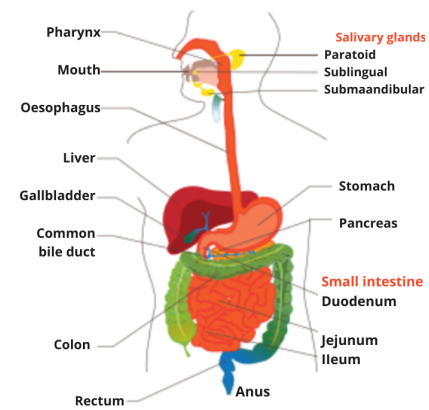
<u>non-communicable chronic</u>	Asthma
What is?	disease causes inflammation of airway so it will swell, and breathing will be difficult
<u>affect :</u>	often starts in childhood and lasts into adulthood if family members have the disease or who have allergies or those exposed to smoking
Signs & symptoms :	coughing shortness breath when exercising Tightness in chest wheezing or whistling sound when breathing
Treatment	no cure but treatments very effective daily long-term medications to control symptoms medications for during asthma attack like inhaler change lifestyle can manage asthma : healthy diet, maintaining healthy weight, regular exercises, not smoke reduce risk of asthma attacks



phlegm : مخاط في الانف، الفم، والحلق : عدوى : infection : تراب : dust : تلوث : pollution : سعال : cough : مخاطر في : المخاط في : phlegm : الصدر : chest : ضيق : tightness : صغير : Wheezing : عادةً : usually : وقاية : prevent : متكرر : frequent

<u>non-communicable</u> <u>chronic</u>	Chronic obstructive pulmonary disease (COPD)		
What is?	term describes respiratory illnesses causes breathlessness & difficulty breathing		
problem	gets worse over time		
<u>affect :</u>	men or women & usually begins around 30 to 35Y who smoke or who have asthma or exposed to air pollution, chemicals, or dust at higher risk		
Signs & symptoms :	Shortness of breath	Wheezing	chest tightness
	chronic cough usually with phlegm	frequent chest infections	
Treatment	to prevent disease don't smoke pulmonary rehabilitation to increase lungs capacity inhaler and anti-inflammatories to reduce inflammation of airway caused by COPD		

Forms of COPD (bronchitis & emphysema)



2.5 Diseases and disorders the digestive system

	Digestive system recap
function	responsible for breaking down food that you eat into nutrients for body

The main parts of digestive system:

mouth(tongue, لسان, salivary glands, غدد لعابية)	oesophagus مريء	liver كبد	stomach معدة
pancreas بنكرياس	intestines أمعاء	colon قولون	rectum مستقيم

most common conditions :

gastroenteritis : infection of intestines إتهاب معدة وأمعاء	stomach ulcers or gastritis (inflammation of stomach)	inflammatory bowel disease إتهاب المعدة
irritable bowel syndrome متلازمة القولون المتهيج	food intolerance (difficulty digesting certain foods)	constipation امساك

cramps : تشنجات aches : آلام vomiting : قيء poisoning : تسمم fever : حمى plenty rest : كثير راحة

contaminated : ملوثة dehydrated : مجفف ulcers : قرحة gastritis : إتهاب معدة

<u>communicable</u> <u>non-communicable</u> <u>acute</u>	Gastroenteritis (stomach flu - stomach bug)
What is?	inflammation of stomach and intestines usually lasts up 1 week can be caused by poor hygiene like bacteria or viruses, and eating or drinking contaminated food or drinks
problem	infants & children call doctor necessary if there's high fever of 38.9 C or more or if child in pain or dehydrated
affect :	anyone of any age but more dangerous for very young children, older adults and people with underlying health issues most cases communicable, some non-communicable like food poisoning
Signs & symptoms :	Watery diarrhoea cramps & stomach pain nausea, vomiting or both muscle aches, headache, or fever
No treatment but take these steps :	to prevent practise good personal hygiene (washing hands, home clean, avoid eating raw foods) stop eat solid foods for at least few hours get plenty of rest remain hydrated by drink water symptoms don't get better after number of days --> book appointment doctor



DAIRY FREE EGG FREE GLUTEN FREE

Food intolerance

certain foods : اكل معين digesting : هضم nausea : غثيان

bloating : الانتفاخ diarrhoea : إسهال



gastroenteritis

	Food intolerance (حساسية الطعام (مو الخطيرة)
What is?	difficulty digesting certain foods not life-threatening condition, it can be painful and uncomfortable
affect :	anybody & develop in any time commonly intolerance: lactose (dairy products), gluten, eggs, and caffeine
Signs & symptoms :	stomach pain bloating headaches nausea diarrhoea
Treatment :	it's difficult to diagnose so usually doctor will ask person to keep certain food for a number of days and see if person feel unwell or experience any symptoms of intolerance if he stop experience symptoms after untaken the certain food that's mean he intolerant to it

if person been able to eat certain foods in past, they could still develop intolerance it

2.6 Diseases and disorders the circulatory system

	The circulatory system recap			
function : transport blood	blood is pumped around body by heart blood carries nutrients & oxygen around body			
Main parts :	heart قلب	arteries شرايين	veins أوردة	blood دم

Conditions affecting :

hypertension ضغط دم عالي	atherosclerosis (narrowing of arteries)	angina ذبحة صدرية
heart failure فشل القلب	stroke سكتة دماغية	venous thrombosis تخثر وريدي

narrow : ضيق hardening arteries : تصلب الشرايين overweight : وزن زائد

chronic	Hypertension
What is?	blood pressure in arteries is higher than should be so that makes heart work harder than normal to circulate blood through blood vessels
problem	if isn't controlled it can lead to other severe conditions heart attack or stroke due to hardening of arteries heart failure (heart working too hard to pump blood)
affect :	anyone & there's a lot of risk factors for developing disease risk increase with age and if there is family history of hypertension and high stress levels lifestyle factors (overweight, too much salt, not doing exercise, high-stress levels)
Signs & symptoms :	most people have no signs and symptoms expect when it's very high severe headache - tiredness or confusion - vision problems - chest pain - irregular heartbeat & breathing
Treatment :	check with doctor regularly. (fast hypertension diagnose = less damage) healthy lifestyle (healthy weight & exercising- eating low salt, fat, caffeine) medications to low blood pressure & relax blood vessels

read pressure : when heart beats (systolic pressure) and when relax (diastolic pressure)

normal : 120/80mmHg or less	between : risk of developing	high : over 140/90mmHg
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انسداد : blockage ترسبات : plaque

chronic	Atherosclerosis
What is?	happens when fatty substance (plaque) builds up in arteries of heart and eventually block blood flow مادة دهنية بترسب بشرايين القلب وبتسد تدفق الدم main cause high blood pressure
problem	can cause serious blockage can lead to heart attack , in brain can cause stroke narrowing of arteries happens over time
affect :	risk factors (hypertension - overweight - unhealthy diet - not exercising) more common if another family member has heart disease
Symptoms :	develops slowly so often people don't know they have until blockage in artery severe chest pain (if blockage in heart) weakness in body, vision loss, difficulty speaking (if blockage in brain) pain in arms or legs in blockage area
Treatment :	change lifestyle (loss weight - healthy diet, exercising) medication to slow effect of disease (drugs to lower fat (cholesterol) in body & to lower pressure) Surgery to remove plaque in arteries or to create new arteries

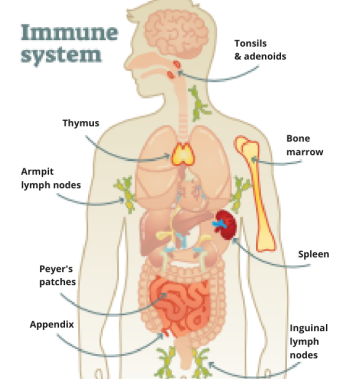
2.7 Diseases and disorders the immune system

work to keep body healthy and free from infection by antibodies that's fight infections that enter body

made up of (cells, tissues, organs)

Main parts of immune system

tonsils & adenoids	thymus	lymph nodes	bone marrow
spleen	appendix	Peyer's patches(in intestine)	



Conditions affecting

Immune system recognises healthy body cells as unhealthy ones & attacks them (autoimmune disease)

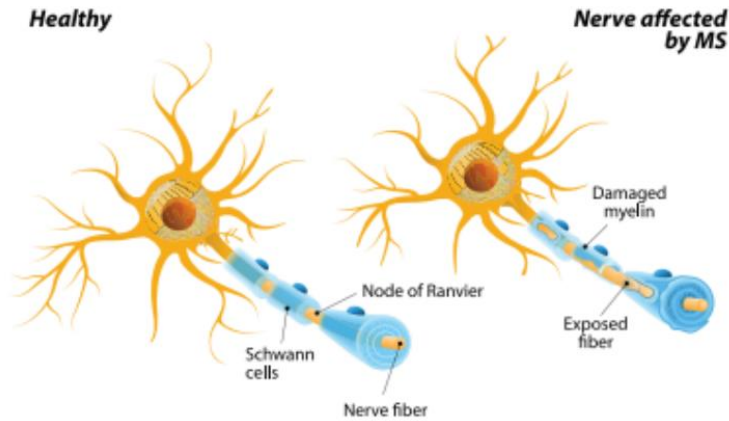
80 autoimmune diseases affect different systems of body

multiple sclerosis (affects nervous system)	certain types of arthritis (affects musculoskeletal system)	certain bowel diseases (affect digestive system)	allergy
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disrupts : يعطل numbness : خدر rest of : الباقي من sneezing : عطس rash : طفح جلدي

chronic	multiple sclerosis MS (affects nervous system)
What is?	autoimmune of brain and spinal cord because immune system attacks the protective covering (myelin) of nerve cells and that causes damage to nerves and disrupts the communication between brain and rest of the body جهاز المناعي يهاجم الغلاف الواقي للخلايا العصبية
problem	Makes difficult to do everyday tasks
affect :	usually develops between 16-55Y women more likely than men to get it if close family member has it there's higher risk of developing it
Signs & symptoms :	symptoms come and go, in others it get worse over time tiredness and weakness vision problem movement problems pain or numbness in arms and legs cognitive problems
Treatment : no cure, can be managed by :	medication to slow progression of disease and to manage attacks physical therapy to stretch and strengthen muscles, and to help with walking and doing everyday activities

nerves part of nervous system control what body does



chronic	الاجسام المضادة بتحارب مواد معينة بتفكرها ضارة Allergy
What is?	Immune system reacts to a substance such as dust, animal hair, or type of food so it produces antibodies that think the substance is harmful this can cause inflammation of skin, eyes, airway.
problem	can cause dangerous reaction (anaphylaxis) so life-threatening (emergency)
affect :	anyone if there's family history of allergies, you might be more likely to develop allergies
Signs & symptoms :	can range from mild to severe.
Mild symptoms :	sneezing watering, red, or swollen eyes swelling of face, lips, or throat itchy mouth or nose bumpy red rash forming on skin
Serve symptoms :	severe chest tightness & shortness of breath - skin rash - rapid weak pulse - loss of consciousness
Treatment :	preventing allergic reactions by avoiding things cause reaction medication can reduce immune system reaction and improve symptoms called (antihistamines) if person has a severe allergy to something they might carry an adrenaline auto-injector. it can save their life if they are experiencing anaphylaxis