

Fundamentals of Anatomy, Pathophysiology, and Lifestyle Medicine™

Knowledge-Based Certification

Certification Curriculum



Summary Certification Overview

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| 4 | Integumentary system | 16 | Water, electrolytes, acid-base balance |
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Fundamentals of Anatomy, Pathophysiology, and Lifestyle Medicine™

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| 4 | Getting a grasp on anatomical terminology |
| 5 | Cell fundamentals: The basic units of life |
| 6 | What contributes to poorer health and disease? |
| 7 | Transport across a membrane |
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Fundamentals of Anatomy, Physiology, and Pathophysiology™

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| 13 | Examining 6 common skin conditions |
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| 20 | Creating an action potential |

Fundamentals of Anatomy, Physiology, and Pathophysiology™

| Unit | Content |
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| 21 | Nervous system conditions |
| 22 | What are our special senses? |
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| 25 | Production, secretion, and regulation of hormones |
| 26 | 6 structures and their hormones |
| 27 | Endocrine system disorders |
| 28 | Arteries, veins, and capillaries running through the body |
| 29 | The components of our blood |
| 30 | Cardiovascular system disorders |

Fundamentals of Anatomy, Physiology, and Pathophysiology™

| Unit | Content |
|------|---|
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| 36 | The stomach |
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| 38 | The intestines |
| 39 | Gastrointestinal conditions (part 1) |
| 40 | Gastrointestinal conditions (part 2) |

Fundamentals of Anatomy, Physiology, and Pathophysiology™

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|------|---|
| 41 | The science behind breathing in and out |
| 42 | When respiration is out of balance |
| 43 | More than just removing waste through urine |
| 44 | 4 Urinary system conditions |
| 45 | Water balance |
| 46 | Electrolyte balance |
| 47 | Acid-base balance |
| 48 | Female reproductive system |
| 49 | Male reproductive system |
| 50 | Conception and implantation |

Fundamentals of Anatomy, Physiology, and Pathophysiology™

| Unit | Content |
|------|---|
| 51 | Reproductive health concerns |
| 52 | The 6 main human life cycle stages |
| 53 | Health Risk Questionnaires |
| 54 | Routine Screenings Per Age Group |
| 55 | Components of Basic Biometrics |
| 56 | Thyroid and other common blood tests |
| 57 | Lifestyle medicine practice within medical settings |
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| 59 | Modifiable lifestyle factors for disease risk reduction |
| 60 | Sleep and stress |

Fundamentals of Anatomy, Physiology, and Pathophysiology™

| Unit | Content |
|------|---|
| 61 | Smoking and alcohol consumption |
| 62 | Weight maintenance, obesity, and metabolic syndrome |
| 63 | Dos, don'ts, and must dos |

0. Advisory fundamentals

| Unit | Here's what you'll learn | Extra support material |
|--|---|--|
| <p>0.1 Your Certification fundamentals</p> <p>0.2 Skills Lab™: What's your goal?</p> | <ul style="list-style-type: none">▪ A journey of scientific discovery▪ Scope of this certification▪ Not a course to be rushed through▪ The first part▪ The second part▪ The third part▪ A comprehensive certification▪ Introducing your Success Map▪ Your Anatomy, Pathophysiology, and Lifestyle Medicine Success Map™▪ Over 75 medical conditions...▪ Tell us your goals▪ Your Personal Strategy Questionnaire | <ul style="list-style-type: none">▪ Skills Lab™: Personal Strategy Questionnaire (What's your goal?) |

1. Introduction to pathophysiology and lifestyle medicine

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| <p>1.1 Why study anatomy, physiology, pathophysiology, and lifestyle medicine?</p> <p>1.2 Getting a grasp on anatomical terminology</p> | <ul style="list-style-type: none">▪ Understanding key terms▪ What is anatomy? And physiology?▪ What is pathophysiology?▪ Putting it together▪ A crucial understanding▪ Asking the right questions▪ A strong foundation▪ Systems as a whole▪ Modifiable or not?▪ Lifestyle Medicine▪ Prevention better than cure▪ 30 million preventable deaths?▪ The world's top 10 killers▪ Even in high-income countries...▪ No 'magic pill' for preventive care?▪ So what is lifestyle medicine? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

1. Introduction to pathophysiology and lifestyle medicine

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>1.1 Why study anatomy, physiology, pathophysiology, and lifestyle medicine?</p> <p>1.2 Getting a grasp on anatomical terminology</p> | <ul style="list-style-type: none">▪ Modifiable lifestyle factors▪ Who can give recommendations?▪ Lifestyle prescriptions vs guidelines▪ Other professional considerations▪ Anatomical terminology▪ Anatomical position▪ When laying down▪ Learning direction terms▪ Directional terms▪ Dividing the body in sections▪ 3 body planes▪ Dividing the body in halves▪ 3 main axes▪ Planes and axes▪ Movement terms▪ Movement examples▪ Regional terms | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

1. Introduction to pathophysiology and lifestyle medicine

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>1.1 Why study anatomy, physiology, pathophysiology, and lifestyle medicine?</p> <p>1.2 Getting a grasp on anatomical terminology</p> | <ul style="list-style-type: none">▪ Fluid-filled spaces in the body▪ Visualising human body cavities▪ Learning a new language | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

2. Cell structure and function

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 2.1 Cell fundamentals | <ul style="list-style-type: none">▪ Trillions of cells working together▪ Main cell types▪ Human cell basics | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 2.2 What contributes to poorer health and disease? | <ul style="list-style-type: none">▪ Functions of organelles▪ What is DNA?▪ DNA structure▪ From DNA to RNA▪ DNA, mRNA, and protein | <ul style="list-style-type: none">▪ Videos |
| 2.3 Transport across a membrane | <ul style="list-style-type: none">▪ Amino acids sequence and structure▪ Genes and proteins▪ From DNA to proteins | |
| 2.4 Cell division, mitosis, and meiosis | <ul style="list-style-type: none">▪ Protein in food▪ Mutations: the cause for disease?▪ Defective gene... or environment?▪ Genes from mom and dad▪ Scientists started to wonder...▪ The Human Genome Project | |

2. Cell structure and function

| Unit | Here's what you'll learn | Extra support material |
|--|--|---|
| 2.1 Cell fundamentals | <ul style="list-style-type: none">▪ The results?▪ The start of GWAS▪ Genes associated with curly hair | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 2.2 What contributes to poorer health and disease? | <ul style="list-style-type: none">▪ Linking genes to phenotypes▪ A gene that causes obesity?▪ Nature + nurture▪ What's the epigenome?▪ We're not doomed by our genes | <ul style="list-style-type: none">▪ Videos |
| 2.3 Transport across a membrane | <ul style="list-style-type: none">▪ "Let food be your medicine"▪ Lifestyle medicine▪ Transport across the membrane | |
| 2.4 Cell division, mitosis, and meiosis | <ul style="list-style-type: none">▪ 3 main transport types▪ Passive transport▪ Molecules spreading out▪ An example of diffusion▪ Diffusion in the body too▪ Gas exchange during respiration | |

2. Cell structure and function

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 2.1 Cell fundamentals | <ul style="list-style-type: none">▪ Creating equilibrium with water▪ Osmosis example 1▪ Osmosis example 2 | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 2.2 What contributes to poorer health and disease? | <ul style="list-style-type: none">▪ Thirsty plant cells▪ Osmosis in the human body▪ Facilitated diffusion▪ Who crosses using transporters?▪ Transporting glucose into a cell | <ul style="list-style-type: none">▪ Videos |
| 2.3 Transport across a membrane | <ul style="list-style-type: none">▪ Active transport▪ Needing energy▪ The Na⁺/K⁺ ATPase pump | |
| 2.4 Cell division, mitosis, and meiosis | <ul style="list-style-type: none">▪ Vesicle transport▪ Need to be carried▪ Entering the cell through vesicles▪ 3 types of endocytosis▪ Exocytosis▪ Complex and well-orchestrated | |

2. Cell structure and function

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 2.1 Cell fundamentals | <ul style="list-style-type: none">▪ Why learn how cells divide?▪ How do cells divide?▪ Not all cells divide? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 2.2 What contributes to poorer health and disease? | <ul style="list-style-type: none">▪ Cell cycle phases▪ Cell cycle stages▪ Somatic cells vs gamete cells▪ Chromosomes in humans▪ Normal human karyotype | <ul style="list-style-type: none">▪ Videos |
| 2.3 Transport across a membrane | <ul style="list-style-type: none">▪ 5 main stages of mitosis▪ Dividing the nucleus▪ Cell mitosis | |
| 2.4 Cell division, mitosis, and meiosis | <ul style="list-style-type: none">▪ Meiosis: a special kind of division▪ Why is meiosis important?▪ Cells for reproduction▪ How does meiosis occur?▪ Cell meiosis | |

2. Cell structure and function

| Unit | Here's what you'll learn | Extra support material |
|--|---|--|
| <p>2.1 Cell fundamentals</p> <p>2.2 What contributes to poorer health and disease?</p> <p>2.3 Transport across a membrane</p> <p>2.4 Cell division, mitosis, and meiosis</p> | <ul style="list-style-type: none">▪ Comparing mitosis and meiosis▪ Importance of cell division | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

3. Cellular metabolism

| Unit | Here's what you'll learn | Extra support material |
|--|--|--|
| <p>3.1 What is metabolism?</p> <p>3.2 Enzymes-catalysing reactions</p> | <ul style="list-style-type: none">▪ What's metabolism?▪ Cats are always breaking things▪ Breaking down and building up▪ A network of roads▪ Cellular respiration▪ From food to ATP▪ Glycolysis▪ Krebs cycle▪ Electron transport chain▪ Why study these processes?▪ Fats and protein for energy▪ Gluconeogenesis▪ Breaking down glucose▪ Glucose or glycogen▪ Blood sugar control▪ Using glucose as energy▪ Ketogenesis | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

3. Cellular metabolism

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| 3.1 What is metabolism? 3.2 Enzymes-catalysing reactions | <ul style="list-style-type: none">▪ Too many ketones▪ Taking too long▪ Lowering the energy needed▪ Lock and key▪ Where the binding occurs▪ Multiple binding sites▪ A temporary change▪ After consuming sucrose▪ Breaking down sucrose▪ Dehydration synthesis vs hydrolysis▪ An assistant to enzymes▪ Bridges are helpful▪ Some vitamins are coenzymes▪ Ascorbic acid: the coenzyme▪ Extra energy required▪ Cells working together | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

4. Integumentary system

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 4.1 Why do we have skin? | <ul style="list-style-type: none">▪ Why do we have skin?▪ What is the integumentary system?▪ What are the 5 main skin functions? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 4.2 What are the different layers of the skin? | <ul style="list-style-type: none">▪ Role 1: Protection▪ Is our skin waterproof?▪ The skin is like a gate in a fence | <ul style="list-style-type: none">▪ Videos |
| 4.3 Examining 6 common skin conditions | <ul style="list-style-type: none">▪ Role 2: Regeneration▪ Main steps of wound healing▪ Role 3: Sensation▪ Thermoregulation▪ Keeping it in balance▪ Role 4: Manufacturing▪ Vitamin D synthesis▪ Role 5: Storage▪ Why protect our skin?▪ How many skin layers are there?▪ 3 main layers of skin | |

4. Integumentary system

| Unit | Here's what you'll learn | Extra support material |
|--|--|---|
| 4.1 Why do we have skin? | <ul style="list-style-type: none">▪ Visualising the skin layers▪ Contacting the environment▪ Layers of the epidermis | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 4.2 What are the different layers of the skin? | <ul style="list-style-type: none">▪ New skin each month?▪ Maturing skin cells▪ Toughening up for protection▪ Bricks and mortar | <ul style="list-style-type: none">▪ Videos |
| 4.3 Examining 6 common skin conditions | <ul style="list-style-type: none">▪ Thick skin?▪ Visualising the dermis▪ Layers of the dermis▪ The strength of collagen▪ Making collagen fibres▪ The flexible fibre▪ Fatty skin?▪ Site for drug injection?▪ Where in the skin do drugs go?▪ Differences due to cells? | |

4. Integumentary system

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>4.1 Why do we have skin?</p> <p>4.2 What are the different layers of the skin?</p> <p>4.3 Examining 6 common skin conditions</p> | <ul style="list-style-type: none">▪ Cell types of the skin layers▪ The cells in our skin▪ Secreting substances from the skin▪ Glands which sweat▪ Glands in our skin▪ Getting under your skin▪ 6 common skin conditions▪ How common is acne?▪ When hair follicles are clogged▪ Types of comedones▪ Forming whiteheads and blackheads▪ Bacterial growth▪ Forming papules and pustules▪ 3 main types of dermatitis▪ Seborrheic and contact dermatitis▪ Skin changes▪ Contact dermatitis irritants | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

4. Integumentary system

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 4.1 Why do we have skin? | <ul style="list-style-type: none">▪ Involvement of the immune system▪ Limiting a reaction▪ Yeast on our head? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 4.2 What are the different layers of the skin? | <ul style="list-style-type: none">▪ No “cure” for seborrheic dermatitis?▪ What is eczema?▪ Minimising AD flare-ups | <ul style="list-style-type: none">▪ Videos |
| 4.3 Examining 6 common skin conditions | <ul style="list-style-type: none">▪ Genetics of dermatitis▪ Diet for AD▪ When bumps appear quickly▪ Common triggers of hives▪ Subtypes of hives▪ Hives vs angioedema▪ Treating hives▪ What is psoriasis?▪ Scalp psoriasis▪ Psoriasis and disease▪ Can nutrition help? | |

4. Integumentary system

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| <p>4.1 Why do we have skin?</p> <p>4.2 What are the different layers of the skin?</p> <p>4.3 Examining 6 common skin conditions</p> | <ul style="list-style-type: none">▪ What is rosacea?▪ Rosacea subtypes▪ Protecting what's inside | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

5. Skeletal system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| <p>5.1 The bones that hold us together</p> <p>5.2 The fundamentals of 4 skeletal conditions</p> | <ul style="list-style-type: none">▪ Muscular + skeletal▪ 2 main skeletal divisions▪ Axial and appendicular▪ Skeletal system▪ Bone classification▪ Renovating a house▪ Bone remodelling▪ Bone function – it's alive!▪ Calcium and collagen▪ Cartilage: giving structure▪ Connecting bone to bone or muscle▪ Sprains and tears▪ Joints: connecting bones▪ Shoulder anatomy▪ Neck and back anatomy▪ Hip anatomy▪ Knee anatomy | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

5. Skeletal system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| <p>5.1 The bones that hold us together</p> <p>5.2 The fundamentals of 4 skeletal conditions</p> | <ul style="list-style-type: none">▪ Foot and ankle anatomy▪ Bones and muscles▪ Bone and joint conditions▪ What is gout?▪ Complications with gout▪ Nutritional risks factors▪ Reducing symptoms with the diet▪ What is osteoarthritis?▪ Stages of knee osteoarthritis▪ Nutritional support▪ Supplemental support▪ Our immune system attacking us▪ The role of genetics▪ Behavioural risk factors▪ Dietary support for symptoms▪ Comparing OA and RA▪ When bone mineral density is low | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

5. Skeletal system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| <p>5.1 The bones that hold us together</p> <p>5.2 The fundamentals of 4 skeletal conditions</p> | <ul style="list-style-type: none">▪ Stages of osteoporosis▪ A T-score vs Z-score▪ Understanding T-scores▪ Risk factors: smoking and alcohol▪ Other risk factors▪ Which nutrients for bone health?▪ Connecting bones to muscles | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

6. Muscular system

| Unit | Here's what you'll learn | Extra support material |
|--|--|--|
| 6.1 Moving muscles 6.2 Muscular system conditions | <ul style="list-style-type: none">▪ Working together▪ Connecting body systems▪ Muscles pulling on bones▪ Muscles of the knee▪ Working together to move▪ More than just movement▪ Muscular system▪ Muscle tissue types▪ 3 muscle types▪ Involvement of nerves▪ Muscle contraction▪ The sliding filament theory▪ Requirement of energy▪ Understanding muscles▪ Conditions affecting the muscular system▪ Loss of muscle mass▪ Factors contributing to sarcopenia | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

6. Muscular system

| Unit | Here's what you'll learn | Extra support material |
|--|---|--|
| 6.1 Moving muscles 6.2 Muscular system conditions | <ul style="list-style-type: none">▪ Not just 1 disorder▪ Strengthening muscles▪ DMD genetics▪ Progressive muscle weakness▪ Nutrition for DMD▪ Not just during exercise▪ 2 main hypothesis▪ What to do with a cramp?▪ When to see a doctor?▪ Pain all over▪ Other fibromyalgia symptoms▪ Cause of fibromyalgia▪ Epigenetic changes▪ Changes in methylation▪ Lifestyle and nutritional support▪ Neuromuscular system | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

7. Nervous system

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| 7.1 The major control, regulatory, and communication system | <ul style="list-style-type: none">▪ More than just sensing pain▪ 2 main divisions▪ The CNS and PNS▪ Voluntary or involuntary?▪ Trying not to blink or breathe | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| 7.2 The brain and nerves of the nervous system | <ul style="list-style-type: none">▪ 3 main functions▪ Integration and output▪ Information in and instructions out▪ Dividing the nervous system | |
| 7.3 Creating an action potential | <ul style="list-style-type: none">▪ Fight, flight, rest, or digest▪ Balancing the nervous system▪ Sympathetic and parasympathetic | |
| 7.4 Nervous system conditions | <ul style="list-style-type: none">▪ Feeling stressed?▪ Nerves connect to other systems▪ The brain and nerves▪ Functions of the brain▪ Physical damage protection | |

7. Nervous system

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| 7.1 The major control, regulatory, and communication system | <ul style="list-style-type: none">▪ Layers of protection▪ Protection against pathogens▪ 3 main brain regions▪ Visualising the brain▪ Cerebrum divided | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| 7.2 The brain and nerves of the nervous system | <ul style="list-style-type: none">▪ Lobes of the cerebrum▪ Functions of each lobe▪ The cells of the nervous system▪ The anatomy of a neuron | |
| 7.3 Creating an action potential | <ul style="list-style-type: none">▪ Jumping from neuron to neuron▪ Grey and white matter▪ Afferent and efferent nerves | |
| 7.4 Nervous system conditions | <ul style="list-style-type: none">▪ Neurons don't work alone▪ Regeneration of nerve cells▪ Problems for PNS regeneration▪ How does a neuron work?▪ From neurons to the brain | |

7. Nervous system

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| 7.1 The major control, regulatory, and communication system | <ul style="list-style-type: none">▪ Messengers of the nervous system▪ A change in concentration▪ The resting membrane potential▪ Key ions: sodium and potassium▪ Movement of ions | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| 7.2 The brain and nerves of the nervous system | <ul style="list-style-type: none">▪ Depolarisation▪ Repolarisation▪ Change in membrane potential▪ A failed action potential | |
| 7.3 Creating an action potential | <ul style="list-style-type: none">▪ The role of calcium in transmission▪ Action potential at the NMJ▪ Inhibitory or excitatory | |
| 7.4 Nervous system conditions | <ul style="list-style-type: none">▪ Top neurotransmitters▪ Nutrients to support the nervous system▪ Brain and nerves work together▪ Nervous system conditions▪ What is carpal tunnel syndrome? | |

7. Nervous system

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| 7.1 The major control, regulatory, and communication system | <ul style="list-style-type: none">▪ Carpal tunnel anatomy▪ What causes compression?▪ What is Alzheimer's?▪ Amyloid plaques▪ Nutrition and Alzheimer's | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| 7.2 The brain and nerves of the nervous system | <ul style="list-style-type: none">▪ What is MS?▪ Areas affected by MS▪ Risk factors for MS▪ What is a migraine? | |
| 7.3 Creating an action potential | <ul style="list-style-type: none">▪ Cortical spreading depression▪ Can't sleep at night?▪ Blaming our genes? | |
| 7.4 Nervous system conditions | <ul style="list-style-type: none">▪ Connecting conditions▪ How common is insomnia?▪ Factors influencing insomnia▪ What is RLS?▪ What happens in RLS | |

8. The senses

| Unit | Here's what you'll learn | Extra support material |
|-------------------------------------|--|---|
| 8.1 What are our special senses? | <ul style="list-style-type: none">▪ What are you currently sensing?▪ What are our special senses?▪ What are sensory receptors | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 8.2 Our 5 special senses | <ul style="list-style-type: none">▪ 5 main sensory receptor types▪ Does sensation equal perception?▪ Sensation vs perception | <ul style="list-style-type: none">▪ Videos |
| 8.3 3 conditions relating to vision | <ul style="list-style-type: none">▪ How do our senses work?▪ Creating an action potential▪ Diving in deeper...▪ Our 5 special senses▪ What is sight?▪ Eye anatomy▪ The layers of the retina▪ Rhodopsin in rods▪ 3 opsins in cones▪ Tastiness is keeping us alive▪ Tongue anatomy | |

8. The senses

| Unit | Here's what you'll learn | Extra support material |
|-------------------------------------|---|---|
| 8.1 What are our special senses? | <ul style="list-style-type: none">▪ Biology of taste▪ Myth Buster▪ What is olfaction? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 8.2 Our 5 special senses | <ul style="list-style-type: none">▪ Nose anatomy▪ How do we smell something?▪ What is hearing? | <ul style="list-style-type: none">▪ Videos |
| 8.3 3 conditions relating to vision | <ul style="list-style-type: none">▪ Ear anatomy▪ How sounds travel through the ear▪ 2 types of equilibrium▪ The vestibular system▪ Static equilibrium▪ Dynamic equilibrium▪ Sensing our way through the world▪ 3 common eye conditions▪ What are cataracts?▪ An eye with a cataract▪ An age-related condition | |

8. The senses

| Unit | Here's what you'll learn | Extra support material |
|-------------------------------------|---|---|
| 8.1 What are our special senses? | <ul style="list-style-type: none">▪ Not just a disease of ageing▪ What to do?▪ What is glaucoma? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 8.2 Our 5 special senses | <ul style="list-style-type: none">▪ Who is at risk?▪ Open-angle glaucoma▪ Angle-closure glaucoma | <ul style="list-style-type: none">▪ Videos |
| 8.3 3 conditions relating to vision | <ul style="list-style-type: none">▪ Development of glaucoma▪ What can be done for glaucoma?▪ What is macular degeneration?▪ Risk for AMD▪ 2 major types of AMD▪ Macular degeneration types▪ Slowing disease progression | |

9. Endocrine system

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| 9.1 Production, secretion, and regulation of hormones | <ul style="list-style-type: none">▪ Functions of the endocrine system▪ Comparing 2 systems▪ What are glands?▪ Male and female endocrine system▪ What are hormones? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 9.2 6 structures and their hormone | <ul style="list-style-type: none">▪ Steroid and nonsteroid hormones▪ Different types of hormones▪ Communication with cells | |
| 9.3 Endocrine system disorders | <ul style="list-style-type: none">▪ 3 types of hormone action▪ Steps of a hormonal response▪ Steroid hormone response▪ Nonsteroid hormone response▪ Regulating hormone levels▪ Negative feedback▪ 3 main mechanisms of action▪ Where do hormones come from?▪ 6 key structures | |

9. Endocrine system

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| 9.1 Production, secretion, and regulation of hormones | <ul style="list-style-type: none">▪ Hypothalamus anatomy▪ Produced by the hypothalamus▪ Pituitary gland anatomy▪ Produced by the pituitary▪ Thyroid and parathyroid anatomy | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 9.2 6 structures and their hormone | <ul style="list-style-type: none">▪ Produced by the thyroid and parathyroid▪ Hormones: connecting organs▪ Adrenal gland anatomy and hormones | |
| 9.3 Endocrine system disorders | <ul style="list-style-type: none">▪ Pancreas anatomy and hormones▪ What's insulin?▪ Insulin and fat gain▪ Excess glucose and fat storage▪ Sugar highs and lows▪ Reproductive organ anatomy▪ Testes and ovaries▪ Sleep and stress▪ Hormones involved in the HPA axis | |

9. Endocrine system

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| 9.1 Production, secretion, and regulation of hormones | <ul style="list-style-type: none">▪ Hunger hormones▪ Hormone balance▪ Glands get tired?▪ Is adrenal fatigue a myth?▪ Adrenal insufficiency | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 9.2 6 structures and their hormone | <ul style="list-style-type: none">▪ 3 main types of insufficiency▪ A long-term condition▪ What is diabetes? | |
| 9.3 Endocrine system disorders | <ul style="list-style-type: none">▪ Two main types of diabetes▪ Understanding type 1 diabetes▪ Type 1 diabetes management▪ Understanding type 2 diabetes▪ Prediabetes to type 2▪ Type 2 diabetes dietary support▪ Type 2 diabetes management▪ Comparing type 1 and 2 | |

9. Endocrine system

| Unit | Here's what you'll learn | Extra support material |
|--|--|---|
| <p>9.1 Production, secretion, and regulation of hormones</p> <p>9.2 6 structures and their hormone</p> <p>9.3 Endocrine system disorders</p> | <ul style="list-style-type: none">▪ Hypo and hyperthyroidism▪ Hormones affect the heart | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

10. Cardiovascular system

| Unit | Here's what you'll learn | Extra support material |
|--|---|--|
| 10.1 Arteries, veins, and capillaries running through the body | <ul style="list-style-type: none">▪ Run by a large pump▪ Heart anatomy▪ Cardiovascular transport▪ Blood vessels structure▪ Cardiac output = venous return | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| 10.2 The components of our blood | <ul style="list-style-type: none">▪ Blood flow through the heart▪ 2 circulatory systems▪ Systemic circulation▪ Pulmonary circulation | |
| 10.3 Cardiovascular system disorders | <ul style="list-style-type: none">▪ Blood flow to the body▪ Contraction and relaxation▪ The cardiac cycle▪ How to flow?▪ What makes the heart beat?▪ A Nobel Prize discovery▪ ECG waves▪ Normal sinus rhythm | |

10. Cardiovascular system

| Unit | Here's what you'll learn | Extra support material |
|--|---|--|
| 10.1 Arteries, veins, and capillaries running through the body | <ul style="list-style-type: none">▪ Why have an ECG?▪ An “echo” of the heart▪ Heart rate▪ Factors that affect heart rate▪ Take action: Check your pulse | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| 10.2 The components of our blood | <ul style="list-style-type: none">▪ What is in our blood?▪ What is in our blood?▪ Blood cells origin▪ The components of blood | |
| 10.3 Cardiovascular system disorders | <ul style="list-style-type: none">▪ Red blood cells▪ Carrying oxygen through the body▪ White blood cells▪ Platelets▪ Function of blood▪ Transportation▪ Regulation and Protection▪ ABO blood types | |

10. Cardiovascular system

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>10.1 Arteries, veins, and capillaries running through the body</p> | <ul style="list-style-type: none">▪ Heart and blood▪ Cardiovascular conditions▪ Too much or too little pressure▪ What changes blood pressure?▪ Risk for increased blood pressure | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| <p>10.2 The components of our blood</p> | <ul style="list-style-type: none">▪ Reducing hypertension risk▪ A diet to stop hypertension?▪ What about low BP?▪ One important lipid | |
| <p>10.3 Cardiovascular system disorders</p> | <ul style="list-style-type: none">▪ Happy or lousy?▪ A build-up in artery walls▪ Problem with plaques▪ Atherosclerotic plaques▪ Pain or tightness in the chest▪ 3 main types of angina▪ What is a heart attack?▪ Heart muscle dies | |

10. Cardiovascular system

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>10.1 Arteries, veins, and capillaries running through the body</p> | <ul style="list-style-type: none">▪ What is a stroke?▪ 2 types of stroke▪ 2 systems combined▪ See a stroke - BE FAST▪ The many types of anaemia | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| <p>10.2 The components of our blood</p> | <ul style="list-style-type: none">▪ Low levels of iron▪ Quick iron test▪ What is a varicose vein?▪ Why do they form? | |
| <p>10.3 Cardiovascular system disorders</p> | <ul style="list-style-type: none">▪ Limiting varicose veins▪ Circulation in blood vessels | |

11. Lymphatic system

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| <p>11.1 Ridding the body of toxins, waste, and unwanted material</p> | <ul style="list-style-type: none">▪ Ridding the body of toxins▪ Lymphatic system anatomy▪ 2 main function of lymph nodes▪ Types of lymphatic organs▪ Lymph node structure▪ Movement of lymph▪ Lymphatic fluid▪ Lymph surrounded by blood vessels▪ Blood and lymphatic circulation▪ Speed of transport▪ Identifying an infection▪ Looking for metastasised cancer▪ New scientific discoveries▪ Lymph and immunity | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

12. Immune system

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| <p>12.1 Fighting infection</p> <p>12.2 When the immune system is working too hard or not enough</p> | <ul style="list-style-type: none">▪ Cuts, colds, and allergies?▪ What is the immune system?▪ The organs of the immune system▪ Antigens and antibodies▪ White blood cells to the rescue▪ Cells of the immune system▪ T cells and B cells▪ 3 types of immunity▪ First line of defence▪ Second line of defence▪ Pathogen eating time!▪ Phagocytosis▪ Third line of defence▪ 5 types of antibodies▪ Monoclonal antibodies▪ Nutrition for immune health▪ Immunity Nutrition | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

12. Immune system

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>12.1 Fighting infection</p> <p>12.2 When the immune system is working too hard or not enough</p> | <ul style="list-style-type: none">▪ Factors influencing immunity▪ Hindering or helping?▪ Strong immunity is important▪ Autoimmune or overactive?▪ The viruses that cause the flu▪ Symptoms and complications▪ Antiviral drugs, rest, and vaccines▪ What does autoimmune mean?▪ Attacking cells▪ Various body systems attacked▪ HIV or AIDS▪ Reduced CD4+ cells▪ Grave's disease▪ Bulging eyes▪ Fighting off everything▪ The IgE-mediated allergic response▪ 8 common food allergies | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

12. Immune system

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>12.1 Fighting infection</p> <p>12.2 When the immune system is working too hard or not enough</p> | <ul style="list-style-type: none">▪ Symptoms of a food allergy▪ How common are allergies?▪ Allergies = intolerances?▪ Environmental allergies▪ When pollen activates inflammation▪ Immunity affects the whole body | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

13. Digestive system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| 13.1 Introduction to the digestive system | <ul style="list-style-type: none">▪ What happens to the food we eat?▪ The digestive system | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 13.2 From mouth to stomach | <ul style="list-style-type: none">▪ 6 events involved in digestion▪ A long way down | <ul style="list-style-type: none">▪ Videos |
| 13.3 The stomach | <ul style="list-style-type: none">▪ Digestive system organs▪ Digestive system in sections | |
| 13.4 The pancreas, liver, and gallbladder | <ul style="list-style-type: none">▪ The first entry point of food▪ Mouth and throat anatomy▪ Tongue and teeth▪ Pharynx = throat | |
| 13.5 The intestines | <ul style="list-style-type: none">▪ 3 stages of swallowing▪ Oesophagus | |
| 13.6 Gastrointestinal conditions (part 1) | <ul style="list-style-type: none">▪ Lower oesophageal sphincter▪ Chewing and digestion | |
| 13.7 Gastrointestinal conditions (part 2) | <ul style="list-style-type: none">▪ More benefits to chewing?▪ Kickstarting carb digestion▪ The role of genetics | |

13. Digestive system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| 13.1 Introduction to the digestive system | <ul style="list-style-type: none">▪ Breaking down fats▪ What next? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 13.2 From mouth to stomach | <ul style="list-style-type: none">▪ The stomach▪ Stomach anatomy▪ The stomach: an acid factory | <ul style="list-style-type: none">▪ Videos |
| 13.3 The stomach | <ul style="list-style-type: none">▪ Gastric acid | |
| 13.4 The pancreas, liver, and gallbladder | <ul style="list-style-type: none">▪ Stomach wall anatomy▪ Secreting gastric acid▪ Increasing gastric secretion▪ More stomach secretions | |
| 13.5 The intestines | <ul style="list-style-type: none">▪ Decreasing gastric secretion▪ What is chyme? | |
| 13.6 Gastrointestinal conditions (part 1) | <ul style="list-style-type: none">▪ Accessory organs▪ Pancreas as an exocrine gland | |
| 13.7 Gastrointestinal conditions (part 2) | <ul style="list-style-type: none">▪ Pancreatic juices▪ Pancreas anatomy▪ Pancreas cells | |

13. Digestive system

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| 13.1 Introduction to the digestive system | <ul style="list-style-type: none">▪ Pancreatic cells secretions▪ The bile producing organ▪ Liver anatomy | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 13.2 From mouth to stomach | <ul style="list-style-type: none">▪ Hepatocyte communication▪ Liver lobule anatomy | <ul style="list-style-type: none">▪ Videos |
| 13.3 The stomach | <ul style="list-style-type: none">▪ What is the gallbladder function? | |
| 13.4 The pancreas, liver, and gallbladder | <ul style="list-style-type: none">▪ Gallbladder anatomy▪ A key gallbladder hormone▪ Working together▪ The long and winding road... | |
| 13.5 The intestines | <ul style="list-style-type: none">▪ Intestine anatomy | |
| 13.6 Gastrointestinal conditions (part 1) | <ul style="list-style-type: none">▪ The importance of folds▪ Small intestine anatomy▪ Duodenum reduces acidity | |
| 13.7 Gastrointestinal conditions (part 2) | <ul style="list-style-type: none">▪ Jejunum and ileum▪ More enzymes▪ Absorption summary | |

13. Digestive system

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| 13.1 Introduction to the digestive system | <ul style="list-style-type: none">▪ Large intestine function▪ Large intestine anatomy | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 13.2 From mouth to stomach | <ul style="list-style-type: none">▪ 4 parts of the colon▪ Gut bacteria▪ How long does it take? | <ul style="list-style-type: none">▪ Videos |
| 13.3 The stomach | <ul style="list-style-type: none">▪ Getting nutrients in▪ Conditions covered | |
| 13.4 The pancreas, liver, and gallbladder | <ul style="list-style-type: none">▪ Irritable bowel syndrome▪ IBS symptoms▪ How is IBS medically diagnosed?▪ Lifestyle changes needed? | |
| 13.5 The intestines | <ul style="list-style-type: none">▪ What is dysbiosis? | |
| 13.6 Gastrointestinal conditions (part 1) | <ul style="list-style-type: none">▪ Link to whole-body health▪ Diet and dysbiosis▪ Constipation | |
| 13.7 Gastrointestinal conditions (part 2) | <ul style="list-style-type: none">▪ Factors influencing constipation▪ What is diarrhoea? | |

13. Digestive system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| 13.1 Introduction to the digestive system | <ul style="list-style-type: none"> ▪ Acute vs chronic ▪ What are haemorrhoids? ▪ 4 stages of haemorrhoids | <ul style="list-style-type: none"> ▪ Test Your Knowledge exercises |
| 13.2 From mouth to stomach | <ul style="list-style-type: none"> ▪ Haemorrhoids ▪ Reducing haemorrhoids | <ul style="list-style-type: none"> ▪ Videos |
| 13.3 The stomach | <ul style="list-style-type: none"> ▪ What are gallstones? ▪ What increases risk for gallstones? | |
| 13.4 The pancreas, liver, and gallbladder | <ul style="list-style-type: none"> ▪ Hydrochloric acid in the stomach ▪ Understanding stomach pH ▪ Minerals for balancing pH ▪ There's more! | |
| 13.5 The intestines | <ul style="list-style-type: none"> ▪ Conditions covered | |
| 13.6 Gastrointestinal conditions (part 1) | <ul style="list-style-type: none"> ▪ Not a new idea ▪ What is the "leaky gut"? ▪ Normal gut vs "leaky gut" | |
| 13.7 Gastrointestinal conditions (part 2) | <ul style="list-style-type: none"> ▪ How do molecules pass through? ▪ What are the junction proteins? | |

13. Digestive system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| 13.1 Introduction to the digestive system | <ul style="list-style-type: none"> ▪ How does the “leaky gut” occur? ▪ How is the “leaky gut” defined? ▪ What causes the damage? | <ul style="list-style-type: none"> ▪ Test Your Knowledge exercises |
| 13.2 From mouth to stomach | <ul style="list-style-type: none"> ▪ What is Coeliac disease? ▪ Eat more fibre? | <ul style="list-style-type: none"> ▪ Videos |
| 13.3 The stomach | <ul style="list-style-type: none"> ▪ How do you know? ▪ Signs and symptoms | |
| 13.4 The pancreas, liver, and gallbladder | <ul style="list-style-type: none"> ▪ Time to go gluten-free? ▪ What is Crohn’s disease? ▪ Crohn’s disease symptoms ▪ Factors affecting Crohn’s disease | |
| 13.5 The intestines | <ul style="list-style-type: none"> ▪ Diet personalisation | |
| 13.6 Gastrointestinal conditions (part 1) | <ul style="list-style-type: none"> ▪ What is diverticulitis? ▪ Visualising diverticulitis ▪ Diverticulosis vs diverticulitis | |
| 13.7 Gastrointestinal conditions (part 2) | <ul style="list-style-type: none"> ▪ What is an ulcer? ▪ H. Pylori affecting overall health | |

13. Digestive system

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| 13.1 Introduction to the digestive system | <ul style="list-style-type: none">▪ Anatomy of a stomach ulcer▪ The role of diet in an ulcer | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 13.2 From mouth to stomach | <ul style="list-style-type: none">▪ Out of control?▪ Candida overgrowth | <ul style="list-style-type: none">▪ Videos |
| 13.3 The stomach | <ul style="list-style-type: none">▪ Upset stomach | |
| 13.4 The pancreas, liver, and gallbladder | <ul style="list-style-type: none">▪ Encouraging growth▪ What increases the risk? | |
| 13.5 The intestines | <ul style="list-style-type: none">▪ A “candida control diet” | |
| 13.6 Gastrointestinal conditions (part 1) | <ul style="list-style-type: none">▪ Rest (and digest) before we move on! | |
| 13.7 Gastrointestinal conditions (part 2) | | |

14. Respiratory system

| Unit | Here's what you'll learn | Extra support material |
|--|--|--|
| <p>14.1 The science behind breathing in and out</p> <p>14.2 When respiration is out of balance</p> | <ul style="list-style-type: none">▪ Breathe in▪ Why do we breathe?▪ Respiratory system anatomy▪ 2 main respiratory tracts▪ Upper respiratory tract anatomy▪ Lower respiratory tract anatomy▪ The nose and nasal cavity▪ Nasal cavity anatomy▪ Paranasal sinus functions▪ Paranasal sinuses anatomy▪ The oral cavity▪ Which way does the air go?▪ Producing a sound▪ Where does air flow after that?▪ Taking air to the bronchi▪ From bronchi to alveoli▪ Making room for air | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

14. Respiratory system

| Unit | Here's what you'll learn | Extra support material |
|--|---|--|
| <p>14.1 The science behind breathing in and out</p> <p>14.2 When respiration is out of balance</p> | <ul style="list-style-type: none">▪ Breathing air in and out▪ Breathing during physical activity▪ Gas exchange in an alveoli▪ 5 phases of respiration▪ What makes us breathe?▪ How is breathing regulated?▪ When breathing goes wrong▪ Respiratory conditions▪ What exactly is a “cold”?▪ Incidence of colds over the year▪ Cold vs allergies vs flu▪ Can we prevent the common cold?▪ What is sinusitis?▪ Sinusitis symptoms▪ Fluid and inflammation▪ Factors influencing sinusitis▪ 2 main types of ear infection | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

14. Respiratory system

| Unit | Here's what you'll learn | Extra support material |
|--|--|--|
| <p>14.1 The science behind breathing in and out</p> <p>14.2 When respiration is out of balance</p> | <ul style="list-style-type: none">▪ Otitis media▪ Otitis externa▪ Antibiotics, drying ears, washing hands▪ What is COPD?▪ 4 stages of COPD▪ What is bronchitis?▪ Inflammation of bronchitis▪ What causes the obstruction?▪ Mucus build-up▪ More secretion, less elimination▪ What is emphysema?▪ Damaged tissue▪ Destruction of the alveoli▪ What is the cause?▪ Gene mutation lowers protection▪ What is asthma? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

14. Respiratory system

| Unit | Here's what you'll learn | Extra support material |
|--|--|--|
| <p>14.1 The science behind breathing in and out</p> <p>14.2 When respiration is out of balance</p> | <ul style="list-style-type: none">▪ Wheezing and coughing▪ Breathe – you're almost there! | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

15. Urinary system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| <p>15.1 More than just removing waste through urine</p> <p>15.2 4 Urinary system conditions</p> | <ul style="list-style-type: none">▪ Urinary system▪ Urinary system anatomy▪ The main functions▪ The kidneys▪ Kidney anatomy▪ Kidney structures▪ The filtering units▪ Urine formation▪ 1. Filtering the blood▪ 2. Reabsorption and 3. Secretion▪ What goes where?▪ 4. Excretion▪ The urea cycle▪ Too much protein▪ Purine metabolism▪ Too many purines?▪ Female bladder anatomy | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

15. Urinary system

| Unit | Here's what you'll learn | Extra support material |
|---|--|---|
| <p>15.1 More than just removing waste through urine</p> <p>15.2 4 Urinary system conditions</p> | <ul style="list-style-type: none">▪ Male bladder anatomy▪ What makes it flow?▪ Blood flow through the nephron▪ GFR can fluctuate▪ Hormones involved▪ Regulating blood pressure▪ Antidiuretic hormone▪ Urine elimination▪ Bladder control▪ Emptying the bladder▪ No more control▪ 4 urinary conditions covered▪ What is incontinence?▪ 4 types of incontinence▪ Stress incontinence▪ The hammock hypothesis▪ A loose hammock changes pressure | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

15. Urinary system

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| <p>15.1 More than just removing waste through urine</p> <p>15.2 4 Urinary system conditions</p> | <ul style="list-style-type: none">▪ Urgency incontinence▪ Change in bladder function▪ 3 reasons for less bladder control▪ What affects bladder function?▪ What is cystitis?▪ 4 types of incontinence▪ Risk factors and treatment▪ What are kidney stones?▪ Symptoms and risk factors▪ Similar conditions?▪ What is nephropathy▪ Changes in diabetic nephropathy▪ Blood pressure and blood sugar▪ Importance of fluid balance | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |

16. Water, electrolytes, acid-base balance

| Unit | Here's what you'll learn | Extra support material |
|--------------------------|---|---|
| 16.1 Water balance | <ul style="list-style-type: none">▪ We are mostly water▪ H₂O: the universal solvent▪ Why polarity is important | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 16.2 Electrolyte balance | <ul style="list-style-type: none">▪ Fluids in the body▪ Water balance▪ Full of hot air? | <ul style="list-style-type: none">▪ Videos |
| 16.3 Acid-base balance | <ul style="list-style-type: none">▪ Water in, water out▪ Water intake and loss▪ Dehydration and too little water▪ Dangers of dehydration▪ Overhydration also a risk▪ How to tell if you're dehydrated▪ Feeling thirsty?▪ Producing water?▪ Properly hydrated?▪ Food water sources▪ Water loss through urination | |

16. Water, electrolytes, acid-base balance

| Unit | Here's what you'll learn | Extra support material |
|--------------------------|---|---|
| 16.1 Water balance | <ul style="list-style-type: none">▪ Sweat it out!▪ More than just water▪ Fluid in the body | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 16.2 Electrolyte balance | <ul style="list-style-type: none">▪ Minerals with a charge▪ Ions: inside or outside?▪ Losing electrolytes | <ul style="list-style-type: none">▪ Videos |
| 16.3 Acid-base balance | <ul style="list-style-type: none">▪ How much electrolytes are where?▪ How do electrolytes move?▪ Renin-Angiotensin-Aldosterone System▪ Feeling thirsty?▪ Regulation of RAAS▪ Its all about balance▪ Acids and bases▪ Understanding pH▪ More than 1 scale▪ pH in different tissues▪ pH off-balance | |

16. Water, electrolytes, acid-base balance

| Unit | Here's what you'll learn | Extra support material |
|--------------------------|---|---|
| 16.1 Water balance | <ul style="list-style-type: none">▪ Reviewing stomach pH▪ How is blood pH regulated?▪ A key role of hydrogen ions | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 16.2 Electrolyte balance | <ul style="list-style-type: none">▪ How does it work?▪ Reversible reaction▪ Buffer system working together | <ul style="list-style-type: none">▪ Videos |
| 16.3 Acid-base balance | <ul style="list-style-type: none">▪ What is a pH test?▪ Stomach pH testing▪ Oesophageal pH test for GERD▪ Low oesophageal pH?▪ Why test blood pH?▪ Arterial blood gas test procedure▪ Urine testing▪ Out of normal range▪ Saliva testing▪ What are alkaline diets?▪ Acid and alkaline-forming foods | |

16. Water, electrolytes, acid-base balance

| Unit | Here's what you'll learn | Extra support material |
|--|--|--|
| 16.1 Water balance 16.2 Electrolyte balance 16.3 Acid-base balance | <ul style="list-style-type: none">▪ Do alkaline diets prevent bone loss?▪ Taking calcium from our bones?▪ Protein and calcium absorption▪ Benefits and risks▪ What's next? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

17. Reproductive system

| Unit | Here's what you'll learn | Extra support material |
|-----------------------------------|--|---|
| 17.1 Female reproductive system | <ul style="list-style-type: none">▪ What to expect▪ What is the uterus?▪ Female reproductive system | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 17.2 Male reproductive system | <ul style="list-style-type: none">▪ Flexible anatomy▪ Ovaries in the spotlight▪ Changes in the menstrual cycle | |
| 17.3 Conception and implantation | <ul style="list-style-type: none">▪ A pair of walnuts▪ Hormones produced by the ovaries▪ An egg delivery service | |
| 17.4 Reproductive health concerns | <ul style="list-style-type: none">▪ Destined to meet▪ Hang fire!▪ Born with eggs?▪ The female HPG axis▪ Hormones are the messengers▪ Timing egg release▪ Fighting for dominance▪ Under pressure | |

17. Reproductive system

| Unit | Here's what you'll learn | Extra support material |
|-----------------------------------|---|---|
| 17.1 Female reproductive system | <ul style="list-style-type: none">▪ When is the fertile window?▪ A temporary structure – just in case▪ Ovarian vs menstrual cycle | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 17.2 Male reproductive system | <ul style="list-style-type: none">▪ Ovarian cycle hormone levels▪ A limited number of eggs?▪ Fertilisation requires sperm | |
| 17.3 Conception and implantation | <ul style="list-style-type: none">▪ Increasing chances of fertilisation▪ Male reproductive system▪ Prostate push | |
| 17.4 Reproductive health concerns | <ul style="list-style-type: none">▪ The sperm factory▪ 3 more key organs▪ The messengers▪ The chief male hormone▪ Additional hormonal players▪ The male HPG axis▪ Bringing the two together▪ Egg and sperm meet together | |

17. Reproductive system

| Unit | Here's what you'll learn | Extra support material |
|-----------------------------------|---|---|
| 17.1 Female reproductive system | <ul style="list-style-type: none">▪ Destination: endometrium▪ The egg and sperm unite▪ Two halves coming together | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 17.2 Male reproductive system | <ul style="list-style-type: none">▪ A gamete comparison▪ A helping hand▪ A preventative measure | |
| 17.3 Conception and implantation | <ul style="list-style-type: none">▪ Zygote formation▪ A fusion of information▪ A summary of fertilisation | |
| 17.4 Reproductive health concerns | <ul style="list-style-type: none">▪ The egg's final destination▪ An overview of conception▪ Fertilisation but no implantation?▪ The 4 key processes▪ An overview of implantation▪ Blastocyst activation and competency▪ Changes during blastocyst activation▪ Time is of the essence | |

17. Reproductive system

| Unit | Here's what you'll learn | Extra support material |
|-----------------------------------|--|---|
| 17.1 Female reproductive system | <ul style="list-style-type: none">▪ The window of implantation▪ A flexible structure▪ A 'sticky' blastocyst | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 17.2 Male reproductive system | <ul style="list-style-type: none">▪ Cellular suicide▪ Nutritious blood | |
| 17.3 Conception and implantation | <ul style="list-style-type: none">▪ At the start of pregnancy▪ A foreign entity▪ The steps of implantation▪ What could go wrong? | |
| 17.4 Reproductive health concerns | <ul style="list-style-type: none">▪ Conditions of ageing?▪ What are PMS symptoms?▪ Altered functioning▪ Limiting PMS symptoms▪ What is clinical infertility?▪ What qualifies as good sperm?▪ Tests evaluating sperm parameters▪ Low sperm counts? | |

17. Reproductive system

| Unit | Here's what you'll learn | Extra support material |
|-----------------------------------|--|---|
| 17.1 Female reproductive system | <ul style="list-style-type: none">▪ WHO sperm parameters▪ Genetics and medical conditions?▪ Male reproductive conditions | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 17.2 Male reproductive system | <ul style="list-style-type: none">▪ Factors influencing female infertility▪ PCOS▪ What is endometriosis? | |
| 17.3 Conception and implantation | <ul style="list-style-type: none">▪ What is menopause?▪ 4 main systems affected▪ Vasomotor symptoms | |
| 17.4 Reproductive health concerns | <ul style="list-style-type: none">▪ Hot flashes and serotonin▪ Mood-related symptoms▪ Oestrogen and mood pathways▪ Cognitive symptoms▪ Sleep-related symptoms▪ Vaginal symptoms▪ Genito-urinary symptoms▪ When breasts feel lumpy | |

17. Reproductive system

| Unit | Here's what you'll learn | Extra support material |
|-----------------------------------|---|---|
| 17.1 Female reproductive system | <ul style="list-style-type: none">▪ Body mass involvement▪ Prostate enlargement▪ A compressed urethra | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 17.2 Male reproductive system | <ul style="list-style-type: none">▪ DHT hormone▪ Baby on board? | |
| 17.3 Conception and implantation | | |
| 17.4 Reproductive health concerns | | |

18. Human development and life cycle

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| 18.1 The 6 main human life cycle stages | <ul style="list-style-type: none">▪ 6 main stages▪ The weeks after fertilisation▪ From embryo to foetus▪ Foetal development▪ Changes in pregnancy▪ Hormones in pregnancy▪ Anatomy during pregnancy▪ Breast milk▪ Female breast anatomy.▪ Neonatal to infant▪ Development skills▪ Developmental milestones▪ Baby steps▪ Dividing childhood▪ What is a child?▪ Preschool and school-aged children▪ What is an adolescent? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

18. Human development and life cycle

| Unit | Here's what you'll learn | Extra support material |
|--|--|--|
| <p>18.1 The 6 main human life cycle stages</p> | <ul style="list-style-type: none">▪ Looking all grown up▪ What is an adult?▪ Age is just a number?▪ Feeling young keeps you healthy?▪ Changes occurring more rapidly▪ Age-related changes▪ Can we slow ageing? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

19. Modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| 19.1 Health Risk Questionnaires | <ul style="list-style-type: none"> ▪ What are health risk assessments? ▪ Health screening questionnaires ▪ Food Relationship Questionnaire | <ul style="list-style-type: none"> ▪ Test Your Knowledge exercises |
| 19.2 Routine Screenings Per Age Group | <ul style="list-style-type: none"> ▪ Food Relationship Scores ▪ When to refer to a doctor? ▪ Referral examples: Mental Health ▪ Client health status | <ul style="list-style-type: none"> ▪ Videos ▪ Client Health Check Questionnaire™ |
| 19.3 Components of Basic Biometrics | <ul style="list-style-type: none"> ▪ Client Health Check Questionnaire™ ▪ Medical Referral Form™ ▪ Doctor Release Form™ | <ul style="list-style-type: none"> ▪ Medical Referral Form™ |
| 19.4 Thyroid and other common blood tests | <ul style="list-style-type: none"> ▪ Referral to another professional ▪ A later need to refer may arise ▪ Other screening questionnaires ▪ Integration of health information ▪ Wellness Assessments ▪ Beyond disease prevention... ▪ A new definition of 'health'? | <ul style="list-style-type: none"> ▪ Doctor Release Form™ |

19. Modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| 19.1 Health Risk Questionnaires | <ul style="list-style-type: none"> ▪ Are 'health' and 'wellness' the same? ▪ Health and wellness hand-in-hand ▪ Components of wellbeing | <ul style="list-style-type: none"> ▪ Test Your Knowledge exercises |
| 19.2 Routine Screenings Per Age Group | <ul style="list-style-type: none"> ▪ PERMA-H Profiler ▪ Hettler's dimensions of wellness ▪ The Wheel of Life ▪ Other wellness assessments | <ul style="list-style-type: none"> ▪ Videos ▪ Client Health Check Questionnaire™ |
| 19.3 Components of Basic Biometrics | <ul style="list-style-type: none"> ▪ Tips for discussing assessments with a client ▪ What is biometrics? ▪ Health screenings using biometrics: | <ul style="list-style-type: none"> ▪ Medical Referral Form™ |
| 19.4 Thyroid and other common blood tests | <ul style="list-style-type: none"> ▪ 4 types of biometrics and 22 examples ▪ Benefits of biometrics? ▪ Biometrics: when and how? ▪ The TLC Program ▪ Why are health screenings important? ▪ Which tests, and when? ▪ 18 routine biometric screenings per age group | <ul style="list-style-type: none"> ▪ Doctor Release Form™ |

19. Modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|---|---|---|
| 19.1 Health Risk Questionnaires | <ul style="list-style-type: none">▪ Early detection saves lives▪ Basic biometrics▪ Components of basic biometrics | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 19.2 Routine Screenings Per Age Group | <ul style="list-style-type: none">▪ Understanding BMI▪ How to calculate BMI▪ BMI: What's your range?▪ Understanding blood pressure | <ul style="list-style-type: none">▪ Videos▪ Client Health Check Questionnaire™ |
| 19.3 Components of Basic Biometrics | <ul style="list-style-type: none">▪ What is blood pressure?▪ Blood pressure: What's your range?▪ Understanding blood lipids | <ul style="list-style-type: none">▪ Medical Referral Form™ |
| 19.4 Thyroid and other common blood tests | <ul style="list-style-type: none">▪ Blood lipids panel▪ Blood lipid values: What's your range?▪ Different countries, different guidelines▪ The American Heart Association▪ Understanding blood glucose▪ Fasting glucose and HbA1c▪ Blood sugar: What are your values? | <ul style="list-style-type: none">▪ Doctor Release Form™ |

19. Modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| 19.1 Health Risk Questionnaires | <ul style="list-style-type: none"> ▪ Measurement Units ▪ How is your cardiometabolic health? ▪ Optimal measurements for heart health and longevity | <ul style="list-style-type: none"> ▪ Test Your Knowledge exercises |
| 19.2 Routine Screenings Per Age Group | <ul style="list-style-type: none"> ▪ Practising lifestyle medicine ▪ From T3/T4 to a full blood count... ▪ Hypothyroidism: underactive thyroid | <ul style="list-style-type: none"> ▪ Videos ▪ Client Health Check Questionnaire™ |
| 19.3 Components of Basic Biometrics | <ul style="list-style-type: none"> ▪ Hyperthyroidism: overactive thyroid ▪ Thyroid function blood testing ▪ Looking at normal reference ranges | <ul style="list-style-type: none"> ▪ Medical Referral Form™ |
| 19.4 Thyroid and other common blood tests | <ul style="list-style-type: none"> ▪ Other common blood tests ▪ Full blood count ▪ Test results myths and misconceptions ▪ Normal results: “Am I in the clear?” ▪ Practising lifestyle medicine | <ul style="list-style-type: none"> ▪ Doctor Release Form™ |

20. Lifestyle medicine practice

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| <p>20.1 Lifestyle medicine practice within medical settings</p> | <ul style="list-style-type: none">▪ What we can control, we can change▪ The Spheres of Influence▪ Totally or partly in our control?▪ “What matters to you most?”▪ The spotlight on two aspects | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| <p>20.2 Lifestyle medicine practice outside medical settings</p> | <ul style="list-style-type: none">▪ Lifestyle Medicine Practitioners▪ Who may practise lifestyle medicine?▪ Filling the gap▪ Conventional vs Lifestyle Medicine▪ Scope of lifestyle medicine practice | |
| <p>20.3 Modifiable lifestyle factors for disease risk reduction</p> | <ul style="list-style-type: none">▪ Lifestyle medicine practice within medical care▪ Medical practice▪ Managing health problems▪ Beyond chronic disease▪ Enter the COVID-19 pandemic...▪ Communicable disease risk▪ A new model for lifestyle medicine | |

20. Lifestyle medicine practice

| Unit | Here's what you'll learn | Extra support material |
|---|--|--|
| <p>20.1 Lifestyle medicine practice within medical settings</p> | <ul style="list-style-type: none">▪ Practice principles▪ Inside out▪ The best way forward▪ Practice outside medical settings▪ Reducing risk | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| <p>20.2 Lifestyle medicine practice outside medical settings</p> | <ul style="list-style-type: none">▪ Focusing on modifiable factors▪ Identifying target behaviours▪ What motivates us to change?▪ Behaviour change techniques▪ Client communication | |
| <p>20.3 Modifiable lifestyle factors for disease risk reduction</p> | <ul style="list-style-type: none">▪ Lifestyle modifications▪ Using the right terms with clients▪ Instead of prevent, treat, reverse...▪ Which terms to avoid and to use?▪ No substitute for medical care▪ Client Case: "I want to stop my medication"▪ Uncovering core modifications | |

20. Lifestyle medicine practice

| Unit | Here's what you'll learn | Extra support material |
|---|---|--|
| <p>20.1 Lifestyle medicine practice within medical settings</p> | <ul style="list-style-type: none">▪ Promoting physical and mental health▪ Lifestyle changes to lower disease risk:<ul style="list-style-type: none">▪ Key Modifiable Factors for Health Risk Reduction▪ Mini lifestyle self-assessment | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |
| <p>20.2 Lifestyle medicine practice outside medical settings</p> | <ul style="list-style-type: none">▪ Meet The Human Exposome▪ And The Human Foodome▪ Key principles for diet quality:<ul style="list-style-type: none">▪ Improving diet quality▪ Mini dietary self-assessment | |
| <p>20.3 Modifiable lifestyle factors for disease risk reduction</p> | <ul style="list-style-type: none">▪ Mitigating health risks for over 35 common conditions:<ul style="list-style-type: none">▪ Conditions with modifiable factors▪ Modifiable Lifestyle Factors for Risk Reduction▪ Conditions with largely genetic factors▪ Diving into specific lifestyle factors | |

21. Core modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 21.1 Sleep and stress | <ul style="list-style-type: none">▪ Core modifiable factors▪ Sleep▪ “Just 5 more minutes!” | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 21.2 Smoking and alcohol consumption | <ul style="list-style-type: none">▪ Why do we sleep?▪ 8 hours for adults?▪ Sleep recommendations | <ul style="list-style-type: none">▪ Videos |
| 21.3 Weight maintenance, obesity, and metabolic syndrome | <ul style="list-style-type: none">▪ Short sleep and chronic conditions▪ What does good sleep look like?▪ Consequences of poor sleep▪ Sleep disorder classification▪ 3 key body systems▪ Linking body systems and sleep▪ External and internal influences▪ Factors we may be able to control▪ Mental health and stress▪ What is “mental health”?▪ Diet and mental health | |

21. Core modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 21.1 Sleep and stress | <ul style="list-style-type: none">▪ Gut health = mental health?▪ What is stress?▪ Negative or positive stress? | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 21.2 Smoking and alcohol consumption | <ul style="list-style-type: none">▪ Pressure vs performance▪ Does anxiety equal stress?▪ Introducing the cognitive triad | <ul style="list-style-type: none">▪ Videos |
| 21.3 Weight maintenance, obesity, and metabolic syndrome | <ul style="list-style-type: none">▪ The stress response▪ An overactivated HPA axis▪ What if we are born “anxious”?▪ Polishing up our coping skills▪ 8 main coping mechanisms▪ Mindfulness and cognitive flexibility▪ Supporting mental health▪ Two modifiable behaviours▪ Smoking▪ How common is smoking?▪ Affecting the whole body | |

21. Core modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|--|--|---|
| 21.1 Sleep and stress | <ul style="list-style-type: none">▪ At least 5,000 chemicals▪ Smoking cessation▪ Cessation support matters | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 21.2 Smoking and alcohol consumption | <ul style="list-style-type: none">▪ Alcohol intake▪ How common is alcohol consumption?▪ Health concerns | <ul style="list-style-type: none">▪ Videos |
| 21.3 Weight maintenance, obesity, and metabolic syndrome | <ul style="list-style-type: none">▪ Changing our eating habits?▪ Alcohol: which vitamin and mineral losses?▪ Alcohol and smoking▪ UK alcohol guidelines▪ Commonly misused substances▪ What is substance abuse?▪ Professional help▪ 40% of the population▪ Risks of excessive body (fat) weight▪ A whole system approach▪ Weight loss | |

21. Core modifiable lifestyle factors

| Unit | Here's what you'll learn | Extra support material |
|--|---|---|
| 21.1 Sleep and stress | <ul style="list-style-type: none">▪ Weight loss isn't easy▪ 15 diet-related strategies▪ More than about "calories in" | <ul style="list-style-type: none">▪ Test Your Knowledge exercises |
| 21.2 Smoking and alcohol consumption | <ul style="list-style-type: none">▪ Factors influencing weight (fat) loss▪ Is exercise necessary for fat loss?▪ Weekly exercise guidelines | <ul style="list-style-type: none">▪ Videos |
| 21.3 Weight maintenance, obesity, and metabolic syndrome | <ul style="list-style-type: none">▪ The weight loss wheel▪ Metabolic syndrome▪ What is metabolic syndrome?▪ From obesity to metabolic syndrome▪ Increased risk for other conditions▪ Reducing risk | |

22. Professional considerations

| Unit | Here's what you'll learn | Extra support material |
|--------------------------------|--|--|
| 21.1 Dos, don'ts, and must dos | <ul style="list-style-type: none">▪ The importance of medical advice▪ Committing to ongoing learning▪ Your professional boundaries▪ When working with clients:▪ What you CAN and CANNOT do▪ What you MUST do▪ Acting ethically and responsibly | <ul style="list-style-type: none">▪ Test Your Knowledge exercises▪ Videos |

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