

Patterns of Change: Medicine

Headings	Notes
HEALTH AND MEDICINE IN THE MIDDLE AGES	<ul style="list-style-type: none">• Medieval medicine was based on the theories of the Ancient Greeks, particularly surrounding the four humours (blood, black bile, yellow bile and phlegm) where it was thought that most sicknesses were due to an imbalance between the humours.• Treatments for imbalances included:<ul style="list-style-type: none">• Bleeding: cutting the patient so that they bled• Cupping: placing heated metal cups on the skin to draw fluids to the surface• Leeching: using leeches to draw blood or other fluids out of the body• Amputation: cutting off a limb• Common diseases during the Middle Ages included typhoid, leprosy, smallpox, dysentery and influenza. People often died of minor ailments and infections.• Poor diets meant people were less able to fight illness while a lack of hygiene meant that most wounds became infected easily.• Women faced the added danger of childbirth, with many dying due to blood loss or infection.• Herbal medicines were common treatments.• Monasteries often looked after the sick, functioning as the first hospitals in many countries.
THE BLACK DEATH (BUBONIC PLAGUE)	<ul style="list-style-type: none">• The Black Death (bubonic plague) killed at least one-third of Europe's population between 1347 and 1350.• The plague was carried by fleas on rats that arrived via ships from the Black Sea area.• Symptoms included oozing swellings all over the body, discoloured skin and the lungs filling with phlegm.• It was extremely contagious, spreading via sneezing or spitting, or by touching dead bodies, which were often left in the streets to be collected. Those infected had a 70-80% chance of dying within a week.• Many believed the disease was caused by God's anger at human sin. Others blamed groups of 'outsiders' such as Jews or Moors.
Keywords	Summary
Four Humours	
Bleeding	
Cupping	
Leeching	
Amputation	
Disease	
Childbirth – Child Mortality	
The Black Plague	
Bubonic Plague	

Patterns of Change: Medicine

Headings	Notes
THE IMPACT OF THE BLACK DEATH	<ul style="list-style-type: none">• The death of so many people in such a short space of time changed Europe forever.• The feudal system, especially serfdom, went into decline because many serfs left their manors to replace people in the towns. This meant that the peasants who remained on the manors could demand better treatment because there was now fewer of them left to do the work.• Doctors had failed to find a cure for the bubonic plague and began to question their practices. This led to significant changes in medicine during the Renaissance.
MEDICINE DURING THE RENAISSANCE	<ul style="list-style-type: none">• In the 1500s, doctors such as Andreas Vesalius began to investigate anatomy (the study of the human body). Vesalius wrote On the Structure of the Human Body. This book was full of accurate information and very detailed sketches of human anatomy. Thanks to the Printing Press it was printed and widely read, allowing surgeons to operate more effectively on their patients.• Doctors also dissected bodies to learn about the human bones, muscles, veins and organs. William Harvey discovered that the heart pumped blood around the body.• The combination of these advances resulted in improvements to the methods used during surgeries.
TWENTIETH-CENTURY MEDICINE	<ul style="list-style-type: none">• Life expectancy increased dramatically in the twentieth century, as did the quality of life. This was due to medical discoveries and inventions that were able to control or cure many diseases and conditions.
MEDICAL DISCOVERIES	<ul style="list-style-type: none">• 1910 – Histamine (Antihistamines were discovered in 1937): a substance produced by the body when it suffers an immune reaction. Antihistamine drugs are now used to treat symptoms of mild allergies such as runny noses and watery eyes.• 1912 – The Discovery of Vitamins: micronutrients essential for good health. Doctors identified what levels of each vitamin are needed to avoid deficiency diseases such as scurvy (vitamin C) or rickets (vitamin D).
Keywords	Summary
Andreas Vesalius	
Anatomy	
Printing Press	
William Harvey	
Life Expectancy	
Histamine	
Vitamins	
Scurvy	
Rickets	

Patterns of Change: Medicine

Headings	Notes
MEDICAL DISCOVERIES	<ul style="list-style-type: none"> • 1921 – Insulin: a hormone that breaks down sugar in the bloodstream. People with Type 1 diabetes cannot produce insulin naturally and must inject it instead. • 1928 – Penicillin: the first antibiotics, discovered by Alexander Fleming on bread mould. Penicillin is still used to treat many kinds of bacterial infection. • 1953 – DNA (Deoxyribonucleic Acid): a double-helix molecule present in the nucleus of cells. It contains the genetic information that allows all forms of life to function, grow and reproduce.
MEDICAL INVENTIONS	<ul style="list-style-type: none"> • 1798 – Vaccination: a vaccine is a type of medicine that trains the body's immune system so that it is ready to fight a disease it has not encountered before. Smallpox, which devastated the peoples of the Americas, has now been eradicated worldwide due to a vaccine first developed by Edward Jenner in the early nineteenth century. Vaccines protect people against many types of serious diseases such as polio, mumps and Covid-19. • 1853 – Endoscope: a thin fibre-optic cable with a tiny camera on one end which allows doctors to view inside the body to investigate symptoms or to guide surgery. • 1914 – Portable X-Ray Machine: Marie Curie improved the x-ray discovered by the German engineer Wilhelm Conrad Röntgen in 1895, creating a portable x-ray machine that was first used in World War I to treat wounded soldiers on the frontline. • 1956 – Ultrasound: High-frequency soundwaves are used to 'see' inside the body. Ultrasound is used to scan internal organs and tissues. Since the 1970s, they have also been used to monitor pregnancies harmlessly. • 1960 – Hormonal Contraception: the contraceptive pill for women was invented in the 1960s and rapidly transformed society by giving women control over their fertility. Women began to graduate from universities and advance their careers at much higher rates once pregnancies could be planned. • 1967 – CT Scan: a special x-ray machine that takes multiple images to produce a 3D picture of the inside of the body. It is often used after accidents, or to check for blood clots or unusual growths.
Keywords	Summary
Insulin	
Penicillin	
Alexander Fleming	
DNA	
Vaccinations	
Smallpox: Edward Jenner	
X-Ray; Marie Curie	
Ultrasound: CT Scans	
Hormonal Contraception	

Patterns of Change: Medicine

Headings	Notes
MEDICAL INVENTIONS	<ul style="list-style-type: none">• 1977 – MRI (magnetic resonance imaging): strong magnetic fields and radio waves are used to create detailed images of the organs and tissues. MRI scanning can detect areas of disease.• 1978 – In vitro fertilisation (IVF): a technique used to help achieve a pregnancy when the natural method has been unsuccessful. Fertilisation takes place in a laboratory and the embryo is transferred to a woman's uterus after several days.
SURGICAL ADVANCES	<ul style="list-style-type: none">• Blood types: the four blood types (A, B, O and AB) were discovered before World War I. This made blood transfusions possible and blood donation schemes were set up.• Skin grafts and plastic surgery: both were known in earlier times but became very advanced in the twentieth century due to their usefulness in treating war injuries. After World War I, skin grafts (healthy skin taken from elsewhere on the patient) were used to help reconstruct faces that had suffered burns or shrapnel damage. During World War II, plastic surgery was likewise used to help repair faces.• Transplant surgery: the first successful kidney transplant took place in 1954 while the first successful heart transplant took place in 1967.• Laser surgery and keyhole surgery: these are less invasive surgical methods, which lower the risk of infection and greatly reduce recovery time.
Keywords	Summary
MRI	
In vitro fertilisation	
Blood Types	
Skin Grafts	
Plastic Surgery	
Transplant Surgery	
Laser Surgery	
Keyhole Surgery	

Medicine Keywords

Keywords	Definition
Amputation	<ul style="list-style-type: none"> • Cutting off a limb.
Anaesthetics	<ul style="list-style-type: none"> • Drugs that makes a person unable to feel pain.
Antibiotic	<ul style="list-style-type: none"> • A substance used to fight bacterial infection in the body.
Antiseptics	<ul style="list-style-type: none"> • Make clean or free of germs.
Beveridge Report	<ul style="list-style-type: none"> • British Government report during World War II that led to the establishment of the welfare state.
Bleeding	<ul style="list-style-type: none"> • Cutting the patient so that they bleed.
Bloodletting	<ul style="list-style-type: none"> • Taking blood from a sick person to cure or heal them.
Child mortality	<ul style="list-style-type: none"> • The death of children over one month and under the age of five.
Contraceptive Pill	<ul style="list-style-type: none"> • Contains hormones that temporarily prevent pregnancy (when taken correctly and regularly), allowing women to control their fertility.
Cupping	<ul style="list-style-type: none"> • Placing heated metal cups on the skin to draw fluids to the surface. • Four major fluids in the body - blood, yellow bile, black bile, phlegm - which Ancient Greeks and Romans believed to cause disease if they were not in balance.
Four humours	
Germ theory	<ul style="list-style-type: none"> • The discovery that germs spread disease.
Inoculation	<ul style="list-style-type: none"> • Giving a weak form of a disease to a person by injection to protect against that disease (vaccination)
Leeching	<ul style="list-style-type: none"> • Worms used for bloodletting.
Organ transplatation	<ul style="list-style-type: none"> • The replacement of failing organs with the healthy ones.
Pandemic	<ul style="list-style-type: none"> • Worldwide spread of a new disease.
Pattern of change	<ul style="list-style-type: none"> • How changes occur in a particular area of history over a period of time.
Penicillin	<ul style="list-style-type: none"> • The first antibiotic, used to treat many kinds of bacterial infection.
Pharmaceutical drugs	<ul style="list-style-type: none"> • Manufactured medications developed through experimentation.
Public health	<ul style="list-style-type: none"> • The overall health of the population, as protected and improved by the actions of government.
Vaccination	<ul style="list-style-type: none"> • Giving a person a vaccine to prevent them from developing a disease (inoculation)
Vaccines	<ul style="list-style-type: none"> • Medicines designed to prompt the immune system to develop the necessary antibodies to fight off a particular disease by exposing it to a non-dangerous version of the disease.
Welfare States	<ul style="list-style-type: none"> • Programmes where governments sought to greatly expand access to education, health care and other social services, often making these free of charge.