Beckfoot

Subject: History Topic: Modern Medicine Year Group: 10

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1. Understanding of Disease

1	What still needed to be learned?	1. By the 20th Century, Germ Theory had been proven and accepted as the cause of diseases 2. All the focus however, was on diseases that were caused by bacteria
2	Under-standing genetic diseases	1. In 1953, scientists Crick and Watson discovered the structure of DNA and how it passed from parents to children
3	What was the Human Genome Project?	1. In 1990, the Human Genome Project was set up world wide 2. It's aim was to work out how each part of DNA affects the body 3. This helped scientists to find ways of treating specific genetic illnesses

Key dates

1	1906-1914	Liberal Reforms
2	1914-1918	World War One
3	1928	Fleming publishes his article about penicillin
4	1939-1945	World War Two
5	1942	The Beveridge Report is published
6	1948	The NHS established
7	1967	The first successful heart transplant
8	1980	The World Health Organisation declares smallpox eradicated

2. Treatments

1	The Discovery of Penicillin	1. During WWI, doctor Fleming found that wounds infected with bacteria were not healed by antiseptics 2. Back in Britain, he worked on a way to deal with these bacteria 3. In 1928, Fleming discovered penicillin by chance when he left a petri dish containing mould while he went on holiday 4. He did further experiments and published his findings in 1929, but it got little attention
2	The developmen t of penicillin	1. In 1938, scientists Florey and Chain began work on developing penicillin 2. They received only a £25 grant from the government 3. They proved penicillin could be used to fight infection in humans 4. England didn't have the capacity to mass produce penicillin, but the American government were willing and ready to develop the treatment
3	The Impact of penicillin and the pharma-ceutical industry	1. Penicillin was the first treatment to be mass produced. 2. It led to more interest in producing medicines 3. Pharmaceutical companies began to pay for researchers to discover and trial new antibiotics 4. This drug manufacturing industry becoming successful also meant money was being put into more research
4	What are the problems of the pharma-ceutical industry?	1. Some drugs were developed that had unknown side effects – e.g. Thalidomide was developed as a morning sickness tablet but it caused deformities in babies 2. As stronger antibiotics are produced, bacteria develop immunity to the drugs – these are known as superbugs
5	**Change in focus**	1. Doctors have begun to focus on preventing disease rather than treating it. 2. They encourage a healthier lifestyle e.g. healthy eating and work management

Key word	Definition
Antibiotic	A medicine that kills bacteria and infection
AIDS	A virus that stops the immune system from working properly
DNA	The genetic code that decides the unique features of each species
Radiotherapy	A treatment using x-rays or other forms of radiation
Shellshock	A term used in WWI to describe post traumatic stress disorder
Superbugs	Bacteria that are resistant to antibiotics

2. Treatments

6	Alternative treatments	1. Some people have come to see pharmaceutical companies and drug treatments as harmful 2. Unproven alternatives like homeopathy have been suggested by some 3. Others suggest more traditional remedies, e.g. acupuncture and herbal remedies
7	How did World War affect treatments?	1. World War I and II played a part in the discovery and development of penicillin 2. WWI also led to the discovery of shellshock 3. This was a big step forward in acknowledging mental health and providing treatments
8	How has technology affected treatments?	1. Technology has allowed scientists to continue to develop new drugs 2. After Thalidomide was banned, a more strict scientific process was put in place to ensure medicines were safe 3. The discovery of radiation by Marie and Pierre Currie led to the creation of radiotherapy to treat cancer 4. Since the 1970s, chemotherapy has been used to treat cancer if radiotherapy is unsuccessful

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3. Surgery

1	What impact did WWI have on surgery?	1. X-rays were made more reliable and mobile x-ray units (petites curies) were invented. 2. Blood transfusions had been possible since 1901, but during WWI, it was discovered that sodium citrate could be used to store blood over a long period of time. 3. Harold Gillies (an army surgeon) worked with injured soldiers to develop techniques for plastic surgery – e.g. skin grafts 4. In 1917 The Queen's Hospital was opened, specializing in facial injuries 5. The Keller-Blake leg splint was developed, which held broken bones in place while they healed.
2	What impact did WWII have on surgery?	1. Surgeon McIndoe developed plastic surgery further through his experiments on the "guinea pig club" at Queen Victoria's Hospital in London. 2. Blood transfusion was developed and by 1945 the Blood Transfusion Service was efficient at storing and transporting blood 3. American surgeon Dwight Harken began removing bullets and shrapnel from hearts, developing the first heart surgery.
3	How has technology helped surgery?	1. In the 1930s, injected anaesthetics were developed, which allowed more control and longer operations 2. The first heart transplant was carried out in South Africa in 1967 and this led to more ambitious transplants 3. The heart/lung machine allowed blood circulation during surgery 4. CT scanners can be used to make 3D images of the inside of the body 5. MRI scanners can be used to examine the brain and nerves and can detect cancer cells 6. Ultrasound scanners can assess bloodf low 7. Keyhole surgery means that surgery is quicker to heal from 8. Robotic surgery can be used to be more precise

4. Public Health

1	Why did public health improve from 1900?	1. In 1899, the British government discovered that 40% of its young male population were unfit to fight 2. Factory owner Rowntree made a study showing more than 25% of people in York were living in poverty 3. Businessman Booth funded a study that found 35% were living in poverty in East London 4. They argued the government should care for their people
2	What changed?	1. In 1906 a new Liberal government was elected 2. They had promised to tackle poverty
3	How did the Liberal government improve public health?	1. 1906 – Free school meals act 2. 1907 – Births had to be reported and health visitors visited new mothers 3. 1908 – Old-age pensions introduced for over 70s who didn't have enough to live on 4. 1909 – laws to improve the standard of house building 5. 1911 – National Insurance Act provided sick pay 6. 1912 – Clinics set up to provide free medical treatment for children in school 7. 1919- Housing Act provided 'Homes for Heroes' for returning soldiers
4	Why was there improvement after WWII?	1. People demanded a better future after the sacrifices of WWII 2. In 1941 William Beveridge wrote a report recommending a Welfare state including: a National Health Service and Universal national insurance 3. The Labour Party won the 1945 election promising to act on Beveridge's report

Key word	Definition
Anaesthetic	A substance that stops a patient from feeling pain
Liberal	The political party in power from 1905-1916
Reform	To make changes in order to improve something
Welfare State	A system in which the government takes care of the wellbeing of its people

Key Individuals		
1	Fleming	Accidentally discovered penicillin
2	Florey & Chain	Developed the use of penicillin as an antibiotic
3	Crick & Watson	Discovered DNA
4	Gillies	Developed the first plastic surgery
5	Rowntree	Wrote a report on poverty in York in 1901
6	Booth	Wrote a report on poverty in London from 1889-1903
7	Beveridge	Wrote a report stating the government should be responsible for public health in 1941
8	Bevan	Health minister who planned and made the NHS in 1948

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4. Public Health – The NHS

1	The creation of the NHS	1. The Labour Health Minister was Aneurin Bevan 2. He introduced plans for the NHS to Parliament and they passed in 1948
2	What did the NHS provide?	1. The NHS spent money training staff 2. GPs working for the NHS provided free care and advice 3. The government took control of hospitals and improved them 4. Hospitals provided maternity care, child welfare and ambulances 5. Free dentistry, opticians and medicines 6. Vaccination programmes were organised 7. The NHS carried out medical research
3	Why was there opposition to the NHS?	1. Doctors feared they wold lose their independence and private income 2. Some people still believed in Laissez-faire 3. Some local councils and charities didn't want the government to take over their hospitals
4	What's the NHS like today?	1. It has grown – there are 10x as many doctors as there were in 1948 2. It costs the country a lot of money – x12 more than in 1948 3. There are some charges for patients 4. There are fewer hospital beds 5. The NHS focuses on prevention of health problems
5	Impact of the NHS	1. Until 1948, 8 million people had never seen a doctor before 2. NHS vaccination schemes have eradicated some illnesses like Polio 3. Babies are less likely to die in infancy 4. People live 13 years longer than in 1948

Key factors in the Modern period

1	War	1. World Wars created new injuries that fueled the development of new surgical techniques 2. World Wars also led people to demand a better standard of life after the sacrifices made during war time
2	Individuals	1. Individuals continued to make scientific advances 2. Individual social reformers made the government aware of the suffering of the people and demanded change
3	Government	1. The government had to respond to the will of the people as more and more people gained the right to vote 2. The Liberal Government broke the government policies of Laissez-faire 3. Government played the biggest part in improving public health with the creation of the welfare state 4. Governments invested money in new developments
4	Science and technology	1. Developments in science and technology allowed scientists allowed scientists to create new drugs and treatments 2. Science and technology also continued to develop understanding of conditions that were genetically caused 3. Advances in technology made modern surgery more accurate and safe
5	Chance	1. Fleming's discovery of penicillin was by chance
6	Communication	1. Communication is much better in the modern era, which allows information on healthy living to be more easily circulated 2. Better communication also allows scientific discoveries to be accessed around the world