

Medicine Through Time Timeline

<u>3000 BC</u>	Pre-History - understanding is based on spirits and gods. No real medical care. People die very young, normally by the age of 30-35 for men, but only 15-25 for women due to the dangers of childbirth. Most people suffered osteoarthritis (painful swelling of the joints).
<u>2000 BC</u>	Egyptian Empire - development of papyrus, trade and a greater understanding of the body (based on irrigation channels from the River Nile). They believed the body had 42 blood channels and that illness was caused by undigested food blocking these channels.
<u>1500 - 300 BC</u>	Greek Empire - Medicine still based on religion - Temple of Asclepius . Here, patients would get better, but mainly through the standard of rest, relaxation and exercise (like a Greek health spa)
<u>400 BC</u>	Hippocrates - founder of the Four Humours theory. This theory stated that there were four main elements in the body - blood, yellow bile, black bile and phlegm. Illness was caused by having too much of one of these humours inside of you. He also wrote the Hippocratic Collection, more than 60 books detailing symptoms and treatments of many diseases.
<u>400 BC - 500 AD</u>	Roman Empire - The Romans were renowned for excellent public health facilities. The Romans introduced aqueducts, public baths, sewers and drains , etc. In the city of Rome, water commissioners were appointed to ensure good supplies of clean water.
<u>162 AD</u>	Galen - continues the four humours theory but extends it to have the humours in opposition to each other. This meant that an illness could be treated in one of two ways, either removing the "excess" humour or by adding more to its opposite. Galen also proves the brain is important in the body (operation on the pig). Galen's books would become the foundation of medical treatment in Europe for the next 1500 years.
<u>Dark Ages</u>	Britain and Europe return almost back to pre-historic times under Saxons & Vikings
<u>1066</u>	Battle of Hastings - Normans invade Britain

<u>1100s - 1200s</u>	When Europeans went on crusades to the Holy Land in the 12th and 13th centuries, their doctors gained first-hand knowledge of Arab medicine, which was advanced by Western standards.
<u>1347-1348</u>	<p>Black Death - across Europe more than 25 million people die. Two main types of plague</p> <ol style="list-style-type: none"> 1. Bubonic - 50-75% chance of death. Carried by fleas on rats. Death usually within 8 days 2. Pneumonic - airborne disease. 90-95% chance of death within only 2-3 days <p>People had no idea how to stop the plague. People thought it was caused by various factors, i.e. the Jews, the Planets, the Gods, etc etc etc</p>
<u>1455</u>	The Printing Press was invented by Johannes Gutenberg. This allowed for the massive reproduction of works without using the Church as a medium.
<u>1517</u>	Martin Luther posted his " <i>Ninety-Five Theses</i> " on the door of a Catholic Church in Germany. This began the Protestant Reformation .
<u>1540s</u>	Andreas Vesalius - proved Galen wrong regarding the jawbone and that blood flows through the septum in the heart. He published " <i>The Fabric of the Body</i> " in 1543. His work encouraged other to question Galen's theories.
<u>1570s</u>	Ambroise Paré - developed ligatures to stop bleeding during and after surgery. This reduced the risk of infection. He also developed an ointment to use instead of cauterising wounds.
<u>1620s</u>	William Harvey - proved that blood flows around the body, is carried away from the heart by the arteries and is returned through the veins. He proved that the heart acts as a pump re-circulating the blood and that blood does not "burn up".
<u>1665</u>	The Great Plague - little improvement since 1348 - still have no idea what is causing it and still no understanding of how to control or prevent it. In London, almost 69,000 people died that year.
<u>1668</u>	Antony van Leeuwenhoek creates a superior microscope that magnifies up to 200 times. This is a huge improvement on Robert Hooke's original microscope.

<u>1721</u>	Inoculation first used in Europe, brought over from Turkey by Lady Montague.
<u>1796</u>	Edward Jenner - discovered vaccinations using cowpox to treat smallpox. Jenner published his findings in 1798. The impact was slow and sporadic. In 1805 Napoleon had all his soldiers vaccinated. However, vaccination was not made compulsory in Britain until 1852.
<u>1799</u>	Humphrey Davy discovers the pain-killing attributes of Nitrous Oxide (Laughing Gas) . It would become the main anaesthetic used in Dentistry. Horace Wells would try and get the gas international recognition. He committed suicide the day before it got the recognition it deserved.
<u>1830s</u>	Industrial Revolution . This had a dramatic effect on public health. As more and more families moved into town and cities, the standards of public health declined. Families often shared housing, and living and working conditions were poor. People worked 15 hour days and had very little money.
<u>1831</u>	Cholera Epidemic . People infected with cholera suffered muscle cramps, diarrhoea, dehydration and a fever. The patient would most likely be killed by dehydration. Cholera returned regularly throughout the century, with major outbreaks in 1848 and 1854.
<u>1842</u>	Edwin Chadwick reports on the state of health of the people in cities, towns and villages to the Poor Law Commission (forerunner to the Public Health Reforms). He highlights the differences in life-expectancy caused by living and working conditions. He proposes that simple changes could extend the lives of the working class by an average of 13 years.
<u>1846</u>	First successful use of Ether as an anaesthetic in surgery. The anaesthetic had some very severe drawbacks. In particular, it irritated the lungs and was highly inflammable.
<u>1847</u>	James Simpson discovers Chloroform during an after dinner sampling session with friends. He struggles to get the medical world to accept the drug above Ether. Doctors were wary of how much to give patients. Only 11 weeks after its first use by Simpson, a patient died under chloroform in Newcastle. The patient was only having an in-growing toenail removed (non-life threatening). It took the backing of Queen Victoria for chloroform and Simpson to gain worldwide publicity.

<u>1847</u>	Ignaz Semmelweiss orders his students to wash their hands before surgery (but only after they had been in the morgue).
<u>1847</u>	Elizabeth Blackwell becomes the first woman doctor in USA
<u>1848</u>	First Public Health Act in Britain - It allowed local authorities to make improvements if they wanted to & if ratepayers gave them their support. It enabled local authorities to borrow money to pay for the improvements. It was largely ineffective as it was not made compulsory for Councils to enforce it. This was an element of the "Laissez-Faire" style of government.
<u>1854</u>	Crimean War - Florence Nightingale and Mary Seacole contribute majorly to the improvements in Hospitals.
<u>1854</u>	John Snow proves the link between the cholera epidemic and the water pump in Broad Street, London. Unfortunately, he was unable to convince the government to make any substantial reforms.
<u>1857</u>	Queen Victoria publicly advocates use of Chloroform after birth of her eighth child.
<u>1858</u>	Doctors' Qualifications had to be regulated through the General Medical Council.
<u>1861</u>	Germ Theory developed by Louis Pasteur whilst he was working on a method to keep beer and wine fresh - changed the whole understanding of how illnesses are caused.
<u>1865</u>	Elizabeth Garrett-Anderson - first female doctor in the UK
<u>1867</u>	Joseph Lister begins using Carbolic Spray during surgery to fight infection. It reduces the casualty rate of his operations from 45.7% of deaths to just 15.0 % dying.
<u>1875</u>	Second Public Health Act - now made compulsory. Major requirement is that sewers must be moved away from housing and that houses must be a certain distance apart.
<u>1876</u>	Public Health improvements - in the UK, the government introduced new laws against the pollution of rivers, the sale of poor quality food and new building regulations were enforced.
<u>1881</u>	Robert Koch discovers the bacteria that causes anthrax . He establishes a new method of staining bacteria. Using Koch's methods, the causes of many diseases were identified quickly:

	<p>1880 - Typhus</p> <p>1882 - Tuberculosis</p> <p>1883 - Cholera</p> <p>1884 - Tetanus</p> <p>1886 - Pneumonia</p> <p>1887 - Meningitis</p> <p>1894 - Plague</p> <p>1898 - Dysentery</p>
<u>1889</u>	Isolation Hospitals were set up to treat patients with highly infectious diseases.
<u>1895</u>	William Röntgen discovers X-Rays. Though it is an important discovery, it is only WW1 and the treatment of soldiers that propels it into the medical spotlight.
<u>1895</u>	Marie Curie discovers radioactive elements radium and polonium
<u>1901</u>	Scientists discover that there are different blood groups- this leads to the first 100% successful blood transfusions .
<u>1905</u>	Paul Ehrlich discovers first "magic bullet" - Salvarsan 606 to treat Syphilis. The problem was it was based on arsenic and so could kill the patient too easily.
<u>1911</u>	National Health Insurance introduced in Britain
<u>1914-1918</u>	World War One - development of skin grafts to treat victims of shelling
<u>1928</u>	Alexander Fleming - discovers Penicillin . The mould had grown on a petri dish that was accidentally left out. Fleming writes articles about the properties of Penicillin, but was unable to properly develop the mould into a drug.
<u>1932</u>	Gerhardt Domagk discovers Prontosil (the second magic bullet). Slight problem is that it turns the patient red.
<u>1937-45</u>	Florey, Chain & Heatley work on producing penicillin as a drug. Their success will make the drug the second most funded project by the USA in WW2. They fund it to the tune of \$800 million and every soldier landing on D-Day in 1944 has Penicillin as part of his medical kit.

<u>1939</u>	Emergency hospital scheme introduced - Funded and run by Government
<u>1942</u>	William Beveridge publishes the Beveridge Report. The report was the blueprint for the NHS
<u>1946</u>	National Health Service Act - provides for a free and comprehensive health service. Aneurin Bevan convinces 90% of the private doctors to enrol.
<u>1948</u>	First day of the NHS . Hospitals were nationalised, health centres were set up and doctors were more evenly distributed around the country. However, the popularity and costs of the NHS would rapidly spiral out of control. The £2 million put aside to pay for free spectacles over the first nine months of the NHS went in six weeks. The government had estimated that the NHS would cost £140 million a year by 1950. In fact, by 1950 the NHS was costing £358 million.
<u>1950</u>	William Bigelow (Canadian) performed the first open-heart surgery to repair a 'hole' in a baby's heart, using hypothermia.
<u>1952</u>	First kidney transplant (America)
<u>1952</u>	Charges introduced in NHS - 1s for a prescription
<u>1953</u>	Description of the structure of DNA
<u>1961</u>	Contraceptive pill introduced
<u>1967</u>	Christiaan Barnard (South Africa) performed the first heart transplant - the patient lived for 18 days
<u>1978</u>	First test tube baby
<u>1990s</u>	Increasing use of keyhole surgery , using endoscopes and ultrasound scanning, allowed minimally invasive surgery.
<u>1994</u>	National Organ Donor register created