

A revolution in medicine: 18th – 19th Century

KEY WORDS

- Philanthropist:** Someone who tries to improve the quality of life of other people.
- Dispensary:** A place which prepares and gives out medicines and remedies.
- Physician:** A doctor who trained at university.
- Inoculation:** Protecting someone from a disease by giving them a weakened version.
- Cowpox:** A disease, similar but less lethal than smallpox, which can be transmitted by cows.
- Laissez-faire:** This French term means 'leave be'. It is used to describe governments who do not get involved in the day-to-day lives of their population.
- Typhus:** A disease spread by lice on clothing.
- Miasma:** The belief that bad smells cause disease.
- Immune system:** The network of cells in the body which resists bacteria and disease.
- Act:** A law.
- Germ theory:** The correct theory that germs cause disease, rather than being the product of it.
- Cholera:** An infectious and often fatal bacterial disease typically contracted from infected water supplies.
- Spontaneous generation:** The belief that germs are the result of disease and decay, rather than the cause of them.
- Quarantine:** A state or period of isolation (designed to limit the spread of infection).
- Surgery's 'black period':** This was a period between the 1850s and 1870s where the number of people dying from surgery increased because surgeons were attempting more complex operations which carried a higher risk of infection and blood loss.
- Aseptic surgery:** Surgery where microbes are prevented from getting into a wound in the first place, as opposed to being killed off with an antiseptic.
- Cess pit:** A pit for storing sewage or waste.
- Microbes:** A microbe is any living organism that is too small to see without a microscope. Microbes include bacteria.
- Pasteurisation:** The process of heating liquids, such as milk, to kill off germs.

KEY INDIVIDUALS

- Jenner:** 'The father of immunology'; Edward Jenner discovered the smallpox vaccination in 1796.
- Simpson:** Best known for discovering the effects of chloroform, he became the first person to be knighted for their services to medicine following the positive impact that regular use of anaesthetics had on surgery.
- Lister:** Joseph Lister used carbolic acid in surgery for the first time in 1865. His discovery was slow to catch on. It was not until the 1890s that new antiseptic methods were introduced to improve surgery on a widespread scale.
- Chadwick:** Edwin Chadwick published a Report on the Sanitary Conditions of the Labouring Classes in 1842; this was an important stepping stone in convincing the government to take action on Public Health.
- Snow:** In 1854, John Snow discovered the significance of the Broad Street pump in causing cholera. Snow's work, in combination with 'The Great Stink' of 1858 meant that the government took action and invested in new sewage systems.
- Nightingale:** Although not aware of Germ Theory, Nightingale is famous for revolutionising hygiene standards in hospitals during the Crimean War. In 1859, Notes on Nursing was published, allowing many other nurses to benefit.
- Pasteur:** In 1861, Louis Pasteur published Germ Theory. This proved that microbes in the air caused decay in substances such as wine and vinegar and changed people's conception of disease.
- Koch:** Following Pasteur's discovery, Robert Koch, a German scientist, began to look for specific microbes which caused disease. He identified lots of these, including the microbe that caused cholera.
- Bazalgette:** An engineering expert that planned and built the first sewers which could cope with London's waste.

Source C: An 1858 *Punch* cartoon depicting the Thames, as a source of terrible diseases for Londoners.



Factors Question (16 marks + 4 SPaG)

Factors: War, Communication, Individual Genius, Religion, Government, Chance, Science and Technology

- 1) Was luck the main factor in the development of vaccines between 1880 and 1900?

Comparison Question (8 marks)

- 1) Compare the work of Pasteur and Koch. In what ways are they different?

Source Usefulness Question

- 1) How useful is Source C to a historian studying the spread of disease in the 19th century?

- Source Type
- Author
- Date
- Purpose



Significance Question (8 marks)

- 1) Explain the significance of Lister's work for the development of medicine.

Key Events Timeline

KEY:

Surgery

Public Health

Disease

Factors



War



Religion



Chance



Communication



Government



Science and Technology



Individual Genius

Leeuwenhoek (1677) Invents the microscope and discovers "animalcules".



18th century AD: Spontaneous generation becomes popular.

(1724) Guy's Hospital is founded in London.



The Industrial Revolution (1750-1900) Saw massive technological progress.



Jenner (1798) Develops vaccination as a protection against smallpox.



Henle (1840) Challenges spontaneous generation for the first time.



Simpson (1847) James Simpson, a Scottish obstetrician, was testing different substances and accidentally discovered chloroform.



Clark (1842) Used ether for a successful tooth extraction.



Morton (1846) Publically demonstrated the use of ether.



Sanitary Act (1866) Towns had to have a health inspector and were made responsible for sewers, water and street cleaning



Lister (1867) Publishes a description of carbolic antiseptic in surgery.

Artisans Dwellings Act (1875) Councils had the power to buy and demolish slum housing.



2nd Public Health Act (1875) Councils had to appoint a medical officer. They also had to provide clean water, cover sewers and keep them in good condition, collect rubbish and provide street lighting



1750

1800

1850

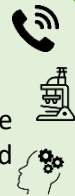
1900

The Industrial Revolution (1750-1900)

During the 19th century public health in towns and cities massively declined. Life expectancy in Britain was low: in **1840** the average life expectancy in Britain was 40! The industrial Revolution meant thousands of people migrated to cities and towns in search of work. This increase was so sudden that many towns and cities struggled to keep up and the existing public health facilities struggled to cope particularly as disease spread.

Hunter (1728-93)

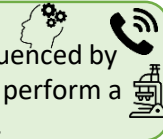
Wrote a number of different books about anatomy and disease. He demonstrated the importance of the scientific method when he infected himself with gonorrhoea to prove that it was a separate disease to syphilis! And experimented with ways to avoid surgery by diverting blood vessels.



Bassi (1835) Recognises a link between a specific bacteria and silkworm disease.



Liston (1846) A British surgeon, was influenced by Morton and used ether to perform a successful leg amputation.



1st Public Health Act (1848) Councils could set up a board of health but it was not compulsory.



Snow and Cholera (1854) A major outbreak of cholera occurred in Broad Street in London. The local doctor, John Snow, investigated the cause and proved that cholera was transmitted by water rather than by 'bad smells'



Queen Victoria (1853) was given chloroform during the birth of her son. She recommended it.



Bazalgette (1848) He begins building a network of sewers under London's streets. This was complete by the late 1860s.



The Great Stink (1858) A hot summer that caused the sewage in London to cause a horrible smell and forced the government to take action.



Vaccination Act (1853) Vaccination against smallpox was made compulsory.



Sale of Food and Drugs Act (1875) Guidelines were set up to check the quality of food and medicine before it was sold to the public.



Pasteur (1861) Publishes his paper on germ theory. This paper went on to inspire individuals, such as **Lister and Koch**.

