

Despite advances in anatomy Surgery still had three main problems: PAIN, INFECTION and BLOOD LOSS

Surgery

Surgery has improved greatly and now we use things like Key Hole Surgery and have very low death rates

Surgery Timeline

1799
Humphrey Davy discovers Laughing Gas

1847 Ignaz Semmelweis makes the link between doctors not washing their hands and deaths in patients.

1847 Liston uses Ether in an operation.

1848 Simpson uses Chloroform in operations

1870s Lister is using Carbolic Spray in operations

1901 Landsteiner discovers human blood groups

WW1 1914-18
Blood separated into Plasma and blood to allow for easy storage

WW2 1939-45
Blood bank set up (1938).
Blood is freeze dried to allow for better storage

1982:
Heart/Lung Transplant performed

Anaesthetics



Humphrey Davy 1778-1829

Key Discovery: Laughing Gas

Before: Pain relief was uncommon. Surgeons were quick. Lister could take off a leg in 2.5 minutes BUT he had a 200% death rate (he killed his patient and one of the men holding him down).

After: Laughing Gas is still used today for minor injuries and labour

During: His work was not really accepted as the Gas did not last long enough to complete full surgery.



Robert Liston 1794-1847

Key Discovery: Used Ether in the UK

Before: Laughing gas had been used and Ether had been used for operations in America.

After: Ether continued to be used

During: Ideas were generally well accepted. Surgery began to pick up.

Problems: Ether was uncomfortable for the patient as it led to them coughing, and feeling nauseous.



James Simpson 1811-1870

Key Discovery: Discovered and used Chloroform (1848)

Before: Ether was used but was generally unpopular.

After: Chloroform was used into the 20th century.

During: Chloroform was well used and much better as it did NOT cause the patients to cough.

Problems: Chloroform is very dangerous as 1/3 of a teaspoon will put you to sleep but 1/2 a teaspoon will kill you. Many young people died as they needed more to put them under. This was made safe by JOHN SNOW who used it on Queen Victoria

Factors

Individual Genius, War, Technology



Ignaz Semmelweis 1818-1865

Key Discovery: Put forward the idea of ASEPTIC Surgery

Before: Doctors rarely washed hands or instruments. A bloody apron was the sign of a good doctor.

After: ASEPTIC surgery was accepted and is still used today, operating theatres even have filtered air to keep things clean

During: He worked out that Doctors who went to the morgue then saw patients were likely to kill their patients. He was unpopular and his ideas were not accepted.



Joseph Lister 1827-1912

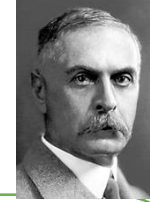
Key Discovery: ANTISEPTIC Surgery, through Carbolic Spray.

Before: Doctors rarely washed hands or instruments. A bloody apron was the sign of a good doctor.

After: His ideas were mostly accepted but it took up to 20 years for them to be fully used nationwide. People started to adapt his ideas and called for the use of gloves and different gowns for surgery

During: He worked with his ideas and cut his death rates from 30%-3%. He later started to use Aseptic surgery and steam to sterilise his instruments.

Surgery



Karl Landsteiner 1868-1943

Key Discovery: Blood Groups

Before: Work had been done on Blood Transfusions before but these were mostly unsuccessful as people did not understand the body's immune response.

After: His work was taken forward into WW1 and 2 where the storage of the blood improved greatly, allowing for the setting up of the first blood banks in 1938

During: His work was accepted and used carefully.

Opposition

There was much opposition to anaesthetics in particular for many reasons:

- Religion: people believed that women should give birth in pain as this is what God ordered in the bible.
- Chloroform was unsafe and untested, no-one could explain why it worked.
- The army in particular felt that pain should be felt to encourage men to fight to stay alive.

These arguments were overshadowed when Queen Victoria used Chloroform at the birth of her 8th child.

There was some opposition to antiseptics too. This was generally because people did not completely sterilise instruments and their hands so they did not see the results.

Blood Transfusions still have opposition from religion today. Jehovah's Witnesses will refuse blood transfusions as it is against the teachings in the bible.