

Anesthetic

According to legend, Chinese legendary physician Hua Tuo invented the world's earliest narcotic drug, named morphine powder. The patient would drink the anesthetic before the operation, and be in a coma state. Hua Tuo would then treat the patient by making an incision and remove the diseased tissues. This was, however, merely a legend. There were also people who believed that the drug existed but was long lost.

The anesthetic developed and used in the modern world began in the 18th century. In 1620, Belgian scientist Jan Baptist van Helmont invented the earliest anesthetic, nitrous oxide, used by Western countries. The anesthetic was only noticed by the head of the chemical project in the British Institute of Gas, Sir Humphry Davy (1778 – 1829), in 1798. He termed it the “laughing gas”.

German physician Henry Hill Hickman did some gruesome animal experiments in anesthesia. He suffocated a dog with laughing gas, after which he cut open its flesh. He also amputated the legs of a rat to see whether it could feel pain under this coma state. When he was about to apply the laughing gas experiment on a human, he died at the age of 29 without achieving his ambition.

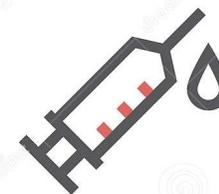
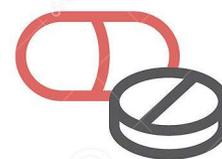
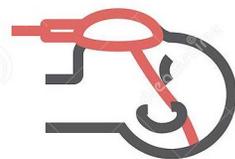


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In 1844, American dentist Horace Wells got to learn about the analgesic properties of the laughing gas, through fellow American, Gardner Quincy Colton. Wells then announced to everyone that he was the first to apply laughing gas to stop the pain. In 1845, while giving a demonstration to medical teachers and students in a hospital, his patient cried out in pain due to an under dose of the gas. He then increased the dose, which unfortunately caused the death of the patient. This failed demonstration affected Wells terribly. He could not withstand the attack of rumours and embarrassment and henceforth became mentally unsound. Consequently, he committed suicide in 1848, at the age of 33.

Later, Wells' apprentice, American dentist William Thomas Green Morton, decided to learn from the mistake and experience of Wells. He sought the help of his Chemistry teacher, Dr Jackson, and succeeded in using Ether, a colourless liquid, as an anesthetic to amputate the leg of a patient in 26 minutes, in 1846. However, Ether had a bad odour and caused difficulty in breathing. Its side effects included nausea and vomiting.



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Later, gynaecologist Sir James Young Simpson and two of his assistants, Dr George Skene Keith and Dr James Matthews Duncan began to study the anesthetic effect of new chemicals. After a year of research, they finally found Chloroform to be a safer option for anesthetic. Simpson later published his classic "Account of a New Anesthetic Agent" to promote chloroform's uniqueness. Chloroform was widely accepted by the medical world. Queen Victoria of Britain was also administered with chloroform when she delivered Prince Leopold.

Food for Thought:

- ✓ Careful observation, a rich imagination, strong analytical skills and an adventurous spirit are all instrumental in successful innovation or invention.
- ✓ Successful innovation or invention must also involve previous work attempted by researchers or inventors.



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