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## John Snow – The Father Of Epidemiology

John Snow studied the cholera outbreak in London in the mid-1840s. Snow had hypothesized that cholera was transmitted by water. He realized that deaths occurred around the pumps from the downstream company. He created a map of locations of deaths from cholera and saw the deaths were clustered around Broad St pump and proved cholera wasn't the result of bad air. This, however, was not done without criticism. Snow published an article in 1849 defining his theory, but doctors and scientists were convinced that his trajectory was wrong and promoted that cholera was caused by breathing vapors or a "miasma in the atmosphere". The waste from people who had fallen ill with cholera and the water supply mixed. The cholera bacteria began to multiply and people ingested the contaminated water. The latency period was hours to days and death was certain.

John Snow identified a very concentrated outbreak of cholera, which let him study the origins of the outbreak. He found the source of a very sweet tasting water at the broad street pump. As he started canvassing the neighborhood, he realized that most of the people fallen ill and continually falling ill had ingested water from that pump. On September 8, 1854, Snow tests his theory by removing the pump's handle, effectively stopping the outbreak, proving his theory, and opening the door to modern epidemiology. In the end, Snow created a map that demonstrated that the broad street pump was walking distance to the victims of cholera.

Snow also scientifically tested dosages of anesthesia to assess what mixtures of anesthesia and what times were most affected. His work revolutionized anesthesiology. Ether use was an essential form of reducing pain and suffering that was associated with many medical procedures during the 1800s. Two marginal, yet important benefits of using ether as a form of pain and suffering reduction were; sitting still during medical procedures allowed doctors to operate with more accuracy and precision, and patients were more likely to agree to necessary surgical procedures knowing that a majority of the foreseen pain would be diminished. The effects of ether proved to be slow and it was expensive. Snow was looking for an alternative to ether, one that will be just as effective and less expensive. Snow performed experiments with chloroform on animals. He began to experiment with humans and found chloroform to be more tolerable, easier to ingest, fast-acting, and less expensive than ether. Snow performed anesthesia using chloroform on more than 5000 patients including Queen Victoria when she delivered her eighth and ninth child.

Snow is considered to be the father of epidemiology by scientists and researchers today. Current epidemiological research performs by the U.S Centers for Disease Control utilized theories and epidemiological methods, pioneered John Snow, to track sources and causes of diseases.