

William Harvey:

founding father of modern medicine



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vault

What does the heart do? Where does blood go? How do mammals reproduce? Today, we know the answers to these basic questions, thanks to the work of William Harvey, the 17th-century Barts physician acknowledged as the founding father of modern medicine.

His royal connections appeared to do no harm. In 1609, aged 31, he was appointed physician to Barts – a hospital with longstanding royal links – for an annual salary of £25. He would later become a royal doctor himself, first to King James 1 in 1618 and later to King Charles I, travelling with the latter to the Battle of Edgehill during the English Civil War.

But it was during his 34-year tenure at Barts, that Harvey made his greatest medical discovery – the circulation of blood – alongside significant contributions to embryology, anatomy, neurology and obstetrics.

By 1628, when he published his groundbreaking work *De motu cordis et sanguinis in animalibus* (*On*

the Motion of the Heart and Blood in Animals), he outlined – and proved – a radical new theory on how blood moved around the body. Doctors had long believed that blood was created by the heart and liver, carried to the veins by a pulsating action of the arteries and used up there.

Like a water pump

Harvey told how the heart was a pump (comparing it to a water pump, a new invention at the time) forcing blood around the body, which was then returned to the heart to be recycled.

He was also the first to theorise that humans and other mammals reproduced via fertilisation of egg and sperm, 200 years before a mammalian egg was finally observed. He was encouraged in this work by King Charles I who let him use his deer at Hampton Court for experiments.

Surprisingly, official records preserved in the Barts Archives tell little about Harvey's day-to-day medical practice.

As Barts' only physician, Harvey's main duty was to visit the hospital at least once a week and receive in the Great Hall any patients who were in need of treatment and treat those sent by the hospitaller or matron and record any medicines prescribed.

Harvey's scurvy grass drink

A tonic for Barts patients called 'scurvy grass drink,' designed to provide vitamins lacking from their usual diet which contained few fruit or vegetables, is attributed to Harvey. The recipe shows the tonic – held under lock and key – was a mixture of beer, watercress, horseradish roots and various herbs that had been left to 'lye' for 14 days.

By 1630, Harvey's royal commitments began to limit his work at Barts and he effectively left, although official links with the hospital remained until 1643. And when he died in 1657, the greatest medical researcher of his time, Harvey left Barts £30 in his will, remembering the institution that helped make his discoveries possible.

For a physician charged with caring for the poor and needy at St Bartholomew's Hospital, William Harvey led a high-powered existence beyond his hospital duties.

Described in contemporary records as a 'swarthy and testy man who habitually wore a dagger', William Harvey was born to a family of farmers and merchants in Folkestone, Kent, in 1578. He was educated at Cambridge University and the University of Padua in Italy, where he was encouraged to learn about anatomy by observation and comparison.

Experiments on criminals and live animals

Harvey took his teachers at their word. Back in London, he carried out experiments on live animals, so he could observe more clearly the beating of their hearts. He dissected the bodies of executed criminals for a better understanding of human anatomy – and reputedly even dissected the bodies of his father and sister, post-mortem.

One of just 40 fully qualified doctors in London at the time – with accompanying high fees – Harvey quickly climbed the medical career ladder, meeting the rich and famous of his day and marrying Elizabeth Browne, daughter of the physician to Queen Elizabeth I and King James I.

