

BBC Bitesize

The human body... a wonderfully complex maze of veins, arteries and organs.

In the 16th and 17th centuries, ideas about the human body were evolving. Thanks in no small part to three medical pioneers: Andreas Vesalius, Ambroise Paré, and William Harvey. These body-conscious Renaissance heroes made huge leaps in trying to understand what goes on under our skin.

Andreas Vesalius. The year was 1537. This Brussels-born chap would become one of the most famous physicians of all time... Like most of his contemporaries, he still had a soft spot for Galen's 1400-year-old ideas, but the keen young Doctor Vesalius was soon performing his own dissections and starting to make his own discoveries.

Vesalius enjoyed nothing more than slicing and dicing anything he could get his scalpel on. He even stole the dead bodies of criminals to fuel his obsession!

In his brutal brilliance, Vesalius not only sliced up flesh, he cut through many of Galen's old theories. For example, he discovered that the anatomy of the human body was actually very different to that of a hog! Sounds obvious now, but this was kind of a 'pig' deal in the 1540s.

While Vesalius's ideas may not have directly resulted in new cures, he paved the way so that others could follow in his bloodstained footsteps...

Talking of blood, let's meet the talented surgeon by the name of Ambroise Paré, who was positively dripping with the stuff. Paré was a pioneering French barber - slash - surgeon. Yes, that job actually existed!

Paré loved a good battlefield; which was handy, seeing as Europe was almost constantly at war during the 16th century. It was while dodging gunfire during the campaign of Piedmont, that Paré really honed his skills as a surgeon. Guns were still a new invention, and with them came new and brutal injuries which required new surgical experimentation.

Prior to Paré, the accepted treatment for serious wounds had been pouring hot oil onto the flesh to seal it and 'kill the poison' inside. However, during a battle in 1537, Paré ran out of hot oil. And so he was forced to improvise with a mixture of egg white, turpentine, and rose oil. Amazingly, it paid off.

With the new mixture, people healed more quickly and less painfully. Quite the happy accident!

Paré also reintroduced Galen's old technique of sewing up arteries to stop blood loss on the battlefield. And all the while he was managing to avoid getting blown to smithereens and somehow finding time to write up his surgical stories for others to read.

Speaking of stories, want to hear the one about the surgeon who chopped up lizards? Of course you do.

Meet William Harvey, the British dissection don who loved experimenting on any creature he could find. With almost every incision came a new discovery, such as the ground-breaking realisation that blood actually circulated around the body. This flew in the face of Galen's idea that blood was created in the liver.

But when Harvey published his theory on circulation there was outrage. Partly because he dared to challenge Galen and partly because his ideas would mean less bloodletting. Which, despite being slightly insane, was very much in-vogue at the time.

But Harvey's theories were eventually accepted, and thanks to him and the bloody pioneers that followed, we can now enjoy such things as blood tests, transfusions, and even transplants.

And so we come to the end of our epic odyssey through guts and gore. Medicine in the 16th and 17th centuries was greatly advanced by the individual brilliance of the likes of Vesalius, Paré, and Harvey.

Through plenty of personal sacrifice, bucket-fuls of blood, a sprinkling of chance, the odd war, and many a mangled lizard, these men led to a greater understanding of the human body. With their sharp minds and even sharper scalpels, our Renaissance heroes were quite literally...at the cutting edge of science.