The History of Health and Medicine

The Medical Renaissance
1400–1750
Learning objectives

What we will learn in this presentation:

- What we mean by the term ‘Renaissance’.
- How and why medicine changed during the Renaissance.
- The discoveries made by Vesalius, Paré and Harvey, and their importance in both the short-term and the long-term.
- What the system of medical education was like at this period.
- Whether health and medical care improved for ordinary people during the Renaissance.
Renaissance means ‘rebirth’.

During the Renaissance in Europe there was a rebirth of the learning and knowledge lost from the Greek and Roman civilizations. Scholars looked for answers to questions in science and the arts, as well as in religion.

What do you think the impact of the Renaissance was on the development of medicine?
Look at these examples of changes that occurred during the Renaissance, and decide what type of factor each one is.
Andreas **Vesalius** studied the human body very closely. His books contained very precise drawings of the human body and had a big impact on **anatomy**.

Vesalius **dissected** human bodies to help him understand how they worked and commission life-like drawings. Galen had dissected animals, but this had led to mistakes.
Because Vesalius had a detailed knowledge of the way the human body was put together, he was able to challenge some of Galen’s ideas, which had been accepted for over a thousand years.

For example, Vesalius found that Galen had been wrong about the human jaw. Galen wrote that it was made of two bones, whereas Vesalius found only one.

He also found that the septum in the heart was too thick and had no holes for the blood to flow through, as Galen had said.
Andreas Vesalius was born in Brussels, Belgium.
The impact of Vesalius’ work

Vesalius showed that some of Galen’s ideas were wrong. Many doctors refused to believe him, but his work did encourage doctors to question ancient ideas rather than just accept them.

In the long-term, Vesalius’s work on anatomy was of huge importance and helped doctors make new discoveries about the way the body worked.

What impact do you think Vesalius had on ordinary people’s lives?

How much of a difference did he make to the development of medicine?
The impact of Vesalius’ work

Vesalius was important in the field of Select from list. He revealed that some of Select from list ideas about the body were wrong.

His famous book, published in 1543, was called The Fabric of the Select from list. He had dissected Select from list and so could create life-like drawings of the body.

Although many doctors didn't agree with Vesalius, he encouraged them to question old ideas. The invention of the Select from list helped his ideas spread quickly.
Ambroise Paré was a French army surgeon who treated many wounded soldiers on the battlefields. He became an expert in treating sword and gunshot wounds.

He is important for two major discoveries. At the time, surgeons used cauterization to treat gunshot wounds. This meant sealing the wound with a red-hot iron, then pouring boiling oil on it to stop infection.

On the battlefield, Paré ran out of oil. In desperation, he created a cold ointment of egg white, rose oil and turpentine. The next day he found that soldiers treated with this salve felt less pain than those treated with hot oil.
Paré’s second major discovery was that of ligatures. This was a method of sealing a wound after a limb was amputated.

Paré thought that instead of cauterizing the wound, surgeons should try to tie the arteries and veins with thin silk threads.

However, ligatures for amputations were not really practical until the invention of the tourniquet two centuries later. Also, without antiseptics or knowledge of germs, the silk thread used as ligatures easily carried bacteria into the body and caused infection.
Ambroise Paré was born in France.
Paré’s work – contributing factors

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William Harvey was an English doctor who discovered how the heart worked and how blood circulated around the body.

Before Harvey, doctors had learnt from Galen that the body used blood like a fuel. He had written that the liver continually produced blood to replace that which the body had burnt up.

Harvey’s discoveries included that:
- the heart works like a pump
- blood flows in one direction only around the body
- one-way valves stop the blood going the wrong way
- blood is re-circulated and not replaced.
Blood leaves the heart to circulate round the body via arteries.

Harvey showed that blood returns to the heart from the body via veins.

It is then pumped to the lungs.

Blood carrying oxygen flows from the lungs to the heart.

Blood leaves the heart to circulate round the body via arteries.

What did Harvey prove?
Harvey’s methods included:

- **Dissecting** live, cold-blooded animals. Their very slow heartbeat allowed him to observe the actions of the heart. He also gained a good knowledge of the human body through dissection.

- Carrying out hundreds of painstaking **experiments**.

- Carefully **recording** all his findings so that he could prove why he was right.

- Calculating the total volume of blood by measuring the amount of blood pumped by each heartbeat.

- Experimenting with rods in the veins. He found he could only push them through the valves one way.
William Harvey was born in England.
Harvey couldn’t see the tiny capillaries which carry blood, though he knew they must exist. With the invention of the microscope in the 17th century, Harvey was proved right.

Like Vesalius three-quarters of a century before him, Harvey had dared to challenge Galen and the other ancient writers. Many doctors again regarded these new ideas as dangerous and carried on with their own methods.

However, Harvey’s discoveries were vital to the understanding of the way the body works we have today.

What impact do you think Harvey had on ordinary people’s lives?

How much of a difference did he make to the development of medicine?
# Doctors and discoveries

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Doctors and discoveries

Read each statement about a Renaissance medical hero, and decide whether it applies to Vesalius, Paré, Harvey or all three.

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Who treated the sick?

Only the wealthy could afford to visit a physician (doctor) or to use a surgeon. They could charge very high fees and many became rich.

Physicians had to study medicine for many years at university. Only men could become physicians.

Surgeons did not have to train as doctors first or have to go to university. They trained under an experienced surgeon. Like physicians, they had to have a licence from the church to practise.
The medical Renaissance – a summary

Despite the medical advances made by Vesalius, Paré and Harvey, the **Theory of the Four Humours** was still used to treat sick people and there was little change in the medical methods used.

Ordinary people still used wise women and herbal remedies.

Write your own summary of this period of medicine. Include the discoveries which were made about anatomy, physiology and surgery and the way people were treated. Don’t forget to include why the improved knowledge had little effect on health or life expectancy.