THE MEDICAL RENAISSANCE

REVISION NOTES

It is the period of time from approx. 1450 to 1750. Renaissance means RE-BIRTH. There was a RE-BIRTH of the medical ideas from the Ancient Greeks and the Ancient Romans. New ideas and practices were also put forward.
WHAT DID VESALIUS ACHIEVE?
1514-64. BORN BRUSSELS. PROFESSOR OF SURGERY IN PADUA, ITALY

1) **Using Science and experiment** to try to understand the human body and how it worked. He dissected bodies and got Renaissance Artists to draw parts of the body really accurately (S, Co)

2) He **proved Galen was wrong**. Galen said the lower human jaw was made up of 2 bones knitted together. Vesalius proved it was only one. Galen had said that blood in the human heart passes through a membrane with holes in it called the ‘septum’. Vesalius proved this was not true – there were **no holes in the septum**.
WHAT DID VESALIUS ACHIEVE?
1514-64. BORN BRUSSELS. 
PROFESSOR OF SURGERY IN PADUA, ITALY

3) He **publicised his ideas**, writing the book called ‘The Fabric of the Human Body’. It was like an atlas of the human body, containing lots of accurate drawings. It was also printed.

4) Vesalius was a Professor who **taught students his new ideas**.
WHAT DID WILLIAM HARVEY ACHIEVE?
1578-1657. ANATOMIST. STUDIED AT CAMBRIDGE & PADUA.

1) He used science and experiment. He dissected animals and humans to find out how the heart functioned and how blood flowed (S)
2) He proved Galen wrong. Galen had taught that the body burns up blood as energy. As the blood is burnt up more of it is made in the liver. Harvey found that the blood circulates around the body thorough veins and that these have ‘valves’ which only let the blood flow in one direction (he proved this by an experiment to pump liquids through the veins) (S)
3) The Heart as a Pump. He discovered that what pumps the blood around the veins is the heart. He calculated how much blood is in the human body (8 pints). The Water Pump was his inspiration. (T)
4) He publicised his ideas, by writing the book ‘An Anatomical Account of the Motion of the Heart’ in 1628. (Co)
How did he do it?

Harvey’s methods:

He dissected live, cold-blooded animals. Their very slow heartbeat allowed him to observe the actions of the heart.

He acquired a good knowledge of the human body through dissection.

He calculated the total volume of blood by measuring the amount of blood pumped by each heartbeat.

He carefully recorded all his findings so that he could prove why he was right.

He experimented with rods in the veins. He found he could only push them through the valves one way.

He carried out hundreds of painstaking experiments.
Who would win?

<table>
<thead>
<tr>
<th>Vesalius</th>
<th>Harvey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Points for/against</td>
<td>Points for/against</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WHY DID THINGS CHANGE IN THE MEDICAL RENAISSANCE (TWIGS CRACT)

A) WEAKENING OF RELIGION – The split in religion (REFORMATION) in the 1500s meant that the ROMAN CATHOLIC Church lost some of its power. Their ideas on Medicine began to be questioned. Dissection was allowed. (R)

B) INCREASE IN WEALTH – some of it spent on Medical education (C)

C) A NEW SCIENTIFIC REVOLUTION – more emphasis on observation and experimentation. Lots of old ideas were challenged – not just medical ones. E.g. It was now realised that the Earth was not at the centre of the universe. In 1660, the ROYAL SOCIETY was founded to enable educated people to discuss scientific ideas. The Society often published these. (S, Co)

D) DEVELOPMENTS IN ART – Artists were more detailed and realistic. This helped with accurate drawings of the human body (after dissections were allowed) (C)

E) PRINTING PRESS – Previously doctors and scientists had their ideas written out by hand. Now books could be printed, which helped the spread of medical ideas. (C) (T)

F) OTHER NEW TECHNOLOGIES – The first microscopes, from 1600, helped doctors observe smaller things in bodies (e.g. tiny veins called capillaries). Other machines made doctors think that the body worked like a machine. E.g. The water pump helped William Harvey make the connection with the heart acting as a pump. (T)

G) DEVELOPMENTS IN WARFARE – Guns/muskets produced terrible wounds. There was a NEED to learn new techniques to deal with these. (W)
TWIGS CRACKT analysis

- Diamond 10 using cards
DID THE MEDICAL RENAISSANCE CHANGE THINGS THAT MUCH?

**YES, THERE WAS MUCH CHANGE**

- Vesalius and Harvey had proved that the Ancient writers like Galen had got it wrong.
- They relied on scientific investigation to prove this.
- They paved the way for later medical scientists who made much more progress.
- Some other discoveries or inventions improved things – like the printing press which made it easier to spread new ideas and the invention of the microscope which meant that science was improved.
- Some new treatments were a success – such as the import of new herbs and plants from the Americas like quinine which became powerful drugs.

**NO – LIMITED CHANGE**

- The discoveries did not make people any healthier.
- No new treatments. This is because the discoverers had not really discovered anything new about how to TREAT illness – only how the body worked.
- Life expectancy did not get better – only 20% lived past the age of 60 and in some places only ½ the people got past the age of 20.
- No one really understood what CAUSED disease – they only understood a little more about how the body worked. They knew nothing about germs –
- They knew almost nothing about PUBLIC HEALTH – the fact that dirty conditions, unclean water, poor sewage disposal etc. can cause disease
- No changes in hospitals or who treated you. Women healers were still important.
- Superstition and religion was still important. Belief in prayers and ‘the King’s touch’.
DID THE MEDICAL RENAISSANCE CHANGE THINGS THAT MUCH? – THE GREAT PLAGUE OF 1665 (A CASE STUDY)

<table>
<thead>
<tr>
<th>CHANGE</th>
<th>LIMITED CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>○ Less emphasis on blaming outsiders.</td>
<td>○ God’s punishment was still seen as a cause and prayers were still seen as a cure.</td>
</tr>
<tr>
<td>○ Lack of cleanliness was a stronger reason. There was a connection noted between a higher death rate and poorer/dirtier areas.</td>
<td>○ Astrology still seen as a cause. Reports of a comet in the sky.</td>
</tr>
<tr>
<td>○ The Government got more involved in preventing the spread of Plague. E.g. Those with the Plague were not allowed outside (red cross on door with watchmen outside). Women searchers and doctors to check on causes of death. Burials were deep, at night and outside the city. Filth cleaned from streets. No animals in the city. No public entertainments etc.</td>
<td>○ Bleeding as a cure.</td>
</tr>
<tr>
<td>○ Miasma seen as the main cause – hence the ‘pocket full of posies’.</td>
<td></td>
</tr>
</tbody>
</table>