Greek Gods
- Many Gods – controlled all aspects of their lives
- Belief that Gods cause events e.g. earthquakes – rich harvest = Gods were pleased
- Great soldiers = Gods favoured them
- Temples were built to the Greek God Asclepios

Temples were built to the Greek God of healing. People would often go stay at an Asclepion when they became ill. Belief that if they went to sleep at an Asclepion at night, Asclepios and his daughters would heal them.

Asclepians
- Built in quiet places
- Visitors bathed/relaxed – took part in exercise in gymnasiums
- Prayed to Asclepians
- Slept in an Abaton – building with a roof but no walls – open to the air
- Priests did "ward rounds" and performed rituals involving snakes
- Successes recorded as inscriptions on the walls

Theory of the 4 Humours
- Developing new theories about disease and treatment
- New ideas – Gods had nothing to do with health/disease
- Began to believe the diseases have natural causes
- Aristotle developed the theory of The 4 Humours

Belief that the body contained 4 main liquids – called Humours:
- Phlegm
- Blood
- Yellow Bile
- Black Bile

If these liquids stay in balance then a person would REMAIN HEALTHY. If they become UNBALANCED, this could make a person ILL.

Significance: Basis for many Greek treatments. Doctors began to believe in the theory and treat patients based on it for well over 1000 years.

How was it developed?

The Humours
When someone is ill, a liquid was usually coming out of the body. Decided that these liquids caused disease. Liquid/Humour must be coming out of the body because there was too much of it. THE HUMOURS HAD GOTTEN OUT OF BALANCE.

The Elements
Was developed from the theory of the 4 elements. Belief that everything was made of 4 elements: water/fire/earth/air. These elements had DIFFERENT QUALITIES. E.g. Water was cold/Moist.

The Seasons
Knew each season was different and could see how the elements could explain that. E.g. water was cold/moist and so was winter – making it the dominant element in that season.

Treating Disease
Doctors had to work out which one of the patient’s humours were out of balance and then try to restore them to proper balance.

Treatments from The Theory Of The 4 Humours
After establishing how the patient’s humours were unbalanced, the job of a Greek doctor was to try to rebalance the body’s humours by:
- Bloodletting - surgical removal of a patient’s blood
- Vomiting - give a patient something to make them sick
- Purging - remove impurities through faeces

They also knew there was no cure for some illnesses and recommended a visit to the Asclepion.

The Work Of Hippocrates
- Most famous Greek doctor
- Acknowledged as the Father of Modern Medicine
• He said that there were holes in the septum of the heart which would let blood pass through from right to left
• He said that the blood was CREATED and then CONSUMED by the body – not a fixed volume of blood circulating
• He said that the jaw was made of 2 bones

Public Health Schemes

• Even though the Romans weren’t so interested in theories about the causes of disease, their practical skills produced the best public health schemes not yet seen anywhere in the world
• They did a lot to protect people against disease
• Noticed that bad smells/ unclean drinking water/ sewage/ swaps and dirt made people ill
• They didn’t limit their schemes to Rome – new public health schemes spread throughout the Roman Empire

Public Health: Actions taken by governments to improve the health of their people.

Aqueducts

• Fresh water from springs – supplied to major towns along aqueducts and underground clay pipes
• Water supplied by aqueducts – usually distributed by towns using complex systems of timber and lead pipes
• In Rome, commissioners monitored the cleanliness of the water and a fair supply

The 9 aqueducts built in the city of Rome brought 222 million gallons of water a day into the city.

Sewers

• Were built to take away sewage from private houses and waste from public toilets
• Usually collected water from the public baths and recycled it by using it to flush the latrines
• Waste from the sewers emptied into the rivers

Baths

• Towns had public baths
• They were open to anyone for a quadrans - the smallest Roman coin
• Helped rid people of fleas which spread disease
• Many baths had gymnasiums and massage rooms

Other Measures

Hospitals - the Romans built the first real hospitals in order to look after their soldiers.

Latrines - 12 in all. Toilets were also built in towns. Up to 20 people could be seated at once around 3 sides of the room.

Cisterns and Public Fountains - provided fresh drinking water for people to collect and consume.

Developments in Surgery

• Through work with gladiators and wounded soldiers, Roman doctors became experts at practical first aid and EXTERNAL surgery
• They could do a number of simple external operations, such as removing swellings from the neck
• The Romans developed new surgical instruments
• Developed the Caesarean section to remove a baby from the womb of a mother who had died during childbirth
• INTERNAL operations were rare – still too risky – didn’t have anaesthetics so operations were difficult to perform
• AMPUTATIONS were used as a LAST RESORT

Surgical Instruments

Nature of Operations

Medieval Medicine

• Can be called the Medieval period/ The Middle Ages or The Dark Ages

Medical Knowledge DECLINED

• Period in between the collapse of the Roman Empire (476AD) and the start of the Renaissance (c1453)
- **Contagion** – being close to someone who had a disease meant that they could give it to you
- **God** - people still saw disease as a punishment from God
- **Spontaneous generation** - decay creates germs

**The Battle to Improving Public Health**

- Some people thought that the government should force local councils to clean up their towns
- However, many believed that the government shouldn't interfere – this attitude is called **Laissez-faire**
  - they believed the government should allow each local area to control its own affairs
- Local ratepayers made all the decisions – didn't want the government to force them to pay for improvements to their town
  
  **Like a TUG OF WAR between:**

**Poorer people:**
- "We need the government to make councils clean up their towns!"
- "Force tax payers to cough up!"

**Ratepayers:**
- "We don't want improvements!"
- "The government should leave us be!"

**Edwin Chadwick**

- **Asked by government to report on living conditions and health of the poor - 1842**
- **Chadwick concluded that poverty was caused by ill health which was caused by the terrible conditions people lived in**
  - Said that ratepayers can cut their taxes and save money in the long-term by looking after the poor and spending money improving their health
- **In his "Report on the Sanitary Conditions of the Labouring Population" - 1852 – Chadwick said that industrial towns should:**
  1. Organise drainage and refuse collection
  2. Provide a pure water supply
  3. Appoint a Medical Officer of Health
- **For over 30 years an argument went - about the need for town councils or the government to take action – towns like Liverpool/ Manchester did start to take action**

**1848 Public Health Act**

- At first the government did nothing about Chadwick’s recommendations
- In 1848 there was another outbreak of Cholera – put pressure on government to do something – Parliament reluctantly agreed to pass the 1848 Public Health Act
- **It was NOT COMPULSORY** - government set up a Board of Health to encourage but not to force local authorities to improve conditions
- They gave local authorities money to make improvements in their areas if they wanted to and had support of local ratepayers
- Only a few local authorities took any new measures
- By 1872 only 50 Medical Officers of Health had been appointed – the Board of Health was abandoned in 1854

**1854 John Snow – London Doctor**

- Snow proved that there was a link between cholera and water supply – used research/observation and door-to-door interviews to build a detailed map of a cholera epidemic in Broad Street
- Nearly all the deaths had taken place within a short distance of the water pump
- Near the pump there was a brewery and none of the people there had cholera – brewery had its own water pump and men had been give free beer to drink – didn’t use the Broad Street pump at all
- After collecting evidence, John Snow removed the handle from the pump – there were no more deaths
- Later came to light that a cesspool near the pump had a cracked lining which allowed contents to contaminate drinking water
- Snow put pressure on water companies to clean up their water supplies

**1858 The Great Stink**
• Made education compulsory
• Made vaccination compulsory

Public Health – 1800 to Present Day

<table>
<thead>
<tr>
<th>Limited</th>
<th>Optional</th>
<th>Compulsory</th>
<th>Comprehensive</th>
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</thead>
<tbody>
<tr>
<td>In 1830 a few towns introduced drains, sewers, rubbish collectors and clean water.</td>
<td>1848 Public Health Act, towns could set up Boards of Health if 10% voted for it.</td>
<td>1875 Public Health Act, councils were formed to provide basic sanitation and Medical Officers.</td>
<td>From cradle to grave, Liberal reforms. Pensions, National Insurance, Welfare State and the NHS.</td>
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</tbody>
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Cholera Epidemics in Britain

• 1831-2
• 1848-9
• 1853-4
• 1865

20th Century Medicine

Development of x-rays and Blood Transfusions

Development of x-rays

• X-rays had been discovered before the war but it was the First World War which really confirmed the importance of the x-ray in surgery (before 1914)
• More machines were manufactured and installed in major hospitals along the Western Front
• X-rays helped to improve the success rate of surgeons
• Made it possible for surgeons to remove deeply lodged bullets or shrapnel that would have otherwise caused fatal infections

Development of Blood Transfusion

• 1800s – sometimes mysterious; blood transfusions were successful and sometimes they failed
• 1900 – Dr. Karl Landsteiner discovered that there are different blood groups and that transfusion only worked if the donor’s blood group matched the receiver’s blood group
• Discovery made blood transfusion practical – in years before the war it was still performed on-the-spot donors because doctors had no way of storing blood properly (it coagulated or clotted)

Blood Transfusions in World War I

• Vast amounts of blood were needed – made it difficult to use on-the-spot donors
• Scientists began to search for a better way of storing blood as often soldiers bled to death in the trenches before blood could get to them
• Discovered that plasma (liquid part of blood) could be separated from corpuscles (tiny parts in blood)
• Cells could be bottled/packed in ice and stored close to where they were needed – made blood transfusions more practical

Further Development of Blood Transfusion

• Discovery of a better method of storing blood helped to save many lives during the First World War
• Freeze dried plasma was developed in 1940
• Anticoagulant solution (stops blood clotting) for storage of blood developed in 1943
• Development of method of freezing blood followed in 1944

The Magic Bullets