

Medicine in Britain Revision

Mediaeval 1250-1500:

Causes:

- Religious (God punishes you with disease, testing your faith or purifying your soul)
- Supernatural (the alignment of stars or planets cause disease)
- Miasma (dirty air, bad smells)
- Theory of the Four Humours (need to be balanced or disease is caused)

Prevention:

- Prayer & confessions (God will forgive you and take away your disease)
- Hygiene (regimen sanitatis, diet, bathing)
- Purifying air via herbs

Treatment:

- Herbal (traditional medicines, apothecaries)
- Correcting the Four Humours
- Religion (fasting, prayers, pilgrimage)
- Supernatural (charms, checking the planets/stars)

Care:

- Not for the infectious
- Hospitals are for the terminally ill, run by monks or nuns
- Most care was from women at home (apothecaries)
- Barber surgeons
- Physicians = very expensive

Government:

- Not involved in health
- Some cleaning in cities during the Black Death (1348)

Case studies:

- Black Death (1348)
- 1440 Printing Press
- Hippocrates
- Galen

Renaissance 1500-1700:

Causes:

- Classical (Four Humours)
- Supernatural (the stars cause disease)
- Miasma (dirty air, bad smells)

Prevention:

- Payer (God will forgive you and take away your disease)

- Hygiene (regimen sanitatis)
- Cleanliness (bathing not popular)
- Purifying air and cleaning streets
- Moderation e.g food, alcohol
- Condition at birth

Treatment:

- Herbal (traditional medicines, apothecaries)
- Surgery (dangerous)
- Humanism = interest in learning and discovering the truth. Thomas Sydenham observed symptoms to treat the cause.
- Transference = illness or disease could be given to something (an object)
- Iatrochemistry = chemical cures

Care:

- Hospitals still ineffective, not run by the Church as much
- Most care still at home
- Surgeons & apothecaries cheaper than physicians
- Improved access to medical textbooks, surgeons and apothecaries had to actually possess licence
- Pest houses = hospitals specialised in one disease

Government:

- Still not very involved
- Limited action during the Plague - quarantine (1665)

Case studies:

- Great Plague (1665)
- Thomas Sydenham - observed symptoms to actually treat the cause of disease
- Andreas Vesalius - studied human anatomy via dissections and autopsies
- William Harvey - discovered that blood circulated the body

Industrial 1700-1900:

Causes:

- [1861] Germ Theory (Louis Pasteur and Robert Koch) Microbes caused disease
- Miasma (dirty air, bad smells)
- Spontaneous generation = microbes were the product of decay and not the cause

Prevention:

- Vaccine (but only for smallpox) - Edward Jenner [1796]
- Public health (improvements to air quality)
- Public Health Act 1848
- Public Health Act 1875 (providing clean water, new housing, disposing of sewage)

Treatment:

- Surgery (more advanced but still dangerous)
- Problems with surgery include bleeding, pain and infection
- [1] Pain = development of anaesthetics e.g James Simpson and chloroform
- [2] Infection = development of antiseptic surgery e.g Joseph Lister and carbolic acid

Care:

- Hospitals improve (hygiene)
- More care in hospitals for the infectious
- Florence Nightingale and Mary Seacole improved conditions in hospitals, changed the design of hospitals and improved the training of nurses

Government:

- Sewers built in response to the Great Stink (1848)
- Smallpox vaccines compulsory [1872]

Case studies:

- Cholera (1854) - John Snow discovered cholera spread through the Broad Street water pump due to sewage leaking into the water.
- Edward Jenner - smallpox vaccinations
- Florence Nightingale - improve hospital conditions
- Mary Seacole - improve hospital conditions

Modern 1900-Present:

Causes:

- Bacteria & viruses (advanced Germ Theory)
- Lifestyle (obesity)
- Genetics (DNA can cause disease)
- DNA - Watson, Crick and Franklin identify the structure and sections that cause hereditary disease.
- [1990] Human Genome Project - used blueprints of DNA to look for mistakes and mismatches

Prevention:

- Public health (living conditions, housing)
- [1] vaccinations e.g 2008 HPV
- [2] legislation e.g Clean Air Act in 1956
- [3] communicating health risks and campaigns e.g Change4Life, Stoptober

Treatment:

- Advanced surgery
- Diagnosis and medical testing before treatment
- Technology e.g blood tests, x-rays

- Penicillin = Fleming in 1928 and Florey and Chain in 1940
- Antibiotics = destroys or limits the growth of bacteria in the body
- Magic bullets = attack microbes in the body causing disease
- Chemotherapy

Care:

- 1911 National Insurance Act: workers earning below a certain amount are entitled to free medical care
- Hospitals mainly under the NHS and significant advances in health care
- More access to GPs
- Hospitals now are just for treating the sick

Government:

- NHS founded 1948
- Mass vaccination campaigns
- Mass lifestyle campaigns

Case studies:

- DNA (Franklin, Watson and Crick)
- Penicillin (1928) = Fleming, Florey and Chain
- Lung cancer

Western Front (WW1):

Trench structure:

- No Man's Land = area between the frontline and enemy trench
- Frontline trench = Main attacking point
- Support trench = [80m from the frontline] retreat to here if there is a fatal enemy attack
- Reserve trench = [100m from the support trench] holds soldiers for the frontline
- Communication trench = connects all the stretches to transport soldiers and supplies

Inside the trenches:

- Duckboards = wooden planks that lined the bottom of the trenches
- Firestep = allows the soldier to stand and fire over
- Dugout = for protection and rest
- Sandbags = provides protection from bullets and shrapnel (and supports the structure)

Medical conditions in the trenches:

- Trench foot = painful swelling of the feet caused by standing in cold mud and water. Attempted solutions = rubbing whale oil into feet to protect them, keeping feet dry and regularly changing socks, possible amputation.

- Trench fever = flu-like symptoms with a high fever, headache and aching muscles. Attempted solutions = [1918] delousing stations, because trench fever was caused by contact with lice.
- Shellshock = symptoms include tiredness, headaches, nightmares, loss of speech, uncontrollable shaking and complete mental breakdowns. Attempted solutions = treatment provided back in Britain. Some men who suffered from shellshock were accused of just being a coward, and were punished or even shot.
- PTSD = caused by traumatic events
- Infected wounds = lack of blood caused gangrene (decomposition of body tissue) which lead to inevitable amputation. Shrapnel wounds caused their clothing to become embedded into their wounds

Stages of Evacuation:

- Regimental Aid Post (RAP) = 200m from the frontline, give immediate first aid to get as many men back to fighting as possible
- Dressing Stations = provided shelter from enemies in tents, abandoned buildings or bunkers, there was 10 medical officers and stretcher bearers
- Casualty Clearing Stations (CCS) = used to divide injured men into 3 groups (this was called triage) to help medical staff make decisions about treatment. The 3 groups were [1] the walking wounded: bandaged up and sent back to fighting [2] those in need of hospital treatment and were transported to a base hospital [3] those who were so injured their death was inevitable, these men were either sent home or made comfortable to die in peace.
- Base hospitals = used to treat injured soldiers, located on the French and Belgium coast so if needed men could easily be transported home

Battles on the Western Front:

- [1914] The First Battle of Ypres = British gained control of Ypres. German forces launched a counterattack against Britain. Germany eventually retreated but surrounded Ypres and 50,000 British soldiers were killed.
- [1915] Hill 60 at Ypres = Germans captured 'Hill 60' and British soldiers mined underneath the hill and used explosives to capture their position.
- [1915] The Second Battle of Ypres = Germans launched another attack, and it was the first time chlorine gas was used. 59,000 British soldiers died.
- [1916] The Battle of the Somme = largest British attack in WW1, it aimed to destroy German defences and take enemy ground. Germans hid in deep bunkers to protect themselves from British artillery. There was a high casualty rate (57,000 British soldiers died only on the first day), tanks were used for the first time but they were ineffective.
- [1917] The Battle of Arras = Britain, New Zealand and Canada built 2.5 miles of tunnels to attack the German line, the British advanced 8 miles into enemy territory however the progress was slowed when 160,000 British and Canadian soldiers were injured or killed.

- [1917] The Third Battle of Ypres = British troops wanted Germans to stop surrounding Ypres, their attack was successful but British men suffered with poor weather conditions which meant that men drowned in mud. 245,000 British soldiers were injured or killed.
- [1917] The Battle of Cambrai = the first large-scale attack by British tanks to attack the German frontline, this included the first successful large-scale use of tanks and mustard gas.

Gas Attacks:

- Mustard gas = blistering of the lungs and throat, burn through skin, potential blindness
- Chlorine gas = yellow-green type gas, irritated the eyes, nose, lungs and throat, caused suffocation
- Phosgene gas = used as a choking agent

Experiments in Medicine and Surgery:

- Amputation = it was possible that doctors would have to amputate wounded limbs to prevent infection or death. This was in cases that wound excision or antiseptics did not succeed.
- Thomas Splint = this was used to protect a wounded leg so a soldier could be transported, Hugh Thomas designed this to stop the knee joint from moving, the survival rate for men with leg injuries increased from 20% to 82%.
- Brain surgery = Harvey Cushing experimented using magnets to remove metal fragments from the brain, he used local anaesthetic to prevent brain swelling caused by general anaesthetic, the survival rate from head injuries increased to 71%.
- Plastic surgery = Harold Gillies Became interested in facial reconstruction because head injuries that might not have killed caused severe disfigurement, his surgeons performed 12,000 plastic surgery operations in the final year of the war.
- X-rays = developed by Wilhem Roentgen, they carried out their purpose but there were high levels of radiation that caused burns and hair loss, technology improved and helped avoid infection so soldiers could be successfully operated on, and mobile x-rays were eventually developed.
- Blood transfusions = a significant discovery for medicine, soldiers often rejected blood until they learnt about the different blood groups, before they found how blood could be stored, a soldier would have to be next to the soldier who needed blood for them to be able to donate and transfuse their blood.