KNOWLEDGE ORGANISER: Changes in Health and Medicine c.1340 to the present day (Unit 3)

KQ3: How have attempts to treat illness and disease changed over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.1300s-1700s

Herbal medicines - Herbs were used to treat everyday illnesses through herbal drink or ointment. Books like the *Leech Book of Bald*, a 10th century Anglo-Saxon physician provided remedies which worked e.g. lavender for headaches. The invention of the printing press meant books called herbals were published e.g. Turner's *A New Herbal* (1551)or Culpepper's *Complete Herbal* (1652)

Barber surgeons - Barber surgeons bled patients, extracted teeth, performed minor surgery, sold medicine and cut hair. They worked in shops, advertising their services by a red and white pole (white stood for bandages, red for blood). They had to work quickly, using a hot iron to seal wounds and stop bleeding.

Blood letting – People believed imbalances in the Four Humours caused illnesses. This could only be fixed by:

- Blood-letting, by making an incision in a person's vein and draining the blood (a process called 'venesection') or using leeches to suck out someone's blood.
- Purging, pumping herbs, honey and water into the bowels through the rectum.

WELSH EXAMPLES : Common treatments in medieval Wales

- The Mediciner (physician or healer) in the laws of Hywel Dda used herbal remedies to treat the sick and repair broken bones.
- Dynion Hysbys (wise men) – people believed they had the power to break spells and undo evils spread by witches in order to heal people and animals.
- The Physicians of Myddfai – physicians from the village of Myddfai in Carmarthenshire treated the local lords, recording cures and remedies in a manuscript – Llyfr Coch Hergest (Red Book of Hergest) – which gave instructions on treating patients by surgery, herbal medicines or bloodletting.
- Curative wells – in early Christian times many wells became associated with saints so churches were built near the wells. St Winefride's Well at Holywell famous for its healing properties. The water from wells was used in the treatment of rheumatism and skin disorders.

Key Words

Herbals - Books listing the medical properties of plants.

Barber surgeons – Medieval doctors who performed surgery.

Four Humours - Belief that the body was made up of four body fluids and that people became ill when these humours were out of balance.

INDUSTRIAL PERIOD : c.1800s

Surgery was limited by pain, infection and bleeding. In the 19th century, two advances improved surgery.

1. Anaesthetics - James Simpson, Professor of Midwifery at Edinburgh University, experimented until he found chloroform could help relieve pain during childbirth. He wrote articles about his discovery. Surgeons did not know what dose to give patients and a patient died during an operation in 1848 from an overdose. Its use by Queen Victoria in 1857 as pain relief, during the birth of her eighth child, helped change public opinion. Chloroform provided effective pain relief for patients.
2. Antiseptics - Joseph Lister, Professor of Surgery at several universities, believed Pasteur's 'germ theory' and began experiments to prevent patients from dying from blood poisoning after an operation. Lister used carbolic acid to wash his hands and all his instruments before an operation, to soak bandages before applying them to wounds, to soak silk threads in it before tying up wounds. He reduced the infection rate from 46% to 15% in 3 years. He invented a spray machine in 1871 so that carbolic acid could be sprayed over a patient's wound during an operation. He published his findings in 1867. Lister's methods marked a turning point in surgery. The discovery of the bacteria that caused septicaemia (blood poisoning) in 1878 helped the acceptance of Lister's ideas..

WELSH EXAMPLE : The bonesetters of Wales - During the late 19th and early 20th centuries Welsh bonesetters brought about major advances in the treatment of orthopaedic injuries.

- Thomas Rocyn Jones (1822–77) – in Rhymney he experimented in new methods of setting bones, developing new wooden splints with a foot piece to help treat fractures and muscle injuries.
- Evan Thomas (1804–84) treated bone and joint diseases, while his son Hugh Owen Thomas (1834–91) designed and manufactured his own splints. He developed the 'Thomas Splint' to stabilise the fracture of the femur (thigh bone) and it was later used to great effect in the trenches during the First World War.
- Sir Robert Jones (1857–1933) – the nephew of Hugh Owen Thomas, became a lecturer in orthopaedic surgery at Liverpool University; during WW! he became Inspector of Military Orthopaedics; he is known as the 'father of orthopaedics'.

Key Words

Anaesthetic - A substance or gas that produces unconsciousness before and during surgery.

Antiseptic - Chemicals used to destroy bacteria and prevent infection.

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MODERN PERIOD : c.1900s-present day

Radiation in medicine - Marie Curie and her husband discovered radioactive elements like radium and polonium destroyed tissue, opening up a way of treating cancer. Her 1911 Nobel Prize was for discovering a means to measure radiation.

Antibiotics - In 1928, Alexander Fleming, Professor of Bacteriology at St Mary's, accidentally discovered penicillin, a mould killed bacteria. In 1929, Fleming published a report on penicillin. Howard Florey and Ernst Chain, scientists at Oxford University, mass produced penicillin and by 1941 had enough to begin human trials. By 1944 there was enough penicillin to treat all Allied casualties. In 1945, penicillin became available for civilians. Fleming, Florey and Chain were awarded the Nobel Prize for Medicine for their research into the antibiotic 'wonder drug'. By the 21st century some bacteria like MRSA have become antibiotic resistance, so that soon existing antibiotics will no longer work and will need to be replaced.

Transplant surgery - In December 1967, Christiaan Barnard performed the world's first human heart transplant on Louis Washkansky. He survived the operation but lived for only 18 days, dying of pneumonia. Barnard performed ten heart transplants between 1967 and 1973, but rejection of the transplanted organ remained a problem. Immunosuppressive drugs solved transplant rejection.

WELSH EXAMPLE : Human Transplantation Act 2013 - Wales was the first part of the UK to change the law to 'presumed consent' – it is now assumed that all people in Wales want their organs to be donated unless they take themselves off the list.

Modern advances - Cancer is treated by radiotherapy (attacking the cancer cells with X-rays); chemotherapy (using chemicals to attack the cancer); surgery (to remove the cancerous cells by operation).

Heart disease is treated by diet, exercise, drugs to steady the pulse, lower blood pressure or cholesterol levels, surgery to install a pacemaker to regulate the heart rate, by-pass surgery, the insertion of a stent to widen an artery.

Miniaturisation, fibre-optic cables and the use of computers have enabled surgeons to perform keyhole surgery, avoiding large incisions and speeds up the recovery process. Microsurgery enables surgeons to re-join nerves and small blood vessels, enabling limbs such as fingers and hands to be re-attached.

Alternative medicine - hydrotherapy, aromatherapy, hypnotherapy and acupuncture became popular. They were based on traditional treatments designed to work in harmony with the body, rather than using chemicals against illness. This seems to be a return to the kinds of medicine used in the medieval era.