

## **The British sector of the Western Front, 1914–18**

**Alice:** Hello and welcome to the Bitesize GCSE History podcast, bringing you the key events for the History of Medicine. I'm Alice Loxton, historian and author.

**Anouska:** And I'm Anouska Lewis, history podcaster. In this episode we're looking at the First World War, and specifically the experience of medicine on the Western Front.

**Alice:** You'll hear actors reading historical sources and stay tuned till the end because we'll have a quick quiz to make sure we've caught the key details.

**Anouska:** If you want to hear other episodes in this Bitesize GCSE History series, make sure you download the BBC Sounds app. On the 4th of August 1914, Britain declared war on Germany. It was a global conflict, involving countries all over the world. But one of the main areas that fighting took place was on the Western Front, in Belgium and France.

**Alice:** The warfare of World War 1 caused new types of injuries and led to developments in medical treatment, ones that have impacted medicine to this day.

**Anouska:** Grab a pen and paper and make some notes as we go through them.

**Alice:** Heavy gun fire from the start of the war led both sides to dig trenches as a way to protect themselves.

**Anouska:** These were long, narrow ditches, and the area between each warring side was called no-man's land.

**Alice:** Over the next four years, enemies would attack each other's trenches. This led to high numbers of casualties and horrific injuries.

**Anouska:** For example, in July 1916 on the first day of The Battle of the Somme in France, more men died than in any previous battle.

**Alice:** From July to November, there had been 420,000 British casualties. This type of warfare meant medical services were under intense pressure.

**Anouska:** Trenches were overcrowded and hygiene was poor. Trench fever was spread by lice. Symptoms included headaches, fever, and joint pain.

**Alice:** Trench foot occurred when trenches became waterlogged and soldier's feet stayed wet. Their feet became swollen, blistered and turned blue. Sometimes feet had to be amputated.

**Anouska:** So, these difficult conditions on the Western Front created lots of painful injuries. Let's hear an extract from a letter sent by a British soldier fighting in the trenches.

**Soldier:** It was quite uncanny to watch the enemy trench which appeared somewhat like a black wave and only sixty yards in front. Then you would suddenly see the

flash of their rifles and machine guns. I fired about five shots at their flashes, then another two shells which lodged in the parapet either side of my head leaving about 2 to 3 inches between me and certain death.

**Anouska:** That letter is an example of a local, individual source. A personal account like that can be useful. It tells us about the personal experiences of soldiers on the Western Front. Other examples would be diaries or photographs.

**Alice:** But not every place or experience was the same, so these sources give us limited information about one place, or one moment captured in time.

**Anouska:** You may need to discuss sources in your exam, so for more analysis on the strengths and limitations of different types of sources, head over to the BBC Bitesize website pages.

**Alice:** So how did soldiers, who were injured by trench warfare, receive treatment?

**Anouska:** Medical care during World War 1 was largely the responsibility of the RAMC, that's the Royal Army Medical Corps.

**Alice:** Injuries needed to be treated quickly and effectively. A system was developed, known as the chain of evacuation. Let's run through its main stages.

**Anouska:** Firstly, stretcher bearers picked up the dead and wounded from no man's land where they would be brought to Regimental Aid Posts. These were first aid stations generally located near the frontline and their aim was to get men back to fighting as soon as possible.

**Alice:** If this wasn't possible, the next stage was for injured soldiers to be evacuated to Casualty Clearing Stations. Here, soldiers were treated by doctors, nurses, and surgeons, often in tented accommodation.

**Anouska:** The last point in the chain of evacuation was Base Hospitals which were much further away from the front line and provided longer term care.

**Alice:** Nurses played an important role in providing care for wounded soldiers on the Western Front.

**Anouska:** Nurses initially came from the Queen Alexandra's Nursing Service, a group of highly trained nurses, and the numbers grew throughout the war. There's lots more information on the BBC Bitesize website, and you can listen to the rest of this series on BBC Sounds. Now let's look at some other medical developments on the western front.

**Alice:** Given the dirty and overcrowded conditions of trenches and battlefields, infection was another big problem when treating injuries.

**Anouska:** In 1867, Joseph Lister had introduced antiseptic surgery. It was a method of preventing infection during an operation by using chemicals, called antiseptics, to kill germs.

**Alice:** The conditions on the Western Front meant operating theatres couldn't be kept free from bacteria, so a new method was developed called the Carrel-Dakin technique.

**Anouska:** It allowed heavily infected wounds to be continuously disinfected. Medics would remove bullets and shrapnel and then cut away dead or damaged tissue around the wound.

**Alice:** They would then clean the open wound with antiseptics so bacteria wouldn't be trapped inside the body.

**Anouska:** If the infection continued to spread, sometimes the only way to deal with it was to amputate wounded limbs.

**Anouska:** Okay, so we understand how trenches affected injuries and treatments but what about weapons?

**Alice:** On the Western Front, weapons had become more mechanised and automatic, leading to more severe injuries. For example, rifles fired rapidly, forcing bullets deeper into the body. And machine guns were able to shoot constantly, leading to higher numbers of casualties.

**Anouska:** Shrapnel shells were hollow shells filled with tiny metal balls. They would explode mid-air and small fragments would dig into soldiers' bodies.

**Alice:** So how did medicine develop to tackle these types of injuries?

**Anouska:** Well at the start of the war, 80% of soldiers who had their femur broken by gunfire died from the injury. The femur is a bone in the thigh.

**Alice:** This was often because they lost too much blood being moved from the front line to medical stations.

**Anouska:** So, to stop this, their legs needed to be kept straight. Hugh Thomas, a British surgeon, designed a splint to stop joints from moving, and it became known as the Thomas splint. Once it was introduced, the death rate reduced from 80% to just 20%.

**Alice:** And pioneered by Marie Curie, mobile X-ray machines allowed surgeons to locate bullets and shrapnel quickly, removing them accurately.

**Anouska:** This improved the chances of patients receiving the correct treatment. You can hear more about Curie in our episode on leading women in medicine.

**Alice:** Powerful guns weren't the only new type of weapon. Gas attacks were another.

**Anouska:** They were first used by the Germans in 1915 at The Second Battle of Ypres in Belgium.

**Alice:** Gas attacks could cause blindness, suffocation, breathing difficulties, and sometimes death.

**Anouska:** Soldiers were given gas masks to protect themselves.

**Alice:** Although gas attacks accounted for a relatively small number of deaths during the war, they did cause a lot of fear and suffering.

**Anouska:** Tanks were also a new, powerful weapon during the First World War.

**Alice:** The first large-scale use of tanks came during the Battle of Cambrai in 1917.

**Anouska:** They made really severe injuries even more likely.

**Alice:** These kinds of weapons led to life threatening injuries. And sometimes, soldiers needed something drastic like a blood transfusion.

**Anouska:** Blood transfusions were an important lifesaving tool but there were issues with storing blood for long periods of time. It could clot, or congeal, and when it did, it couldn't be given to patients.

**Alice:** But discoveries were made during the war that helped, for example adding sodium citrate to blood which could prevent clotting.

**Anouska:** So, by the time the Battle of Cambrai was taking place, blood banks were prepared, ready to treat soldiers on the battlefield.

**Alice:** Captain Geoffrey Keynes was a doctor who developed a portable device that meant transfusions could happen more easily. Let's hear an extract from his autobiography published in 1981.

**Anouska:** Whilst you're listening, have a think about a detail in the source that you could follow up on, and a question you might ask about it? This is something you may need to do in your exam.

**Keynes:** It was our duty to operate where there was reasonable hope of recovery, rather than to waste effort where there seemed to be none. The possibility of blood transfusion now raised hopes where formerly there had not been any. In this way I had the satisfaction of pulling many men back from the jaws of death.

**Anouska:** If we take that source then, what's a detail you could follow up on Alice?

**Alice:** Well, Keynes says there that blood transfusions 'raised hopes where formerly there had not been any.' So, I might follow up on that and to do so, we need to ask a question.

**Anouska:** How about, 'did blood transfusions raise hope for injured soldiers?'

**Alice:** Yes, that's good. But now we need to suggest a type of source to use, in order to follow it up. I'm thinking the diary of an officer, but we need to say why.

**Anouska:** Yes, it would be a good choice because he might say whether blood transfusions had a positive impact. That way we can confirm Keynes' original statement.

**Alice:** It's time for a quick quiz to test our knowledge.

**Anouska:** Okay, I'll start. What was the condition that sometimes came about when trenches became waterlogged? It affected a part of the body. The answer is trench foot. It sometimes led to soldiers having feet amputated.

**Alice:** Next question - what's the name of the apparatus designed to keep injured soldiers' legs straight? The answer is the Thomas splint. It increased the survival rate for gunshot or shrapnel leg injuries.

**Anouska:** Thanks for listening to this episode of the Bitesize GCSE History podcast.

**Alice:** The next one is a whole quiz episode, so come and see how much you've learnt.

**Anouska:** There are loads of podcasts to help you with your GCSEs, just search for Bitesize on BBC Sounds. See you next time!