

History, Medicine through time

Lesson 26 of 30

Worksheet:

How were trenches designed and why did battles on the Western Front lead to medical advancement?

Miss Holland



The Western Front

When war broke out between Britain and Germany on the 4th August 1914, the **British Expeditionary Force** moved to meet the German army which had invaded France through Belgium.

After initial defeats, the BEF were ordered to retreat to the **River Marne** and the German army was ordered to retreat to the **River Aisne**. The German commander, wanting to hold the position of the German army, ordered trenches to be dug to provide protection.

Once the Allies realised they would not be able to advance across the German line, they too began to dig trenches, and so trench warfare began. After a few months, trenches had been dug from the coast near Dunkirk (France) all the way through France to Switzerland.



The trench system

As the war went on, the trenches were built in a more complex manner. A trench system evolved. There were often three lines of trenches:

- The **frontline trench** (also known as the **firing trench**) was closest to the enemy trenches and was where attacks were mounted from. The frontline trenches were very dangerous and soldiers were most at risk of shelling and even being hit by their own **artillery**. Soldiers would usually spend around 8 days in the frontline trench before being rotated to the other trench lines.
- The **support trenches** were behind the frontline trenches (80m or so) and would be used for retreat in case of enemy attack.
- The **reserve trenches** were the last line of trenches (100m behind the previous line) and would hold reserve troops in case more men were needed to attack in the frontlines.
- **The communication trenches** connected the other trenches together and were used to transport supplies, men and equipment.



The trench system

Trenches would be dug in a **zig-zag pattern** to provide more protection from enemy fire and make it more difficult for the enemy if they were able to get inside the trenches.

No-man's-land was the area between the two enemy trenches. **Barbed wire** would protect the frontline trenches and beyond this was no-man's land. The distance of no-man's land differed greatly, depending on where you were on the Western Front. It was nearly impossible to get across no-man's land as it was often waterlogged, uneven ground with little shelter (other than shell holes) from artillery and snipers. Those injured were often left on the ground until it was possible for **stretcher bearers** to collect them.



Trench design

The design of a typical frontline trench:

- **Duckboards** were wooden planks which would be used to line the bottom of the trench to try and prevent soldiers from sitting/standing in water. (As typical trenches were often waterlogged, especially in winter which was one of the causes of **trench foot**).
- Both the side of the trench facing to and away from the enemy would be lined with sandbags to protect troops from shrapnel and bullets. The side nearest the enemy (**parapet**) would often be built up higher than the side facing away from the enemy (**parados**).
- A **fire-step** was dug in the trench to allow soldiers when anticipating an enemy attack, so they could fire over the parapet.



The Battle of Ypres

Ypres is a town in Belgium and was important because the BEF wanted to prevent the German army from gaining control of the coast. There were three battles of Ypres:

- In October 1914, the British managed to gain control of Ypres and the German forces launched a counter-attack and whilst the British suffered heavy losses, they managed to hold their position and the German army retreated. However, the Germans extended the **Ypres Salient**. The Germans had also captured **Hill 60** which gave them a significant advantage. Just before the Second Battle of Ypres, the British managed to use explosives dug into Hill 60 to take this position.
- The **Second Battle of Ypres** began in April 1915 when the Germans launched another attack and lasted around a month. The Germans used **chlorine gas** against Allied troops. Again British casualties were high (59,000 men) and the Germans closed more ground.
- The **Third Battle of Ypres** began in 1917 and the British aimed to break out of the salient. In July 1917 the British began to march towards Passchendaele but poor weather conditions hampered their efforts and by November it had cost the British around 245,000 casualties and they had pushed the salient back seven miles.



The Battle of the Somme

The Battle of the Somme began on 1 July 1916. It was a large-scale attack which aimed to destroy German defences and take enemy ground. Some key features of the battle were:

- The high casualty rate - There were around **57,000** British casualties on the first day (almost 20,000 killed), with the total number of British casualties at **400,000** by November 1916.
- The **creeping barrage** - This was when a heavy artillery bombardment was used at first to destroy as much of the enemy defences as possible. This bombardment was launched minutes before the British **infantry** then advanced on the Germans. This contributed to the heavy casualty rate.
- Tanks - Tanks were used in a battle for the first time. Around 40 tanks were introduced but they were slow and often broke down. They were ineffective in holding any ground.



The Battle of Arras

The Battle of Arras began in April 1917 but what happened leading up to the battle is also significant in our study. Before the battle, Allied soldiers had dug a **network of tunnels** below Arras. (Some of these tunnels were already there and were added to).

The ground at Arras was chalky which meant tunnels could be dug more easily. There were even rooms with running water and electricity and even a hospital (known as **Thompson's Cave**) with around 700 spaces where stretchers could be placed as beds and a makeshift operating theatre.

Around 24,000 men who had been hiding in the tunnels attacked the German trenches. By May, however, the progress the British had slowed and the casualties were high.



The Battle of Cambrai

The Battle of Cambrai began in October 1917. Some key features of this battle were:

- Tanks - There was the first successful large-scale use of tanks. Around **500 tanks** were used. They were more effective than when used in the Battle of the Somme, their machine guns worked and they were able to move easily across the uneven ground and barbed wire.
- Blood bank - **Blood banks** were used for the first time at Cambrai by **Oswald Robertson**. Blood groups had been discovered in **1901** and developments in the storage of blood over the course of the war meant that it was possible to have blood ready as a preparatory action. As a result, 11 out of 20 severely wounded Canadian soldiers who were given transfusions survived.
- Mustard gas was used by the Germans which caused large numbers of casualties.



Glossary

- **Artillery** - Heavy weaponry.
- **British Expeditionary Force** - The divisions of the British army sent to France at the start of the First World War.
- **Blood banks** - (WW1) The storage of blood in preparation for blood transfusions.
- **Hill 60** - A man-made hill to the south-east of Ypres.
- **Infantry** - Soldiers on foot.
- **Ypres Salient** - The area around Ypres that was surrounded on three sides by the Germans.



Comprehension Questions

1. Can you explain how trench warfare on the Western Front began?
2. Can you explain why attacking an enemy trench was so difficult?

HINT: Think about the design of the trench system.

3. Choose one of the battles from today's lesson - can you **describe** 2 key features of this battle?
4. Describe 3 dangers for soldiers present in the trenches.
5. Challenge question: Explain 2 reasons why you think trench warfare led to **medical developments**.

HINT: Think about medical knowledge by 1900 and the kinds of illness/injuries that would need to be treated in the trenches. Also think about the Battle of Cambrai and Ypres.

