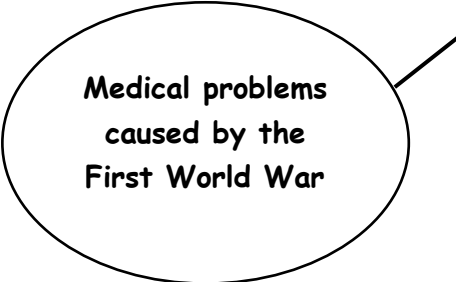


How far did surgery develop in the 20<sup>th</sup> century?

**Task 1** - Examine the image of a First World War battlefield as it appears below. Use the image in order to create a spider diagram of medical problems / injuries that might result from the method of fighting witnessed here.



Use of poison gas resulted in serious internal injuries to the lungs

**Task 2** - Using your knowledge of improvements to surgery within the 19<sup>th</sup> and 20<sup>th</sup> centuries draw out and complete the table set out over the page with the required information. Use the details on the diagram to give you some ideas as to what to include.

GCSE History - 'Britain: Health and the People, c1000 to the Present Day'

Improvement	Discovery or development	Impact of war
X-rays	Wilhelm Röntgen discovered X-rays when carrying out experiments.	Increased in use during the First World War as surgeons needed to locate bullets. X-rays were introduced in all major hospitals on the Western Front.
Blood transfusions	Used from 1800s with different amounts of success. Karl Landsteiner then discovered blood groups, making transfusions possible.	
Plastic surgery		The treatment of injuries resulting from gunfire, explosions and burns in the First and Second World Wars led to major advances in plastic surgery.

**X-rays**

Discovered in 1895; hospitals used them to look for broken bones and disease before the First World War

During the war, proved their effectiveness on the battlefield when mobile X-ray machines were used, developed by Polish scientist Marie Curie

Allowed surgeons to find out exactly where in the wounded soldier's body bullets or pieces of shrapnel had lodged – without having to cut him open

**Plastic surgery**

During the First World War, Harold Gillies (a London-based army doctor) set up a special unit to graft (transplant) skin and treat men suffering from severe facial wounds

Queen's Hospital in Kent opened in 1917; by 1921 it provided over 1000 beds for soldiers with severe facial wounds

During the Second World War, Archibald McIndoe used new drugs such as penicillin to prevent infection when treating pilots with horrific facial injuries

**The impact of the First and Second World Wars**

**Blood transfusions**

In 1900, Karl Landsteiner discovered blood groups, which helped doctors work out that a transfusion only worked if the donor's blood type matched the receiver's

It was not possible to store blood for long until 1914 when Albert Hustin discovered that sodium citrate stopped blood from clotting

British National Blood Transfusion Service opened in 1938

Large blood banks developed in both the USA and Britain during the Second World War