

DISEASE IN THE TRENCHES

To mark 100 years since the First World War came to a close, we look at the conditions in the trenches and hear from the diaries and letters of those who endured the horrific conflict.



The First World War is estimated to have claimed 20 million lives and to have left 21 million wounded. The total number of deaths included 9.7 million military personnel and about 10 million civilians. Of these deaths, an estimated 5.7m were soldiers fighting for the Allies.

Many died in combat, through accidents, or perished as prisoners of war. But the majority of loss of life can be attributed to famine and disease – horrific conditions meant fevers, parasites and infections were rife on the frontline and ripped through the troops in the trenches.

Among the diseases and viruses that were most prevalent were influenza, typhoid, trench foot and trench fever.

The biggest risk

Ceri Gage, Curator of Collections at the Army Medical Services Museum in Aldershot, says that infection posed one of the greatest medical risks.

“A simple cut to a finger from cleaning your gun or digging a trench could quite quickly become infected and develop into pneumonia,” she says.

“The men were knee-deep in mud nine out of 12 months of the year, surrounded by bacteria from the bodies of men and animals in no-man’s-land.

“Their bodies were weaker anyway from a lack of sleep, wet and dirty clothes and a restricted diet in which a piece of fruit or vegetable was a treat.”

Field ambulance records show how the pattern of offensives and attacks dominated work for the doctors at times.

Fig. 1. An officer of the 10th Battalion, Cameronian (Scottish Rifles) leads the way out of a sap

Fig. 2. A 'bag' of rats from the French trenches

Fig. 3. Gonorrhoea bacterium



On a single day, up to 300 men could be admitted with gas poisoning and on days where there was no fighting, medics were able to treat non-urgent cases, such as tooth decay.

But despite the threat of fighting, documents show that the top five conditions treated by 51st Field Ambulance were pyrexia (a catch-all term for fevers) (8.7%), inflammation of connective tissue (7.9%), trench foot (6.8%), influenza (6.6%) and scabies (6.1%). Shrapnel comes in sixth place, causing 4.9% of conditions treated. The figures come from the Western Front and were compiled from the records of 30,000 men treated in field hospitals (see box, opposite, for the top 20 conditions treated by the 51st Field Ambulance).

Trench fever

Trench fever, often classed as “pyrexia”, is a condition that was first reported from troops in Flanders in 1915, when individuals suffered from a febrile illness that relapsed in five-day cycles. At the time, the cause of the disease was unknown.

It is estimated to have affected 380,000 to 520,000 members of the British army and had a debilitating effect, leaving a large numbers of men incapacitated.

A lot of research was carried out by the British and US to identify the cause and mechanism of transmission.

Due to its similarity to Malaria, many thought that lice were the cause, but attempts to find a treatment were not successful, and efforts to prevention were mainly focussed in using insecticides to delouse clothing.

At the time, the causative agent was identified and grouped with the *Rickettsia* and named *Rickettsia Quintana*. After the war, *R. quintana* would subsequently join the genus *Bartonella*.

Trench foot

Another common and serious issue was trench foot, especially during the winter of 1914-15, when over 20,000 of the Allied are thought to have been affected. By the end of the war, a total of 74,000 Allied troops are believed to have suffered from the condition.

The issue was prominent in trenches that were dug in land that was at, or near, sea level, where the water table was just beneath the surface.

The soldiers would hit water after a couple of feet and the trenches would flood. After long periods standing in soaking wet socks and boots, trench foot would start to set in. The men’s feet would swell and go numb and then the skin would start to turn red or blue. Untreated feet often became gangrenous and the condition could lead to nerve damage, tissue loss and ultimately the need for amputation.

To minimize the chances of contacting trench foot, men were ordered to change into dry socks as often as possible. And around 1916, John Logie Baird started to sell socks prepared with borax to help alleviate the problems of wet feet.

First-hand accounts

Soldiers were not allowed to keep diaries – in case they fell into enemy hands and included details that could be useful and exploited. But we are able to hear first-hand about the dreadful conditions that were the catalyst to the spread of disease and infection through secret diaries kept hidden and letters sent home.

“Bent double, like old beggars under sacks. Knock-kneed, coughing like hags,” is how poet Wilfred Owen described his fellow soldiers. The words come from opening stanza of *Dulce et Decorum Est*, one of the most famous poems to be penned in the trenches.

After three years of service, he was killed in action on 4 November 1918 while crossing the Sambre-Oise Canal, exactly one week before the signing of the Armistice brought the bloody conflict to a conclusion.

In his poems, the most famous of which were published posthumously, he lays out the horrors of trench and gas warfare. We hear of men marching who had lost their boots “but limped on, blood-shod” “lame”, “blind” and “drunk with fatigue”.

While he is the most famous chronicler of the conditions of the war, many lesser-known voices also recorded the situations they endured.

Rats

The trenches were home to millions of rats, which could produce up to 900 young a year, meaning attempts to kill and curb the rat population proved futile.

Private Harold Saunders enlisted in the 14th London (London Scottish) in November 1915, and went to France with the 2nd Battalion in June 1916.

When the 60th Division left France for Salonika, he was left behind with a septic heel. He was then transferred to the 1st Battalion and was finally discharged April 1918.

In an account of his experiences, published in the 1930 anthology *Everyman at War*, he wrote: “One got used to many things, but I never overcame my horror of the rats. They abounded in some parts, great loathsome beasts gorged with flesh. I shall never forget a dug-out at the back of the line near Anzin. It was at the foot of rising ground, at the top of which was a French war cemetery.

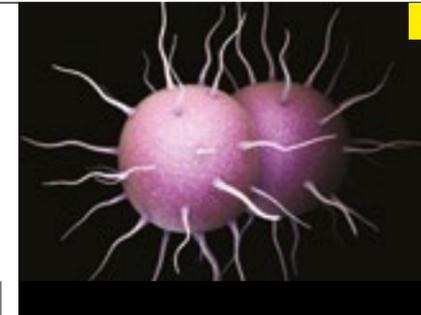
“About the same time every night the dug-out was invaded by swarms of rats. They gnawed holes in our haversacks and devoured our iron rations. We hung haversacks and rations to the roof, but they went just the same. Once we drenched the place with creosote. It almost suffocated us, but did not keep the rats away. They pattered down the steps at the usual time, paused a moment and sneezed, and then got to work on our belongings. A battalion of Jerrys would have terrified me less than the rats did sometimes.”

Flies

Harold William Cronin, Lieutenant in 5th Bedfordshire Regiment, described the conditions in which diseases thrived in a letter home.

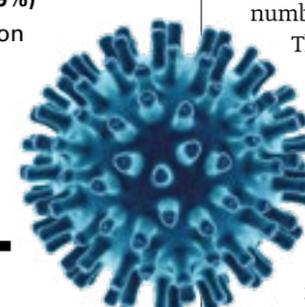
“In the trenches it was fairly bad, they are so narrow and smelly and one is being potted at and shelled all the time.”

He continued: “Although it is so gloriously sunny something is wrong with the place and it really isn’t as healthy as it looks. I think the flies have



TOP 20 MEDICAL CONDITIONS TREATED

- ✓ Pyrexia of unknown origin (8.7%)
- ✓ Inflammation of connective tissue (7.9%)
- ✓ Trench foot (6.8%)
- ✓ Influenza (6.6%)
- ✓ Scabies (6.1%)
- ✓ Shrapnel (4.9%)
- ✓ Gun shot (4.7%)
- ✓ Mustard and chlorine gas poisoning (3.98%)
- ✓ Diarrhoea (3.0%)
- ✓ Rheumatism (2.6%)
- ✓ Shell shock (2.3%)
- ✓ Gonorrhoea (2.2%)
- ✓ Lung infection (2.1%)
- ✓ Syphilis (2.0%)
- ✓ Fractured femur (1.9%)
- ✓ Urinary tract infection (1.8%)
- ✓ Lice (1.8%)
- ✓ Other STDs (1.6%)
- ✓ Gangrene (1.3%)
- ✓ Wasp stings (1%)



something to do with it as well as the heat and the still unburied dead bodies about.

“There are millions and millions of flies here and they are all over everything. Put a cup of tea down without a cover and it is immediately covered with dead ones, they are all round your mouth and directly you open it to speak or to eat in they pop. It is a game. We have all got nets of course, we should have been worried, no medicine by now if we hadn’t.”

Frontline nurses

Sergeant Horace Reginald Stanley served the 1st Cambridgeshire Regiment on the front line at Ypres and the Somme and

kept a diary, published decades after his death when his granddaughter found it hidden in the attic.

In it he wrote of “the same tragic story” repeating itself. “Men march up singing and return wounded as fast as lorries can carry them. They return huddled together like carcasses of meat.” He went on to pay tribute to the to the “heroism” and “courage” of the nurses on the front lines.

He wrote: “There’s another class of women whose heroism and courage is deserving of the highest praise but they too appear to be forgotten – the nurses in the front areas where romance and sentiment cease to exist, where life hangs but by a thread, where the work which they are called upon to do is even worse than the shells and aircraft bombs which number them among their victims.

There is no holding patients’ hands in flower bedecked rooms amid romantic surroundings where the gallant Dragoon staggers in with gold braid and a bloodstained bandage around his head.

“No! The work is fast and furious, filthy and bloody, abdominal cases are bad at any time but when the casualty has been snatched from a muddy, gory swamp, hardly recognisable from the wind which is everywhere, as lousy as a cuckoo, and with no control over the lower organs, the smell and the groans, it is a miracle that these women don’t lose their reason.”

He also noted down in his diary: “There is a good deal of talk in the papers about venereal disease and to judge by some articles one would think that the war was being fought in some prostitutes’ parlour.

“Well after three years in the front areas, I’ve seen very little opportunity of contracting this grievous disease.”

“Every night the dug-out was invaded by swarms of rats. They gnawed holes in our haversacks and devoured our iron rations”