Prior to the early 20th Century the majority of casualties were not due to hostilities but suffering illness or death from disease often as the result of poor hygiene or debilitating parasitic infestation. As each of these were conquered the efforts turned to the combating the effects of blood loss.

**Health for Heroes**

**Edmund Alexander Parkes (1819 - 1876)**

As the incompetence of the medical services in the Crimea became common knowledge, EA Parkes was appointed to take charge of a temporary hospital at Renkioi in the Dardanelles to relieve pressure on the hospitals in Scutari.

**Prevalent Diseases**
- Typhoid
- Yellow Fever
- Tuberculosis
- Malaria
- Smallpox
- Kala-azar
- Sleeping sickness

**No Aseptic Technique**

Joseph Lister had not yet popularised the use of antiseptics in surgery. Doctors ignored the cleanliness of their surgical instruments due to insanitary conditions in the hospitals around 8,000 soldiers had contracted cholera or malaria.

**Crimean War 1854-1856**

- Within a few weeks of the British Army’s arrival in the Crimea, around 8,000 soldiers had contracted cholera or malaria.
- The swift spread of disease amongst wounded soldiers was mainly due to insanitary conditions in the hospitals and barracks: more of the wounded than the wounded.
- Most lacked effective sewerage and ventilation
- Service overcrowded
- Many more soldiers died from cholera and dysentery than battle wounds
- The incompetence of the medical services in the Crimea became common knowledge.

**South African War 1899-1902**

- The main killer in the war was again not the enemy but disease; 8,000 British soldiers were killed in action whilst 14,000 died of disease (8,000 from Typhoid; 7,000 were treated). The advice of the new Hygiene Officer was ignored, resulting in poor sanitation and drinking water. One problem was the long evacuation ships for casualties. Each soldier carried a field dressing which he was to apply to himself if wounded.
- Cases of Sepsis, Typhoid, Tuberculosis, Undulant Fever, Malaria, Kala-azar, Cholera and Typhus were widespread.
- Tuberculosis was the main killer.

**1858 Royal Sanitary Commission**

As a result of the glaring faults of organisation in the Army Medical Department, a Royal Commission was convened.
- Parkes served on the Commission, which included Florence Nightingale, to investigate the health of troops.
- The establishment of a Royal Medical School with a brief to instruct young Medical Officers in medicine, surgery, hygiene and sanitary science
- The first Royal Medical School was set up at Fort Pitt in Kent
- Parkes became the first Professor of Military Hygiene.
- After three years the Army Medical School moved to the 1000 bedded Royal Victoria Hospital at Brompton near Northampton Water.
- 1863, Parkes produced his Manual of Practical Hygiene which was to run to eight editions 1864 - 1891.

**After The Crimean War**

- The Royal Commission highlighted areas that needed to be addressed in the commission, observed that sanitary experts were trained in Hygiene and the possibility of proposed sites for Army hospitals and barracks were not suitable. A national body capable of controlling disease was established.
- The public's awareness of the importance of clean water and sewage led to the establishment of the Army Medical School with a brief to instruct young Medical Officers in medicine, surgery, hygiene and sanitary science
- Florence Nightingale, the first to introduce aseptic or antiseptic techniques, was appointed to the new school.

**Lesson From The South African War**

- The high number of deaths due to disease highlighted the need for strict hygiene procedures to be introduced into the hospitals. For Arthur Wright and Captain Leishman (who later became Director General of the Army Medical Services) started work on an anti-typhoid vaccine.
- Beneficial vaccination of 10 million troops in WW1 largely eliminated typhoid carriers.
- The Royal Commission ordered that sanitary experts be addressed: the commission highlighted issues that needed to be addressed and the provision of medical transport should be supplied (e.g. properly uniformed personnel).
- The Commission ordered sanitary experts be appointed and the provision of medical transport (e.g. properly uniformed personnel) should be supplied.

**Pure Drinking Water**

- Colonel William Horrocks RAMC developed the Horrocks Box. This device filtered water through sand and provided a portable method of purifying drinking water. It was largely free from water borne diseases. Dr (Later Colonel) Sims Woodhead introduced chlorination of water in portable vessels.
- A portable method of purifying drinking water was developed.
- The South African War highlighted the need for continuous water treatment until the next day.

**Health & Fitness Of Recruits**

- Great concern at induction for the expanding empire to provide suitably fit men to defend the expanding empire.
- Of great concern at induction for the expanding empire to provide suitably fit men to defend the expanding empire.
- Recruits were already weakened by poor nutrition, infections or typhoid and were susceptible to further diseases.
- High priority given to raising the morale and health of civilian population to provide suitably fit men to defend the expanding empire.
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**Antibacterial revolution**

- In the decade from 1935-1945, a new class of medicines capable of controlling bacterial infections launched a therapeutic revolution that continues today. It began in the mid-1930’s with the use of sulphonamides.
- Penicillin was first used to great effect in the North African campaign.
- Both carried the main therapeutic burden in both military and civilian medicine.