

From *Milites Medici* to Army Medics – A two thousand year tradition of military medicine

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“... how varied is the experience of the battlefield and how fertile the blood of warriors in rearing good surgeons.”

N.G. Kirby (in Journal of the Royal College of Surgeons of Edinburgh 1981)¹

Many of mankind's greatest discoveries have been made within the frame of warfare.

Armed conflict produces an overwhelming drive to succeed, honing our initiative and pushing our skills to the utmost to produce that vital edge – and it has often been the case in battles that medical innovations have provided that edge. During the Napoleonic Wars Baron Larrey's flying ambulance² saved the lives of many, raising morale and minimising losses³. During World War II, the vastly superior medical and sanitary facilities of the British Army in North Africa played a decisive part in ensuring the defeat of the Afrika Korps^{4, 5} – while plentiful supplies of penicillin⁶ and an effective Blood Transfusion Service^{7, 8} helped the Allies to maintain their fighting efficiency as well as their morale, thus ensuring victory in Europe. In the battle for the Pacific, the Allies were able to capitalize on the advances made by Brigadier N. Hamilton Fairley in Australia in 1943⁹ on the use of Atabrine as a prophylactic to show superior malaria control and so to gain the edge over the Japanese¹⁰.

Such advances in military medicine have then been extended to the civilian world – a phenomenon seen as far back as in pre-Christian times.

The Roman Empire was built upon the success of its legions, and Roman medicine similarly had its foundations in the innovations and discoveries of the battlefield. Mired in religious practices, many therapies were rituals designed to please the gods, with healing being sought from temples and shrines¹¹. Pliny the Elder details this in his *Naturalis Historiae*¹¹:

“Unwashed wool supplies very many remedies... applied...with honey to old sores. Wounds it heals if dipped in wine or vinegar.

Yolks of eggs...are taken for dysentery with the ash of their shells, poppy juice and wine.”

The state of the medical military corps before the reforms of Emperor Augustus is unclear. In *De Bello Gallico*¹², Julius Caesar makes no mention of any official treatment of the unhealthy, mentioning only that:

“A number of sick men had been left behind by the legions...”

implying that the wounded or ill soldiers were left to recover in small garrisons while the army was on the march. Other pre-Augustan authors¹³ mention wounded soldiers retiring to population centres to recover during campaigns.

Augustus on becoming Emperor implemented a number of reforms, recognising that the power of Rome lay in its superior military organization^{14, 15}. He identified the importance of health to cut down losses and to raise troop morale during long military campaigns. He established the first permanent professional army, setting enlistment at 16 years and establishing an annual military budget to be funded by a tax called the *aerarium militare*¹⁴. In his *Divus Augustus*, Seutonius¹⁴ explains:

“All the troops throughout the empire he reduced to one fixed model with regard to their pay and their pensions. For the purpose of providing a fund always ready to meet their pay and pensions, he instituted a military exchequer, and appropriated new taxes to that object.”

For the first time a stable military career was possible for the young men of the Empire, and with this came specialization. The availability of persons skilled in the treatment of wounds (known as *medici*) who could tend to soldiers wounded on the battlefield increased the morale and fortitude of the fighting man, giving rise to a more efficient and motivated military machine.

Caches of surgical instruments have been uncovered by archaeologists from the ruins of a Roman military camp in Baden¹⁶ and they provide evidence that medical professionals were stationed there. Inscriptions for dead soldiers often bore the titles *medicus ordinarius*, *medicus legionis* and *medicus cohortis*:

TI CLAUDIO HMNO
 MEDICO LEG · XXI
 CLAVDIAE QUIETAE EIVS
 ATTICVS PATRONVS⁶

Figure 1: Image from E. H. Byrne's 'Medicine in the Roman Army'¹⁷

The term *medicus* referred to their position as *milites medici* – soldiers who were exempt from other duties. The title following the word *medicus* referred to their rank within the medical corps - for example the *medicus legionis* would be the 'medic' in charge of a legion (a corporal or sergeant, perhaps, in today's terms) while a *medicus cohortis* would be responsible (like modern RMOs!) for the whole cohort¹⁷.

It appears that these *medici* were regular soldiers with additional training in the art of medicine, whose duties included the care of the wounded and sick, both on the march and at *valetudinaria* (temporary military hospitals) where the most grievous injuries were managed¹⁷. This is similar to the current situation in the Australian army – where a Medical Assistant (BMA or AMA) is a normal soldier, specially trained in the management of wounds and healthcare, who goes into battle with the other soldiers of his/her regiment.

It is the development of the *valetudinarium* that represents the greatest contribution of the military to Roman healthcare. The first Roman hospitals where actually "flying military camps". One of the first descriptions of one is in a field-surveying text *De Munitionibus Castrorum*¹⁸. It details:

"(it) was usually arranged to accommodate two hundred men... hastily constructed and was not elaborately equipped."

These *valetudinaria* soon developed from a group of tents to a well-equipped military hospital built of stone and wood. Remains of such a structure found in Baden disclose:

"An imposing façade, a colonnaded portico, and traces of walls outlining as many as fourteen rooms. The larger may have been subdivided into smaller compartments for fragments of wooden partitions have been found." (Addyman, 1980¹⁶)

The first priority for these hospitals was sanitation. Location of the building with access to clean water and adequate sewerage was planned to the finest detail. Military practicality had done away with the superstition of civilian medicine. Understanding the

causes of infection, the *medici* used isolation rooms with running water, obtaining this water from sources upstream of the latrines¹⁷. Where and where not to build became just as important as what to build. Marcus Terentius Varro (116 BC – 27 BC) a Roman scholar and writer who thrived under the protection of Augustus, was able to recognise the importance of micro-organisms in the pathogenesis of disease long before ouis Pasteur formalised the germ theory of disease. In his later writings *Rerum rusticarum libri III*¹⁹:

"Danda opera ut potissimum sub radicibus montis silvestris villam ponat, ubi pastiones sint laxae, item 10 ut contra ventos, qui saluberrimi in agro flabunt. Quae posita est ad exortos aequinoctiales, aptissima, quod aestate habet umbram, hieme solem. Sin cogare secundum flumen aedificare, curandum ne adversum eam ponas; hieme enim fiet vehementer frigida et aestate non salubris. 2 Advertendum etiam, siqua erunt loca palustria, et propter easdem causas, et quod crescunt animalia quaedam minuta, quae non possunt oculi consequi, et per aera intus in corpus per os ac nares perveniunt atque efficiunt difficilis morbos"

Translated into English by W. D Hooper and H. B. Ash, 1934¹⁹; *When building...especial care should be taken to place it at the foot of a wooded hill where it is exposed to health-giving winds. Care should be taken where there are swamps in the neighbourhood, because certain tiny creatures which cannot be seen by the eyes breed there. These float through the air and enter the body by the mouth and nose and cause serious disease."*

These principles were adopted in civilian life by the poor as well as the rich – practices that may be considered among the first public health measures.

As Roman cities grew, the need for hygiene to prevent contagion became paramount. The public health system adopted from military practice resulted in customs and attitudes that lasted not only for the duration of the Roman Empire – these are basic practices even today. Sewerage, running water and good ventilation are taken for granted in modern civilized societies and can be traced back to the first *valetudinaria* of the Roman military.

The forerunners of today's Army medics, the *milites medici* of the ancient Roman army, honed their skills among the sick and wounded soldiers and developed strategies that have turned medicine into what it is today:

"As war was their chief study it might be expected that the order relating to the care of the sick, were good in proportion to their skill in the other branches of the military art." (Pringle, 1765²⁰)

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