

Carl von Reyher and the origins of debridement

REFERENCES

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In this issue, we explore the nebulous boundary between wound care and surgery, through exploration of the origins of debridement. In the process, we will learn that the term itself was coined by an unlikely and largely unrecognised source. Debridement, the practice of removing devitalized tissue and foreign matter from wounds, derives from the French term for ‘unbridling’. What is understood to be debridement in present day wound care has not always been thus, with the modern notions of debridement differing markedly from the early incarnation.

In terms of larval debridement, we saw in a previous column that the first mention of larval therapy was in the Old Testament, though specific use of larvae for debridement purposes may not have been until the arrival of Ambroise Pare and his various revolutionary techniques in the 16th century. Dominique Jean Larrey (1766–1842), surgeon to Napoleon, and another previous focus of this column, observed the debriding and wound healing benefits of larvae while on military expedition in Syria in 1832. As a surgeon, Larrey was a vociferous proponent for early amputation, in an age where gangrene was rife and almost universally fatal. Larrey argued that early amputation would obviate the dangers of gangrene through the creation of a clean, viable wound (Helling, 2000) — a vein of thought in line with that of Celsus in *De Medicina* (1st century AD), a mere 1800 years prior.

Whilst Larrey’s views on amputation hinted at support for sharp debridement, credit for the modern concept of debridement has often given to various French surgeons of the 18th and 19th centuries, notably Pierre Joseph Desault (1744–1795). These surgeons attributed various injuries and inflammation to ‘entrapment’ — the constriction of tissues by fascia and tendons — which could result in gangrene. They believed that an ‘unbridling’ of the tissue by means of an incision would release the pressure (Broughton II et al, 2006). However, this concept seems closer to compartment syndrome than the idea of debridement which we know today.

THE FATHER OF DEBRIDEMENT

In terms of the modern definition of debridement within wound care, it was Russian military surgeon Carl von Reyher (1846–1890) who went further than Larrey, and recommended a mechanical wound cleansing process which he termed ‘débridement’.

In a happenstance stroke of fortune, Reyher’s work coincided with Dr Joseph Lister’s introduction of antiseptics in surgery in 1865 — indeed, Reyher visited Lister in London to learn the antiseptic technique.

Evidently a scientifically-minded individual, Reyher integrated Lister’s work with his own debridement technique in controlled studies in the Russo-Turkish wars (1877–78), before presenting his findings to the International Medical Conference in 1881 (McCallum, 2008). Through the combination of wound cleansing through debridement and use of antiseptics, Reyher had been able to achieve a 43% reduction in mortality in his patients during these military campaigns.

In spite of this, Reyher’s debridement work was largely ignored by his contemporaries, whilst the open wound irrigation championed by Lister was remembered. By the time of WWI, however, this bipartite approach of open-wound antiseptic irrigation and debridement had become the standard treatment for compound fractures (ibid.) before the arrival of antibiotics and aseptic surgical practices in the inter-war period.

As been shown in this column time and again, our ancestors knew how to heal, even if they didn’t have the science, the sanitation, Pasteur’s Germ Theory, or the T.I.M.E. framework of healing by spreadsheet. The venerable teachings of Celsus in *De Medicina* were nearly two millennia ahead of their time, but as is so often the case, without experimentation or rigorous clinical evidence, we are loath to accept or adopt many efficacious healing methodologies. In the case of Carl von Reyher, he demonstrated all of these things, but his contemporaries ignored his work regardless.

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