

## LETTER TO EDITOR

### A Review on the History of Military Dentistry

**Dear Editor,**

Military dentistry is a strange and unknown field for the general public. Military dentistry is one of the branches of dentistry that has very special differences from other branches of dentistry. Considering the challenging nature of dentistry, perhaps military dentistry can be regarded as one of the most challenging fields of medical sciences.

Due to the lack of coherent scientific articles in this field, in this article, we tried to discuss the history of military dentistry and the formation of dental units in the armies.

The history of dental problems goes back to the dawn of human life on earth, and the history of quarrels and the need to defend goes even further back. Therefore, presumably, the first traces of dentistry date back to such old times that it is impossible to track down the precise historical traces of dentistry.

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**Citation:**

Khazaei AH, Shahraki M, Amirpour Haradasht S. A Review on the History of Military Dentistry. *Res Hist Med.* 2023; 12(4): 307-310.



Between 1650 and 1800, modern dentistry science began to establish in Europe. Pierre Fauchard, the French surgeon, was the first person who worked in this field and was granted the title of Father of Modern Dentistry. Although there were numerous limitations in the technology of that era, Fauchard was a competent surgeon who developed many advancements in dental instruments inspired by watchmakers', jewelers', and even hairdressers' tools. He took the first steps towards using prostheses and designed prostheses out of bones or elephant ivory to fill in for the avulsed teeth. Besides, he was the first person who used dental braces. The braces were made of gold back then. He noticed that teeth follow the pattern of organized strings and stated that this phenomenon can be used in correcting tooth eruption problems. Dentistry science began to advance rapidly after Fauchard (Hussain, and Khan, 2014, p. 106; Lynch, O'Sullivan, and McGillicuddy, 2006, pp. 779-81).

However, in armies, the first official dental services may be referred to in the 1660s in the UK army, when military surgeons were assigned to extracting soldiers' decayed teeth and performing general surgery service in the prolonged campaigns of the UK army to the farthest of the old world. Also, there are instruments kept in the Dentistry Museum of Louisville College, which surgeons of Napoléon's army used to provide dental services for soldiers during his conquests. Still, it took until 1901, even for the oldest of armies, to provide dental services when an official group of dentists began to work under the supervision of the British Royal Medical Corps. It took until 1921 when the British Royal Medical Corps began to work as an independent division of the army. The military-independent dentistry corps in other countries is also less than 100 years old (Anderson, 2021, pp. 407-16).

The relationship between armies and dentistry has been close and mutual since the old days. On the one hand, dentists increase operational readiness in armies by providing services; on the other hand, wars, and armies entering different places caused developments of dentistry in various areas. The relationship goes so well that some dentistry historians believe modern dentistry was born out of war. During the US Independence War, two surgeons who graduated from the Royal Academy of France entered the US, which was not known as an independent country then— alongside French Navy sailors, Joseph Lemar and James Gardet. It should be remembered that French people were pioneers in the art and science of dentistry in those years. One of the conditions for employment as a surgeon in the French Navy had dentistry skills. The two surgeons established the first dentistry clinics. One of the students educated in the clinics was Dr. John Harris who founded the first dentistry college in the world, the Baltimore College of Dental Surgery, in 1840. Although modern dentistry entered the US following the arrival of the two surgeons, dental care was a duty of soldiers and officers themselves until 1906 in the US armies. So, military forces had to visit dentists and experimental surgeons around society at their leisure to receive dental services. Because of the lack of educated personnel and failure to provide services for officers, the general oral and



dental hygiene was so awful that during the American Civil War from 1861 until 1865, many volunteers of the war were rejected just because they did not have the six front teeth necessary for tearing up the firm gun powder envelopes of muzzle-loaders. During the war between the US and Spain, there were dentists among the military volunteers who served as both soldiers and dentists in the army. Some of them were recognized by commanders and exempted from war to dedicate all their capabilities to treating soldiers in the field. In 1906, a dentistry corps was established in the US Army and its members treated more than one million and three hundred soldiers during World War I as their first experience of war. More than one and a half million teeth were reconstructed and more than three hundred and eighty thousand ones were extracted.

Nevertheless, it was before the beginning of World War II in 1941, when military dentistry emerged as an independent part of dentistry science due to advancements in technology and expanded battlefields. At that time, military dentistry did not mean only providing usual dental services in operational fields anymore. However, army pilots and divers had unique dental complications, which were not observed in ordinary society (Gelbier, 2005, pp. 794-8; Hussey, 2014, pp. 597-600). In World War II, the US Army dentistry forces extracted more than 16 million teeth and restored more than 70 million. After that, armies around the world, one by one, started their military dentistry colleges as a specialized part of dentistry, and military dentistry expanded in all aspects. The introduction of epidemiological issues followed by the prevention of non-combat casualties in the armed forces in several recent operational experiences has played an important role in the victory and defeat of various military forces. With technology advanced and the fields of war and defense moved to circumstances that humankind did not face before, new medical and dental concerns and issues appear every day. Paying attention to them profoundly impacts various forces' operational readiness and determines the military balance and the future of nations in the world (Schindler, et al., 2021, pp. e149-e59).

Currently, all the armies of the world have their own independent dental units. The dentists of these units are well-trained and are well aware of the differences between military dentistry and routine dentistry.

### **Conflict of Interest**

None.

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