



## **Friedrich Esmarch, the Founder of Modern First Aid, and His Works**

***Mustafa Yahya METINTAS<sup>1</sup>, Hakan AY<sup>2</sup>, \*Nilüfer DEMIRSOY<sup>3</sup>***

1. *Dept. of History, Faculty of Arts and Sciences, Eskisehir Osmangazi University, Eskisehir, Turkey*
2. *Dept. of Anatomy, Faculty of Medicine, Eskisehir Osmangazi University, Eskisehir, Turkey*
3. *Dept. of Ethics and Medicine History, Faculty of Medicine, Eskisehir Osmangazi University, Eskisehir, Turkey*

**\*Corresponding Author:** Email: nilufer\_p2@hotmail.com

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### **Dear Editor-in-Chief**

St. John Ambulance was the first to use the concept of first aid in the United Kingdom in 1879. Princess Christian – the daughter of Queen Victoria translated from German into English five ambulance lectures given by Prof. Esmarch in 1882, which were published under the title “First Aid to the Injured” by Smith Elder and his partners. In 1882, St. Andrew established the First Aid Organization in Scotland in order “to alleviate the pains of the injured and patients in wartime and peacetime and to take measures required for their care”. The regulation of this organization, written by Sir George Beatson, was issued in 1891. In 1908, St. John’s and St. Andrew’s organizations reached an agreement on merging their activities carried out in various regions of Scotland and the United Kingdom in order to manage them under a single roof (1).

Esmarch (1823-1908) laid the foundations of civil first aid institutions. He became a physician in 1848, and then received education on surgery. In 1854, he specialized in surgery and ophthalmology. His main fields of interest were military surgery and first aid. He was one of the most important emergency surgeons of the 19<sup>th</sup> century. In the French-German war, Esmarch was promoted up to the surgeon-general in the German army. Then he served as a consulting surgeon in a military hospital, and was recognized as one of the greatest

authorities in hospital management and military surgery. Dr. Mayor of Lausanne invented the triangular bandage used in first aid in 1831, but it was Esmarch who popularized the use of this bandage. There are resources mentioning that he was the inventor of ice bag, and that is why he was publicly nicknamed as Ice Bag. The arm and leg splints also owe their modern forms to Esmarch (2,3).

### ***Works of Esmarch***

#### ***1. First Aid at the Battle Field***

According to Esmarch: “The primary objective of first aid is to protect the fresh wound from any insanitary factors that can be encountered during the patient’s transportation to the hospital. The soldier’s wound should be protected from dust, bugs, sun or such things by covering the wound in an appropriate way. Every little move during the transportation may cause the wound to deteriorate; therefore, the wounded part should be fixed appropriately.” “...At the battlefield, the triangular-shaped rag in adequate dimensions is the most convenient equipment for first aid. Its usage so simple that even inexperienced people can learn how to use it easily and quickly.”(2)

## 2. First Aid Place and Field Hospital. Lessons for Military Doctors and Voluntary Nurses (1<sup>st</sup> press 1868, 2<sup>nd</sup> press 1871)

In this work of Esmarch, the practices at first response place and field hospital are lectured to military doctors and voluntary nurses. The summary of the content is as follows:

1<sup>st</sup> Lesson: at the bandage location; explained the first response

2<sup>nd</sup> Lesson: at the bandage location; explained the surgical conditions that includes a more complicated medical response

3<sup>rd</sup> 4<sup>th</sup> 5<sup>th</sup> 6<sup>th</sup> 7<sup>th</sup> 8<sup>th</sup> Lesson: in the field hospital; the transportation of the wounded from the bandage location to the field hospital, transportation with ambulance, tumbrel, carriage, train, hospital cars of the Americans, their supply and usage and so on (4).

## 3. Esmarch's work of "About the Chronic Arthritis" (1867)

The 10 % of the patients consulting to the hospital suffer from chronic arthritis. He described the inflammations and discussed the reasons. He highlighted the importance of anamnesis in the diagnosis of the illness (5,6).

## 4. First Aid in Accidents (1882)

In the first part, human anatomy was explained. In the second part, injuries (bleeding, internal bleeding, wound intoxication and foreign bodies) and their treatment were mentioned. In the third section the treatment of fractures, sprains and ambustions were described. The fourth part is about the response to unconscious patients; and treatment suggestions were made for suffocation, reanimation, artificial respiration, freezing, loss of consciousness, heat stroke, and poisoning. In the fifth part, the subject of transportation was discussed and under this section, stretchers, vehicles without stretchers and transport with train were explained. The sixth section is about patient care. And in the last two sections, practice and exercises for the health volunteers were given in which there is also the information about German health volunteers association (3).

## Conclusion

In his "First Aid at the Battle Field", work of art, Esmarch informs that in places where there is no triangular bandage and splints, different things (like rifles, bayonets, spears and so on) can be used as splints. This is a quite life-saving information. His implementations before the transport to the field hospital and his implementations at the field hospital shows the similarities to current emergent battle surgery and also shows how foresighted and experienced he is.

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