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## An Overview Of The Technologies Used For Anatomy Education In Terms Of Medical History

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### Abstract

The term anatomy is coming from Greek Ana 'on, upon' and Temno 'I cut'. Today, the basis of anatomy education is the work performed on cadavers. However, due to difficulties in modern and alternative approaches to participate in the educational process, an essential element of today's educational process. In recent years for both time and training costs advantages and in order to ensure a healthy laboratory conditions, such methods, computer-assisted learning, simulation-based training, using true-to plastic anatomical models, plastination started to be used.

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### 1. INTRODUCTION

The human anatomy, one of the basic medical sciences, is one of the initial branches of medicine that studies the normal shape, structure and the organs of the human body as well as the structural and functional relations between these organs. Within an etymological frame, the term anatomy is formed by the combination of two ancient Greek words, Ana (remove) and Tomy (cut). It is expressed in the form of separation by cutting and removing. The term anatomy is 'Dissection' for Latin. Recently 'Dissection' is a term being used as a method for the examination of cadavers.

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## 2. THE HISTORICAL PROCESS OF ANATOMY

Physicians need to know how the combination of all subsystems of the body works in harmony, in order to understand if there is a pathology in any part of the body or not. This is why anatomy is important for the medical education. When we look at the historical process of the anatomic studies, during the first period, we see the drawings of scientists that the internal organs of animals, as well as external images on the walls.

The first written records of Anatomy is said to have begun with Alcmeon from Craton 500 years before (Gürbüz, Karlıkaya & Mesut, 2004). The scientific and experimental style of today's medicine began at 3. Century BC. with the dissection experiments allowed by Ptolemy (Ronan, 2003). During this period, Herophilus, in particular on the work of the human anatomy, and Erasistratus exploration in dissection and physiology came into prominence (Lyons & Petrucelli, 1997; Garrison, 1921). To investigate the structure and the working system of the human body. Herophilus and Erasistratus make dissection on human cadaver in an objective manner firstly (Atabek & Görkey, 1998). After Erasistratus and Herophilus such scientists as Aristotle, Galleons, Avicenna, Leonardo Da Vinci, Andreas Vesalius, Claud Bernard have worked on the anatomy.

Knowledge of anatomy, from Hippocrates until Vesalius was obtained by the superficial structures of the human body and animal dissection. Along with Andreas Vesalius (1514-1564) dissecting desks have been introduced by physicians and medical students. Studies on cadavers formed the basis of anatomical education. Knowledge has increased rapidly as a result of these studies with human cadaver (Gürbüz, Karlıkaya & Mesut, 2004). In line with the recent technologic developments, today it has been started to be found difficult to study with the cadavers by the people and consequently the final developments led to the shift in the direction of the technology.

The method of "Parafinizasyon" has been developed by Deegener and Brendt in 1914, Hochstetter and Schmeidel in 1924. Since the structure of the samples are dry in this method, the natural image of them are shown as to be resistant to external forces. However, they are heat-sensitive and are not protected against flammability (Buyruk, Groen, Kempermann & Altunçın, 1990). In 1977, Gunther von Hagens developed plastination, which has been more useful and increasingly used method at present. He organized an exhibition of plastination in Japan in 1995 for the first time. A similar exhibition was held in Istanbul, Turkey in 2010, and in 2012 another one followed it in Ankara.

## 3. DEVELOPMENTS IN TURKEY

Study of anatomy in Ottoman Empire began to show itself with 17th Century. The number of works written on this subject are quite rare, especially the ones containing pictures. One of them is Şemseddîn-i İtâkî's illustrated anatomy book, named 'Kitâb-ı Teşrîh-i Ebdân (Kâhya, 1996).

There was no significant attempt until the beginning of 19<sup>th</sup> century. From the beginning of the 19<sup>th</sup> century, The Head Physician Mustafa Behçet Efendi, prevail upon Sultan III.Selim to dissection which is part of the anatomy education. However, these attempts have not been very successful due to the prevailing circumstances. For the second time, during Mustafa Behçet's chief physician period, although the importance of anatomy was emphasized in medical education, the dissection could not be conducted because of the deep-rooted beliefs (Gürbüz, Karlıkaya & Mesut, 2004).

After 1839 anatomy has been included in the curriculum of education. Dr. Bernard from Austria has pioneered the start of training in anatomy. Initially, during the period of 'Tıphane and Cerrahhane-i Amire', it couldn't have been succeeded to work with cadavers for various reasons. However, with the establishment of 'Tıbbiye-i Adliye-i Şahane', Dr. Bernard wanted to carry out training activities

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