



## **Historical and Ethical Origin of the Medical Symbol: Which is the Staff and How Many Snakes?**

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### **ABSTRACT**

The symbol of medicine is known as the staff and snake from ancient mythological narratives to the present day. The medical symbol contains many historical and ethical values. In many civilizations, the snake has been associated with health, wisdom, strength, renewal and eternal life due to its shedding of skin. The aim of this review is to explain the historical and mythological origins of snake and staff figures and the professional values they represent. As symbols of medicine, staff and snake figures appear in different shapes and forms. The most common symbol is a single snake wrapped around a wooden staff and a double snake with wings wrapped around a golden staff. Physicians should know the history of these symbols, which are actually similar to each other, but different in terms of both their historical origins and the meanings they represent, and the professional values they represent. Which staff, a single snake or a double snake, is more proper for the symbol of medicine? The single snake wrapped around a staff is known in mythology as the staff of Asclepius, the god of medicine and health. The double snake wrapped around a golden staff is the staff called Caduceus belonging to Hermes, the messenger god in mythology. Naturally, the professional and medical values represented by these two figures

differ from each other. We believe that it is important to know the mythological and historical roots of the medical symbol in order to keep alive the values it represents.

**KEY WORDS:** Medical History, Symbol of Medicine, Ethical Values.

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## I. INTRODUCTION

The use of the snake as a symbol of medicine dates back to the time of ancient mythological narratives [1]. From the earliest records of civilization and history, it has been known that the snake played an important cultural role as a mysterious creature. The snake is included in the mythology of almost every culture. The snake has become a creature that evokes immortality due to the shedding of its skin, but is feared and respected due to its deadly poison. Communities that have been observing the snake and its nature since the early periods of history is afraid of its double-sided nature, but at the same time, they attribute holiness to it despite this fear. This fear of the snake has turned the respect for it into worship[2]. In the mythologies and legends of ancient civilizations, the snake was considered the symbol of health, wisdom, power and eternal life because it rejuvenates itself by shedding its skin every year [3]. The history of man's relationship with the snake is characterized by disgust, hatred and it has brought with it fear, admiration, curiosity and even idolization[4]. The medical symbol consisting of a snake and a staff represents many professional and ethical values for the medical profession.

These are values such as health, healing/treatment, wisdom, respect/sanctity, patience, prudence, foresight, renewal/rejuvenation, immortality, strength/power, protection and speed that have been attributed to snakes and staffs throughout history[5]. The staff and snake are considered symbols of medicine, but two questions arise here: What are the characteristics of the staff and is the snake wrapped around the staff a single or double snake?

### **Wooden staff and single snake**

Asclepius (Aesculapius in Latin, Asclepios), whose symbol is the sacred snake and staff, is the son of the god Apollo (the god of healing, prophecy and truth) according to mythology and teaches the science of medicine. While Apollo was previously seen as the source of healing, his son Asclepius took on this task. The staff of Asclepius, which is considered the symbol of medicine, is made of wood and there is a single snake wrapped around the staff. The snake is the sacred animal of Asclepius (Figure 1)[1]. The first known source providing information about Asclepius is Homer's work called the Iliad (8<sup>th</sup> century BC). In this work, Homer refers to Asclepius, the father of Machaon and Podalirius, who participated in the Trojan War (ca. 1300 BC), as a "perfect physician" rather than a "divine figure" (Hom. Il. 2.729-733). Before Asclepius, Apollo, one of the mythological gods, was seen as the healing god. Asclepius, as the son of Apollo, took on this task. On the other hand, Asclepius, as a half-god and half-human whose father is god (Apollo) and whose mother is human (Coronis), is associated with healing. In this case, Asclepius is an intermediary between the divine origin of medicine and humanity. He is the person who taught medicine to humanity and ensured its transmission. Through this, medicine gained more importance over time with the cult that formed around it, and deification took place through legendary stories about it. Asclepius never leaves his staff alone, he takes it with him wherever he goes, and gets support from it when he gets tired[6-7]. According to Asclepius, the physician should be mute like a snake, keep the secrets of the snake wrapped around it[5-7].

### **Double serpent wrapped around a golden and winged staff**

Hermes (Mercury in the Roman period), one of the gods in Greek mythology, is the son of Zeus, winged messenger god, the patron of travelers and the protector of merchants. Due to his association with merchants, Hermes was also seen as the protector of thieves, and due to the negative aspects as the divine protector of merchants, he has also been called the 'divine deceiver'. It is written that he had a golden staff called Caduceus (or cādūceus in Latin) (Figure 2)[8]. Caduceus has the power to create fire and conciliate. According to mythology, it was given to Hermes by his elder brother Apollo. The wand has the power to reconcile any two elements that are in conflict. According to the mythological account; to test his new staff, Hermes puts it

between two snakes that hiss angrily at each other. The snakes forget their fights, wrap themselves around the staff, and from that day on they always remain on the staff[9]. The symbol at the extreme point of the Caduceus indicates spiritual superiority and is therefore thought to have become the symbol of medicine. Two fundamental opposing ideas: The snake while representing man-woman, corporeality-spirituality, water-fire, also shows the unity of opposites in Hermes' staff. This staff also represents the symbol of concepts such as healing and resurrection. In ancient Greece, the winged Caduceus and the double snake wrapped around the staff was used by ambassadors that were symbols of peace and trade, providing them with safety and protection[2]. The caduceus was used in the late Middle Ages and throughout the Renaissance as a symbol of the healing sciences, especially alchemy and pharmacy (alchemy is the predecessor of chemistry, pharmacology, and the science of herbal medicines) [10,11].

Although there is no evidence that the Caduceus was used as a symbol of the healing art in ancient times, this symbol appears to have undergone radical revision during the Renaissance. Alchemy, as the pioneer of chemistry, pharmacology, and to some extent pharmacy, the Caduceus symbol, the patron of those who practice alchemy, was thus used allegorically as a symbol of medicine[12]. When we follow the traces of the Caduceus in history from ancient history to the present day, we see that it started its journey as a phallic symbol and continues as a symbol representing Hermes. At the midpoint of its history, Homer (around 8th century BC) described the Caduceus as being made of gold and having wings, and as having the ability to attract people's eyes. When we come to the third century, we see the Caduceus on the medicine stamp of a London ophthalmologist. It is thought that the ability to attract eyes, which Homer mentioned, was used here rather than health[13]. The first use of the Caduceus as a symbol was in Europe during the late Middle Ages and the early Renaissance, and during this period, the Caduceus, which was associated with healing, was used as an emblem for the first time. It is not clear why the Caduceus is associated with healing. The symbol, which was the patron of alchemists during the Early Renaissance, began to be used allegorically as an emblem of medicine in the 20th century. In the historical context, it is seen that Caduceus, as a symbol, was included in the banner of honor prepared for the Royal College of Physicians of England in 1556. In the mid-19th century, London's famous medical publishing company Churchill used the Caduceus as a medical emblem in its medical publications. In 1856, it was observed that the staff of Hermes became the medical emblem of the United States Army Medical Corps (USAMC)[12]. In 1902, after the USAMC chose the Caduceus as their emblem, many different health organizations around the world began to use this symbol in their own emblems[10,11]. The misuse of the Caduceus as a medical symbol appears to have resulted from a practice by the USAMC. At the suggestion of assistant surgeon Captain Frederick Reynolds in 1902, Caduceus became the collar insignia on uniforms for the USAMC[11]. After this date, many institutions and organizations related to medicine and health adopted the winged staff and double snake as symbols.

## II. DISCUSSION

In a survey conducted in the United States of America (USA) in 1990, it was determined that 76% of health-related commercial organizations used the Caduceus, 63% of professional organizations preferred the staff of Asclepius, and 37% preferred the staff of Hermes [13]. Shetty et al. in their study in 2014, reported that the rate of medical school graduates who thought Caduceus was a symbol of medicine was 96% [14].

Considering these studies, it can be said that the Caduceus, of the two symbols with different historical roots, is more used and recognized as a medical symbol, especially in commercial organizations. However, in terms of its emergence, history and professional values, the staff of Asclepius should be preferred as a symbol of medicine, because while a single staff and a single snake are related to health and healing, the winged staff and double snake, the staff of Hermes, are symbols of merchants, travelers and even thieves [1,15]. As a matter of fact, Bohigian stated in his 2019 article that this incorrect usage should be corrected[16]. Again, in his article, Hart shared an 18th-century trade symbol showing the Caduceus, similar to the one used by today's medical institutions, and this proves that the Caduceus symbol is not related only to medicine [12]. Kellie also states that Hermes' staff is the symbol of messengers and has nothing to do with health[17]. Shetty et al. state that the

wooden staff and a single snake have been symbols of medicine for 2400 years, and that the winged staff of Hermes and the double snake were not used as symbols of medicine until the 20th century. They argue that the staff of Hermes in mythology is not directly related to the professional values of medicine in terms of the professional values it represents [14]. Shetty et al. state that after it was realized that the mythological and historical Caduceus symbol was incorrectly used as a medical symbol, many hospitals and healthcare institutions in Europe and the USA reversed this mistake and changed their emblems and started using the symbol with a staff and a single snake [14]. On the other hand, some authors, such as Antoniou, suggest that the double snake symbol has aspects to be emphasized by contemporary philosophers. Accordingly, double (opposite) symbolism (such as disease and cure, sin and atonement) and the traditionally contradictory emotions of man are symbolized in the double snake [4]. Antoniou states that the transition of Hermes' staff from the symbol of alchemy to the symbol of medicine occurred during the Renaissance, but the reason for this is unknown, and that this situation is allegorical. Although they accept that it is an event, they think that the new symbol can be interpreted with a new philosophical understanding. According to Antoniou, since the two snakes contain dualism and the Caduceus represents the reconciliation and unity of two opposing elements, then the double snake can also represent illness and cure, disease and recovery, life and death, based on sin and atonement. Antoniou argues that man's traditionally contradictory feelings towards snakes are symbolized by the double snake, and here they appear as double symbolism (disease and treatment, symptom and recovery) [4].

### **III. CONCLUSION**

Ultimately, it can be seen that two symbols, different from each other in terms of their historical origins, stand out and are used as medical symbols. One of them is a single snake wrapped around a staff. This symbol originates from the staff carried by Asclepius, the god of medicine and health in mythology. The other symbol is the staff of the messenger god Hermes in mythology, which is a double snake wrapped around a golden and winged staff called Caduceus. Some authors state that it is more appropriate to use a single snake wrapped around a staff as a medical symbol because it is historically related to health and medicine, and that the other symbol is used incorrectly regarding medicine.

As in many professions, the medical symbol contains images that represent professional and ethical values. These are professional values attributed to medicine, such as health, healing, providing treatment, wisdom, dignity, patience, prudence, intelligence, farsightedness, renewal, protection, honesty, and quick decision-making [3,5].

### **DECLARATIONS**

#### **Ethics approval and consent to participate**

Not applicable.

#### **Consent for publication**

Not applicable.

#### **Competing interests**

The authors declare that they have no conflict of interest.

#### **Authors' contributions**

Hayriye Dilek Akdoğan and Ilgaz Akdoğan led the project and the first draft of the manuscript was written by Hayriye Dilek Akdoğan, Ilgaz Akdoğan, Yaşar Barış Turgut and Ali Çağlar Turgut and helped to draft the manuscript. All authors read and approved the final manuscript and they declare that they have no conflict of interests.

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### Figure Legends:

**Figure 1.** Asclepius, God of medicine and health in mythology, Statue of Asclepius, Museum of Epidaurus Theatre, Greece. ([https://upload.wikimedia.org/wikipedia/commons/9/98/Asklepios\\_-\\_Epidaurus.jpg](https://upload.wikimedia.org/wikipedia/commons/9/98/Asklepios_-_Epidaurus.jpg)).

**Figure 2.** Hermes, the messenger god from mythological gods, and his staff. He is known as the god of merchants and travelers. He carries a winged staff called Caduceus in his hand, Vatican Museum (MuseoChiaramonti), Vatican, Italy. ([https://tr.wikipedia.org/wiki/Hermes#/media/Dosya:Statue\\_Hermes\\_Chiaramonti.jpg](https://tr.wikipedia.org/wiki/Hermes#/media/Dosya:Statue_Hermes_Chiaramonti.jpg))

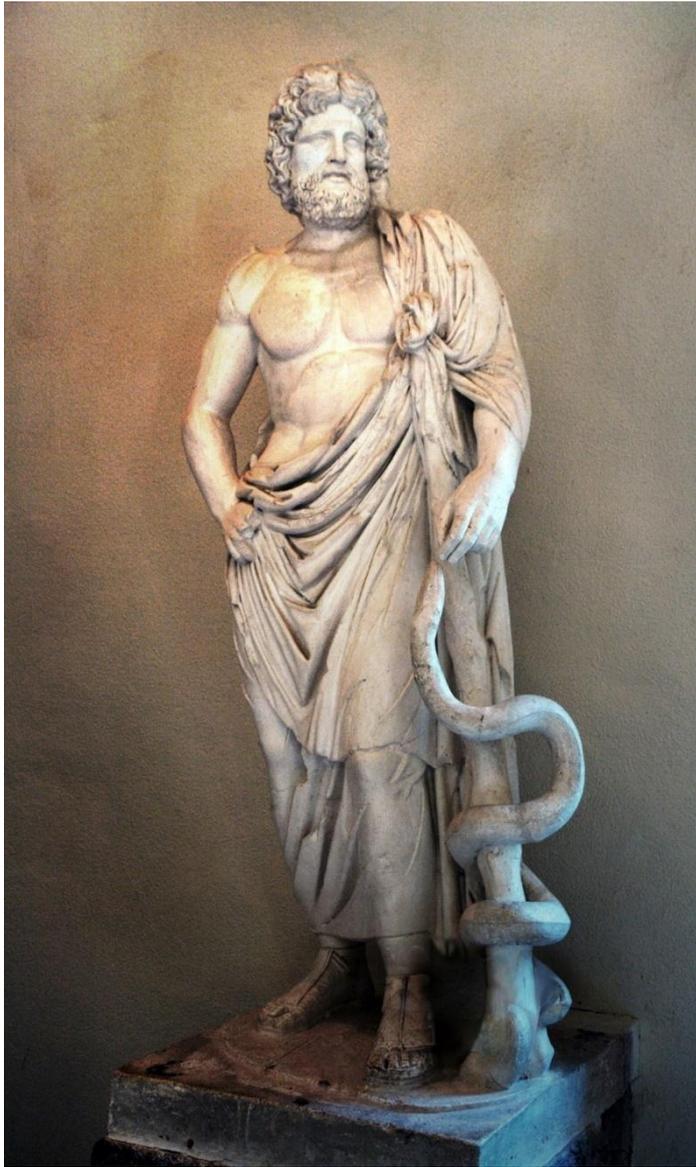


Figure 1



Figure 2