

# A Short History of the Fleam

by

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*“Ouch! A History of Arrow Wound Treatment from Prehistory to the Nineteenth Century”* (2012) Bows, Blades and Battles Press

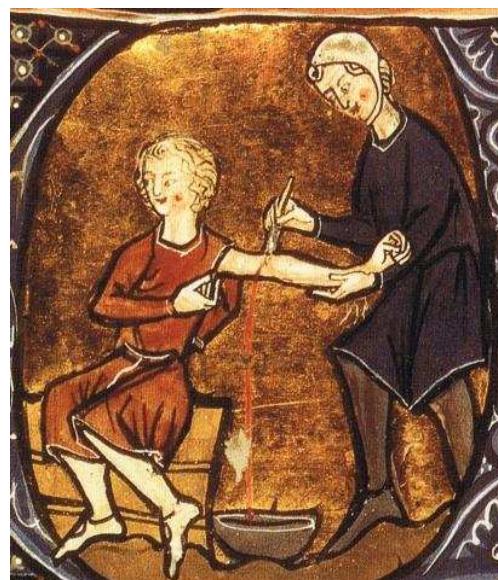
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Bloodletting, or Venesection, (drawing blood from a vein), is one of the oldest medical procedures used by man as a means of removing excess fluids and impurities that caused ill health. Its first recorded use was in the Egyptian Ebers papyrus, (dating to c.1550BC), which details surgical procedures. It also features in the ancient Indian Ayurvedic surgical book, the Susruta Samhita dating from the 6<sup>th</sup> century BC. It continued with the Greeks and Romans, through the Middle Ages and the Renaissance, reaching a peak in the 19<sup>th</sup> Century.

From the Greeks onward, the rationale for bloodletting was based on the belief of the existence of four humours: blood, phlegm, black bile and yellow bile as devised by the Greek physician Hippocrates (c. 460 – c. 370 BC). An imbalance of any of these humours could lead to illness. The Greek physician and surgeon Galen of Pergamon (130–210 AD) believed that blood was the dominant humour, therefore an excess of this humour was treated by bloodletting and purging. Aulus Cornelius Celsus, (c. 25 BC – c.

50AD) the Roman medical encyclopaedist, observed “To let blood by incising a vein is no novelty; what is novel is that there would be scarcely any malady in which blood may not be let.” He also described the best technique to use:

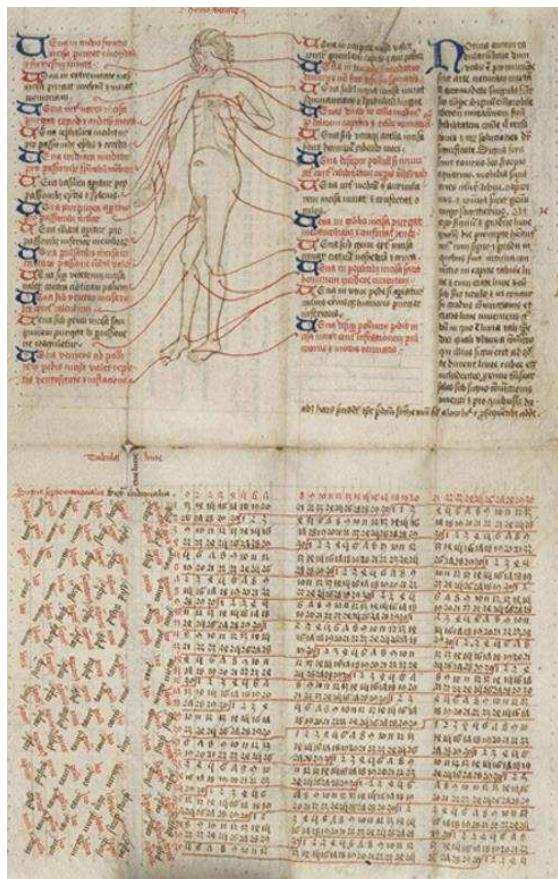


1 Medieval Bloodletting from a 13<sup>th</sup> Century Manuscript

“ . . . if the scalpel is entered timidly, it lacerates the skin but does not enter the vein; at times, indeed, the vein is concealed and not readily found. . . the vein ought to be cut half through. As the blood streams out its colour and character should be noted. For when the blood is

thick and black, it is vitiated, and therefore shed with advantage, if red and translucent it is sound, and that bloodletting, so far from being useful, is even harmful”.

Galen devised a complex system of how much blood should be removed based on the patient's age, constitution, the season, the weather and the area on the patient's body, (as there was no conception of blood circulation and each part of the body could have its own 'disordered' blood).



2: A Folding Almanac from the late 15th century showing a bloodletting calendar and vein man.

By the middle ages calendars for blood-letting were being used. These consisted of astrological and

astronomical signs and a diagram of a man, known as a “vein man”. By consulting the influence of the astrological signs an appropriate bleeding site and time for bleeding could be ascertained. It would eventually become law that a physician or surgeon refer to the calendar before every bloodletting.

While leeches (*Hirudo Medicinalis*) are the most famous method by which blood could be extracted, (dating back to ancient Egypt); wet cupping was also used, in which a heated cup of metal, glass or horn was placed upon the skin causing the flesh to become raised; the raised flesh was then incised and the cup was reapplied to draw out more blood. The first documented uses are in the teachings of the Islamic prophet Muhammad (570-632AD). However, these methods tended to be used for local bloodletting only which drew blood from the smaller blood vessels, the capillaries.

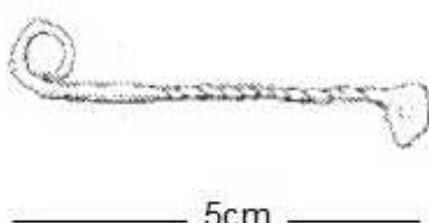
For venesection, an instrument known as a fleam or phlebotome was used. While sharp thorns and sharpened stones were among the earliest implements used to let blood, several examples of Roman fleams, known to them as phlebotomus or scalpellus have been found, (Picture 3), since early Roman physicians also acted as surgeons and veterinarians, it is possible that they used the same instrument to open blood vessels in humans and animals. The first

recorded mention of the fleam appeared in an Anglo-Saxon manuscript from around A.D. 1000.



3: Roman phlebotomus

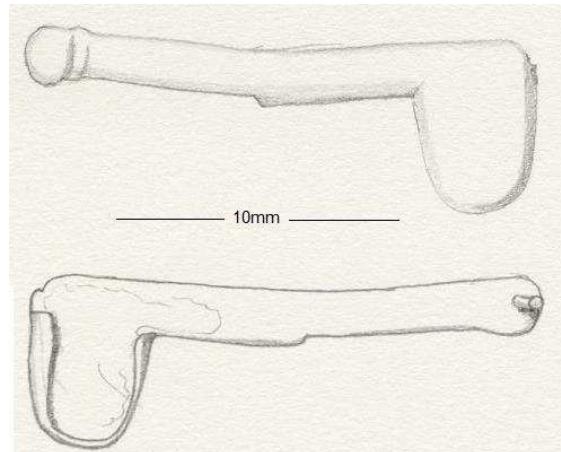
Fleams are also the easiest to find bloodletting antiques, although mostly dating from the 18<sup>th</sup> and 19<sup>th</sup> century when bloodletting was at the height of fashion. Some have been found from the medieval period. Picture 4 shows an iron fleam dating from the 12<sup>th</sup> century discovered in the Coppergate excavation at York.



4: 12<sup>th</sup> Century fleam

In 1998, a metal detectorist found one half of a fleam case measuring 75.7 mm made from copper in Lincolnshire which matches the shape of the Coppergate fleam (Picture 5).

Picture 6 shows a fleam dating from the mid 15<sup>th</sup> century found at Hornby Castle, Yorkshire.

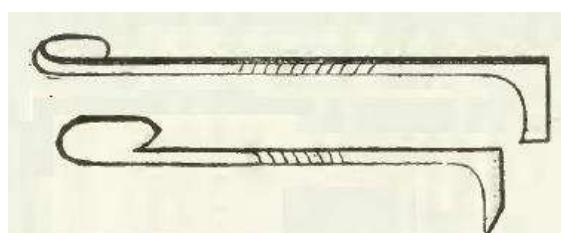


5: Fleam Case



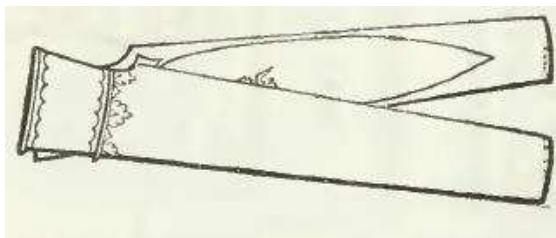
6: 15<sup>th</sup> Century fleam

In the works of the French surgeon Ambroise Paré (c. 1510 – 1590) two fleams are featured (Picture 7), the blades on the right are for slitting opening the vein while the blunt ends are for keeping the slit open to allow the blood to drain. However, it also marks the first appearance of the thumb lancet (Picture 8) which reappears in Jacques Guillemeau's *La Chirurgie Françoise* (1594) (Picture 9).



7: Paré's fleams

Thumb lancets remained in use up until the 19<sup>th</sup> century (Picture 10). Such lancets were often carried in small flat cases of silver, tortoise shell, shagreen (rough untanned



8 Paré Thumb Lancet



9: Detail from *Guillemeau's La Chirurgie Françoise* (1594)



10: 19<sup>th</sup> Century Thumb Lancet

skin, from a horse's back, a wild ass, shark or ray, dyed green) or leather with hinged tops (Picture 11).

As has already been observed bloodletting was used to treat animals such as horses, cows, sheep,



11: Tortoise Shell Thumb Lancet and Case

pig, dogs, and cats. In such cases veterinary fleams were used which contained a number of blades of varying sizes (Picture 12).



12: Veterinary fleam

However, one major difference between bleeding a human and a horse or a cow is the amount of force required to pierce the skin and open a vein. To force the fleam into the vein, a bloodstick was employed. The blade was held against the vein and a blow was given to the back of the blade with the stick in such a way that the

fleam penetrated, but did not go through, the vein (Picture 13).



**13: 19<sup>th</sup> century Blood Stick**

It was eventually recognised that bloodletting was not effective for most diseases and was harmful as it could weaken the patient and facilitate infections. However, bloodletting, or therapeutic phlebotomy as it is now known, is still used today in cases of Haemochromatosis, (iron overload in the body), Polycythemia Vera (a type of blood cancer in which the bone marrow makes too many red blood cells) and Porphyria (the slowing of the production of haem which is used in haemoglobin and other body chemicals to transfer oxygen), to reduce the number of red blood cells.