

■ a moment in time

The Asphyxiating and Exsanguinating Death of President George Washington

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On December 12, 1799, President George Washington, still physically robust at 68 years of age, rode his horse in heavy snowfall to inspect his plantation at Mount Vernon. Although the temperature was 30 degrees Fahrenheit, he remained outdoors from 10:00 in the morning until 3:00 in the afternoon.

An entry in his personal diary for December 12, 1799¹ stated:

“Morning cloudy, wind at northeast and mercury at 33. A large circle around the moon last night. About 10:00 it began to snow, soon after hail and then a settled rain. Mercury at 28 at night.”

The following day, the General complained of a sore throat, yet again rode out on his estate in heavy snow to mark trees that he wished to be cut. Upon returning, he made light of his developing hoarseness and spent the evening perusing newspapers in the company of his wife, Martha, and his personal secretary, Colonel Lear. He appeared cheerful and read aloud several newspaper passages insofar as his increasing hoarseness permitted. When Colonel Lear suggested that he take medication, he protested:

“You know I never take anything for a cold. Let it go as it came.”²

In the early morning of Saturday, December 14, 1799, between 2:00 and 3:00, the General suddenly awoke in distress and informed his wife that he felt unwell. He could hardly speak and breathed with great difficulty. Yet he prevented Mrs Washington from walking to another building to wake the maid Caroline, fearing that the cold night air might be harmful to his wife. He suffered in bed until sunrise, when Caroline arrived to light a fire in the fireplace and found him in severe respiratory distress. She was sent by Mrs Washington to fetch Colonel Lear, who, observing the President to be struggling with each breath, sent for Mr Albin Rawlins, the estate overseer, who prepared a medicinal mixture of molasses, vinegar, and butter. When the General tried to

swallow the concoction, he went into an episode of convulsive suffocation. He then decided that bloodletting would be a better course and ordered Mr Rawlins to perform venesection on his arm to remove half a pint of blood. General Washington was a strong believer in bloodletting, having used it successfully to cure various maladies affecting his Negro slaves. When Mr Rawlins showed agitation while performing the procedure, he provided gentle encouragement.

“Don’t be afraid. The orifice is not large enough. More, more.”

Colonel Lear noted² that Mrs Washington was against bloodletting and begged that not too much blood be removed. When the procedure was completed, a piece of flannel dipped in Salve Latola was wrapped around his neck, and his feet were bathed in warm water.

Messengers were dispatched by horseback to the home of Dr James Craik, his friend and personal physician, as well as to the residences of Dr Gustavus Richard Brown at Port Tobacco, Maryland and of Dr Elisha Cullen Dick, a prominent physician residing in Alexandria, Virginia. Finding the condition of the President alarming, Dr James Craik placed a blister of cantharides (a preparation of dried beetles) on his throat and performed two venesections of 20 ounces each. To treat the severe sore throat and dysphagia, a solution of vinegar in hot water was prepared. However, attempts to gargle with this solution led again to near suffocation, followed by a severe coughing spell. Venesection was repeated with removal of 40 ounces of blood. Application of blister of cantharides to the General’s throat was followed by spontaneous bowel evacuation.

Dr Dick arrived at 3:00 pm and proceeded to remove 32 ounces of blood from the General’s forearm. Dr Brown arrived shortly thereafter and took the General’s pulse. The three physicians decided to administer calomel and tartar rectally.

At 4:30 pm, realizing the futility of the various therapeutic measures applied to him, President Washington called

“You know I never take anything for a cold. Let it go as it came.”²

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Colonel Lear to his bedside and gave his dying instruction.

"I find I am going, my breath cannot last long; I believed from the first that the disorder would prove fatal. Do you arrange and record all my late military letters and papers, arrange my accounts and settle my books, as you know more about them than anyone else. Let Mr Rawlins finish recording my other letters which he has begun."

When Dr Craik came back into the room, General Washington said to him:

"Doctor, I die hard but I am not afraid to go. I believed from my first attack that I should not survive it. My breath cannot last long."²

Finally, as he felt the approach of death, he again spoke to the three attending physicians,

"I feel myself going. I thank you for your attentions but I pray you take no more troubles about me. Let me go off quietly. I cannot last long."²

The three physicians remained with General Washington well into the night. At 8:00, they applied blisters and cataplasms (poultices) of wheat bran to his legs.

Dr Dick proposed that the President's worsening respiratory condition made it imperative that his trachea be perforated. This newly described procedure, attempted as a last therapeutic resort, had been reported to save the lives of patients in extremis. Both Drs Craik and Brown decided against permitting Dr Dick to perform this procedure even though the latter assured them that he would assume all responsibility in case of unfavorable outcome. Dr

Dick subsequently noted in a personal correspondence: "I proposed to perforate the trachea as a means of prolonging life and of affording time for the removal of the obstruction to respiration in the larynx which manifestly threatened speedy resolution."³

Sensing the inevitability of death, the General gave his last instruction to Colonel Lear.

"I am just going. Have me decently buried and do not let my body be put into the vault less than three days after I am dead.

"Do you understand me? 'Tis well."

According to the account of Colonel Lear,² the General's breathing became less labored by about 10:00 at night and he was able to lie quietly. At exactly 10:10 pm, he lifted his hands to check his own pulse, then expired peacefully.

Mrs Martha Washington was sitting at the foot of the bed when the first President of the United States died. When informed of her husband's demise, she said:

"Is he gone? 'Tis well. All is now over. I shall soon

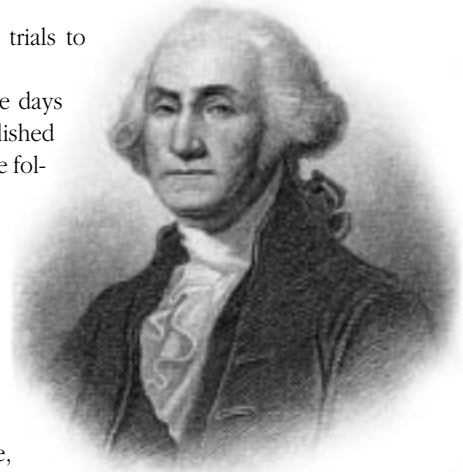
follow him. I have no more trials to pass through."

On December 19, 1799, five days later, Drs Craik and Dick published in *The Times of Alexandria* the following account:⁴

"Some time in the night of Friday, the 13th, having been exposed to rain on the preceding day, General Washington was attacked with an inflammatory affection of the upper part of the windpipe, called in technical language,

cynanche trachealis. The disease commenced with a violent ague, accompanied with some pain in the upper and fore part of the throat, a sense of stricture in the same part, a cough, and a difficult rather than painful deglutition, which were soon succeeded by fever and a quick and laborious respiration. The necessity of blood-letting suggesting itself to the General, he procured a bleeder in the neighborhood, who took from the arm in the night, 12 or 14 ounces of blood; he would not by any means be prevailed upon by the family to send for the attending physician till the following morning, who arrived at Mount Vernon at 11:00 on Saturday morning. Discovering the case to be highly alarming, and foreseeing the fatal tendency of the disease, two consulting physicians

were immediately sent for, who arrived, one at half past three and the other at 4:00 in the afternoon. In the interim were employed two copious bleedings; a blister was applied to the part affected, two moderate doses of calomel were given, an injection was administered which operated on the lower intestines, but all without any perceptible advantage, the respiration becoming still more difficult and distressing. Upon the arrival of the first consulting physician, it was agreed, as there were yet no signs of accumulation in the bronchial vessels of the lungs, to try the result of another bleeding, when about 32 ounces were drawn, without the smallest apparent alleviation of the disease. Vapors of vinegar and water were frequently inhaled, ten grains of calomel were given, succeeded by repeated doses of emetic tartar, amounting in all to 5 or 6 grains, with no other effect than a copious discharge from the bowels. The powers of life seemed now manifestly yielding to the force of the disorder. Blisters were applied to the extremities, together with a cataplasm of bran



... he lifted his hands to check his own pulse, then expired peacefully.

and vinegar to the throat. Speaking, which was painful from the beginning, now became almost impracticable, respiration grew more and more contracted and imperfect, till half after 11:00 on Saturday night, when, retaining the full possession of his intellect, he expired without a struggle.

He was fully impressed at the beginning of his complaint as well as through every succeeding stage of it, that its conclusion would be fatal, submitting to the several exertions made for his recovery, rather as a duty than from any expectation of their efficacy. He considered the operation of death upon his system as coeval with the disease; and several hours before his decease, after repeated efforts to be understood, succeeded in expressing a desire that he might be permitted to die without interruption.

During the short period of his illness he economized his time in the arrangement of such few concerns as required his attention, with the utmost serenity, and anticipated his approaching dissolution with every demonstration of that equanimity for which his whole life had been so uniformly and singularly conspicuous.⁴



Drs Craik and Dick postulated a fatal inflammation of the glottis, larynx, and upper trachea and called the condition *cynanche trachealis*. William Cullen, Professor of Medicine at the University of Edinburgh, Scotland, wrote in 1778 the following about *cynanche trachealis*:⁴

“This name has been given to an inflammation of the glottis, larynx or upper part of the trachea

“It does not, however, always run a course of inflammation, but frequently produces such an obstruction of a passage of air as suffocates, and thereby proves suddenly fatal. ...

Bleeding, both topical and general, has often given almost immediate relief, and by bleeding repeatedly has entirely cured the disease. Blistering, also near to the part affected, has been found useful. Upon a first attack of the disease vomiting immediately after bleeding seems to be of use, and sometimes removes the disease. In every stage of the disease, an antiphlogistic requirement is necessary, and particularly the frequent use of laxatives.”⁴

The exact cause of death of President Washington has been the subject of debate by many medical authorities.

Drs Craik and Brown both studied at the prestigious University of Edinburgh, while Dr Dick was a graduate of the University of Pennsylvania. It is therefore not surprising that the medical care rendered to President Washington followed the

recommendations of Professor William Cullen.

The exact cause of death of President Washington has been the subject of debate by many medical authorities. In 1917, JA Nydegger³ suggested that President Washington most probably died of diphtheria. In 1927, Walter A Wells⁴ published a treatise outlining the terminal illness of President Washington and offered the following explanation:

“All information leads us to believe that the malady responsible for his death was an acute inflammatory edema of the larynx, an affliction which attacks the tissue lying beneath the mucous membrane. It is characterized by a painful swelling of the structures of the larynx and the adjacent tissues below and above, including the epiglottis, causing great difficulty as well as pain in swallowing. When the swelling involves the glottis, the narrow gateway to the lungs, it obstructs the entrance of air and threatens death by asphyxia, or actual suffocation. And when it appears in a violent form, as in this case, it is, we may assume, actuated by some virulent micro-organism—in all probability the streptococcus.”⁴

Reading before the College of Physicians in Philadelphia in 1932, Fielding O Lewis⁵ also entertained the diagnosis of “acute edema of the larynx, secondary to a septic sore throat of a probable streptococci variety.” In 1936, Creighton Barker⁶ published an analysis offering a similar diagnosis: “a virulent streptococcal infection of the pharynx, with cellulitis in the walls of the hypopharynx and edema of the glottis.” In 1942, Willius and Keys¹ considered membranous croup, acute laryngitis, and Ludwig’s angina and concluded: “The modern American physician in all probability would execute the certificate of death in the following manner: septic sore throat, probably of streptococcal origin, associated with acute edema of the larynx.”

Two recent otolaryngologic publications^{7,8} asserted that the President’s demise was due to fulminant cervical phlegmon or to acute epiglottitis. In 1997, Wallerborn⁹ presented a further modern perspective of the illness, concluding with a diagnosis of acute bacterial epiglottitis. *Hemophilus influenzae* and *corynebacterium diphtheriae* can rapidly obstruct the respiratory passage and cause a suffocating death.

The total quantity of blood removed from President Washington has been estimated by various historians and medical authorities to be 5-7 pints. Six weeks after the death of President Washington, Dr James Brickell,¹⁰ wrote an article expressing vehement disagreement with the therapeutic modalities administered. This article was not made public until 1903. Estimating the quantity of blood removed to be 82 ounces, he bemoaned the lack of clinical wisdom and appropriateness.

"... I think it my duty to point out what appears to me a most fatal error in their plan ... old people cannot bear bleeding as well as the young ... we see ... that they drew from a man in the 69th year of his age the enormous quantity of 82 ounces, or above two quarts and a half of blood in about 13 hours.

"Very few of the most robust young men in the world could survive such a loss of blood; but the body of an aged person must be so exhausted, and all his power so weakened by it as to make his death speedy and inevitable."¹⁰

Dr Brickell was not entirely against venesection and bloodletting. However, he preferred removal of a lesser quantity of blood from a site closer to the inflamed organ.

"... to have attacked the disease as near its seat as possible the vein under the tongue might have been opened; the tonsils might have been sacrificed; the scarificator and cup might have been applied on or near the thyroid cartilage."¹⁰

The exact quantity of blood removed from the ailing President can be derived at as follows:

1.	12-14 ounces	Mr Albin Rawlins
2.	20 ounces	Dr James Craik
3.	20 ounces	Dr James Craik
4.	40 ounces	Dr James Craik
5.	32 ounces	Dr Elisha Cullen Dick

The total quantity of blood taken amounted to 124-126 ounces or 3.75 liters, drawn over a period of nine to ten hours on Saturday, December 14, 1799.

General Washington was a physically impressive man measuring 6 feet 3 inches in height and weighing 230 pounds. Because adult blood volume is 70 ml/kg, one can estimate the blood volume of President Washington at seven liters. The extraction of more than half of his blood volume within a short period of time inevitably led to preterminal anemia, hypovolemia, and hypotension. The fact that General Washington stopped struggling and appeared physically calm shortly before his death may have been due to profound hypotension and shock.

The last living moment of President George Washington was described by his step-grandson, George Washington Custis:

"... as the night advanced it became evident that he was sinking, and he seemed fully aware that 'his hour was nigh.' He inquired the time, and was answered a few minutes to ten. He spoke no more—the hand of death was upon him, and he was conscious that 'his hour was come.' With surprising self-possession he prepared to die. Composing his form at length, and folding his arms on his bosom, without a sigh, without a groan, the Father of his Country died. No pang or struggle told when the noble spirit took its noiseless flight; while so tranquil appeared the manly features in the repose of death, that some moments had passed ere those around could believe that the patriarch was no more."¹¹ ❖

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References

1. Willius FA, Keys TE. The medical history of George Washington (1732-1799). III. Proceedings of the Staff Meetings (Mayo Clinic) 1942 Feb 25;16:116-21.
2. Brighton R. The checkered career of Tobias Lear. Portsmouth (NH): Portsmouth Marine Society; 1985. Excerpted as "The death of George Washington by Tobias Lear (1762-1816)." Available from: www.seacoastnh.com/history/rev/washdeath.html (accessed August 8, 2002).
3. Nydegger JA. The last illness of George Washington [letter]. Medical Record 1917 Dec 29;92:1128.
4. Wells WA. Last illness and death of Washington. Va Med Mon 1927 Jan;53(10):629-42.
5. Lewis FO. Washington's last illness. Ann Med Hist 1932;4:245-8.
6. Barker C. A case report. Yale J Biol Med 1936;9:185-7.
7. Shapiro SL. Clinic-of-the-month: General Washington's last illness. Eye Ear Nose Throat Mon 1975 Apr;54(4):164-6.
8. Scheidemandel HH. Did George Washington die of quinsy? Arch Otolaryngol 1976 Sep;102(9):519-21.
9. Wallenborn WM. George Washington's terminal illness: a modern medical analysis of the last illness and death of George Washington; 1997. Included in the "Articles" section of: The Papers of George Washington [Web site]. Available from: <http://gwpapers.virginia.edu/articles/wallenborn/index.html> (accessed February 24, 2004).
10. Bricknell J. Observations on the medical treatment of General Washington in his illness. Transactions (College of Physicians of Philadelphia) 1903;25:90-4.
11. Custis GW. Recollections and private memoirs of Washington. New York: Derby & Jackson; 1860. As quoted in: The death of George Washington, 1799. EyeWitness to History [Web site]. Available from: www.eyewitnesstohistory.com/washington.htm (accessed August 12, 2002).