

# The Shot That Won the Revolutionary War and Is Still Reverberating

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*Those who expect to reap the blessings of freedom must, like men, undergo the fatigue of supporting it.*

Thomas Paine, "The Crisis IV," September 11, 1777

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**T**he disputes about those who decline to vaccinate their children for communicable infectious diseases, especially measles, have been in the headlines of late. Those refusals are often done in the name of "medical freedom."<sup>1</sup> Yet this is a much older debate for the military. It seems fitting in this month in which we celebrate the 243rd anniversary of the Declaration of Independence to reflect on the earliest history of the interaction between vaccinations and war in the US and what it tells us about the fight for religious and political freedom and individual liberty.

Go back in time with me to 1776, long before the Fourth of July was a day for barbecues and fireworks. We are in Boston, Philadelphia, and other important cities in colonial America. This time, concern was not about measles but the even more dreaded smallpox. In the first years of the Revolutionary War, General George Washington took command of a newly formed and named Continental Army. A catastrophic 90% of casualties in the Continental Army were from infectious diseases, with the lion's share of these from smallpox, which at that time had a mortality rate of about 30%.<sup>2,3</sup>

Early efforts to introduce inoculation into the colonies had failed for many of the same reasons parents across the US today refuse immunization: fear and anxiety. When the renowned New England Puritan minister and scientist Cotton Mather attempted in 1721 to introduce variolation, his house was fire-bombed and his fellow clergy and physicians alleged that his efforts at inoculation were challenging God's will to send a plague.<sup>3</sup> Variolation was the now antiquated and then laborious process in which a previously unexposed individual was inoculated with material from the vesicle of someone infected with the disease.<sup>4,5</sup> Variolation was practiced in parts of Africa and

Asia and among wealthy Europeans but remained controversial in many colonies where few Americans had been exposed to smallpox or could afford the procedure.<sup>3</sup>

It is important to note that the use of variolation was practiced before Edward Jenner famously demonstrated that cowpox vaccine could provide immunity to smallpox in 1798. The majority of those inoculated would develop a mild case of smallpox that required a 5-week period of illness and recovery that provided life-long immunity. However, during those 5 weeks, they remained a vector of disease for the uninoculated. Southern and New England colonies passed laws that prohibited variolation. Those anti-inoculation attitudes were the basis for the order given to the surgeons general of the Continental Army in 1776 that all inoculations of the troops were forbidden, despite the fact that perhaps only 25% of soldiers possessed any natural immunity.<sup>2,3</sup>

There was yet another reason that many colonial Americans opposed government-sponsored preventative care, and it was the same reason that they were fighting a war of independence: distrust and resentment of authority. The modern antivaccine movement voices similar fears and suspicions regarding public health campaigns and especially legislative efforts to mandate vaccinations or remove extant exemptions.

In 1775 in Boston, a smallpox outbreak occurred at the same time the Americans laid siege to the British troops occupying the city. Greater natural immunity to the scourge of smallpox either through exposure or variolation provided the British with a stronger defense than the mere city fortifications. There are even some suspicions that the British used the virus as a proto-biologic weapon.

General Washington had initially been against inoculation until he realized that without it the British might win the war. This

possibility presented him with a momentous decision: inoculate despite widespread anxiety that variolation would spread the disease or risk the virus ravaging the fighting force. Perhaps the most compelling reason to variolate was that new recruits refused to sign up, fearing not that they would die in battle but of smallpox. In 1777, Washington mandated variolation of the nonimmune troops and new recruits, making it the first large-scale military preventative care measure in history.

Recapitulating an ethical dilemma that still rages in the military nearly 3 centuries later, for British soldiers, inoculation was voluntary not compulsory as for the Americans. There was so much opposition to Washington's order that communications with surgeons were secret, and commanding officers had to oversee the inoculations.<sup>2,3</sup>

Washington's policy not only contributed mightily to the American victory in the war, but also set the precedent for compulsory vaccination in the US military for the next 3 centuries. Currently, regulations require that service members be vaccinated for multiple infectious diseases. Of interest, this mandatory vaccination program has led to no reported cases of measles among military families to date, in part because of federal regulations requiring families of those service members to be vaccinated.<sup>6</sup>

Ironically, once General Washington made the decision for mass inoculation, he encountered little actual resistance among the troops. However, throughout military history some service members have objected to compulsory vaccination on medical, religious, and personal grounds. In *United States v Chadwell*, a military court ruled against 2 Marine Corps members who refused vaccination for smallpox, typhoid, paratyphoid, and influenza, citing religious grounds. The court opined that the military orders that ensure the health and safety of the armed forces and thereby that of the public override personal religious beliefs.<sup>7</sup>

The paradox of liberty—the liberty first won in the Revolutionary War—is that in a pluralistic representative democracy like ours to secure the freedom for all, some, such as the

military, must relinquish the very choice to refuse. Their sacrifices grant liberty to others. On June 6, we commemorated the seventy-fifth anniversary of D-Day, remembering how great the cost of that eternal vigilance, which the patriot Thomas Paine said was the price of liberty. On Memorial Day, we remember all those men and women who died in the service of their country. And while they gave up the most precious gift, we must never forget that every person in uniform also surrenders many other significant personal freedoms so that their fellow civilians may exercise them.

The question General Washington faced is one that public health authorities and our legislators again confront. When should the freedom to refuse, which was won with the blood of many valiant heroes and has been defended since 1776, be curtailed for the greater good? We are the one nation in history that has made the defense of self-determination its highest value and in so doing, its greatest challenge.

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#### Disclaimer

The opinions expressed herein are those of the authors and do not necessarily reflect those of *Federal Practitioner*, Frontline Medical Communications Inc., the US Government, or any of its agencies.

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