

↔ A.T. STILL vs. "THE SPOTTED MONSTER" ↔

Smallpox has been much in the news in recent years. After a joint international effort succeeded in wiping out the deadly disease (the last natural case occurred in Somalia in 1977), scientists and health authorities debated whether to destroy the virus stocks remaining in laboratories in the U.S. and Russia. That debate was still going on in September 2001 when attacks on New York and Washington, D.C., made the possible use of smallpox as a weapon of bioterrorism a very real concern. This in turn has raised questions about how to protect people from this ancient enemy.

### Prevention through vaccination

The Chinese began immunizing people as early as the 6th century A.D. by exposing healthy people to dried smallpox scabs. However, using material taken from the sick to produce immunity (called variolation) was very risky. After Edward Jenner showed (in 1796) that smallpox immunity could be induced by exposure to the related but milder cow pox virus, vaccination (from the Latin word for "cow") became widespread in Europe and the United States.



Courtesy of Dittrick Medical History Center



From J. F. Schamberg,  
*Diseases of the Skin and  
the Eruptive Fevers*, 1908

Smallpox is indeed ancient. Records suggest that it appeared in northern Africa as early as 10,000 B.C. and had spread to China and India by 3,000 B.C. Egyptian mummies from the 1500s B.C. show clear evidence of smallpox scars. The first recorded epidemic occurred among Egyptians and Hittites in 1350 B.C.(1) Smallpox was extremely contagious (epidemics affected millions of people even in the 20th century), with mortality rates as high as 95%. Most survivors were left severely scarred and, frequently, blinded. No wonder that the rumor of even a single smallpox case could panic a whole community!

From the beginning, vaccination met with resistance. Among other things, it did not always "take" and, if it did, sometimes resulted in violent illness rather than the intended mild immune response. Some patients died from infection of the vaccination site or other complications. Immunity did not last. People objected to having "cow-rot" injected into their bodies. Others resisted forced vaccination laws for religious or political reasons.(2)

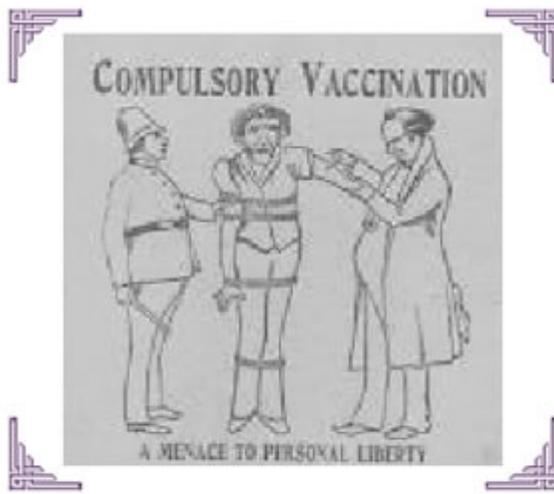
## A.T. Still's alternative

Not surprisingly, A.T. Still came up with an alternative to vaccination. In the January 1901 issue of the Journal of Osteopathy, Still reminded his readers that it was the very nature of osteopathy to "improve on other systems of the healing arts" and restated his objections to vaccines as being neither safe nor effective. Then he reported on his own experience with smallpox:

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I have been vaccinated many times in my arms just the same as other persons, possibly twenty times in all. I have used the vaccine quills, bones, the dry scab and the fresh matter, all to no effect. I have been exposed and in close contact with genuine confluent smallpox . . . and treated them for such disease. I have not been affected by either that or vaccine matter.(3)

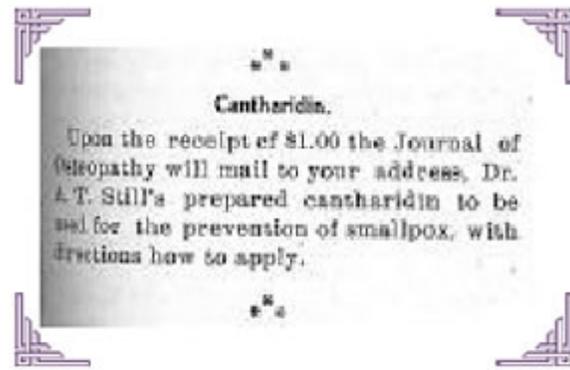
To ensure a supply of the "purest and best quality" of cantharidin, Still undertook to have it manufactured under his supervision. For \$1, interested D.O.s could purchase a supply of "blister ointment," along with Still's instructions for its use.



From J. M. Peebles, *Vaccination a Curse and a Menace to Personal Liberty*, 1913

Still was naturally curious about his apparent immunity to smallpox. At some point, he discussed this with his mother, who suggested she had “blistered all the smallpox out” when treating Still as a boy for a “white swelling” (edema) in his hip. The treatment involved raising a blister by means of cantharidin (blister beetle or Spanish fly) and keeping the blister “active” for six weeks. At other points in Still’s boyhood, his father, an M.D., blistered him for other ailments, including pleurisy— standard treatment under the medical beliefs of the time, as verified by the 19th century medical books in the Museum collections.

Still noted similarities in the effects on the body of variola and cantharidin, including a “blister [that] eats down into the skin, . . . high fever, headache, backache, suppression or stoppage of the urine, unconsciousness, convulsions and death.” He believed that inducing the more benign of these effects with cantharidin would prevent smallpox from gaining a foothold in the body. As he explained in a follow-up article in February 1902, “My theory is, that the first [occupation] of the body by an infectious fever will drive off others and hold possession of the body until its power is spent and the excretory system has renovated the body.” All immunity to infectious diseases, he believed, resulted from such “germicidal possession.”



From *Journal of Osteopathy* (Sept.1901)

It is not known how many D.O.s tried cantharidin. In the February 1902 article, Still claimed that, since his original article, osteopaths in the field had reported “thousands upon thousands of cases in which cantharidin had been used as a preventative to smallpox in the contagion, with the reported results of not a single individual whose arm had been blistered, contracting the disease.” Unfortunately, no documentation survives to provide details of those successes. Judging by the lack of letters and articles in the *Journal of Osteopathy* and *Journal of the A.O.A.*, Still’s preventive measure did not catch hold among early osteopathy’s other leaders.(4)

Still’s followers apparently had mixed attitudes toward the smallpox vaccine, especially while the “Old Doctor” was still alive and exerting his influence. J. Deason, D.O., an influential writer of many articles and books, stated in the December 1912 issue of the *JAOA*, “Osteopathy as a school of practice takes no stand for or against vaccination or serum therapy.” He personally opposed vaccination for smallpox on the grounds that it was dangerous and its effectiveness had not been scientifically proven. On the other hand, C.P. McConnell, D.O., stated in *Practice of Osteopathy* (1899), a widely used textbook, that “the best preventive means of smallpox is vaccination.” (Interestingly, the later editions of the book published with co-author C.C. Teall omitted this statement.) Early articles in the *Journal of Osteopathy* indicate that while some D.O.s were fighting against the use of vaccines, others were fighting for the right to vaccinate their patients.(5) Overtime, however, the osteopathic profession moved into the vaccination camp; by the 1940s, articles in the *JAOA* on smallpox vaccination focus on how, not whether, to administer the vaccine.

## Conclusion

Today cantharidin is commonly used to treat warts and a skin disease called molluscum contagiosum, both caused by viruses. It is intriguing that the virus for molluscum contagiosum is from the poxvirus family, whose members also include the smallpox (variola) and cowpox (vaccinia) viruses. Was A.T. Still onto something after all?

Cheryl A. Gracey, Curator

1. Barquet, N. and Domingo, P. "Smallpox: The Triumph over the Most Terrible of the Ministers of Death," *Annals of Internal Medicine*, 1997 Oct 15, pp.635-642.
2. For a concise summary of anti-vaccination arguments, see H.H. Somers, D.O., "Vaccination Should Not Be Compulsory," *J. Ost.*, 1918 Apr, p.211.
3. Still's articles were reprinted in full in Peterson, B., "Smallpox Vaccine, Past and Present," *JAOA*, 1975 Feb, pp.209-216.
4. A few pieces were printed in the year or two after Still's announcement, and in 1924, Ellen Ligon, D.O., reported that she had used cantharidin for 25 years without a single patient contracting smallpox (*J. Ost.* 1924 Jul, p.818).
5. See, for example, "Anti-Vaccination Petition to Government" and "Osteopathic Rights in Pennsylvania," *J. Ost.* 1920 Mar, pp.186-188.