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[Illustration of the solar system as seen from Earth.]

The origins of smallpox are lost to history.

Scientists and historians have several competing ideas. Some argue the origins are as recent as the 1500s CE.

[Illustration of the surface of Earth showing oceans and land masses.]

Others say there is evidence of smallpox going back 3,000 years.

[Illustration of a family of animal herders living on a grassy plain.]

Yet others propose that it could go back to the advent of agriculture, as far back as 10,000 BCE.

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[Illustration of a sunny sky with birds flying and a flag waving.]

This terrible illness spread among all areas of society and...

...throughout Europe, Asia, and Africa.

[Illustration of two wooden ships sailing in a stormy sea.]

In the 1400s, European settlers started to take over lands inhabited by Native Americans.

[Illustration of a person watching from the shore as smaller boats disembark from the two wooden ships and their passengers come ashore.]

When they arrived, they brought smallpox with them. The disease further contributed to the devastation of Native populations.

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[Illustration of a bird flying over a forest with a mountain kingdom in the background.]

Early on, people observed that those who were already infected and recovered from smallpox didn't get reinfected.

That observation provided a clue for ways to prevent infection.

[Illustration of birds outside the window of a sickroom.]

Long before scientists knew anything about the immune system and how immunity to a disease develops...

[Illustration of a healer wiping the brow of a bedridden patient.]

...people looked for ways to prevent smallpox infections.

[Illustration of the healer looking concerned.]

[Illustration of the healer closing the patient’s eyes.]
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[Illustration of a spindle.]  

[Illustration of a child picking up a spindle.]  

[ Illustration of the child straightening up after picking up the spindle. An adult stands behind him.]

There you are!

[ Illustration of the child with the adult’s arm across his shoulder.]

Come on. Let’s get started.

[ Illustration of the child sitting on a chair as the adult blows into his nostrils through a long tube. A cookpot is boiling on a stove.]

In China and India, healers ground up scabs from people who survived smallpox. They then blew the powder in patients’ nostrils. This was called inoculation.

[ Illustration of a large complex of buildings with turrets. Inside one of the buildings, a man sits at a table burning incense and weighing small pieces.]

Inoculation was practiced across Asia and many parts of Africa...

...Eventually, this practice made its way to the Ottoman Empire.

[ Illustration of a large salon with a balcony. A woman watches as a healer administers treatment to a patient.]

It caught the attention of Lady Mary Montagu, an English woman and wife of a diplomat.

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[ Illustration of a servant bowing to a woman walking down a hallway.]

Lady Montagu was smart and spirited.

Among other things, she was a talented writer, and she nearly died of smallpox.

Lady Montagu admired the scar-free skin of the local people. When she discovered how they avoided smallpox...

[ Illustration of a woman seated at a writing desk.]

...she was eager to share the news

[ Illustration of a woman with a quill pen in her hand writing the words “Fluid and pus from smallpox pustules may have been scratched into an uninfected person’s skin. These procedures appeared to protect people from getting smallpox...”]

[ Illustration of a woman’s hands signing a letter. On the letter the words “with caution. ... develop pustules like those... acquired smallpox. Event... two to four weeks, these sympt... indicating successful recovery and... Lady Mary Wortley Montagu” appear.]

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[ Illustration of a healer administering treatment to a patient.]
Inoculations save lives, but there are risks involved as well.

You have nothing to worry about, dear.

[Illustration of the recovered child reunited with his happy family.]

[Illustration of a patient receiving an inoculation.]

Inoculated individuals sometimes developed a mild form of the disease.

[Illustration of a worried nurse wiping the brow of a dying patient and watching the frowning face of the doctor.]

Rarely, people died.

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[Illustration of a bedridden patient with an inoculation scar on his arm being watched by a doctor.]

There was a remote chance they could start a pandemic.

[Illustration of a group of children playing marbles. One of the children is coughing and spewing respiratory droplets.]

[cof cof cof]

[Illustration of a group of people gathered in a graveyard around an open grave.]

However, smallpox was such a frightening and deadly disease...

...people were willing to take the risk and inhale the scab dust or be inoculated with fluid and pus from pustules.

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[Illustration of a large building with a horse-drawn carriage in front.]

Berkeley, England May 14, 1796.

In the 1700s, a new innovation was introduced. Instead of using scabs and pustules from smallpox...

...a physician, Edward Jenner, used pustules from a disease called cowpox.

[Illustration of a woman and a child standing in a doorway.]

Come a little closer.

[Illustration of a man seated in front of an empty chair.]

Don’t be afraid, James.

[Illustration of the child wincing as the man inoculates him.]

Cowpox is similar to smallpox but the disease it causes is far more mild. Training the immune system to fight using this related but mild virus is called vaccination.

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[Illustration of a line of people waiting to be vaccinated and a superimposed hand holding a syringe.]

With vaccination, the end of smallpox was in sight.
Governments around the world looked to vaccines to end this terrible disease.

In 1947, New York City began large-scale vaccination efforts.

Thanks to the success of vaccination, smallpox was eradicated.

[Illustration of a group of vaccinated men, women, and children with bandages on their arms.]

No cases of naturally occurring smallpox have happened since 1977. The end.