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### Young People Are Getting Botox to Prevent Wrinkles. Does it Work?

Many dermatologists and plastic surgeons say preventative Botox can temporarily stop wrinkles from forming. But there are no high-quality clinical trials on the treatment.

Amanda Morris | March 26, 2024



Cynthia Huang Wang was 27 when she noticed faint lines forming on her face. She decided to try something she had seen other young people recommend on social media: Botox.

After her first treatment, she said, her skin appeared smoother. Now at 29, Huang Wang, of San Francisco, still gets Botox a few times a year.

“It’s just something that makes me feel good about myself,” she said.

People in their 20s and 30s like Huang Wang are increasingly getting Botox in the hope of stopping wrinkles. The practice is known as preventative Botox. But does it work?

Botulinum toxin is the active ingredient in brand-name treatments such as Botox, Dysport, Xeomin and Jeuveau. While botulinum toxin has been well studied for a variety of uses, there haven’t been large-scale clinical trials on its long-term use to prevent wrinkles. Evidence supporting it is largely anecdotal or based on small studies, often funded by companies that sell the drug.

Even so, many dermatologists and plastic surgeons say that botulinum toxin can temporarily stop

some wrinkles from forming. To understand why it may prevent wrinkles, think of young skin like a pristine piece of paper, said Ife J. Rodney, a dermatologist in Fulton, Md.

“It’s way easier to not crumple the paper than it is to get it perfectly flat after it’s already been crumpled,” Rodney said.

The treatment isn’t permanent, and it won’t work for all kinds of wrinkles. Botox and similar drugs can also be expensive: It can cost anywhere from a couple hundred to thousands of dollars for a single treatment, with results lasting a few months.

Although all drugs carry some risks, and Botox sometimes can result in unwanted side effects, the treatment is generally considered safe. According to the American Society of Plastic Surgeons, about 127,000 people in their 20s and about 1.6 million people in their 30s got the procedure in 2022.

So how does getting Botox in your 20s or 30s delay wrinkles? And what are the risks? Here’s what dermatologists, plastic surgeons and other medical experts said.

### **How does preventative Botox work?**

The repetitive movement of our face muscles can cause dynamic wrinkles — the kind seen in crow’s feet, forehead lines and between the eyebrows. When we’re young, these wrinkles tend to appear when we make facial expressions such as grimacing or looking surprised.

As we age, the body produces less collagen, a protein that serves as the skin’s main structural component — it gives the skin its firmness. We also lose elastin — a protein that gives skin its elasticity. With less collagen and elastin, the skin becomes thinner and less elastic — meaning that wrinkle lines can become more apparent, said Smita Ramanadham, a plastic surgeon in Montclair, N.J.

Botulinum toxin works by blocking nerve signals that tell our muscles to move or contract. Injecting the neurotoxin into our face muscles temporarily paralyzes them. If you can prevent these face muscles from contracting, you also stop the skin from folding in ways that cause wrinkle lines to form or deepen, said [Steven Williams](#), president of the American Society of Plastic Surgeons.

But the treatment doesn’t work for all kinds of wrinkles, such as those caused by sun damage. It also won’t help with other signs of aging, such as sunspots.

### **How long does Botox last?**

The paralysis from a Botox injection usually lasts three to five months before people need another treatment, Williams said.

But this time frame can vary, and there’s no standard recommended dose for preventative Botox, said Patricia Wexler, a dermatologist at Mount Sinai Hospital and associate clinical professor at the Icahn School of Medicine at Mount Sinai. Some people may need less Botox than others to achieve the same effect, depending on their history of injections, the strength of their facial muscles and how animated they are.

If you stop getting Botox, your muscles start to contract again, causing the slow formation of wrinkles. However, it's likely you'll have less wrinkles than someone of the same age who never received Botox, Rodney said.

"If you start at 25 and stop at 40, it's sort of like you've stopped the clock for 15 years," she said. "You still have the advantage of all the time you did use it."

### How effective is preventative Botox?



Anecdotal evidence from dermatologists and plastic surgeons indicates that Botox does delay the onset of wrinkles.

But there haven't been any high-quality clinical trials on preventative Botox or the effects of using the neurotoxin cosmetically for decades. Existing studies have limitations, including industry ties.

One study from 2006 compared two identical twin sisters. One got Botox about two to three times per year over the course of 13 years, and the other got Botox two times total. In a side-by-side comparison of the twins, who are White and were 38 at the time, the study's author noted that forehead lines were visible in the minimally treated twin but "not evident" in the regularly treated one.

A 2006 study compared two identical twin sisters. The sister on the right received Botox injections about two to three times a year over the course of 13 years. (Archives of Facial Plastic Surgery/American Medical Association)

The twins were reassessed at the age of 44, and researchers noted that the minimally treated twin had wrinkle lines when her face was at rest, but the regularly treated twin did not.



The study's authors noted that wrinkles were more visible in the twin who received less treatments, left. (Archives of Facial Plastic Surgery/American Medical Association)

William J. Binder, a facial plastic and reconstructive surgeon in Beverly Hills, Calif., who worked on both studies, said they were not able to control for other factors that could have contributed to skin appearance, such as sun exposure, weight, diet or lifestyle. But in his follow-up study, he noted that both twins reported using sunblock daily, led active lifestyles, stuck to a relatively healthy diet and did not smoke.

In the initial study disclosures, Binder is listed as a stockholder of and a consultant to Allergan, the company that makes Botox. He said he no longer has any financial disclosure related to the cosmetic use of Botox.

In a 2011 study, researchers followed a group of 45 women, ages 30 to 50, who got botulinum toxin injections at regular intervals for 20 months. About six months after their last treatment, researchers assessed the women and found that they had significant reductions in their wrinkles.

Allergan fully funded the study and helped with the manuscript.



### **What are the risks of preventative Botox?**

Reported complications are rare.

Patients may experience bruising or swelling at the site of the injection. Another possible risk is drooping eyebrows, which is usually caused by the neurotoxin spreading into the wrong muscles. Though estimates vary, studies suggest it can occur in about 1 to 5 percent of cases. This effect is almost always temporary.

Other known temporary complications include double vision, dry eyes and drooping eyelids.

To reduce your risk, experts advise getting treatment from a board-certified dermatologist or plastic surgeon. “There’s a lot of muscles that overlap and if you don’t understand the anatomy, it’s easy to inject a muscle you don’t want to inject,” Ramanadham said.

Patients should also avoid exercising, lying down or touching the treated area for several hours after the injections, Wexler said.

Another possible side effect of Botox is that muscles in the face can atrophy — meaning they get

weaker and smaller — as a result of the paralysis. While some muscle weakness is the intended effect of Botox treatment, there can also be unintended muscle atrophy. This could result in an “uneven, unattractive appearance” as the muscles in the face get thinner, Wexler said.

Several dermatologists and plastic surgeons said any muscle atrophy that results from Botox is reversible. However, some medical professionals said it is unclear how reversible the effect is.

### **When should I start preventative Botox?**

The age at which someone starts to get dynamic wrinkles can vary based on their skin tone, genetics and lifestyle. In general, people start to lose collagen and elastin in their skin in their late 20s and early 30s, Ramanadham said. This is the time frame where anyone thinking about preventative Botox may want to get assessed by a dermatologist.

Anne Chapas, a Manhattan-based dermatologist, suggested patients wait until they start to see small wrinkles or lines when their face is in a neutral expression. Otherwise, there’s a chance they could waste money getting Botox injected into an area where a wrinkle would not have formed anyway.

“It’s difficult to treat something you can’t see,” Chapas said.

### **What should I expect during a Botox treatment?**

The length of a Botox procedure depends on the amount of targeted areas, but experienced injectors can treat an area in a few minutes, Williams said. It typically feels like a small needle pinch.

To help prevent the Botox from spreading into an unintended area, patients should remain in an upright position and avoid exercising and touching the injected sites for a few hours after the treatment.

Julia Huynh, 23, of San Jose got her first set of Botox injections in December. She said she was surprised by how quick the procedure was, and though she said her jaw felt a little sore the day after, she was happy with the experience.

“I can definitely feel a difference,” she said. “I can sense that my face is more snatched.”

She plans to go back in a few months and reassess whether she needs more injections.

### **What are the alternatives to preventative Botox?**

Dermatologists said there are other ways to take care of your skin, such as using sunscreen daily, eating a balanced diet and getting a good amount of sleep. Applying retinoids — which are compounds derived from vitamin A — has also been shown to reduce wrinkles.

<https://www.washingtonpost.com/wellness/2024/03/26/preventative-botox-does-it-work/>