

# Botox boosts pliability, elasticity of skin for up to 4 months

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**A** new study published in the journal *JAMA Facial Plastic Surgery* finds that botox may improve the pliability and elasticity of skin for up to 4 months.

**Botox**, or onabotulinum toxin A, is a drug used to treat a number of health problems, including chronic [migraine](#), cervical [dystonia](#) and overactive bladder. Botox is most well known, however, for its ability to temporarily reduce the appearance of facial wrinkles.

According to the American Society of Plastic Surgeons, more than 6.5 million Americans underwent botox in 2012. The procedure involves injecting the drug in certain areas of the face in order to temporarily relax the muscles that cause wrinkles.

For their study, Dr. James P. Bonaparte, of the University of Ottawa, and Dr. David Ellis, of the University of Toronto - both in Canada - set out to investigate the effects of botox on the skin.

Specifically, the researchers wanted to find out how botox affects two features of the skin that weaken as we get older: pliability (stretchiness) and elasticity (the ability to recoil).

"As one ages, these biomechanical properties change," note the authors. "Of these age-related changes, the loss of skin elasticity appears to be the most prominent."



Botox injections were found to increase the pliability and elasticity of skin for up to 4 months, according to the study.

## Botox appears to temporarily reverse skin damage caused by aging, UV exposure

Dr. Bonaparte and Dr. Ellis enrolled 48 women to the study with an average age of 55 who underwent botox injections to reduce the appearance of mild wrinkles of the forehead and around the eyes.

The pliability and elasticity of each woman's skin were assessed at study baseline, and at 2 weeks, 2 months, 3 months and 4 months following injection.

**Among the 43 women who completed the study, the team found that the botox injections increased both the pliability and elasticity of their skin for up to 4 months - a duration similar to that of the muscle-relaxing effects of botox. After this time, the skin properties returned to baseline levels.**

In addition, the researchers found that botox injections appeared to reverse damage to skin elasticity caused by exposure to ultraviolet (UV) radiation. Again, this effect waned after 4 months.

Commenting on the findings, the researchers say:

"This study found an increase in skin pliability and elasticity with a corresponding reduction in the UV after treatment of facial wrinkling with onabotulinum toxin A.

The changes occurring in patients' skin appear to be the opposite of those associated with the aging process and UV radiation exposure and [inflammation](#). This study also suggests that the duration of effect of these changes mimics the duration of effect of the medication."

In an editorial linked to the study, Dr, Catherine P. Winslow, of the Indiana University School of Medicine, says the team's findings "add credence" to existing research showing an association between botox and improved pliability and elasticity of skin.

"Piecing together this research with continued studies on elasticity and [collagen](#) content of injected skin will further the ability of facial plastic surgeons to refine their strategy for long-term planning of antiaging strategies with patients and educate them as to the importance of nonsurgical therapies for maintenance, in addition to opening new fields of potential treatment options for difficult scars and skin conditions," she adds.

In August 2014, *Medical News Today* reported on a study revealing how botox could be a [potential alternative to chemotherapy](#) for [gastric cancer](#).

Written by Honor Whiteman

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## References

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Furthering the understanding of actions of botulinum toxin A, Catherine P. Winslow, *JAMA Facial Plastic Surgery*, doi:10.1001/jamafacial.2015.0567, published online 21 May 2015, [editorial](#).

Additional source: American Society of Plastic Surgeons, [2012 plastic surgery statistics report](#), accessed 21 May 2015.

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