



Behold the power of botox

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The word botox has become as pervasive in the modern lexicon as "Jell-o" or "Kleenex" or "iPod." What exactly is botox, and what does it do?

Botox is actually botulinum toxin, which is a poison produced by the Clostridium botulinum bacterium. I imagine you have heard of botulism, which is a disease contracted by eating spoiled or improperly preserved canned or bottled foods. The foods become contaminated by the clostridium botulinum bacterium, and the bacteria produce the botulinum toxin. The toxin causes paralysis and often death by respiratory failure. Yummy.

Several decades back, scientists and physicians started wondering if this potent paralytic power could be used to treat conditions involving hyperactive muscles, such as chronic facial tics, lazy eye, muscle spasms and so forth. After experiencing success with some of these efforts and figuring out what a safe dose might be, doctors turned their sights to an even more serious medical problem - facial wrinkles.

Facial wrinkles aren't always just creases in the skin created by time, sun, annoying bosses and big credit card bills. They are actually manifestations of hyperactive muscles under and attached to the skin. While facial muscles can express character, they can also express the suggestion that a cow slept on your face. In particular, the muscles between your brows, the procerus and corrugator supercilii, and the forehead muscle, the frontalis, through their frequent contraction, will leave your forehead with those cool vertical lines between the brows and the horizontal cornrows between the brows and hairline. Those vertical lines, or glabellar folds, can make you look peevish. The horizontal lines may you look - well, you know how they make you look.

The way muscle contraction occurs involves the release of a chemical called acetylcholine from the nerve that runs to the muscle. Botox, or botulinum toxin, prevents the release of acetylcholine from the nerve ending, thus preventing muscle contraction. Preventing muscle contraction will prevent the facial muscle from creating the overlying wrinkle. Imagine that your teenage daughter has just announced, on Sunday night, that she has a 10-page paper due, of which she has "sort of a rough draft." Your nerves fire lightning bolts at your brow and forehead, but the botox keeps them from knotting into a murderous rage, lending instead an air of equanimity.

Botox is injected directly into the muscles around the brow, on the forehead, and into the "crow's feet" area to the sides of the eyes. We use a very small needle, and most of the time there isn't much bruising. It takes around three days for the stuff to work, so leave some slack on the dinner with the prospective squeeze. Side effects can include local reaction, such as redness, rare nausea, or in extremely rare circumstances, a systemic effect such as weakness. You have to know your anatomy to do this stuff, because if you get a little too far to the side on the brow, you might have three to five months of a droopy brow. The idea with this stuff is to look good, not like you've had a minor stroke.

One way to determine if a product is good is to see how your office personnel like it. If we have expired botox in our office, it is like throwing chum to the sharks. Everyone - nurses, spouses, business people - lines up. I am suspicious at times that perhaps not all of our expired botox is truly expired. It really is amazing stuff.

Interestingly, I have had several patients tell me that their frontal tension headaches have gone away, which makes sense. Neurologists have used botox along similar lines. Botox is also great for hyperhidrosis, or excessive sweating in the armpits and groin.

There are some problems that I see. One is cost. There is, however, a competitor entering the marketplace, and I am hopeful that will lower the cost. Another problem is duration. Some people get three months of efficacy, others six. I would suspect someone is working furiously on a longer-acting preparation. Excessive treatment can lead to an expressionless face, which can give you sort of a mask look, like a former Tom Cruise spouse.

You see botox parties advertised sometimes, almost like a Tupperware party. I'm not OK with that - this stuff is a powerful drug and shouldn't be trivialized.

Botox is a fascinating substance with uses ranging from the medically useful to the cosmetic luxurious. People often confuse botox, which is a paralytic agent, with fillers, such as Restylane, which fills in lines. Completely different concepts, with a similar goal. I strongly suspect we will see a host of anti-aging products hit the market as the boomers age - you can imagine the fortunes to be made. If you're cheap, use sunscreen every day, lose the cigarettes (the supreme wrinkle-maker), eat right and pick your parents carefully.

Dr. Alan Muskett is a board-certified plastic surgeon at Billings Plastic Surgery. More information is available at www.billingsplasticsurgery.com.