

**Look On the Outside as Young as You Feel on the Inside—  
A Review of Fillers and Neurotoxins**  
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Perhaps nothing reveals our age more than the appearance of our skin. Until recently, the only option available to decrease the signs of aging was a facelift or deep laser resurfacing—both of which are aggressive treatments that require pain relief, long downtime and great expense. Today, our options are much broader, relatively painless and less expensive, natural appearing and confidence-boosting.

The most popular nonsurgical treatments for wrinkles and sagging skin are injectable fillers and neurotoxins. Injectable fillers are used predominantly on the lower half of the face to compensate for lost volume due to loss of fat, muscle and bone that occurs naturally as we mature. Injectable neurotoxins are used predominantly in the upper half of the face to prevent muscle contraction from causing wrinkles.

The four most common types of fillers are those made of hyaluronic acid (Restylane®, Perlane®, Juvederm®, Belotero®, Prevelle Silk®, Eleveess®), calcium hydroxyl apatite (Radiesse®), poly-L-lactic acid (Sculptra®) and collagen (Cosmoplast®, Cosmoderm®, Evolence®, Artefill®).

Hyaluronic acid is a natural material that exists naturally in our bodies so there is no need to test for allergies prior to injection. It is a humectant, which means that it acts like a sponge to pull in fluid and stay where it is injected until it is slowly resorbed by the body. It is usually injected into the cheekbone area, the nasolabial folds (smile lines), the fine lines around the mouth (pucker lines), the lips and the folds beneath the mouth around the chin (marionette lines). The hyaluronic acid fillers can also be injected to “fine-tune” other areas, such as the folds between the eyebrows (anger lines) and just beneath the lateral brow to give the brow a beautiful and natural appearing lift. The results are seen immediately and last for 6-12 months depending on the patient and his/her metabolic rate. In my own practice, I find that runners and people who have a high metabolic rate tend to have results that don't last quite as long, but that is the exception to the rule.

Calcium hydroxyl apatite exists naturally in our bodies as bone so, again, there is no need to test for allergies prior to injection. Once it is injected, the body slowly replaces the calcium hydroxyl apatite crystals with collagen. It is usually injected into the cheekbone area, smile lines, and marionette lines. Like the hyaluronic acid fillers, it can also be used for fine tuning, but is not indicated for the lips because it can cause formation of lumps in that area. As with hyaluronic acid fillers, results are immediate but tend to last for about a year before a touch-up is necessary.

Poly-L-lactic acid is made of a powdered form of absorbable suture material and no allergy testing is necessary. Like calcium hydroxyl apatite, the body slowly replaces poly-L-lactic acid with collagen. This product is used to compensate for overall facial volume

loss that results in sagging skin. It gives a natural, healthy look as well as a beautiful glow to the skin. It is injected deep into the cheekbone and cheek area, temples, smile lines, marionette lines and jawline. It requires five-times-daily massage for five days to minimize the risk of small lumps that can be felt by the patient but not seen from the surface. Like calcium hydroxyl apatite, it is not indicated in the lips. Results take about two months to be visualized, and last for about two years, which is significantly longer than other common fillers.

Collagen used to be a very common filler, but has fallen out of favor largely because it is made from animal sources and requires allergy testing prior to injection. It is used predominantly in the smile lines and marionette lines, but not the lips. Results last from two months to five years depending on the type of collagen used.

All neurotoxins are made of variations of the same toxin—botulinum toxin—which has been used in other countries for more than two decades. The common names of neurotoxins are Botox®, Dysport® and Xeomin®. They do not require allergy testing before injection and work at the level of the junction between the nerve and the muscle to prevent contraction of the muscle. The most common areas to treat are the forehead creases, the anger lines between the eyebrows and the crows' feet for a beautifully relaxed look. Side effects include temporary headache or drooping of the eyelid, but these conditions are extremely rare if the product is injected appropriately. Results are noticeable in four to seven days and last for three to four months.

For a natural, youthful and relaxed look without surgery, fillers and neurotoxins are a modern-day alternative to make you look on the outside as young as you feel on the inside. Consult your healthcare professional for further information.