

SPECIALISTFOCUS

Botox and Fillers in Skin Rejuvenation

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Introduction

As we age, the underlying tissues in our face start to break down. Botox and injectable fillers can treat these wrinkles. It is important to understand the type of wrinkle that is being treated in order to use the correct skin rejuvenation method. There are three main types of facial wrinkles:

1. Dynamic wrinkles caused by muscle hyperactivity such as forehead creases, crows feet and glabellar creases – use Botox
2. Resting or ageing wrinkles such as marionette lines around the lips and fine periorbital wrinkles – use ablative or non-ablative laser resurfacing
3. Anatomical or volume loss due to ageing or drug side-effects such as loss of tissue in nasolabial folds and the cheeks or deep acne scars – use injectable fillers

Botulinum Toxin A

This is a neurotoxin produced by the bacterium Clostridium Botulinum. The toxin is a two-chain polypeptide with a 100-kDa heavy chain joined by a disulfide bond to a 50-kDa light chain. This light chain is an enzyme (a protease) that attacks one of the fusion proteins (SNAP-25, syntaxin or synaptobrevin) at a neuromuscular junction, preventing vesicles from anchoring to the membrane to release acetylcholine. By inhibiting acetylcholine release, the toxin interferes with nerve impulses and causes flaccid (sagging) paralysis of muscles. The clinical effect of botulinum toxin injections lasts two to six months and then resolves. Once chemical denervation begins, axon terminals form new unmyelinated sprouts, and the motor endplate regions expand. After several months, the inactivated terminals slowly recover function, and the new sprouts and end plates regress. Recovery of inactivated terminals appears to be the basis of loss of clinical effect several months after injection.

Uses of Botox in Skin Rejuvenation

- Crows feet
- Glabellar frown lines
- Horizontal forehead Lines
- Masseter hypertrophy
- Eyebrow contouring
- Nasal scrunch
- Dimpled chin
- Platysmal bands and horizontal neck lines

Injectable Fillers

Soft-tissue fillers are substances which can be injected under the skin to “lift and fill in” facial lines and creases, temporarily restoring its youthful and plumped-up appearance. Injectable fillers are primarily used to improve the appearance of the skin’s contours. They can help fill out deep facial wrinkles, creases and furrows, sunken cheeks, skin depressions and some types of scars. They can also be used to add a fuller, more sensuous look to the lips. These dermal fillers are particularly helpful for the treatment of nasolabial folds (lines from the side of the nose to the mouth that accompany ageing) and wrinkles or marionette’s lines on the chin. Some newer fillers also add thickness to the skin filling in areas of fat loss resulting from the ageing process or side effects of certain drugs.

Types of Injectable Fillers

Injectable fillers are classified as temporary or semi-permanent based on how long they remain within the skin before being cleared by the body. Temporary fillers last several months while semi-permanent fillers last more than one year.

Temporary Fillers

These injectable substances are safe and result in a predictable improvement in facial creases and volume loss. The temporary nature provides restoration to pre-treatment conditions after some time with adjustments in facial contours with subsequent treatments. The temporary soft-tissue fillers are either collagen or hyaluronic acid based.

Semi-permanent Fillers

These fillers get incorporated into the tissue and do not break down. They create some lasting fullness and additional filling over time by stimulating the skin to produce its own fibrous (scar) tissue. This adds to the fullness but in a rather unpredictable way.

The ideal filler is one which is ready to use, where prior skin testing is not required, non-migrating, physiologically biocompatible and reasonably priced. The injection of fillers is very safe when performed by an experienced and qualified dermatologist or plastic surgeon.