

Soft Tissue Fillers, Part 2: Non-Biodegradable

Natalie Curcio, M.D., M.P.H. (Updated July 2015*)

Filler Class	Trade Nme	Composition	Skin Test	FDA-approved indication	Depth of injection	Needle
Particulate	Bellafill® (formerly ArteFill®)	Polymethylmethacrylate microspheres in bovine collagen gel + 0.3% lidocaine	Yes	Nasolabial folds, acne scars	Subdermal	26 G
Fat	Autologous Fat	Adipocytes harvested by large bore needle or liposuction cannula and washed in saline	No	Does not require FDA approval; nasolabial folds, melolabial folds, cheek augmentation, lips, hands	Subcutaneous fat	16 G to 19 G
Silicones	Silikon 1000®	Polydimethylsiloxane (silicone oil)	No	Retinal tamponade in select cases of retinal detachments; off-label use as facial filler	Dermal (microdroplet technique)	25 G to 27 G
	Adatosil 5000®	Polydimethylsiloxane (silicone oil)	No	Retinal tamponade in select cases of retinal detachments	Very thick; infrequently used for skin injection	N/A
ePTFE* lip implants	Gore-tex®	Solid strands of porous Gore-tex®	N/A	Soft tissue augmentation	Non-injectable; Subcutaneous	N/A
	§ Softform®	Tubular form of Gore-tex®	N/A	Lip augmentation	Non-injectable; Subcutaneous	N/A
	§ Ultrasoft®	3x softer version of Softform	N/A	Lip augmentation	Non-injectable; Subcutaneous	N/A
	Surgisoft® (formerly Advanta®)	Harder outer shell with a softer inner one; Solid, not tubular	N/A	Lip augmentation	Non-injectable; Subcutaneous	N/A
	VeraFil®	Saline-filled ePTFE balloon	N/A	Lip augmentation	Non-injectable; Subcutaneous	N/A

§No longer commercially available in the US

ePTFE*: expanded polytetrafluoroethylene



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Non-Biodegradable Soft Tissue Fillers

Permanent Fillers

Particulate	Silicones	Expanded PTFE implants
Bellafill®	Silikon 1000® Adatosil 5000®	Gore-Tex® §Ultrasoft® §Softform® Surgisoft® (Advanta®) VeraFil®
	Fat	<u>Classification of Soft Tissue Implants</u> Temporary 0-6 months Semi-permanent 6 mo to 2 yr Permanent >2 years
	Autologous Fat	
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Soft Tissue Fillers: Side Effects and Complications

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Filler	Side Effects or Complications	Injection Tips or Solutions
Zyderm® Zyplast® (Bovine collagens)	<ul style="list-style-type: none"> • Delayed Hypersensitivity Reaction • Amaurosis fugax (Zyplast >> Zyderm) • Local necrosis (Zyplast) • Contraindicated in glabella • Painful cysts (Zyplast) • Granuloma formation 	<ul style="list-style-type: none"> • Pre-treatment skin tests x2 • Avoid glabellar injection and caution near angular artery • I&D or steroids
Juvéderm® products Prevelle Silk® Restylane® Perlane® Belotero® products (Hyaluronic acids)	<ul style="list-style-type: none"> • Erythematous bumps • Tyndall effect • Hypersensitivity reaction (0.6%) • Granulomatous foreign body reaction • Reported in lips with Restylane 	<ul style="list-style-type: none"> • Hyaluronidase to dissolve • Avoid too superficial placement of product • Hyaluronidase • Hyaluronidase
Radiesse® (Cahydroxylapatite)	<ul style="list-style-type: none"> • Superficial beading • Contraindicated in lips • Radiopaque 	<ul style="list-style-type: none"> • Avoid too superficial placement of product • Excise with #11 blade or surgery
Sculptra® (Poly-L-lactic acid)	<ul style="list-style-type: none"> • Granuloma Formation • Palpable Nodules 30-40% 	<ul style="list-style-type: none"> • Surgical Excision • Steroids, 5-FU, surgery, Imiquimod
ArteFill® (Polymethylmeth-acrylate)	<ul style="list-style-type: none"> • Hypersensitivity Reaction • Granuloma Formation in 6-24 mo (0.6%) • Superficial nodules • Contraindicated in lips 	<ul style="list-style-type: none"> • Pre-treatment skin test • IL steroids, allopurinol, IL 5-FU • Avoid too superficial placement
Silikon 1000® (Polydimethylsiloxane)	<ul style="list-style-type: none"> • Product Migration • Granuloma formation • Beading and Tyndall Effect 	<ul style="list-style-type: none"> • Avoid adulterated silicone • IL steroids, Minocycline, Imiquimod • Avoid too superficial placement • Use Microdroplet technique • Limit quantity per treatment
Any Filler	<ul style="list-style-type: none"> • Biofilms (cause of 80% infections) are aggregates of microorganisms in which cells re-attached to each other and/or to a surface, such as a filler • Development of granulomas, <ul style="list-style-type: none"> • pseudoabscesses, or nodules • Routine cultures often negative 	<ul style="list-style-type: none"> • I&D and Culture for PCR • Quinolone and Macrolide antibiotics x 2 weeks • IL steroids are contraindicated unless antibiotic treatment has been started • Excision or debridement of nodule if possible
Autologous Fat	<ul style="list-style-type: none"> • Donor site morbidity • Calcification of injected fat • Unpredictable resorption 	
ePTFE Implants	<ul style="list-style-type: none"> • Product Migration/Asymmetry • Capsule formation and contraction • Extrusion • Infection • Rigid or stiff feel to implant 	<ul style="list-style-type: none"> • Removal of lip implant if adverse effects or poor cosmesis

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