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CONFERENCE ON OBSTETRICS AND GYNECOLOGY
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NOSE AUGMENTATION USING FILLERS

Professor LE HANH MD, PhD

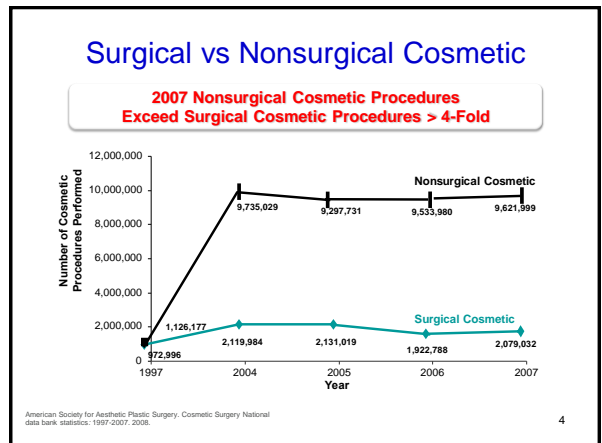
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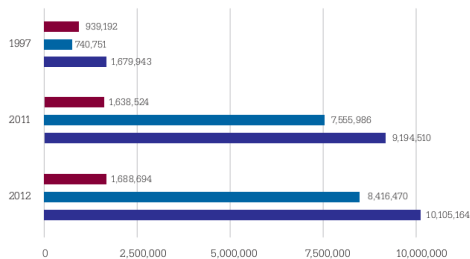
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INTRODUCTION

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ASAPS Cosmetic Procedures – 16 years Comparison 1997- 2012



Source: American Society for Aesthetic Plastic Surgery

■ Surgical Cosmetic Procedures
■ Nonsurgical Cosmetic Procedures
■ Surgical and Nonsurgical Cosmetic Procedures: Totals

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COSMETIC MINIMALLY-INVASIVE PROCEDURES	2012	2011	2000	% CHANGE 2012 vs. 2011	% CHANGE 2012 vs. 2000
Structural skin type I (Botox®, Dysport®)	6,134,621	5,675,788	786,811	8%	681%
Celastrol treatment (e.g., Wenercept®, Endermologie)	35,123	17,816	22,862	-17%	54%
Chemical peel	1,132,821	1,110,444	1,148,457	2%	-1%
Intense pulsed light (IPL) treatment	553,269	501,577	*	10%	*
Laser hair removal	1,118,254	1,078,812	735,898	8%	52%
Laser skin resurfacing	549,955	489,238	170,851	9%	188%
Abalone	147,271	134,882	*	9%	*
Non-ablative (e.g., Frax®)	361,734	331,256	*	9%	*
Laser treatment of acne scars	232,198	237,862	245,424	-2%	-6%
Microdermabrasion	873,586	900,439	884,315	8%	12%
Sclerotherapy	354,152	355,403	884,558	1%	-59%
Self-tan lotions	1,080,767	1,061,138	852,885	5%	25%
Cutaneous hyaluronic acid (e.g., Restylane®)	277,146	281,119	*	-2%	*
Collagen	67,777	72,300	587,615	-6%	-88%
Polysiloxane-based (e.g., Evolence®, Zylthera®, Zylthera®)	16,317	13,734	*	19%	*
Human-based (e.g., CosmoDerm®, Cosmoport®, CytoTide®)	51,480	58,568	*	-12%	*
Fill	63,126	68,410	85,770	-6%	-26%
Hyaluronic acid (e.g., Juvederm Ultra®, Juvederm Ultra Plus®, Perlane®, Restylane®)	1,475,136	1,303,656	*	9%	*
Polysiloxane-based (e.g., CosmoDerm®, Cosmoport®, CytoTide®)	138,038	143,777	*	-3%	*
Polysiloxane-based (e.g., CosmoDerm®, Cosmoport®, CytoTide®)	16,342	16,936	*	9%	*
TOTAL COSMETIC MINIMALLY-INVASIVE PROCEDURES	13,034,730	12,249,647	5,900,446	6%	137%
TOTAL COSMETIC PROCEDURES	14,629,276	13,873,625	7,481,486	5%	96%

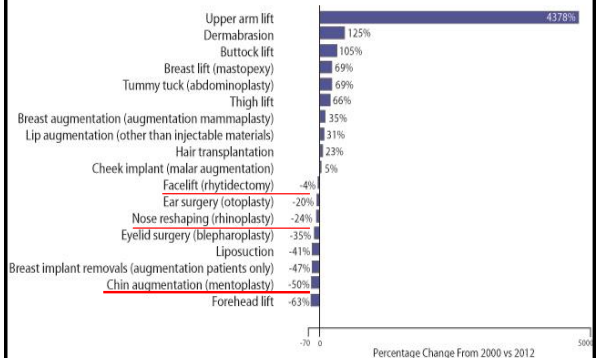
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2012 Cosmetic Plastic Surgery Statistics

Cosmetic Procedure Trends

COSMETIC SURGICAL PROCEDURES	2012	2011	2000	% CHANGE 2012 vs. 2011	% CHANGE 2012 vs. 2000
Breast augmentation (augmentation mammoplasty)	286,274	307,180	212,500	-7%	35%
Breast implant removals (augmentation patients only)	21,609	32,271	40,787	-3%	-47%
Breast lift (mastopexy)	89,067	90,679	52,636	-2%	69%
Breast reduction (aesthetic patients only)	42,022	42,923	*	-4%	*
Breast reduction in men (gynecomastia)	30,723	19,766	20,351	5%	2%
Buttock implants	658	1,140	*	-25%	*
Buttock lift	2,986	4,546	1,356	56%	114%
Calf augmentation	438	485	*	8%	*
Cheek implant (malar augmentation)	12,688	11,866	10,427	6%	22%
Chin augmentation (mentoplasty)	18,645	20,080	26,924	-10%	-31%
Cosmetoplasty	12,845	11,433	42,218	-1%	-74%
Ear surgery (otoplasty)	25,740	26,433	36,295	-3%	-29%
Facelift surgery (rhytidectomy)	284,915	196,286	327,514	4%	-30%
Facelift (rhytidectomy)	195,229	119,026	133,656	6%	-24%
Forehead lift	44,722	46,901	120,871	-5%	-55%
Facelift surgery (blepharoplasty)	18,577	15,754	44,684	4%	-67%
Lip augmentation (other than injectable materials)	25,144	25,477	18,589	-1%	35%
Lip reduction	893	875	*	-2%	*
Liposuction	282,138	284,792	364,015	-1%	-23%
Lower body lift	7,163	7,615	207	-6%	3,360%
Nose reshaping (rhinoplasty)	242,684	243,772	383,146	0%	-36%
Proctoplasty	536	217	*	6%	*
Thigh lift	8,884	9,761	5,303	-9%	68%
Tummy tuck (abdominoplasty)	186,628	115,992	42,213	-3%	-77%
Upper arm lift	15,457	14,995	338	3%	4,473%
TOTAL COSMETIC SURGICAL PROCEDURES	1,584,526	1,823,678	1,881,040	-2%	-16%

Cosmetic Surgical Procedures for Female Patients



Medscape

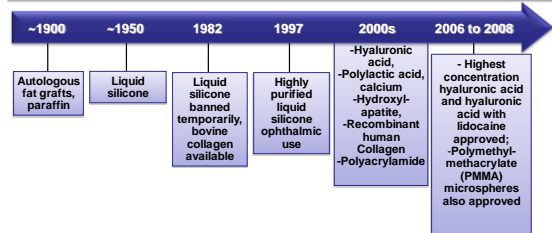
Source: American Society of Plastic Surgeons

HISTORY OF FILLERS

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HISTORY OF FILLERS

Continued Modifications to Fillers Improve Viscosity, Particle Size, and Longevity



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Typical Products in the Market

		Time last	Products
A. Short lasting	Collagen	6-12 months	Cosmoderm, Cosmoplast, Zyderm, Zyplast.
	Hyaluronic acid	6-18 months	Hyalform, Rēstylene, Purgan, Esthelis, Dermal, Perfectha
B. Semi lasting	Ca Hydroxy apatite	18-24 months	Novielle, Radiesse
	Poly-L-Lactic acid	12-18 months	Sculptra
C. Long lasting	PMMA (polymethylmethacrylate)	Above 10 years	Artecoll, Artefill
	PAAG (polyacrylamide)	Above 10 years	Aquamid

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The optimum attributes for the ideal tissue filler

- Biocompatibility ✓
- No immunogenicity ✓
- Integrity of the material formulation ✓
- Adequate viscosity ✓
- Minimal fibrosis ✓
- Little inflammatory response ✓
- Volume should be retained after injection ✓
- No or least re-injections needed over time ✓
- Total incorporation in the tissue ✓

?

R. Appel, R. Dmochowski and S. Herschorn. BJU International, vol. 98, Suppl. 1, 27-30, 2006

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Soft Tissue Fillers Usage

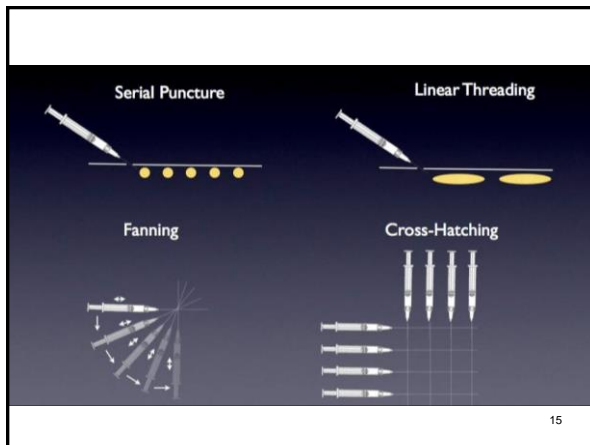
Options

- When would you use one filler over another?
- What combinations do you like?
- Where would you inject or NOT inject certain fillers?
- When layering different fillers, what order do you proceed in?
- What plane do you like to inject in and how do you know when your needle is there?

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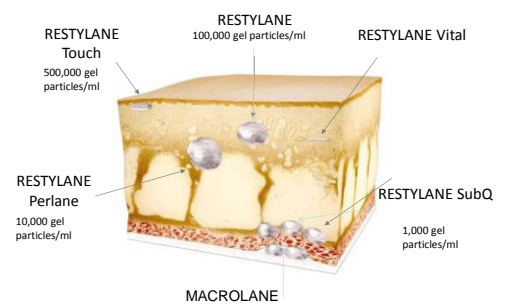
METHOD OF INJECTION

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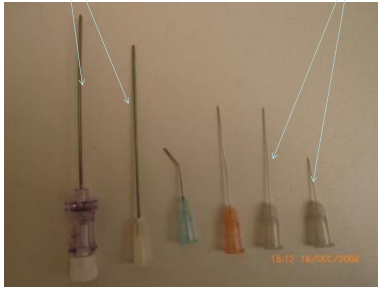
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Products fit with every injection sites



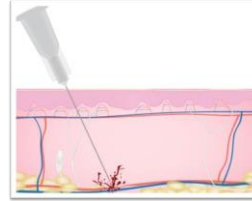
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From rigid canula 18G.. to the new flexible microcannulas 27G and 30 G

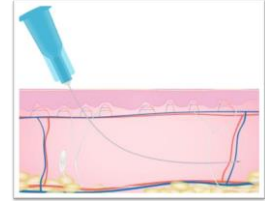


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Classic Needle VS DermaSculpt®



- ü The needle is sharp, it cuts the skin and everything it encounters.
- ü Ecchymosis risk is high.
- ü Pain is common

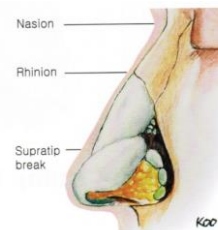


- ü The Microcannula slides under the papillar dermis, inside the Reticular Dermis or deeper

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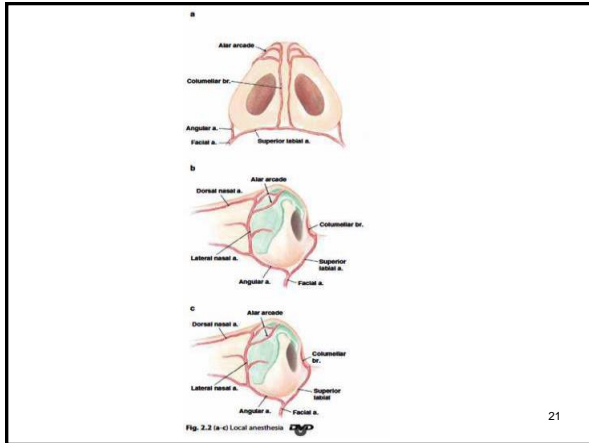
ESSENTIAL ANATOMY

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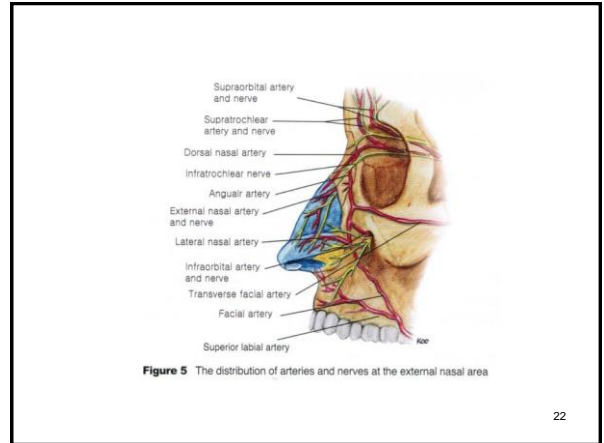


The skin of the nasal dorsum is comparatively thinner at the cephalic location and thicker at the supratip and the tip region. Overall, it is thinnest at the rhinion area.

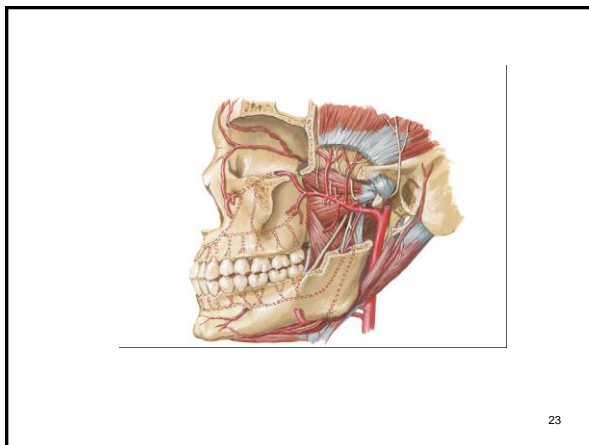
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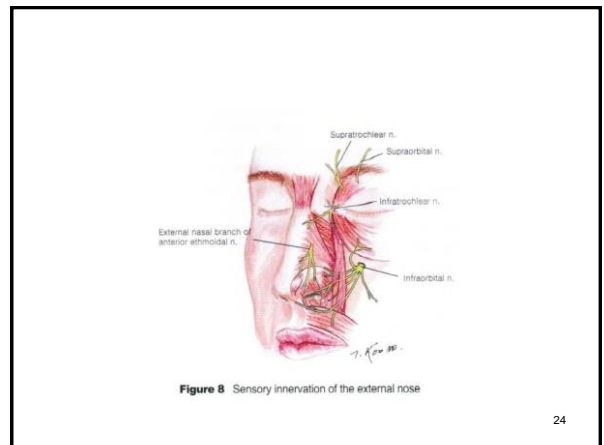
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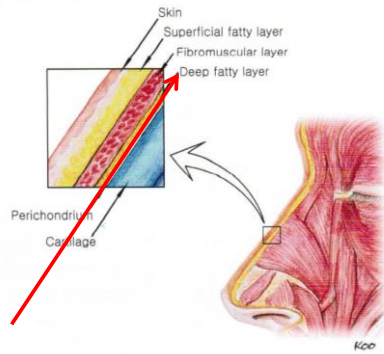


Figure 2 A sectional diagram of the skin soft tissue envelope

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Before

After

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My Classification of Asian Nose

4 categories based on morphologic characteristics, as follows:

- Type I: dorsum and tip vertical deficiency, fine length, correct nasal base width. Correct and naso-labial or naso-facial angle
- Type II: dorsum and tip vertical deficiency, short nose, correct nasal base width. Obtuse naso-labial angle.
- Type III:
 - III a: Type I with broad nasal base width and/or large alar and/or bulbous tip and/or broad bony dorsum .
 - III b: Type II with broad nasal base width and/or large alar and/or bulbous tip and/or broad bony dorsum .
- Type IV: I, II or III with glabella deficiency.

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The Augmentation Rhinoplasty Protocol Following the Classification

- Type I patients : nasal augmentation using the full length biocompatible (silicone, ePTFE) implant or injection augmentation.
- Type II patients: Restructural rhinoplasty
- Type III patients:
 - Type III a: nasal augmentation using the full length biocompatible (silicone) implant combined with reduction of the nasal base, tip and nasal bone (rarely).
 - Type III b: restructural rhinoplasty combined with reduction of the nasal base, tip and nasal bone (rarely).
- Type IV patients: received the same treatment as type I, II or III cases in addition with glabella augmentation.

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Fillers in Augmentation Rhinoplasty

General indication:

It's the indication of a alloplastic (silicone, e-PTFE...) aummentation rhinoplasty.

A nose with:

- appropriate length
- naso-labial angle: 90-100 °

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METHOD OF INJECTION

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My technique

- Strictly aseptic procedures
- Local infiltration of Lidocaine + Adrenaline
- Ordinary **long** needle, 27 gauge (retrobulbar needle),
 - Magic cannula 27 gauge, long canula

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My technique

One entry port technique:

- Entry point: tip of the nose.
- Keep the **midline**
- Keep the needle **close to periosteum and perichondrium**
- Linear retrograde threading injection.
- Slowly, gradually inject with a small amount of fillers.
- Not to over-inject

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My technique

- Bi-fingers control of
 - location of the tip of the needle
 - the amount of the filler injected

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- Sequence of injection:

- Unlimited filler:
 - Start at the tip. Make an ideal tip.
 - The dorsum will be in concord with the height of the tip
- Limited filler:
 - Start at the lowest part (radix) or the most concern area

Never empty the syringe before taken a last look at the nose.

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My technique

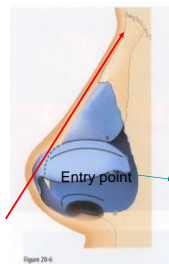


Figure 20-6

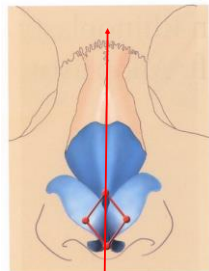
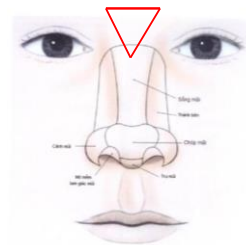


Figure 20-1

Endoprosthesis

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Adjuvant points ...glabella, subnasal, infratip: punctual injection

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Video Presentation

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Results

In a series of 300 injections:

- + 130 with polyacrylamide
- + 40 with hydroxy-apatite
- + 200 with Hyaluronic Acid.

The results are good in majority of cases.
No complication is noted.

Reinjection has been done without any difficulty.
The rate is around 20% only

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Case Presentation

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Post-Injection Cares

- The patient should be informed about the following:
 - avoid touching the injection site for at least 6 hours
 - avoid using cosmetics and the like on the site for 24 hours after injection
 - do not get exposed to intense heat (e.g. solarium, sunbathing, sauna) or extreme cold (e.g. wind chill) for 4 weeks after injection
 - be advised to avoid sunburn or frost-bite in the area where fillers is injected
 - avoid laser, peeling or other aesthetic treatments for 6 months
 - avoid surgery and dental work approx. 3 months after injection

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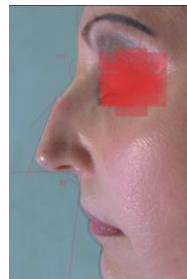
COMPLICATIONS

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- Undesirable results :
 - Indication +++
 - Consultation ++
- Deviation
- Lumping
- Precocious reabsorption.
- Less than 1 complication out of 1,000 treatments world-wide (Data on File Aquamid)

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Hump nose



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Case Presentation

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COMPLICATIONS

- Pain, oedema, redness, minor haematoma
- Low-grade bacterial infection
- Granuloma

Skin necrosis !!!

Blindness!!!

Cerebral damage !!!

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Tae-Hwan Park, 2011: Twenty-eight patients

Complications

- nodular masses,
- inflammation,
- **tissue necrosis**
- and dyspigmentation.

Affected locations, in descending order of frequency

- perioral area,
- forehead, including glabella,
- nose,
- nasolabial fold,
- mentum, including marionette wrinkles,
- cheek area and
- periocular wrinkles.

Tae-Hwan Park, Sang-Won Seo, June-Kyu Kim, Choong-Hyun Chang. Clinical experience with Hyaluronic acid-filler complications*
Journal of Plastic, Reconstructive & Aesthetic Surgery (2011) 64, 892e897

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The most disastrous complication:

- alar rim necrosis following injection of the nasolabial fold.

Two 'danger zones' that are particularly vulnerable to tissue necrosis following filler injection:

- the glabella
- nasal ala.

Tae-Hwan Park, Sang-Won Seo, June-Kyu Kim, Choong-Hyun Chang. Clinical experience with Hyaluronic acid-filler complications*
Journal of Plastic, Reconstructive & Aesthetic Surgery (2011) 64, 892e897

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SKIN NECROSIS
due to
ARTERIAL COMPROMIZE ?



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Complication after PMMA injection - Notice the extensive postoperative necrotic area on the right hemi face (nasal wing, upper and lower lips, and part of the buccinator region).

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BAD TECHNIQUE

- **Wrong FILLER** at right place
- **Too much VOLUME** of injections:
Tension in the tissue is above capillary perfusion pressure:
- Too superficial

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The cause of skin necrosis : High Local Tension in the tissue +++++

Avoid the Injections

- Too superficial
- Too much filler

Precaution: Alert with bad signs:

- Blanching
- No capillary refill
- Hardness

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COMPLICATIONS

Blindness!!!

Cerebral damage !!!

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SERIOUS AND VERY RARE

- **Feinendegen et al**
 - fat injections in the nasolabial folds, lip, and chin - suffered from aphasia and hemiparesis for 10 months (never completely resolved).
- **Dreizen and Framm, Egido et al., and Teimourian:** A cases of *blindness* following fat injections.
- **Yoon et al.,** in which a 39-year-old woman suffered an *acute fatal stroke* immediately after autologous fat injection into *the glabella region*.

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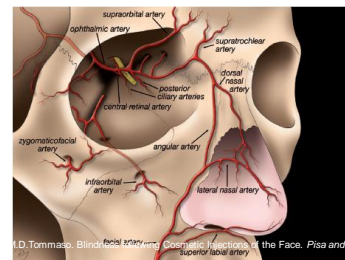
Lazzeri et al (2012) Twenty-nine articles describing 32 patients were identified.

In 15 patients, blindness occurred after injections of adipose tissue;

in the other 17, it followed injections of various materials, including corticosteroids, paraffin, silicone, oil, bovine collagen, polymethylmethacrylate, hyaluronic acid, and calcium hydroxyapatite

Davide Lazzeri, M.D. Tommaso Agostini, M.D. Michele Figus, M.D., Ph.D. Marco Nardi, M.D. Marcello Pantaloni, M.D. Stefano Lazzeri, M.D. Blindness following Cosmetic Injections of the Face *Plast. Reconstr. Surg.* 129: 995, 2012

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Davide Lazzeri, M.D. Tommaso. Blindness following Cosmetic Injections of the Face. *Pisa and Florence, Italy*

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6/12 tips to avoid CPS

1. Avoid intravascular placement:
by aspiration before injection
application of local vasoconstrictor.
2. Needles, syringes, and cannulas of small size should be preferred to larger ones and be replaced
3. Blunt flexible needles and microcannulas when possible.
4. Retrograde injection
5. Low-pressure injections with the release of the least amount of substance possible should be considered
safer than bolus injections.
6. The total volume of filler injected should be limited

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BEAUTY

SAFETY

NO COMPLICATIONS

GOOD FILLERS
GOOD TECHNIQUES
GOOD PATIENTS

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Conclusion

- Nasal augmentation using fillers injection is an ideal measure.
- It's very versatile, can be used to repair even tiny defects to achieve a nearly perfect nose
- No surgery, no medication is needed, no pain, no downtime, easy adjustment...
- Have a right indication:
 - Right nose
 - Right place
 - Right fillers
 - Right technique:
 - don't inject too much filler!
- Volume – Tension – Location

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Thank you for your attention !

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