Serious Filler Complications

Inflammatory and Immune-Mediated

- Identify/remove trigger
- Systemic immunosuppression (high dose prednisone w slow taper)
- Low dose intralesional steroids +/- topical immunosuppressants
- High dose antihistamines (blexten 20mg + rupall 10mg)
- Immunomodulating antibiotics (minocycline 100mg QID or clarithromycine 500mg BID)
- Add plaquenil, colchicine or montelukast if not improving
- Valacyclovir if cold-sores
- Avoid reversal if possible

Non-inflammatory

- Consider watchful waiting
- Product placement issue: reverse it
- Encapsulated and fibrotic: reverse it and considering adding 5-FU and intralesional Kenalog.

Fluctuant and infected

- Culture and treat underlying infection with antibiotics
- Incise and drain

Ischemic

- Immediate signs of ischemia are blanching (unreliable), pain (unreliable), reticulation (delayed), dysesthesias (delayed), slow cap refill (very important)
- Late signs: pain, edema, erythema, blistering.
- If ischemia identified, initiate intervention immediately.

Ischemic Medications

- Hyaluronidase 150 units every 30 minutes for 4 injections over 2 hours. Inject multiple depths along the path of the vessel from superficial to deep. Plan to bring patient in and repeat this protocol the following day. Use lidocaine/xylocaine with this (1:1, max 4.5mg/kg).
- Heat pads in medical kits (not ice!).
- If retrobulbar, use cannula. Involve ophthalmology on call immediately.
- Optional: sildenafil 100mg, nifedipine 30mg XR, chewed ASA 325mg, oral acetazolamide 500mg, glaucoma eye drops (topical timolol maleate 0.5%), dexamethasone, vibrational microneedling.
- Adjuncts: TNS Advanced serum, exosomes (Benev ERC+), emollients, hyperbaric oxygen, PRF, nitrox oxide serum, LED light therapy

Fillers Medical Kit

- Snap Hot Packs
- Cold Packs (in fridge/freezer)
- Hyaluronidase 150 units/mL (in fridge) (3 vials, replace when <1)
- Epinephrine 1mg/mL (1:000), 0.3mg IM (2 vials, replace when <1)
- BLT Ointment (benzocaine 20%, lidocaine 6%, tetracaine 4%), (3 tubes, replace when <1)
- Aspirin 325mg (will need to chew)
- Valacyclovir → 1000mg prophylactically prn
- Chlorohexidine (stanhexidine 2%) (not always in kit)
- Diphenhydramine OTC
- Lift Glucose
- Lidocaine HCL 2% without epinephrine Max: 4mg/kg.
- Polysporin
- Adalat 30mg XR

Kit

Cups, Q-Tips, 3CC syringes + 22G needles, 30G needle tips, alcohol swabs, gauze for stanhexidine (not always in kit), cannulas (TSK 25G 38mm cannulas w needle port, 23G), long needles for retrobulbar protocol, TB needles for skin testing.

On-site, out of kit

Eye wash station, First Aid Kit, BP monitor, Oximeter, Thermometer, Stethoscope, AED (select locations), O_2 (select locations), Prescription pad (select locations).

Filler Aftercare Instructions

For the first 48 hours: sleep supine with a travel pillow, elevate the head slightly, keep the area clean of makeup/sweat, avoid pressure/manipulation of the injection sites, use new face products/pump top bottles only to avoid infection (for lips, apply Vaseline from a new container as needed).

For the first 24 hours: avoid heat application, EtOH consumption, exercise, tanning. Use ice and Tylenol PRN for swelling and pain.

Specific Issues

1. **Bruising** → ice, make-up, time / reassurance.

2. **Filler bumpiness / asymmetry** → massage of the product along the tissue planes (can cause additional bruising), and additional filler prn. Can massage up to 24hrs.

3. **Tyndall effect** → bluish discoloration w superficial placement of HA → Compression, hyaluronidase, Q-switched 1064-nm laser.

4. **Migration / Extrusion** → too aggressive post-procedural massaging. Patients need to avoid palpation of area as well.

5. **Prolonger swelling / excessive swelling** → r/o underlying infection, occlusion, etc… Consider ice and oral antihistamines (cetirizine 10mg). For urticaria, consider blexten 20mg OD.

6. **Allergic hypersensitivity / angioedema / urticaria / anaphylaxis** → conservative measures all the way to epinephrine 0.3mg IM q15-30 minutes prn, prednisone 60mg x 1-2 weeks (Remember: ABC's + 911).

7. **Reactivation of herpes simplex or zoster** → could consider prophylaxis 1000mg +/- 500mg BID for 3-5 days. Treatment course may be needed. Discuss with patient. Valacyclovir w GI SE's. Careful in renal patients (e.g., AKI).

8. **Infection / cellulitis** → treat accordingly → I+D, culture, PO or IV abx, ID consultation prn.

9. **Scarring** → higher risk for history of hypertrophic / keloidal scarring. Reverse w hyaluronidase. Consider intra-lesion steroid or dermatology referral.

10. ****Granulomas Nodules** → tender nodules with or without fluctuance, appearing up to 2 years post treatment → Hyaluronidase to dissolve filler. May consider intradermal steroid injection or plastics / dermatology referral. If inflamed, consider I+D and abx +/- Infectious Disease.

** Possible increased risk of granulomas when combining different brands of filler under the skin. Make sure other (prior) filler is fully dissolved (e.g., hyaluronidase) or reabsorbed (e.g., time) before proceeding.

Tissue ischemia (can lead to necrosis) → secondary to overfill (**especially marionette**) or intravascular injection. Appears as *violaceous reticular pattern or white blanching of affected area with or without pain (often WITH pain, sometimes out of proportion).*

Stay calm. Discontinue fillers. Call for help from colleague.

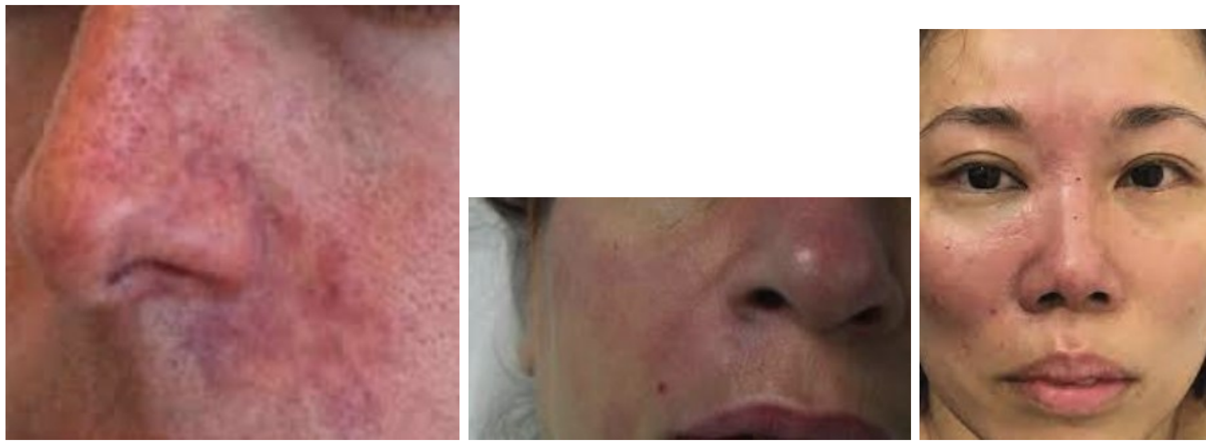
Attempt revascularization with firm/vigorous massage of ischemic tissue (especially marionette)

Apply heat pack(s)

Administer 2 tabs of 325mg ASA (650mg) and chew. Ongoing daily ASA prn.

Hyaluronidase Protocol

Document, photograph, on-call plastics or ophthalmology, ED/911, Medical Director, etc…



Hyaluronidase Considerations

Off-label indications: HA bumpiness, overcorrection, Tyndall effect, tissue ischemia, nodules, granulomatous reactions.

Contraindications: BEE STINGS (bee venom), pregnancy. Possible (?): furosemide, epinephrine, benzos, heparin, phenytoin.

Complications: PAINFUL. Consider mixing with some lidocaine 2% WITHOUT epinephrine. Max: 4mg/kg (13mL, if 64kg).

Skin Test: 4 units of hyaluronidase (0.03mL [NOT 0.3!], use 1cc TB syringe), sub-derm forearm, assess in 5 minutes: ?wheal, induration, pruritis, systemic signs → positive test.

Dosing for cosmetic correction → 5-20 units intradermally in HA collection. Smoothing effects fully evident 1-2 weeks after injection. May need to repeat.

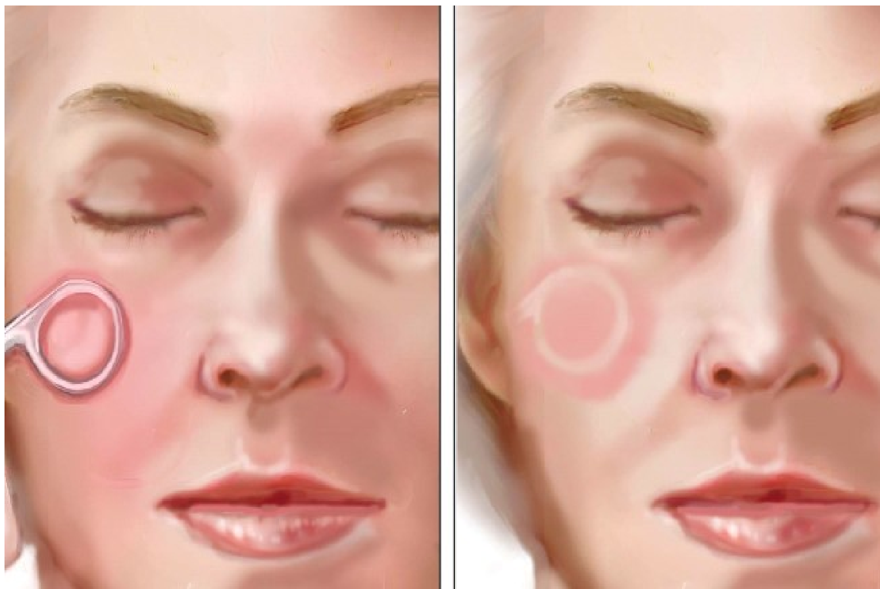
Dosing for major vascular occlusion (High Dose Pulsed Protocol) → Initiate high dose pulsed HYAL protocol based on total affected area (you will need to review updated literature online for this). Basic summary:

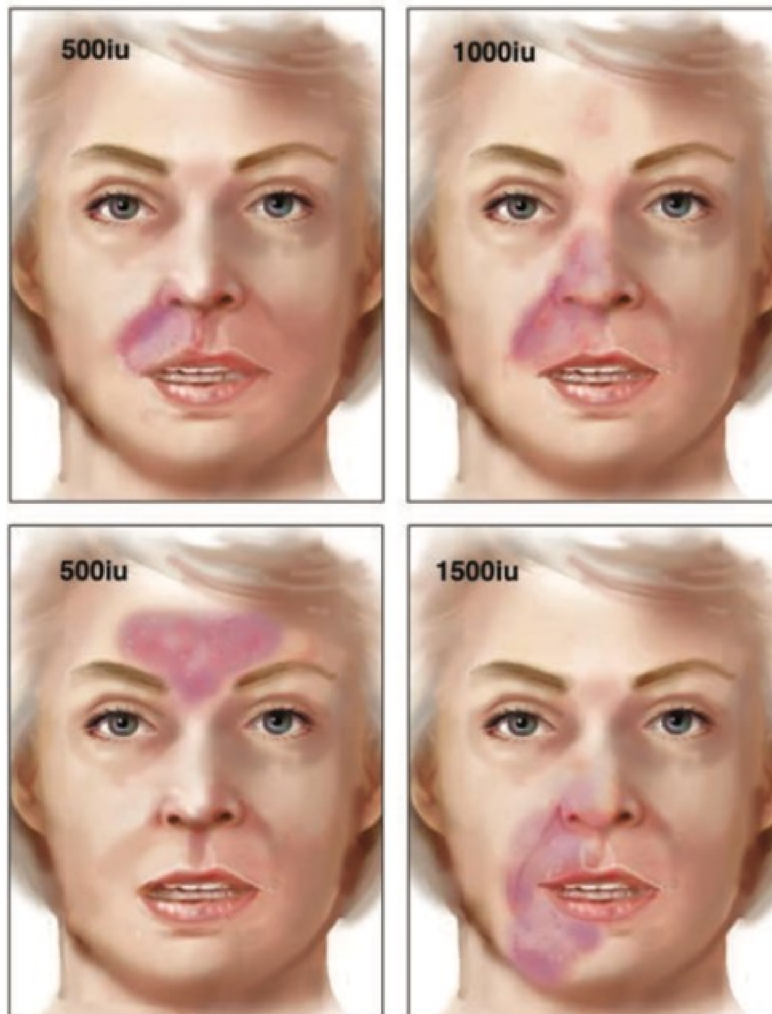
a. Half upper lip: 3mL (500u)

b. Lip and nose: 6mL (1000u)

c. Lip, nose and chin: 9mL (1500u)

Note: Won, Lee *et al* (2020, *Plastic and Reconstructive Surgery*) showed 500 units x 1 was inferior (74%) compared to 125 units x 4 (88%) over 15 minutes intervals, when this was performed 24 hours after occlusion.





Emergency Retrobulbar Hyaluronidase Protocol → 45 minutes for permanent sight loss → If possible, 1500u into peribulbar/retrobulbar space (long needle **OR CANNULA** required) → transfer to ophthalmology (involve ophthalmology on call IMMEDIATELY even before doing if possible) / ED!