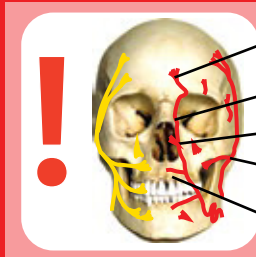


Emergency Reversal Protocol

Advice is based on expert opinion and first principles rather than robust evidence. It is recommended you keep updating your knowledge as evidence emerges.



Artery Affected	Causative treatment	Area affected*
Supratrochlear	Frown lines	Glabella, forehead
Angular	Tear trough, nose, nasolabial fold.	Nose, forehead.
Lateral Nasal	Nasolabial fold, Nose, Alar (Lateral nostril).	Alar (Lateral nostril).
Transverse Facial	Cheek	Middle cheek
Sup/Inf labial.	Lips, oral commissures	Lips

Indications:

There is an area of skin that is persistently pale.

Capillary refill is absent or very sluggish


The offending injection may have triggered arterial spasm

Area of pallor may be distal to injection site.

Pricking the skin yields no blood

Usually painful immediately, gets more painful if left untreated.

1 Diagnose blood supply compromise

 Remain calm, and communicate calm. You have 2 hours or more before necrosis could occur.

2 Explain the diagnosis & treatment options.

Unfortunately some filler has entered and blocked one of the blood vessels near the injection site. The safest course of action is to inject a dissolving agent which will break down the filler.

3 Seek informed consent.

The risk of not reversing the treatment is a scar, formed as a result of a lack of blood supply to an area of skin resulting in tissue death. The risk of reversing it is allergy, including anaphylaxis, temporary loss of native hyaluronic acid and treatment failure. [Document on a consent form].

4 Prepare hyaluronidase solution.

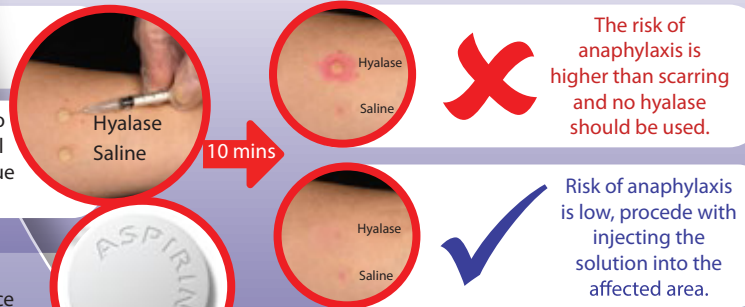
With a 5ml syringe and blue needle draw up 2mls of saline. Snap the glass vial of Hyaluronidase and squirt 1ml of the saline into the vial to dissolve the product. Then withdraw the solution back into the syringe to leave 2 mls of saline with 1500 iu of Hyaluronidase in the 5ml syringe. Change the needle to 27 gauge or smaller- this is now ready to use.



5 Allergy test on forearm.

Inject a tiny intradermal bleb of the hyalase, ~5units using a BD/Insulin syringe. Inject saline as a control.

Is Allergy Testing Necessary? Consider the risk of anaphylaxis (are they allergic to bees or wasps or have had anaphylaxis to anything else) and how would you deal with anaphylaxis in the context of your working environment? Consider that tissue necrosis occurs in hours not minutes and make a judgement in each case.



6 300mg of Soluble Aspirin - optional.

While the allergy test is in progress, 300mg of Aspirin can be used to reduce the risk of a blood clot further reducing blood supply to the affected area. (Evidence of effectiveness is scant but benefits likely outweigh harms).

7 Inject Hyalase Solution

Place the solution exactly where the injection that caused the problem was placed and near any areas exhibiting palor. Aspirating is not necessary. The enzyme does permeate through vessel walls and recanalating is not required for effectiveness.

8 Massage, Warm Compress, Check Capillary Refill Cycle

Apply a warm compress to dilate vessels and promote enzyme activity for 3 minutes. Next give the area a firm massage for 2 minutes. Repeat this cycle 4 times. Check Capillary refill.

9 Repeat: Inject 0.5 to 1ml of hyaluronidase every 15-20 minutes, as can diffuse away.

10 Additional Options Post Reversal

Sildenafil- 50mg/day - may cause arterial dilation improving blood flow.

GTN paste- Still used, but some say detrimental blood flow due to disproportionate venous dilatation.

Prednisolone- 30mg/day for 3- 5 days- decreasing inflammation may improve arterial flow

Antibiotics- Prevents the spread of bacteria that may over grow due to reduced blood flow.

11 If you fail to achieve blood flow after 2 hours consider referral for wound management. If unsure, review daily and repeat the process.



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