



Management of acute skin infections

Seriousness of complication		Frequency of complication	
Minor complication		Common	
Worrying complication	X	Occasional	
Moderate complication		Infrequent	
Serious, but not major		Rare	X
Major complication		Very rare	

Title	Management of acute skin infections		
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Management of acute skin infections

Definition of infection:

“The invasion and multiplication of microorganisms in body tissues, especially that causing local cellular injury due to competitive metabolism, toxins, intracellular replication or antigen-antibody response.”¹

Introduction:

Acute skin infections can occur following any procedure where the normal integrity of the skin is breached. Typically this is following an intradermal injection such as when performing dermal fillers, botulinum toxin treatments, micro-needling or sclerotherapy. However it is also possible with non-penetrating treatments such as chemical damage following skin peels or thermal damage caused by laser or intense pulsed light.

Incidence:

Although specific data on infection rates following aesthetic procedures is not readily available, most experts would agree that infections are quite uncommon² or rare following dermal filler treatment. The risk of infection depends on multiple factors relating to the patient, the practitioner, the procedure, the technique and the amount of skin trauma.

Signs and symptoms:

An acute skin infection such as cellulitis or erysipelas presents with redness, heat, tenderness and possibly swelling³. Infection is initially localised but left untreated it will often spread and blisters or bullae may appear over the infected site. The patient may have systemic symptoms such as fever, malaise, nausea, rigors and sweats. Acute infection has a rapid onset, presenting within 3-7 days of exposure⁴.

Minimising the risks:

1. Patient

Prior to any treatment, a full medical history should be taken along with relevant examination of the patient. There are contra-indications for all procedures although any condition which impairs immunity is a risk factor for skin infections. Relative contra-indications include diabetes mellitus, immunosuppression (acquired or drug-induced), obesity, venous insufficiency, oedema or lymphoedema, dental infection or poor oral hygiene and IV drug use. Treatments should not be carried out in an area with a pre-existing infection⁵ or if the patient has a systemic infection.

Patients should be informed of the risk of infection as part of consent process and given written aftercare advice to take away on what to look for and what to do if symptoms develop.

2. Practitioner

The practitioner should have knowledge and understanding of infection control and the aetiological factors involved. Infection control training must be in-line with professional standards and their code of conduct (NMC, GMC, GDC).

3. Environment

The environment should be suitable for carrying out aesthetic treatments and compliant with infection control standards. As a bare minimum it needs to be clean and hygienic with appropriate surfaces. Hand washing needs to be available. The use of sterile packs and drapes where needed. Good infection control procedure protocols in line with national standards (NICE 2012)⁶.

4. Product

Use only legitimate products where their source can be identified. Products need to be used within their expiry date or discarded appropriately. Do not administer products from a single syringe to multiple patients, even if the needle or cannula on the syringe is changed. Needles, cannulae and syringes are sterile, single-use items. Do not administer products from single-dose syringes or ampoules to multiple patients or combine leftover contents for later use.

Reconstitute using aseptic technique as per manufacturer guidelines and discard any unused product⁵. If multi-dose vials must be used, both the needle or cannula and syringe used to access the multi-dose vial must be sterile and the cap disinfected prior to penetration. Multi dose vials should be discarded within 28 days unless manufacturer advises otherwise⁷.

5. Technique

Ensure good skin preparation; all make-up or other potential contaminants should be removed⁵ with facial wash and followed with antiseptic skin preparation of the treatment area such as 2% chlorhexidine and isopropyl alcohol 70%², if no history of sensitivity. Skin disinfection should be undertaken after make-up removal and after any application of ice⁸.

Skin disinfectant solution should be applied using gentle friction repeated up and down, back and forth for 30 seconds to reduce the number of resident bacteria present at the insertion site which could serve as a source of infection⁹. The solution should be allowed to fully air dry.

An aseptic technique, including hand hygiene should be adopted where necessary. Sterile field and gloves are recommended for deep tissue augmentation with dermal fillers.

Ensure the needle or cannula is not contaminated during injection procedures, do not let the needle or cannula touch the skin except during actual injection and do not wipe excess product from the needle tip with gauze, residual amounts can be flicked off¹⁰.

Ensure accurate documentation of your treatment protocol.

6. Aftercare

Patients should be advised to avoid touching the area for 4 hours and to refrain from applying make-up for 12 hours. For patients who are observed to unconsciously and habitually touch their face, it may be appropriate to apply alcohol gel to their hands on completion of the treatment session.

Treatment of acute infection:

As part of the consent process patients should be informed of the risk and symptoms of infection and advised to report to the practitioner for immediate assessment if they develop any erythema, heat, tenderness and swelling that is not settling within the first 48 hours or is worsening. If their practitioner is unobtainable, the patient should be advised to seek the attention of a medical practitioner.

Non prescribing practitioners should refer immediately to their prescribing aesthetic practitioner for diagnosis and treatment. The General Practitioner should be notified in accordance with professional standards and good medical practice with the consent of the patient.

Medical history should be reviewed with particular attention to allergy/sensitivity or interactions with concomitant prescribed medicines.

First line treatment is for 7 days, although if treatment response is slow, continue for a further 7 days⁴.

First Line Treatment¹¹:

Flucloxacillin 500mg QDS PO

If Penicillin allergic, Clarithromycin 500mg BD PO

Second Line Treatment¹¹:

Consider the addition of Penicillin, Amoxicillin or Co-amoxiclav

If Penicillin allergic, Clindamycin 300mg QDS PO

Consult your local formulary for first and second line treatments for acute skin infections as local variations are common. If there is no response at 48-72 hours, a change in antibiotic regime should be considered and swab for microbiology, culture and sensitivity if available.

If Gram negative bacteria or anaerobes are suspected, use broad spectrum antibiotics. Consider specialist local microbiologist advice for resistant infections.

If abscess formation occurs and the infection is fluctuant with systemic symptoms, incision and drainage is necessary¹². The patient may need to be referred if the practitioner is unable to do this.

Paracetamol and/or ibuprofen may be required for pain management and control of fever. Wound management may also be needed dependent on the skin trauma and infection and careful debridement or dressing care could be required if there has been associated necrosis.

Areas of caution:

Periorbital cellulitis should be considered an emergency as there is a risk of orbital spread and subsequent blindness, consider immediate specialist referral.

Follow-up:

Having prescribed oral antibiotics, the patient should be reviewed according to clinical need until the infection has resolved. It is suggested that initial follow-up after prescribing antibiotics should be within 48 hours. Photographic documentation should be kept and the practitioner should keep a log of infection rates for audit purposes. Good follow up and client support and full explanations to the patient is the best approach to stop a complication turning into a claim!

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Acute Infection

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