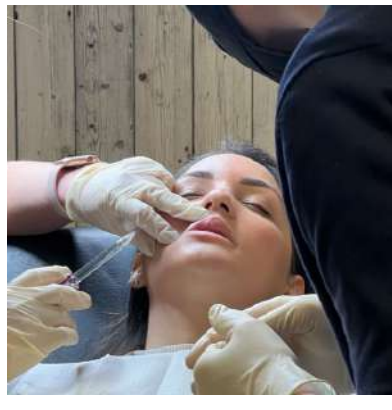
FOUNDATION

COURSE BOOKLET



INTERFACE
AESTHETICS

INTERFACE AESTHETICS

TABLE OF CONTENTS

FOREWORD

This manual is designed to be used in conjunction with the Interface Aesthetics Foundation course in Injectables. It contains the core syllabus as well as important aspects of the principles and practice of aesthetics that will be covered during the course. The manual should be used alongside the Interface Aesthetics video tutorials.

Medical aesthetics is a rapidly expanding, innovative and exciting industry, and aesthetic treatments continue to grow in popularity across all demographic sections of society. For practitioners, it can be a hugely rewarding career, in both professional and financial terms. How you forge your career depends greatly on your approach to patients on a professional level, your training strategy, and your ability to synthesise your knowledge, skills and artistic flair in your practice.

At Interface Aesthetics, we will encourage you to develop your skills in all of the aforementioned areas, with training pitched to the level of qualified healthcare professionals. As healthcare professionals, our patients are at the centre of everything we do. The huge sense of professional fulfilment that can be achieved by positively influencing a patient's life is a feeling that drives healthcare professionals; making a person feel better and more confident about their appearance is one manner in which we can do this, and thus allows us to promote this positive feeling through practising aesthetics safely and competently.

The Foundation course in injectables is a first step to achieving competency within aesthetics and may represent the beginning of a long and exciting journey. We sincerely hope that you are inspired by the effect that carefully considered treatments can have on patients seeking the care of an aesthetic clinician.

Mr James Olding

Director

THE FOUNDATION COURSE IN NON-SURGICAL AESTHETICS

Our foundation course is designed to prepare you for a career in non-surgical aesthetic treatments. The one-day course provides training in the most sought-after treatments that you will be expected to perform as an independent practitioner. The current lack of regulations in the provision of non-surgical aesthetic treatment was one of the drivers to create this course. We aim to provide a holistic and safe approach to treating patients. As the government has become more aware of the challenges in non-surgical aesthetic training, stricter regulations and compulsory training for all practitioners look inevitable in the near future. This course is the first step in an exciting career and can be taken as a stand-alone course or as the initial stage of the OFQUAL-regulated Level 7 Diploma in Injectables.

During the course you will learn about the theory, anatomy and physiology of dermal fillers and botulinum toxin before embarking on treating multiple patients, always in a small group, under the supervision of our team of trainers.

The treatments covered in the course are:

- Botulinum toxin treatment of the upper face:
  - Forehead
  - Brow
  - Eyes (“crows feet”)

- Dermal filler treatment:
  - Lip augmentation
  - Nasolabial fold
  - Marionette lines
  - Cheek bone augmentation

Additionally, we make it our business to provide you with the knowledge required to start off treating your own clients including insurance, prescribing of medicines and other pitfalls and how to prevent them.

This booklet aims to provide this theoretical knowledge as preparation for the course and for reference after the course.

1. PRINCIPLES OF AESTHETIC PATIENT ASSESSMENT

The client centred approach

In order to develop a holistic treatment plan, it is paramount that the practitioner works together with the patient. This is called the client-centred approach and includes:

- Client aims/goals
- Medical history
- Psychological needs
- Skin condition and anatomy of face
- Recovery/post-procedure needs

As with any aspect of healthcare, individualized care is a fundamental component of medical aesthetics. Working in conjunction with your patient is necessary for several reasons:

- The patient will feel listened to, and their autonomy respected
- The patient will be more likely to approve of the treatment plan, without feeling coerced or ignored
- The patient will feel more comfortable sharing information
- There is less probability of any misunderstanding or lack of communication resulting in an undesired outcome
- The treatment plan will be tailored to the current patient's needs and desires

Clinicians should avoid making assumptions about what a patient may wish to have treated, nor about their motives for seeking treatment. Letting the patient lead the consultation with open questions can be highly informative and is more likely to allow the clinician to devise an appropriate plan. Important areas to consider include the patient's goals, their psychological needs, recovery requirements (eg: any big events within the next few days) as well as objective clinical assessment such as concomitant health issues and skin conditions.

Key aspects of the aesthetic consultation

Adopting a systematic approach to the aesthetic consultation will bring about higher standards of practice, better outcomes and greater patient satisfaction. The treating practitioner must discuss the proposed procedure with the patient in person, without delegating this to any other practitioner or individual.

Being systematic in your approach to facial analysis is an important first step. The overriding principle is that facial analysis must be holistic, taking into account both other aspects of the face as well as the patient as a whole, including their desires, objectives, medical co-morbidities. Excellent communication is fundamental to successful and safe practice; importantly, it must be two-ways, with the practitioner ensuring that they are actively listening as well as clearly discussing the procedure, risks and expected outcomes in a non- jargon manner.

The overall aesthetic assessment can be divided into a number of steps, and these can be followed to ensure you remain systematic and holistic in each and every consultation with a patient.

1) Geometrical Facial Assessment

Facial analysis requires an appreciation of facial anatomy and the morphology of ageing. A good approach is to divide the face into facial thirds with horizontal lines, with a single vertical line dividing the face again into halves (left and right) as illustrated.

The facial thirds are:

- Upper: Hairline to glabella
- Mid: Glabella to subnasale
- Lower: Subnasale to pogonion

The facial thirds should be equal in both length and dominance. It is also important to assess for symmetry, looking for any obvious asymmetry. It should be noted that most faces are asymmetrical, and that while addressing any obvious asymmetry is good, perfect symmetry is not necessarily more attractive.

2) Appreciation of Sexual Dimorphism

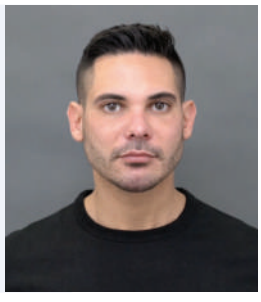
The features of a typical male and typical female face are depicted in the diagram below. Dividing the face into thirds, we can appreciate some important differences:

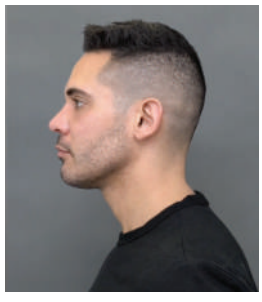
Female:

- V-shaped face
- Narrow chin ending in a point
- Higher set brows
- High and wide set malar prominence

Male:

- Prominent, wide mandibular angle
- Wide chin
- Low set brow
- Square face with cheek bones in a vertical line with the mandibular angle





3) Ilumination

Pay attention to the contours of the patient's face, as well as hollows and any areas of sagging tissue. Excellent lighting is paramount here, as is viewing the patient from different positions including from the side and leaning forward.

4) Skin Health assessment

Aesthetic practitioners must be aware of the important aspects of a skin assessment. These include:

- Medical history
- Medication history and previous dermatological treatments
- Sun exposure
- Other external factors (work, environmental exposures)
- Current skincare regimen
- Assessment of skin using assessment tools
- Clinical photography
- Patient expectations and concerns

5) Patient's own perceptions

Ask the patient how they think others perceive them and try to elucidate what emotional attributes they connect to their appearance. For example, does the patient feel that they look tired (under eye hollowing), sad (Marionette lines) or unfeminine (loss of cheek volume)?

The assessment should take place in optimal conditions, with good light (ideally natural), with the patient sat up, without excess makeup, and with hair away from the face. The patient's face should be assessed from various angles, and assessment should take into account the patient's age, skin condition, and anatomical features.

In a process which is ubiquitous, volume loss of the face occurs with resultant signs of ageing appearing in conjunction. Volume loss is from both bone and soft tissue; it is important to identify where the suspected loss has occurred and to what degree. In a younger patient volume loss may be less pronounced and strategies may consist in prevention of the signs of ageing as opposed to revolumisation of an older patient's face.

2. ANATOMY AND PHYSIOLOGY FOR AESTHETIC PROCEDURES

2.1) The layers of the face

The face can be divided into 5 layers:

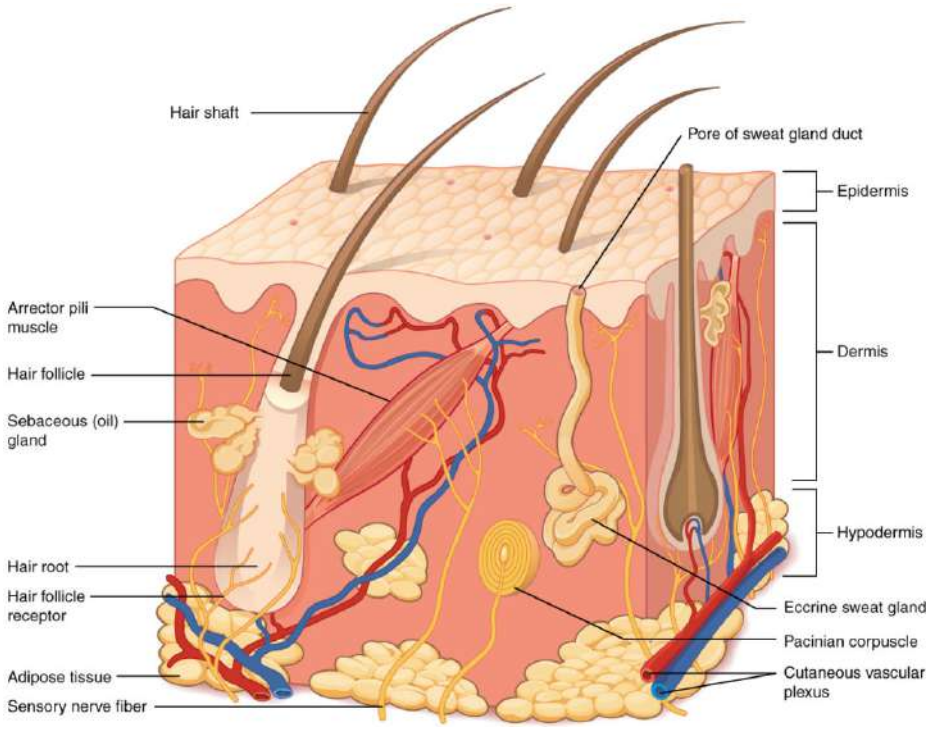
- Skin
- Superficial fat
- Muscle (SMAS-layer)
- Deep fat
- Bone

Each of these layers undergoes changes during the ageing process and can be targeted with non-surgical aesthetics. The deep fat layer is absent in the upper facial third.

2.2) The skin

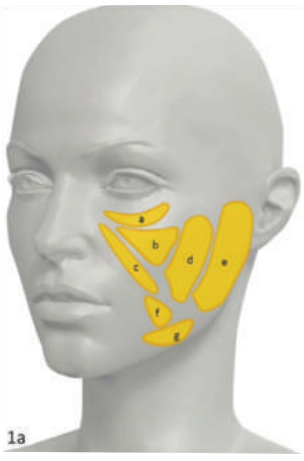
The skin is the largest organ in the body and possesses multiple functions such as protection, thermoregulation and hormone synthesis.

The skin is subdivided into the superficial epidermis that consists mainly of densely packed keratinocytes that work as physical barrier that protects against microorganisms and UV radiation. Underneath the epidermis lies the dermis, a thicker layer that contains sweat glands, hair follicles, nerve endings and small blood vessels.



2.3) Subcutaneous fat

Under the dermis lies a layer of fat and connective tissue that contains large blood vessels and nerves. Dermal fillers are often injected into this layer as volume loss occurs here frequently. It is of utmost importance to be aware of the large vessels that run in this depth to avoid vascular occlusion. The muscles of facial expression are connected to the dermis via
the superficial musculoaponeurotic system (SMAS) in order to allow movement of the skin. These fibrous septa divide the subcutaneous fat into separate fat pads.

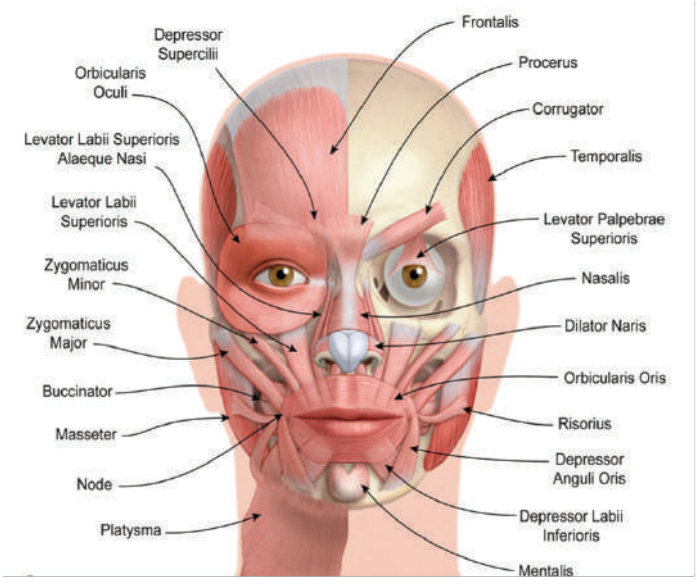


Superficial Cheek Fat Compartments

a - Infraorbital fat
b - Medial Cheek fay
c - Nasolabial fat
d - Middle cheek fat
e - Lateral cheek fat
f - Superior jowl fat
g - Inferior jowl fat

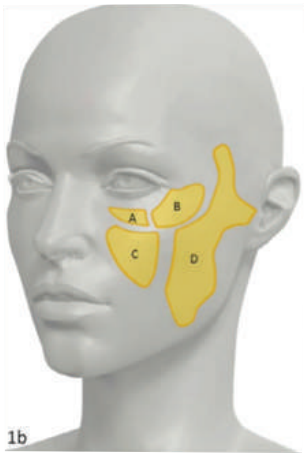
2.4) Muscles of facial expression

The muscles of facial expression are all supplied by the seventh cranial nerve, the facial nerve. These muscles of facial expression are highly dynamic, enabling humans to produce a wide range of expressions. In facial aesthetics, the upper face is the area most commonly treated with botulinum toxin. Rhytids in the skin appear always perpendicular to the direction of muscle contraction.



2.5) Deep fat

In the lower two thirds of the face a second, deep layer of fat can be found between the bones and the muscles of facial expression. It is also subdivided into fat compartments by fibrous septa.



Deep Cheek Fat Compartments

A - Medial sub-orbicularis oculi fat

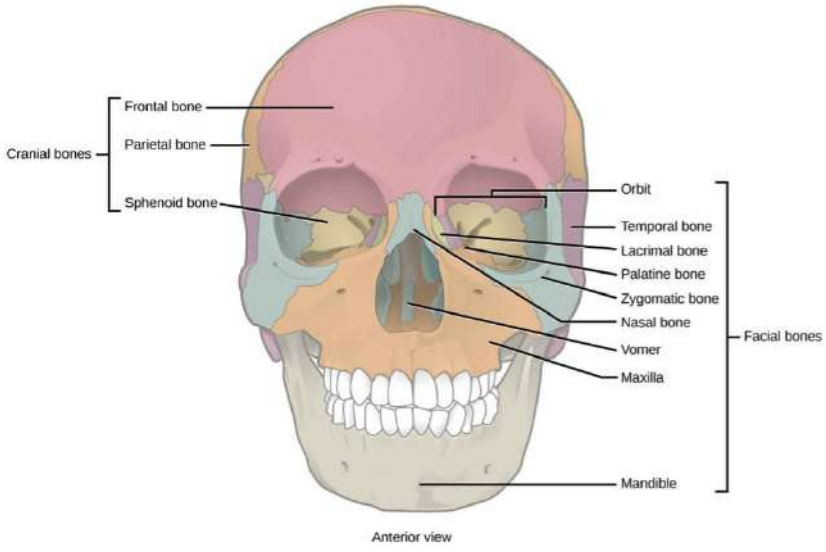
B - Lateral dub-orbicularis oculi fat

C - Deep medial cheek fat

D - Buccal fat

2.6) Bones

The bones of the face in focus of aesthetic treatment consist mainly of the frontal bone in the upper facial third and the bones of the midface nasal bone, maxilla, orbit, zygomatic bone and the mandible.



It is important to note that even bones undergo changes during the ageing process. Especially the nasal aperture and the lateral inferior orbit undergo a large amount of bone loss. To counteract this volume loss, dermal filler can be injected supraperiosteal.

2.7) Nerves

The facial nerve (cranial nerve VII) is responsible for the movement of the muscles of facial expression. It exits the skull through the stylomastoid foramen in the skullbase close to the ear canal and the divides into 5 branches within the parotid gland. Each branch is responsible for the movement of different muscles.

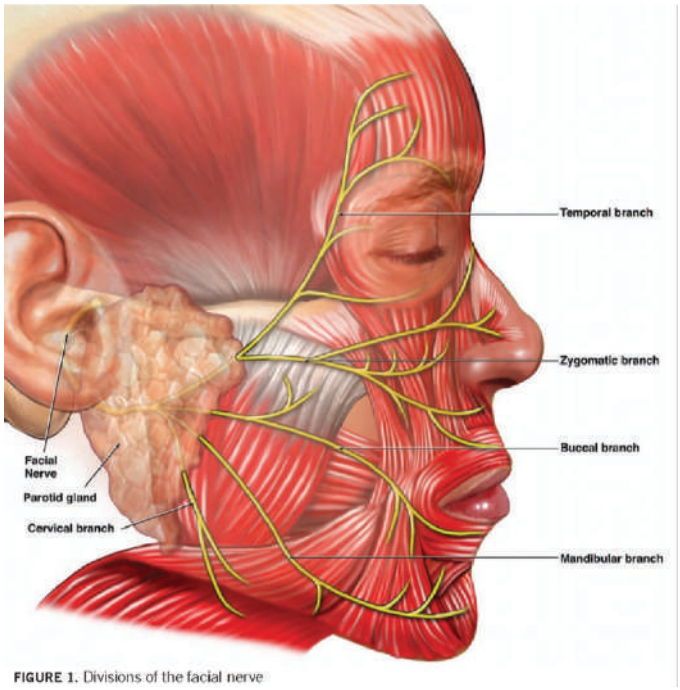
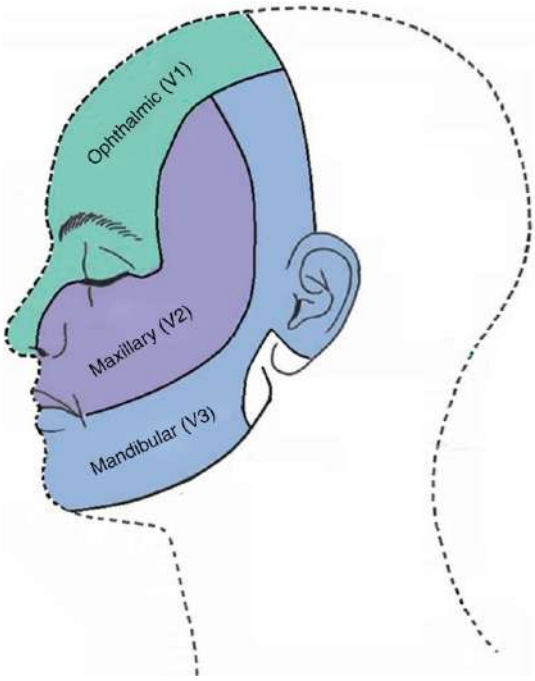


FIGURE 1. Divisions of the facial nerve

The trigeminal nerve (cranial nerve V) relays sensory information from the facial skin to the brain and innervates the muscles of mastication. It consists of three branches; ophthalmic, maxillary and mandibular branch that each cover a part of the face.



2.8) Vessels

The blood flow to the head is mainly supplied by the carotid artery that divides into to main branches in the neck. While the internal carotid artery gives off no branches and supplies the brain, the external carotid artery gives off 8 branches to the face and neck.

The facial artery is one of the biggest branches of the external carotid artery, wraps around the lower border of the mandible and rises towards the nose, giving off the inferior and superior labial arteries. Lateral to the nose the facial artery is called the angular artery and anastomoses with the supratrochlear artery, a branch of the internal carotid artery. Via these anastomoses foreign bodies (like dermal filler) or infections can travel from the skin into the brain and cause detrimental damage.

3. Principles of Botulinum toxin

3.1) Mechanism of action

Botulinum toxin is a neurotoxin produced by the bacteria Clostridium Botulinum. There are 7 serotypes ranging from A to G, of which type A and B are approved for human use. Botulinum toxin type A is approved for cosmetic use and botulinum toxin type B is used for different types of muscle diseases, such as cervical dystonia.

Botulinum toxin A is composed of a heavy chain and a light chain. When it is administered to a target muscle, the toxin is endocytosed at the pre-synaptic membrane. The light chain then goes on to cleave (break) the SNARE proteins which are required for vesicles containing Acetylcholine (Ach) to bind to the pre-synaptic membrane for exocytosis and release into the synapse. As such, there is no synaptic transmission nor post-synaptic activation of the ACh receptors, and muscle activation and contraction do not occur. Importantly, botulinum toxin A acts by deactivating the pre-synaptic SNARE proteins. The effects are nevertheless reversible with time, leading to reactivation of the intoxicated neuron.

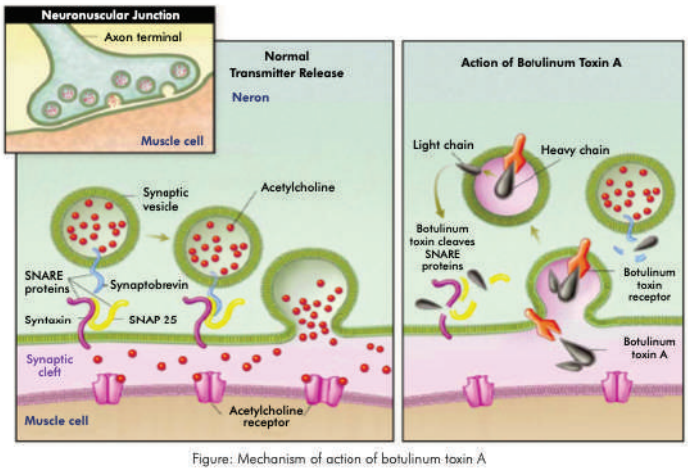


Figure: Mechanism of action of botulinum toxin A

There is a variety of brands of Botulinum toxin that have different properties as seen in the following table.

Comparison of botulinum neurotoxin type A formulations

Botulinum toxin type A	ABO	ONA	INCO
Brand name	Azzalure®, Dysport®	Botox®, Vistabel®	Xeomin®, Bocouture®
Approved aesthetic indication	Moderate to severe glabellar lines	Moderate to severe glabellar lines and crow's feet	Moderate to severe glabellar lines and crow's feet
Presentation	Freeze-dried (lyophilized) powder for reconstitution	Vacuum-dried powder for reconstitution	Freeze-dried (lyophilized) powder for reconstitution
Isolation process	Precipitation and chromatography	Precipitation	Precipitation and chromatography
Composition	*Clostridium botulinum toxin* type A; HA and non-HA proteins	*Clostridium botulinum toxin* type A; HA and non-HA proteins	*Clostridium botulinum toxin* type A
Excipients[a]	500 U vial: human serum albumin 125 µg; lactose 2.5 mg	100 U vial: human serum albumin 0.5 mg; NaCl 0.9 mg	100 U vial: human serum albumin 1 mg; sucrose 4.6 mg
Molecular weight (neurotoxin), kDa	Not published (150)	900 (150)	150
Approximate total clostridial protein content (ng per 100 U)	4.87	5.0	0.44
Neurotoxin protein load (ng neurotoxin per 100 U[a])	0.65	0.73	0.44
Specific neurotoxin potency (U/ng)	154	137	227
Shelf-life	2–8 °C 2 years	2–8 °C 2–3 years[b] (or freezer)	Room temperature 3–4 years[b]
Storage (post-reconstitution)	2–8 °C 4 h	2–8 °C 24 h	2–8 °C 24 h

3.2) Storage

Botulinum toxin A is composed of a heavy and a light chain. The bonds holding these chains together are heat labile, and as such the product should be stored between 2 and 8 degrees Celsius (CF: Bocouture® which can be stored at room temperature). This should be done in a medical fridge, and temperatures should be audited. Recent studies have shown that botulinum toxin remains stable for 14 days at 25 degrees Celsius.

Allergan recommends to use reconstituted Botox within 24h after adding saline if stored at 2 to 8 degrees Celsius. Studies have shown that four-week old solution was as effective as fresh solution.

3.3) Dilution

Note the dilution for both the Allergan product (Botox) and the Merz products (Bocouture/Xeomin) are the same. The Galderma product (Dysport/Azzalure) uses Speywood units which are slightly different. Azzalure was derived from Dysport for use exclusively in the aesthetics industry. It is important to familiarise yourself with the dilutions for the specific product you decide to use. Note that not all products have interchangeable units.

Botulinum toxin can be reconstituted with normal saline or bacteriostatic normal saline. The bacteriostatic saline contains benzyl alcohol, which has some anaesthetic properties and makes the injection more comfortable for the patient.

3.4) Preparation

- Check product and expiry
- Draw up into a luer lock syringe the required quantity of bacteriostatic sodium chloride (2.5ml of saline for 100units of Botulinum toxin)
- Clean the top of the bung of the botulinum toxin A vial using an alcohol swab
- Insert the bacteriostatic sodium chloride via a needle into the botulinum toxin A vial
- Once all the product has dissolved (do not shake the vial as the product is fragile), remove the bung carefully and draw up into syringes for injection (ideally microfine insulin syringes 30-32G).

3.5) Pharmacodynamics

Under-dosing with botulinum toxin will result in incomplete treatment of the target area/muscle. If dosing is not symmetrical it can result in an uneven outcome. If dosing is carried out in isolation without reference to the whole face and neighbouring muscles, there can be unwanted effects such as overactivity of adjacent muscles or inadvertent paralysis of adjacent muscles. Botulinum toxin can diffuse to around 1cm from its injection point under normal conditions. Injecting into a vessel or at the wrong depth can increase the diffusion. Botulinum toxin doses used in aesthetics are far below those required to risk systemic toxicity. Nevertheless, sound knowledge of facial anatomy is required to avoid inadvertent injection into a vessel. Onset of action is around 3-5 days, with maximal effect reached at 14 days. The time taken for botulinum toxin's effect to wear off depends on the speed with which the pre-synaptic receptors are regenerated; this is usually between 3 - 5 months.

3.6) Contraindications for Botulinum toxin use

There are certain aspects of the patient history which will alert you to possible contraindications to treatment. It is important to take a full history face to face with all patients, as well as to examine the face closely to look for any potential issue. The main contraindications are:

- History of previous allergic reaction to botulinum toxin
- Pregnancy/lactation
- Infection at injection site
- Existing or previous neuromuscular disorder (eg: Myasthenia Gravis)
- Serious mental health concerns
- Patients using muscles relaxants or aminoglycosides

3.7) Risks and potential adverse effects

Risks can be divided into general and specific risks. General risks can occur in any area treated, and are connected to the use of a needle and botulinum toxin, which can result in allergic reactions, tissue trauma, etc. General risks include:

- Bruising (ecchymoses)
- Swelling (oedema)
- Pain
- Headache
- Infection
- Micro-wounds

For the above risks, simple measures such as pressure over a bleed, avoiding areas of infection or inflamed skin, and advising the use of paracetamol for any post-procedure discomfort are usually sufficient.
Specific risks are related to the treatment area and will be subdivided as follows to reflect the adverse outcome specific to a certain anatomical area:

<u>Blepharoptosis</u>

- Also known as lid ptosis/droop
- Due to action of botulinum toxin affecting the muscle levator palpebrae superioris
  Can be a result of infecting too low when treating frontalis (in the danger zone) OR too deeply and laterally when injecting the tail of corrugator supercilii muscle as part of glabella treatment.
- A small amount of botulinum toxin diffusing to the levator palpebrae superioris muscle can cause a drooping eyelid.
- Patient will complain of drooping or a sensation of heaviness, worse at the end of the day
- Drooping may be noticeable from photos.
- Some patients have mild or subclinical ptosis to start with taking good pre-treatment photography is crucial for this reason.

If this complication occurs, there are some important management steps:

- Reassure the patient, however be realistic about the time for resolution.
- Compare with pre-treatment photos to confirm.
- Prescribe Iopidine 0.5% eye drops to take 2-3/day: This stimulates Muller's muscle which also helps to elevate the eyelid.
- Explain that even without eye drops, it usually starts to improve within weeks.

Heavy brow

- Not the same as blepharoptosis - usually bilateral, provided there has been equal dosing to frontalis
- A consequence of botulinum toxin to frontalis in a patient that has a compensated brow ptosis
- They compensate for a heavy brow by raising their eyebrows (with frontalis)
- Botulinum toxin can undo this compensation, leaving patients complaining of heaviness and a low brow
- Increased risk with isolated frontalis treatments - highlights importance of treating the face holistically including the glabella and obicularis oculi
- It is important to fully assess patients before treatment, and decide if they have a compensated brow ptosis. It is also important to warn that brow heaviness can occur, especially with isolated frontalis treatments.

If a patient returns complaining of heaviness, the steps to follow include:

- Reassurance that this will be temporary and will resolve as the treatment wears off
- Explain that different patients can have different dose requirements, and especially if this is the first occasion, it could explain more paralysis and heaviness than expected (for this reason always dose conservatively and review).
- If a patient has had an isolated treatment of frontalis, they may benefit from treatments of the glabella and obicularis oculi.

Ocular Complications

- The nearer to the eye the injection, the greater the risk
- Paralysis of the ocular muscles (extra-ocular muscles responsible for eye movement) eg: causing diplopia – requires immediate ophthalmology referral

Spock Eyebrows

- Reverse-tick eyebrows - excess lateral elevation of the eyebrow giving an unnatural look A relatively common adverse outcome especially with inexperienced injectors.
- Due to insufficient dosing/no dosing in lateral frontalis • Part of the art of facial aesthetics is setting a target and understanding how to achieve this - getting the balance right between brow heaviness and insufficient dosing causing excessively raised eyebrows is an important example of this

• If this does occur, you will be told by your patient or you will pick it up on the two-week review.

• Explain to the patient that it is easy to resolve by injecting a small (2 unit) amount of product laterally where the muscle is activating excessively

Secondary non-responsiveness to treatment

Studies have shown that the use of botulinum toxin can lead to the formation of neutralising antibodies directed specifically against the neurotoxin part of the botulinum neurotoxin. This can lead to non-responsiveness to further treatment.

3.8) Treatments covered in the foundation course

In the foundation course you will be taught how to prepare botulinum toxin, how to mark the treatment areas and avoid danger zones, injection technique and dosage for the most often sought-after treatment modalities.

Forehead

The frontalis muscle pulls the eyebrows up and thereby creates horizontal rhytids on the forehead.

To mark the treatment area, draw a horizontal line between the eyebrows and one just below the hairline.

Another horizontal line is then drawn halfway between these two lines. This is the lower treatment line.

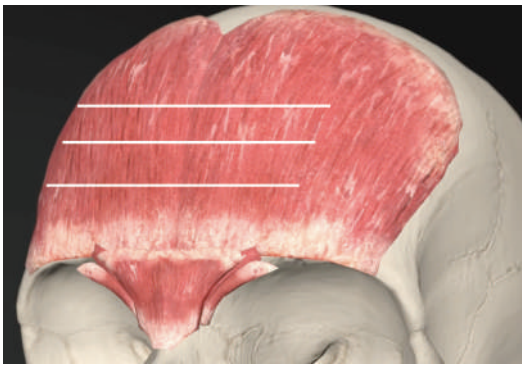
The upper treatment line is a horizontal line halfway between the lower treatment line and the hairline.

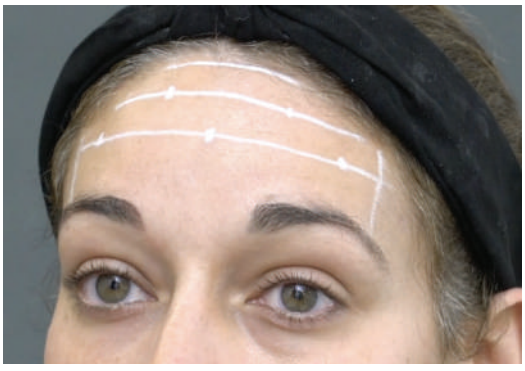
Laterally the temporal fusion lines mark the edges of the frontalis muscle and the lateral borders of the treatment area.

Three injection points lie on the inferior treatment line and two on the superior treatment line, creating an M-shape.

These markings are a guide and will be taught at the foundation course. The can be adjusted for specific patients.

As the frontalis muscle lies superficial and is relatively thin, inject superficially with 2-4 units per point.





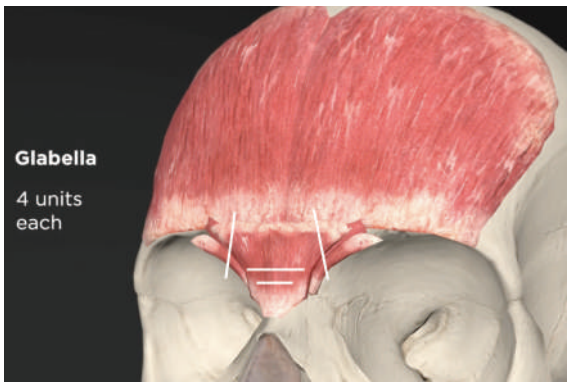
Glabella

The glabella consists of 3 muscles that have to be injected:

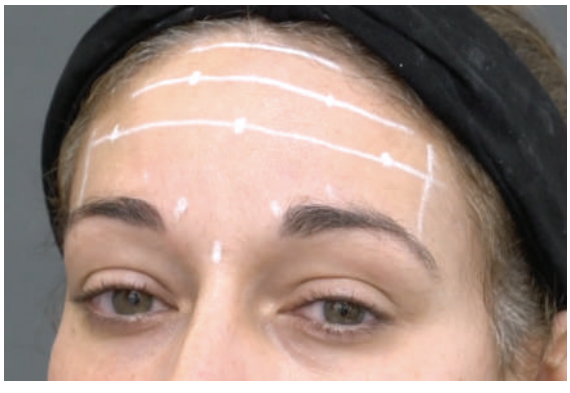
1) Procerus
2) Corrugator supercilii
3) Depressor supercilii.

The procerus muscle with its vertical muscles fibres causes horizontal lines in the glabella region when it pulls the eyebrows downwards. The injection should be deep into the body of this thick muscle.

Corrugator supercilii and depressor supercilii are paired muscles that move the brows downwards and inwards upon contraction resulting in the formation of vertical and oblique lines in the glabella region. The medial portion of the corrugator supercilia is thick and should be injected deeply. Laterally the muscle becomes more superficial and thins out. Therefore, a more superficial injection is indicated in order to avoid eyelid ptosis.



In order to mark the injection points, palpate the muscles with your fingers and mark centrally 1.5cm above a line drawn between the medial canthi of the eyes. The medial portion of corrugator supercilii can be palpated and marked 2.5cm above the medial canthus. The lateral part of the corrugator supercilii can be found in the midpupillary line. 2-4 units of botulinum toxin are recommended for each of the injection points.

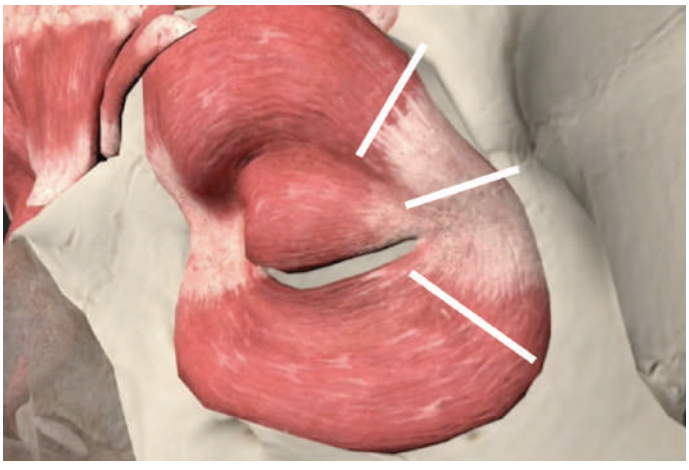


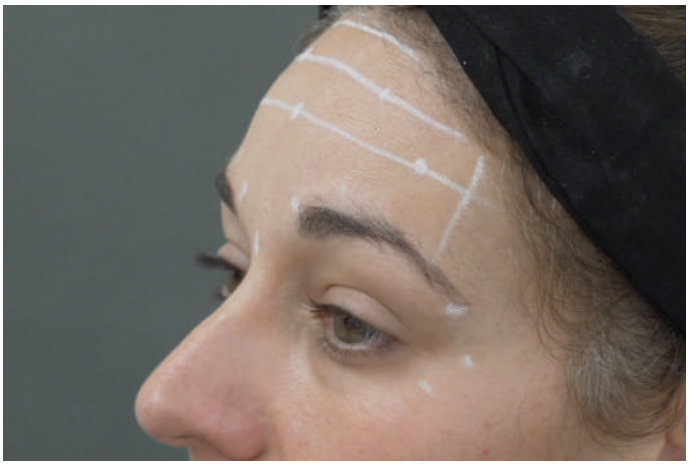
Lateral canthal lines (crow's feet)

The orbicularis oculi muscle is a circumferential muscle that is involved in closing the eye. When it contracts, it forms dynamic lines perpendicular to the force of contraction like the spokes of a wheel. These lines are called lateral canthal lines or crow's feet.

When injecting in this area make sure to bevel up the needle, inject away from the eye and stay superficial.

The first injection point can be marked 1.5cm lateral from the lateral canthus. The inferior and superior injection points are 1.5cm above/below and 1cm medial to the first point.
2-4 units of Botulinum toxin are recommended for this treatment area.





4. Principles of Dermal fillers

Dermal filler is a broad term used to describe a wide range of materials used in an injectable form to volumise tissue. They can act in the form of temporary occupiers of space, or as stimulatory fillers acting on native fibroblasts (however crossover does exist between the two).
The temporary space-occupiers yield temporary results and must be re-injected regularly. Collagen production is evoked but to a lesser degree than stimulatory fillers.
The stimulators induce a foreign-body inflammatory reaction which promotes fibroblast proliferation and activity, leading to autologous collagen production. Neocollagenesis results in improvements in both volume and quality of the connective tissue, and as such is believed to yield better long-term effects.
Dermal fillers can be divided into permanent, semi-permanent, and temporary fillers.

Permanent filler
- e.g. Silicone, PMMA

Semi-permanent fillers
- e.g. Calcium hydroxyapatite, autologous fat

Temporary fillers
- e.g. Hyaluronic acid

In the foundation course you will be taught a variety of treatment modalities with Hyaluronic acid filler which is why we will focus on these types of fillers in this handbook.

- Hyaluronic acid (HA) is a biodegradable gel-like substance which is found naturally in connective tissue
- It is a replacement filler, providing volume
- It is an energetically stable mucopolysaccharide, which is broken down over 6-24 months depending on the degree of crosslinking of the individual product
- It is hydrophillic, contributing to tissue hydration
- It promotes fibroblast proliferation and collagen production
- In its natural form, HA is vulnerable to free-radical degradation and the enzyme hyaluronidase (hyalase), resulting in it being broken down in around 12-48 hours
- The HA used in aesthetics is cross-linked, making it resistant to this rapid breakdown
- HA based fillers are classed as medical devices, and therefore do not require a prescription currently.
- There are many different brands, and a variety of fillers within brands with varying consistencies, for use in different areas and for different purposes.
- Unlike botulinum toxin and permanent fillers, dermal fillers which are HA based are reversible with the use of hyaluronidase (enzyme) which immediately starts to break down the product.
- HA-based fillers can last from 6-24 months, depending on the individual product.

Treatment pain anxiety can have a significant effect on patients returning after a procedure and may affect treatment uptake. Topical anaesthesia is commonly used in medical aesthetics, applied as standard in dermal filler procedures for 20-30 minutes. Common agents include EMLA 5% cream (Lidocaine and Prilocaine combined) and Lidocaine 4% cream (brand name LMX).

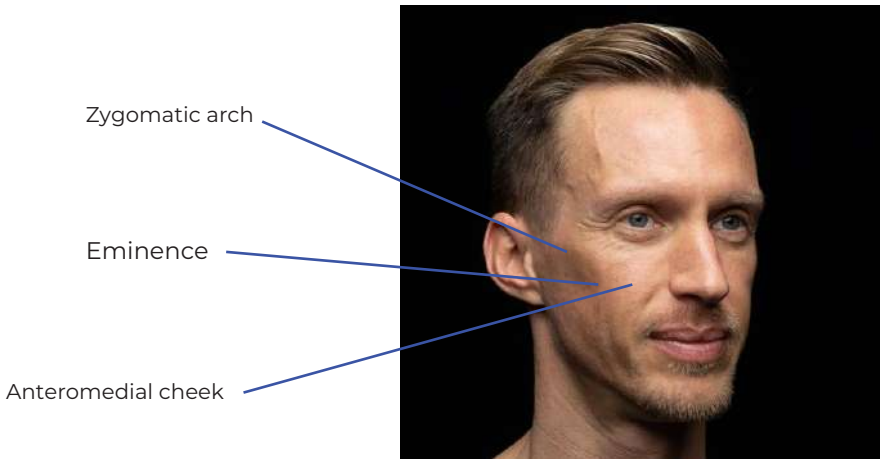
During the foundation course you will be taught the following treatment with hyaluronic acid based dermal fillers.

Cheek augmentation

Cheek augmentation is a crucial treatment to counteract most ageing processes. It is indicated in patients with volume loss of the mid face.
As the aim is to replace bone that has been lost the dermal filler should always be injected to the supraperiosteal layer. The needle should enter the skin in a 90 degree angle and a bolus should be administered.
There are 3 key areas to inject:

- zygomatic arch
- eminence of the cheek
- anteromedial cheek

A line drawn from the nasal ala to the tragus of the ear will intersect a line drawn from the angle of the mouth to the lateral canthus of the eye on the eminence of the cheek, though due to facial contour and topography this should always be cross checked with your visual assessment.



Injecting down to the bone makes this treatment relatively safe in terms of vascular occlusion. However, it is important to note the proximity of the anteromedial cheek injection point to the infraorbital foramen that can be palpated in the midpupillary line and represents the exit point for the infraorbital artery and nerve.

Nasolabial fold

This treatment may be indicated in patients complaining about a prominent nasolabial fold.
The dermal filler is injected into the deep dermal or subcutaneous layer, and in conjunction with vascular anatomy this makes this a high risk treatment area for vascular complications. The needle should penetrate the skin at a 45 degree angle and aspiration is paramount to avoid intravascular injection. The product is laid down in a line while withdrawing the needle (retrograde injection, maximum of 01.ml per pass of the needle). This technique is called a linear thread. Several linear threads can be combined in a fan shape (fanning).
It is important to inject medial to the nasolabial fold and not to inject in any saggy tissue as this will worsen the problem. Using a cannula (taught on the Advanced Course) is preferable in this area from a safety perspective.

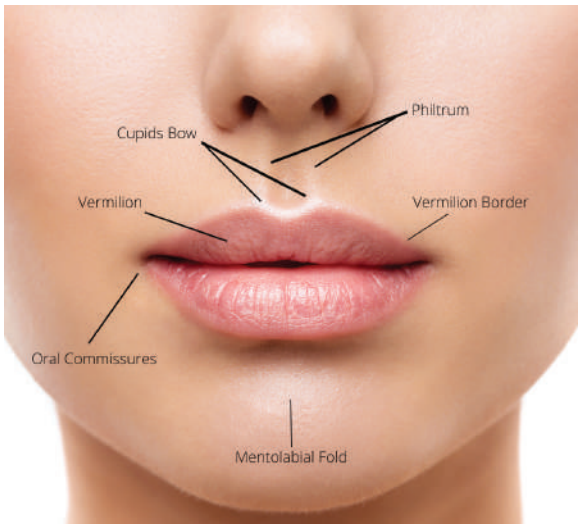
Marionette lines

This treatment is very similar to the nasolabial fold treatment in injection technique and the risk for vascular occlusion. Aspiration is therefore non-negotiable. Both linear thread as well as fanning technique can be used, and it is important once more to stay medial to the fold and not to inject in any saggy tissue.

Lip augmentation

Dermal filler treatment of the lips is a sought after treatment of both men and women, and as opposed to most other treatments it is also popular in younger patients who may not be showing signs of ageing. It is therefore important to understand the anatomy of the lip and assess whether the patient merely needs an enhancement of the natural anatomy or a replenishing of volume that has been lost over time.
Treating the vermilion border (where the pink lip meets the skin) with a small amount of hyaluronic acid based filler in a linear thread technique very superficially can create a more defined look of the lips.

The body of the lips should always be treated in the dry part of the lip, as the inferior and superior labial arteries run deep to the wet lip



Vascular occlusion

Vascular occlusion is a rare but detrimental side effect of dermal filler treatment as it can cause skin necrosis or blindness. It can appear immediately after injection of filler material into a vessel or delayed, when the filler occludes the vessel from the outside. Understanding the vascular anatomy of the face and thorough aspiration before every injection minimize the risk for vascular occlusion.

Red flag symptoms for vascular occlusion are:

- Pain
- Discolouration (blue/pale)
- Coldness and increases capillary refill (CRT)
- Tingling of the skin

After immediate measures like applying warmth and massaging the area have failed, hyaluronic acid based fillers can be dissolved with Hyaluronidase, injected into the area to flood the treated zone.

Contraindications for the use of dermal fillers

Contraindications:

- Known hypersensitivity/allergy to product
- Pregnancy
- Breast feeding
- Infection at injection site

Cautions:

- Patient mental health concerns
- Anticoagulant Medications - Warfarin, aspirin, clopidogrel
- Vitamin E high dose, omega 3 oil high dose, and aspirin (if permitted to stop) should be stopped 7 days pre-treatments

5. Professionalism

Professional behaviour

As professionals, aesthetic practitioners have to adhere to the professional ethics set out by the GMC. This means acting with:

- Probity
- Integrity
- Honesty
- In the patient's best interest

Together with:

- Duty of candour
- Accountability
- Commitment to educational development

Consenting patients

The GMC has stated that practitioners should give patients 'the time and information they need to reach a voluntary and informed decision' (GMC 2016). Importantly, the time and information they need is procedure-specific; the more invasive the procedure, the greater the time and information requirements (see 'Good Medical Practice' on the GMC website).
The ability to make an informed decision is both person-specific and decision-specific. In the clinical setting The Mental Capacity Act 2005 sets out clearly the conditions required for an individual to be deemed to possess capacity to make a decision. These conditions must all be met, and are listed as follows:

- Ability to understand the information
- Ability to retain the information
- Ability weigh up the pros and cons to arrive at a decision
- Ability to communicate the decision

The importance of shared decision-making has been alluded to, and nowhere is this more important than in ensuring consent is informed. Practitioner-patient rapport and greater discussion will ensure that the patient feels comfortable asking about treatments in greater detail and will create a positive environment where communication is more open. Active listening and a systematic approach to the aesthetic consultation are important in establishing and building on the practitioner-patient relationship.

Record keeping

Record-keeping must be thorough, with sufficient detail and times and dates to all documents. This provides a way of monitoring treatment and outcomes over long periods, while also providing legal records where there is dispute or complication.
Consent must be obtained in three key ways for legal and insurance purposes:

- Verbal - required after discussion
- Written - with documentation of what is agreed, risk, benefits, and alternatives. Must be signed and dated by patient and practitioner.
- Photographic - both relaxed and contracted state for botulinum toxin treatment. Follow up at 2 weeks should involve another photograph. With dermal filler, the after should be taken immediately.

All communications, consultations and agreed plans of care need to be documented in line with the guidance of the Cosmetic Practice Standards Authority (CPSA)

6. Starting out in aesthetics

Indemnity

Starting and running your own business may be unfamiliar territory, so in order to ensure you are operating legally and with safety in mind, there are a few key things to consider. In the UK, it is advised that you register as self-employed and gain appropriate insurance, sufficient for your needs and practice. There are a number of insurance providers, such as Hamilton Fraser, Cosmetic Insure, and Enhance Insurance, who offer cover specifically for the aesthetics industry. Defence unions such as the MDU and DDU also offer cosmetic insurance.

Facilities

You will also need to organise your facilities and treatment space, whether that's your own contained unit or a spot within an existing facility. Getting in contact with an existing clinic or working in a dental practice can be helpful as the facilities are already up to your standards. It is possible however to rent treatment rooms for a full day of practicing. If you are opening your own clinic, make sure you are adhering to the rules set out by the CQC regarding facilities and infection control.

Pharmacy

There is a variety of different pharmacies that can supply you with everything you need to start off in non-surgical aesthetics.
The following list of materials is non exhaustive:

- Gloves (sterile/non-sterile)
- Sharps bin
- Disinfectant wipes (skin/surfaces)
- White skin marker (can be found in a drug store as well)
- Bacteriostatic saline
- Botulinum toxin
- Hypodermic insulin needles (0.3/0.5ml)
- Syringe (5ml)
- Needles to draw up saline
- Dermal fillers
- Hyaluronidase
- Post procedure cream

Some pharmacies that accept online prescriptions and deliver to your practice are HealthXchange. Wigmore Medical and Medivapharma.

Prescribing for nurses

According to NMC guidelines, as a registered nurse who has been trained, you are eligible to inject botulinum toxin. You are also qualified to inject dermal fillers which in fact, are not classed as prescription medicines. Botulinum toxin on the other hand, is a prescription only medicine, which means that you'd need to be a prescriber yourself, or have a prescriber see your patients and prescribe botulinum toxin before you can administer it.

You can seek for work in clinics which have prescribers that consult and prescribe for patients. They would also be responsible for the clinical evaluation and management of any issues that may arise following the procedure. This is a good option for nurses who do not have the prescribing qualification. It offers you an excellent opportunity to acquire relevant practical experience which would come in handy when and if you decide to establish your own practice, or go for a botulinum toxin prescribing course.

Another option is to practise independently with the assistance of a prescriber organised to suit your needs.According to the UK health regulations, qualified prescribers include doctors, dentists, and prescribing nurses or pharmacists. The prescriber would have to see your patients in person first and then prescribe the drug which you can then go ahead administer. You however don't need a prescriber to inject dermal fillers.
You may already have or know a qualified prescriber you can work with. If this is not the case, you may find a prescriber by networking through organisations such as the British Association of Cosmetic Nursing, or approaching companies such as Aesthetics Associates to seek paid prescriber services.

Data protection

It is crucial to prepare a solid data infrastructure and management system for your business, enabling you to collate and store necessary patient data, whilst adhering to GDPR. You will also need a collection of documents to enable you to provide a safe service to each of your patients. These should include a comprehensive consenting protocol, consultation documents, treatment forms, and aftercare advice documents.

Marketing

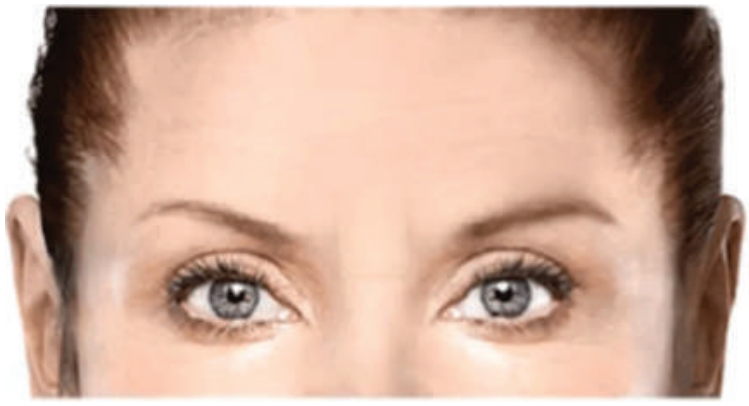
Marketing yourself is a crucial part of starting your own business. But keep in mind that the Advertising Standards Authority (ASA) has published guidance as to keep the public safe. Marketing must be factual, non-exploitative, clear and not misleading and age appropriate. The practitioner should provide time to cool off and not pressurise the individual. Promotional tactics should not be used to pressure ill-considered ideas or mislead patients as to possible risks from procedure. Importantly it must be highlighted that POMs such as Botulinum toxin must not be advertised. Marketing in this sector must be ethical given the potential for vulnerable patients and the nature of the treatments. There is a delicate balance to be struck between client coercion and market competition.

Aesthetics Journal

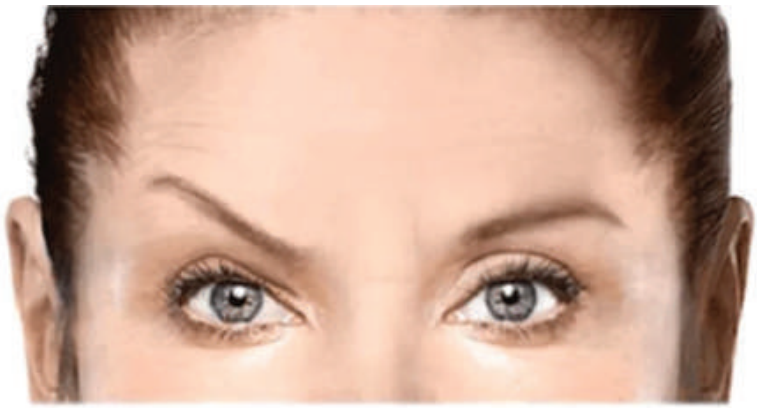
The Aesthetics Journal offers insights into treatment modalities and new products but can also support you with ways to setting up and promoting your business, as well as meeting your annual CPD requirement.

POST FOUNDATION COURSE QUIZ

The following is a new patient who would like a subtle anti-wrinkle treatment of the forehead alone.
Please mark injection site and number of units for Allergan Botox.
Use O for 2 units and X for 4 units.



You review the patient 2 weeks later and she complains of asymmetric eyebrows.
Please mark injection site and number of units for Allergan Botox.
Use O for 2 units and X for 4 units.



POST FOUNDATION COURSE QUIZ

Choose the correct product from the Juvederm Range for treating each of the following areas and indicate the depth of the product placement.

You may choose more than one option.

AREA	Product Options **Voluma / Volift / Volbella**	Depth options: **Subcutaneous / Submucosal / Supraperiosteal**
Lips		
Nasolabial		
Marionette		
Cheek bone (zygomatic arch)		
Cheek bone (cheek eminence)		

Insert the correct numbers in each space.
Options can be used once, more than once, or not at all:

Options: 2.5, 100, 25, 0.5, 20, 12, 24, 4, 2, 8, 64

When diluting 100 units of Allergan Botox® , it is advisable to use _____ ml of bacteriostatic saline (off-license use).

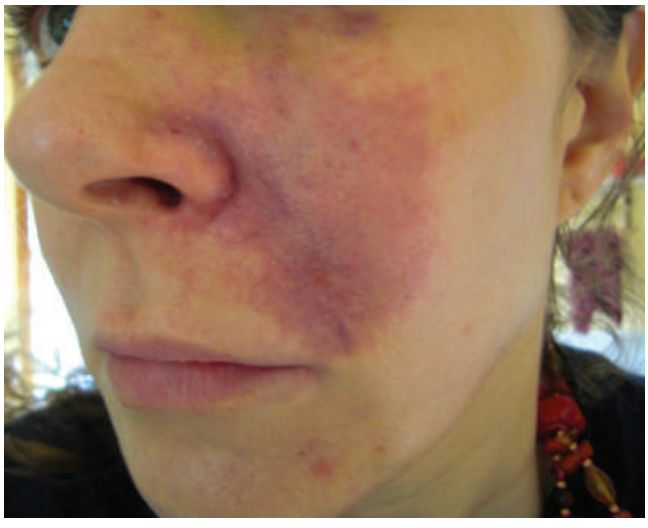
This dilution gives _____ units per 0.1ml of solution, and _____ units per 0.05ml of solution.

In the UK, the licensed treatment dose for the upper face is _____ units in total, consisting in _____ units for the glabella, _____ units for frontalis, and _____ units for both lateral canthal areas combined (crows feet).

POST FOUNDATION COURSE QUIZ

You treat the nasalabial folds of your patient. The patient calls you two days later to report extreme pain and discolouration of the area and sends you a photo. Please see below the photo.

- What would you suspect is causing the discolouration and pain?
- What would you do to revert this?



POST FOUNDATION COURSE QUIZ

A patient comes in and wants to have fillers treatment in the nasal labial folds. The patient declares in the medical questionnaire that they are allergic to bee/wasp stings. How would you go about treating this patient?

Name three after care instructions for lip fillers.

POST FOUNDATION COURSE QUIZ

Draw the course of the facial artery and its branches and highlight danger areas on the picture.

FOUNDATION

COURSE BOOKLET

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