

ESSENTIALS OF FACIAL ANATOMY

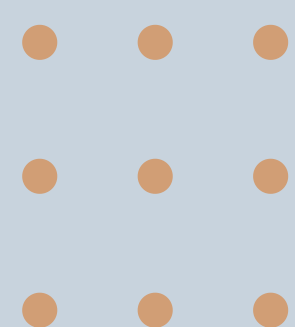
CBAM Aesthetic Mastery Series



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Dr. Reza Akef is a highly experienced and respected cosmetic physician, with over 15 years of experience in teaching and practicing cosmetic medicine. He is currently the Assistant Professor at McMaster University and the Chairman of the Canadian Board of Aesthetic Medicine (CBAM), where he shares his knowledge and expertise with other healthcare professionals to provide the best care for their patients.

Dr. Akef is board certified by the College of Family Physicians of Canada in both Family and Emergency Medicine. Additionally, he is deeply involved in interventional pain practice cooperation for the treatment of Migraines, chronic pain, TMJ, Myofascial pain, and Fibromyalgia. He is a leading cosmetic physician and an internationally recognized specialist in non-surgical cosmetic procedures.

Dr. Akef is dedicated to understanding his clients' concerns and creating personalized treatment plans that meet their needs and goals. He is committed to thoughtfully and strategically creating individualized combinations of leading, safe treatments that exceed client expectations. He is also the founder of Angel Gloss spa in Toronto, an established, leading destination for non-surgical cosmetic procedures for individuals seeking leading physicians with proven experience, the latest technology, and cutting-edge techniques.

Dr. Akef is actively involved in multiple training courses, webinars, and conferences all around the world, including prestigious international conferences such as IMCAS, AMWC, and Dubai Derma. He participates as a speaker at these events and is always looking to stay up to date with the latest developments in the field of cosmetic medicine.

Mohsen Talani is the Director of CBAM. He has over 18 years of experience teaching anatomy in Canada and internationally to students and healthcare practitioners in different fields of medicine such as physicians, dentists, nurses, chiropractors, and physiotherapists.

After graduating from medical school at a young age, he became a medical doctor in his home country, Iran, and practiced in the field of emergency medicine. While pursuing his Master's thesis in neuroscience at McGill University, he discovered his passion for teaching. Since then, he has been working in the field of medical science education, with a focus on anatomy.

He strongly believes that with the rapidly growing aesthetic industry, all practitioners should have a profound knowledge of skin basics, fat compartments, muscles, blood vessels, and nerves, in order to provide safe and effective care to clients and prevent or minimize post-treatment complications linked to lack of anatomy knowledge.

He is currently training healthcare practitioners who seek to have a deep knowledge of anatomy. He incorporates fun, innovative, and easy-to-understand methods of teaching in all of his classes, guest lectures, and presentations. Additionally, he supervises the cadaver lab dissections and hands-on practicals.



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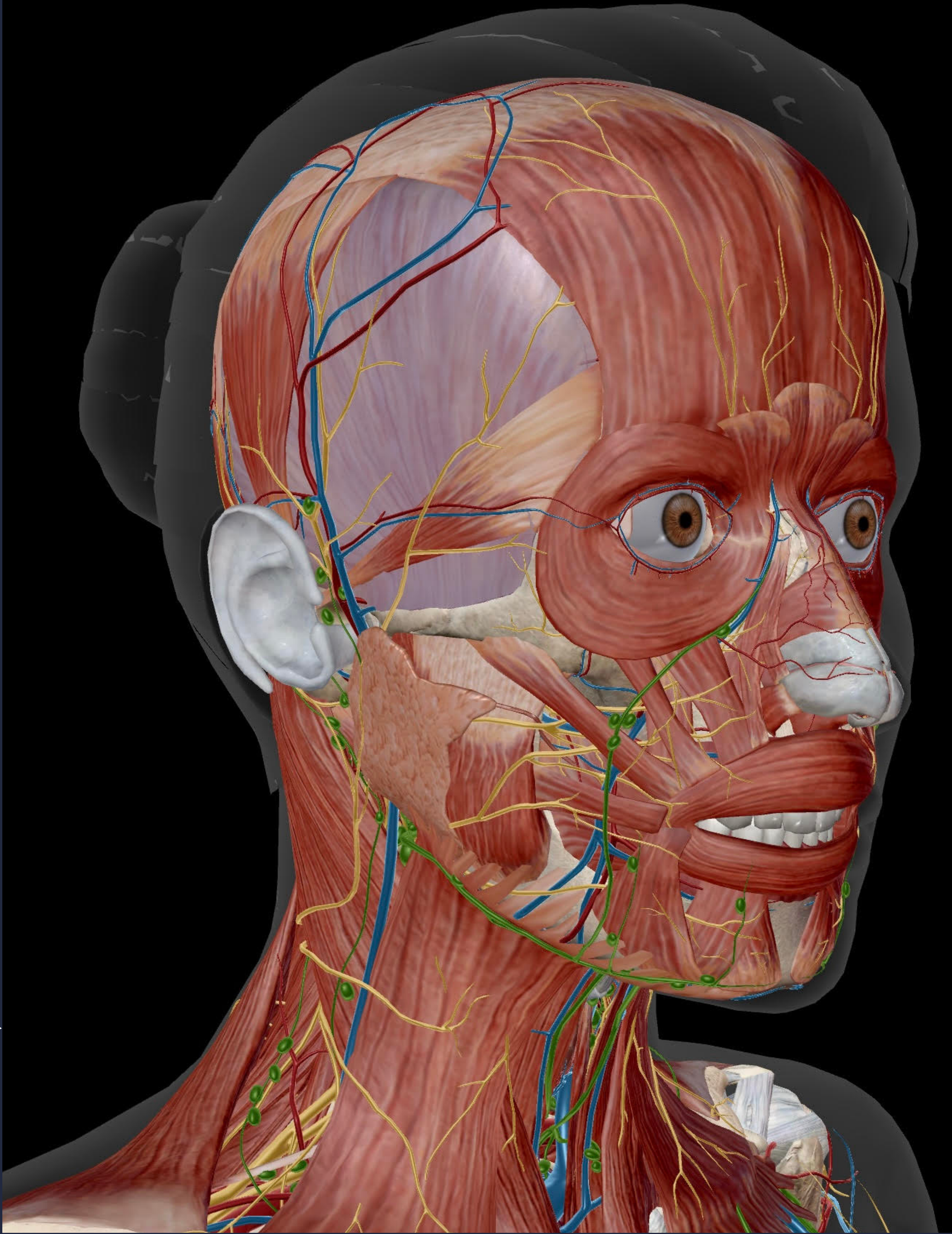
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1



INTRODUCTION TO FACIAL ANATOMY FOR AESTHETIC PRACTITIONERS

1.1 The Role of Anatomy in Aesthetic Medicine

Aesthetic medicine relies on a deep understanding of facial anatomy to achieve optimal, safe, and predictable outcomes. Unlike surgical interventions, which provide direct visualization of anatomical structures, aesthetic procedures such as injectables (Botox and fillers), thread lifts, and skin treatments are performed blindly, making anatomical precision critical to avoid complications.

Aesthetic practitioners must master the spatial relationships of the bones, muscles, fat compartments, blood vessels, nerves, and skin layers to ensure both aesthetic and functional balance in treatment. Without a proper anatomical foundation, an injector risks overcorrection, asymmetry, filler migration, vascular occlusion, and nerve damage, potentially leading to severe complications such as tissue necrosis, blindness, or prolonged muscle paralysis.

1.1.1 Why Anatomical Knowledge is Essential for Injectors

The primary goal of aesthetic injectables is to enhance and restore facial features while maintaining natural movement, symmetry, and proportions. However, improper injection

techniques due to insufficient anatomical knowledge can lead to unsatisfactory results or serious medical emergencies.

Here's why anatomy is essential in aesthetic medicine:

1 Preventing Vascular Complications

One of the most dangerous risks of filler injections is vascular occlusion, which can occur when filler is accidentally placed inside an artery, blocking blood flow. This can lead to ischemia, tissue necrosis, or even blindness if the central retinal artery is affected.

- High-risk vascular zones include the glabella (frown lines), nasolabial folds, and nose due to the presence of interconnected arteries.
- Understanding the depth and course of major arteries helps injectors safely place fillers around, rather than within, these vessels.
- Aspiration techniques and cannula use can further reduce vascular risks.

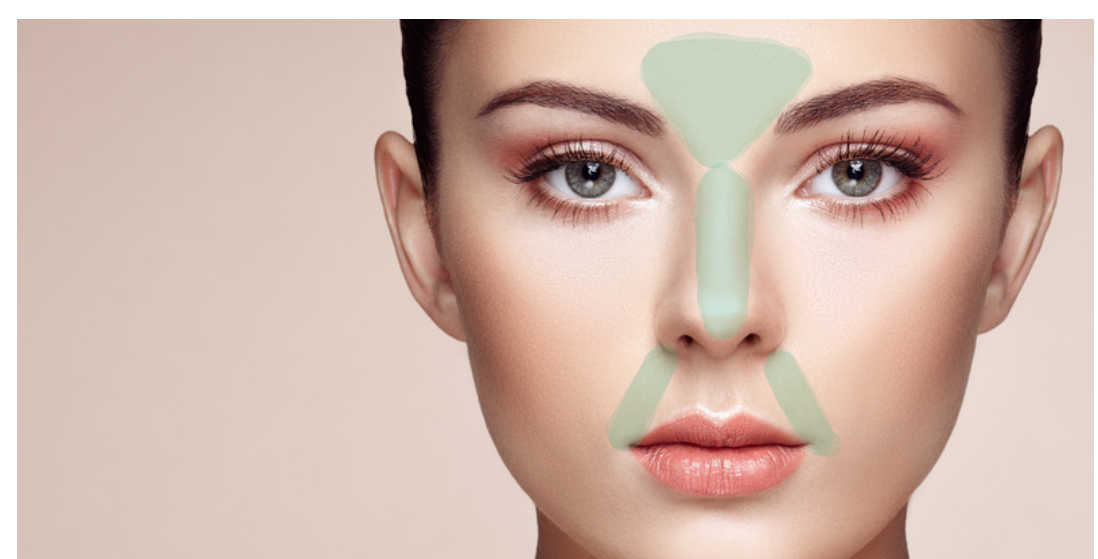


Fig1.1 High-risk vascular zones include the glabella (frown lines), nasolabial folds, and nose due to the presence of interconnected arteries.

2 Achieving Natural and Harmonious Results

Aging affects the face at multiple levels, including bone resorption, fat redistribution, and muscle laxity. Injectors must:

- Understand which fat compartments shrink or shift with age.
- Know how to replace volume in deep, structural layers without creating an overfilled or artificial look.
- Use an anatomy-based approach to mimic natural contours rather than distorting facial proportions.

3 Minimizing Nerve Damage and Unwanted Muscle Paralysis

Botulinum toxin (Botox) works by blocking nerve signals to muscles, preventing excessive contraction and reducing wrinkles. However, incorrect placement can lead to asymmetry or unintended paralysis:

- Injecting too low on the forehead can cause eyebrow ptosis (drooping brows).
- Incorrect dosing in the perioral region can interfere with speech and lip movement.
- Injecting too deeply into the masseter muscle can weaken chewing function and alter the smile.

Understanding nerve pathways and muscle function allows precise modulation of movement while preserving natural expression.

1.1.2 The Connection Between Anatomy and Aesthetic Outcomes

Every injectable procedure interacts with one or more anatomical layers of the face. A practitioner must visualize and assess these layers before deciding on the depth and placement of injections.



Fig1.2 A practitioner must visualize and assess these layers before deciding on the depth and placement of injections.

Anatomical Structure	Clinical Relevance in Injectables	Injection Considerations
Skin	Primary concern for fine lines, wrinkles, and hydration	Superficial injections , microdroplet techniques (e.g., mesotherapy, skin boosters)
Superficial Fat Compartments	Volume loss in cheeks, temples, and jawline causes sagging	Medium-depth filler placement restores lost volume
Deep Fat Compartments	Acts as a structural support system	Deep supraperiosteal filler placement for long-lasting results
SMAS (Superficial Musculoaponeurotic System)	Affects facial lifting and movement	Key target for thread lifts, facelift surgeries
Muscles of Facial Expression	Overactivity leads to dynamic wrinkles	Botox injections must target specific fibers to avoid complications
Blood Supply & Vascular Landmarks	Essential for avoiding vascular occlusion	Use cannulas, aspiration, and correct depth techniques
Nerve Pathways	Preventing pain, bruising, and facial asymmetry	Avoid deep injections in high-risk nerve areas

Table1.1 The Connection Between Anatomy and Aesthetic Outcomes.