

LETTER TO THE EDITOR

Should novice injectors treat every facial region in their first year of practice?

Dear Editor,

The recent data released by The Aesthetic Society and the American Society of Plastic Surgeons (ASPS) have consolidated the growing and expanding trend of esthetic medicine in the US. According to the 2022 statistics of The Aesthetic Society, a total of 4 594 458 soft tissue filler and neuromodulator procedures were performed by the participating plastic surgery practices across the US; this represents an increase of 13% and 24% respectively when compared to 2021.¹ When looking at the 2022 statistics of the ASPS, which collects procedural data performed by ASPS member surgeons, the procedural count was 8 736 591 for neuromodulators and 4 883 419, for soft tissue fillers (excluding lip treatments). This represents an increase of 73% and 70% compared to (prepandemic) 2019.² These statistics, irrespective of their source, show a clear trend that will most likely continue and expand.

This trend also mirrors a shift in societal perceptions in which esthetic interventions have become an omnipresent element of lifestyle and social media presence.³ What was in the past a taboo, is nowadays considered normal, accepted, and even celebrated. Any region of the body or the face can be treated with surgical or minimally invasive procedures utilizing a multitude of different products and techniques.

This amount of treatment possibilities demands a certain degree of training and education which should be required of every esthetic practitioner. Knowledge about anatomy, product rheology, product tissue effects, patient assessment, injection techniques, social impact of esthetic procedures, adverse events recognition and management, and facial ultrasound are some skills (among many others) that esthetic practitioners should have acquired prior to introducing a needle or a cannula into a patient. From an injectors' perspective, this is the most correct thing to do to allow for safer and predictable esthetic outcomes following the fundamental principles of the Hippocratic oath. Every patient has the right to be treated to the best knowledge and abilities of the person pressing the plunger, independent of their educational career path (physician or nonphysician).

Unfortunately, esthetic education remains unregulated in the US (as it is in many other countries) and is additionally and predominantly practiced in the private sector outside of academic ivory towers. This prompted private institutions, societies, and key opinion leaders to step forward into medical education and pass on their personal experiences and opinions to their esthetic peers. This has resulted in an

increase in educational offerings on web portals, social media sites, and in-person courses, which again leaves the esthetic practitioner with a variety of options to choose from. Despite this, no overarching regulatory board or institution offers guidance on the education path of novice injectors to becoming experts in their field.

The variability in the educational level of injectors is understandably high, prompting the question of how to guide injectors during their educational journey from novice via competent to expert injectors and how to assure safe treatments for their esthetic patients. Some institutions have taken measures to assure consistency and have, for instance, restricted soft tissue filler treatments of high-risk areas including the glabella, nose, and forehead, intending to prevent inexperienced novice injectors from targeting such facial regions to ultimately avoid the occurrence of adverse events.

To date, there is no consensus on the levels of competency of esthetic practitioners when relating to the Dreyfus model of competency, or which milestones need to be achieved during the educational path, nor is an international or national syllabus available guiding the educational journey of esthetic practitioners.^{4,5} Additionally, there is no clear definition of skills and competencies establishing a distinction between novice, competent, and expert injectors, which leaves the esthetic community without educational structure or internal quality control.

A possible way out of this dilemma and to help patients receive safer and more predictable esthetic treatments would be to initiate a process that would culminate in definition of various levels of competency and what milestones injectors need to achieve during their educational journey. It might also be helpful to establish formal identification of facial regions that are classified as high versus low risk with a goal of ensuring that high-risk areas are treated by only the most highly educated and expert injectors. For example, expert injectors can and should be allowed to treat the nose, glabella, or forehead with soft tissue fillers given their experience with anatomy and adverse event management. In contrast, patient safety would be increased if novice injectors refrained from injecting facial regions of high vascular risk and focused more on lower-risk facial regions like the zygomatic region or the jawline.^{6,7} It must be noted that no facial region has zero risk for causing an injection-related visual compromise.

Esthetic medical education could benefit from the implementation of core competencies and treatment guidelines as would esthetic

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2024 The Authors. *Journal of Cosmetic Dermatology* published by Wiley Periodicals LLC.

patients and the injection community as a whole. However, the path to establishing and implementing such competencies and guidelines is long and difficult. Much research is needed to provide a high level of evidence to design and incorporate levels of competency and to create a standardized educational path to becoming an expert esthetic practitioner. As the discipline of esthetic medicine is constantly growing, the onus is on our community to establish guidelines to ensure best education and highest competency of providers in order to produce best outcomes with the highest level of patient safety.

CONFLICT OF INTEREST STATEMENT


SC is the founder of Cotofana Anatomy Corp., a company specialized in anatomical education. All other authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

DATA AVAILABILITY STATEMENT

Not applicable.

ETHICS STATEMENT

Authors declare human ethics approval was not needed for this study.

Sebastian Cotofana MD, PhD^{1,2,3} 

Michael H. Gold MD⁴ 

Brian S. Biesman MD⁴

Michael Alfertshofer MD⁵ 

¹Department of Dermatology, Erasmus Medical Centre,
Rotterdam, The Netherlands

²Blizard Institute, Centre for Cutaneous Research, Queen Mary
University of London, London, UK

³Department of Plastic and Reconstructive Surgery, Guangdong
Second Provincial General Hospital, Guangzhou, China

⁴Private Practice, Nashville, Tennessee, USA

⁵Department of Oromaxillofacial Surgery, University Hospital,
LMU Munich, Munich, Germany

Correspondence

Sebastian Cotofana, Department of Dermatology, Erasmus
Medical Center, Dr. Molewaterplein 40, Rotterdam 3015 GD,
The Netherlands.
Email: scotofana24@gmail.com

ORCID

Sebastian Cotofana  <https://orcid.org/0000-0001-7210-6566>

Michael H. Gold  <https://orcid.org/0000-0002-5183-5433>

Michael Alfertshofer  <https://orcid.org/0000-0002-4892-2376>

REFERENCES

1. The Aesthetic Society. Aesthetic Plastic Surgery National Databank Statistics 2022. 2023.
2. American Society of Plastic Surgeons (ASPS). ASPS procedural statistics release. Accessed February 9, 2024 <https://www.plasticsurgery.org/documents/News/Statistics/2022/plastic-surgery-statistics-report-2022.pdf>
3. Buzzaccarini G, Degliuomini RS, Borin M. The impact of social media-driven fame in aesthetic medicine: when followers overshadow science. *Aesthet Surg J*. 2023;43(10):NP807-NP808. doi:[10.1093/asj/sjad190](https://doi.org/10.1093/asj/sjad190)
4. Dreyfus SE, Dreyfus H. A five-stage model of the mental activities involved in directed skill acquisition. 1980. Distribution. Published online February 1, 1980:22.
5. Dreyfus HL, Dreyfus SE, Zadeh LA. Mind over machine: the power of human intuition and expertise in the era of the computer. *IEEE Expert*. 1987;2(2):110-111. doi:[10.1109/MEX.1987.4307079](https://doi.org/10.1109/MEX.1987.4307079)
6. Belezny K, Carruthers JDA, Humphrey S, Jones D. Avoiding and treating blindness from fillers. *Dermatologic Surg*. 2015;41(10):1097-1117. doi:[10.1097/DSS.0000000000000486](https://doi.org/10.1097/DSS.0000000000000486)
7. Belezny K, Carruthers JDA, Humphrey S, Carruthers A, Jones D. Update on avoiding and treating blindness from fillers: a recent review of the world literature. *Aesthet Surg J*. 2019;39(6):662-674. doi:[10.1093/asj/sjz053](https://doi.org/10.1093/asj/sjz053)