

A Practical Guide to

# Dermal Filler Procedures



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# Dermal Filler Procedures

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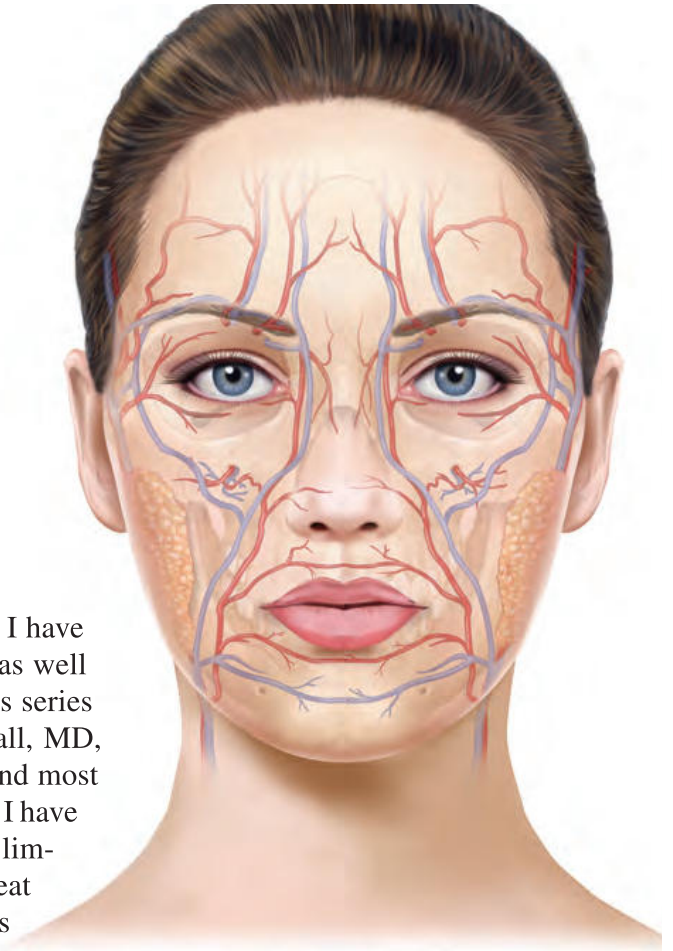
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## Foreword



As a lecturer, editor, author, and medical reviewer, I have had ample opportunity to evaluate many speakers as well as extensive medical literature. After reviewing this series of books on cosmetic procedures by Rebecca Small, MD, I have concluded that it has to be one of the best and most detailed, yet practical presentation of the topics that I have ever encountered. As a physician whose practice is limited solely to providing office procedures, I see great value in these texts for clinicians and the patients they serve.

The goal of medical care is to make patients feel better and to help them experience an improved quality of life that extends for an optimal, productive period. Interventions may be directed at the emotional/psychiatric, medical/physical, or self-image areas.

For many physicians, performing medical procedures provides excitement in the practice of medicine. The ability to see what has been accomplished in a concrete way provides the positive feedback we all seek in providing care. Sometimes, it involves removing a tumor. At other times, it may be performing a screening procedure to be sure no disease is present. Maybe it is making patients feel better about their appearance. For whatever reason, the “hands on” practice of medicine is more rewarding for some practitioners.

In the late 1980s and early 1990s, there was resurgence in the interest of performing procedures in primary care. It did not involve hospital procedures but rather those that could be performed in the office. Coincidentally, patients also became interested in less invasive procedures such as laparoscopic cholecystectomy, endometrial ablation, and more. The desire for plastic surgery “extreme makeovers” waned, as technology was developed to provide a gentle, more kind approach to “rejuvenation.” Baby boomers were increasing in numbers and wanted to maintain their youthful appearance. This not only improved self-image but it also helped when competing with a younger generation both socially and in the workplace.

These forces then of technological advances, provider interest, and patient desires have led to a huge increase in and demand for “minimally invasive procedures” that has extended to all of medicine. Plastic surgery and aesthetic procedures have indeed been affected by this movement. There have been many new procedures developed in just the last 10–15 years along with constant updates and improvements. As patient demand has soared for these new treatments, physicians have found that there is a

whole new world of procedures they need to incorporate into their practice if they are going to provide the latest in aesthetic services.

Rebecca Small, MD, the editor and author of this series of books on cosmetic procedures, has been at the forefront of the aesthetic procedures movement. She has written extensively and conducted numerous workshops to help others learn the latest techniques. She has the practical experience to know just what the physician needs to develop a practice and provides “the latest and the best” in these books. Using her knowledge of the field, she has selected the topics wisely to include


- A Practical Guide to: Botulinum Toxin Procedures
- A Practical Guide to: Dermal Filler Procedures
- A Practical Guide to: Chemical Peels and Skin Care Products
- A Practical Guide to: Cosmetic Laser Procedures

Dr. Small does not just provide a cursory, quick review of these subjects. Rather, they are an in-depth practical guide to performing these procedures. The emphasis here should be on “practical” and “in-depth.” There is no extra esoteric waste of words, yet every procedure is explained in a clear, concise, useful format that allows practitioners of all levels of experience to learn and gain from reading these texts.

The basic outline of these books consists of the pertinent anatomy, the specific indications and contraindications, specific how-to diagrams and explanations on performing the procedures, complications and how to deal with them, tables with comparisons and amounts of materials needed, before and after patient instructions as well as consent forms (an immense time-saving feature), sample procedure notes, and a list of supply sources. An extensive updated bibliography is provided in each text for further reading. Photos are abundant depicting the performance of the procedures as well as before and after results. These comprehensive texts are clearly written for the practitioner who wants to “learn everything” about the topics covered. Patients definitely desire these procedures and Dr. Small has provided the information to meet the physician demand to learn them.

For those interested in aesthetic procedures, these books will be a godsend. Even for those not so interested in performing the procedures described, the reading is easy and interesting and will update the readers on what is currently available so that they might better advise their patients.

Dr. Small has truly written a one-of-a-kind series of books on Cosmetic Procedures. It is my prediction that it will be received very well and be most appreciated by all who make use of it.



*John L. Pfenninger, M.D., F.A.A.F.P.  
Founder and President, The Medical Procedures Center  
PC Founder and Senior Consultant, The National Procedures Institute  
Clinical Professor of Family Medicine, Michigan State College  
of Human Medicine*



Following the publication of the American Family Physician article “Aesthetic Procedures in Office Practice” (December 2009 Vol. 80 No. 11), I have received an overwhelming amount of inquiries and requests for aesthetic training from primary care providers and residents. The common thread of these inquiries has been a need for educational resources and quality training in aesthetic procedures that can be readily incorporated into office practice.

As the trend in aesthetic medicine shifts away from surgical procedures that can radically alter appearance, toward procedures that have minimal recovery time and offer more subtle enhancements, the number of minimally invasive aesthetic procedures performed continues to increase. These procedures, which include dermal filler and botulinum toxin injections, lasers and light-based technologies, and chemical peels, have become the primary modalities for treatment of facial aging and skin rejuvenation. This aesthetic procedure series is designed to be a truly practical guide for primary care physicians, physician assistants, nurse practitioners, residents in training, and other healthcare providers interested in aesthetics. It is not comprehensive but is inclusive of current minimally invasive aesthetic procedures that can be readily incorporated into office practice to directly benefit our patients.

The goal of this dermal filler injection book, the second in the aesthetic practical guide series, is to provide a step-by-step approach to dermal filler treatments. The introduction serves as a foundation and provides basic aesthetic medicine concepts essential to successfully performing aesthetic procedures. Each Chương is dedicated to a single dermal filler procedure with all relevant anatomy reviewed, including the target regions as well as areas to be avoided. There is an accompanying website with videos demonstrating each procedure. Injection sites are highlighted to help providers perform procedures more effectively and minimize complication risks. Recommended anesthesia methods, an integral part of dermal filler treatments, are included for each procedure along with suggestions for management of the most commonly encountered issues seen in follow-up visits. More experienced injectors may appreciate the concise summary of each procedure’s complications and up-to-date suggestions for management, advanced treatment techniques, combining aesthetic treatments to maximize outcomes, current product developments and reimplantation options. When getting started, providers are encouraged to begin with the basic dermal filler procedures for treatment of nasolabial folds, marionette lines and mental crease,

and progress to advanced procedures as skill is acquired. Basic procedures utilize straightforward injection techniques and products which are more moldable and forgiving. They typically achieve good outcomes, have a low incidence of side effects, and are associated with high patient satisfaction. Advanced dermal filler procedures such as facial sculpting and contouring, can be used for treatment of more complex aging changes and for enhancement purposes. Longer lasting products along with more challenging injection techniques are required with advanced procedures.

This book is intended to serve as a guide and not a replacement for experience. When learning aesthetic procedural skills, a formal training course is recommended, as well as preceptorship with a skilled provider.



## Acknowledgments



I have profound gratitude and respect for Dr. Dalano Hoang, my associate editor and husband. He has been with me in every step of the way as the Clinic Director of our aesthetic practice and much more. Although he personally does not perform aesthetic procedures, his knowledge of the many aspects of aesthetic medicine is extensive and invaluable. His clear, concise writing style combined with my knowledge of minimally invasive aesthetic procedures yielded this straightforward procedure book and also the Botulinum Toxin Procedures book.

A special thanks to Dr. John L. Pfenninger and Dr. E.J. Mayeaux who have inspired and supported me, and taught me much about educating and writing.

The University of California, San Francisco, and the Natividad Medical Center family medicine residents deserve special recognition. Their interest and enthusiasm for aesthetic procedures led me to develop the first family medicine aesthetics training curriculum in 2008. Special recognition is also due to the primary care providers who participated in my aesthetic courses at the American Academy of Family Physicians national conferences over the years. Their questions and input further solidified the need for this practical guide series.

I am indebted to my Capitola office staff for their ongoing logistical and administrative support which made it possible to write this series.

Special acknowledgments are due to those at Wolters Kluwer Health who made this book series possible, in particular, Kerry Barrett, Sonya Seigafuse, Freddie Patane, Brett MacNaughton, and Doug Smock. It has been a pleasure working with Liana Bauman, the gifted artist who created all of the illustrations for these books.

Finally, I dedicate this second book in the series also to my 5-year-old son, Kaidan Hoang, for the unending hugs and kisses that greeted me no matter how late I got home from working on this project.



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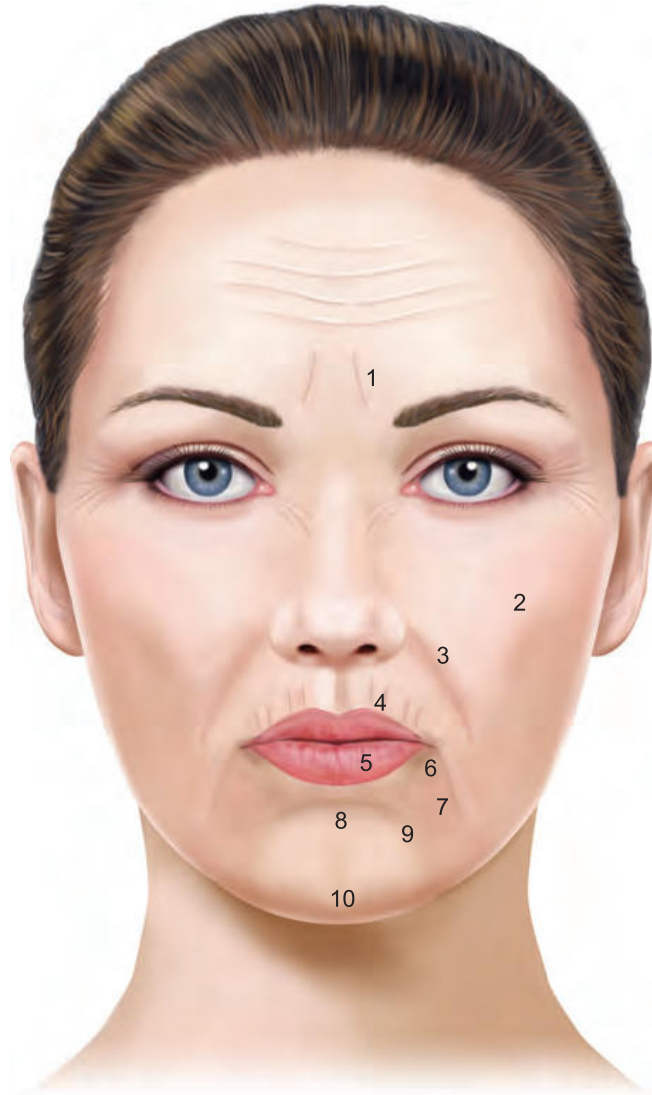
**Index 175**



A video clip for every procedure can be found on the book's website.



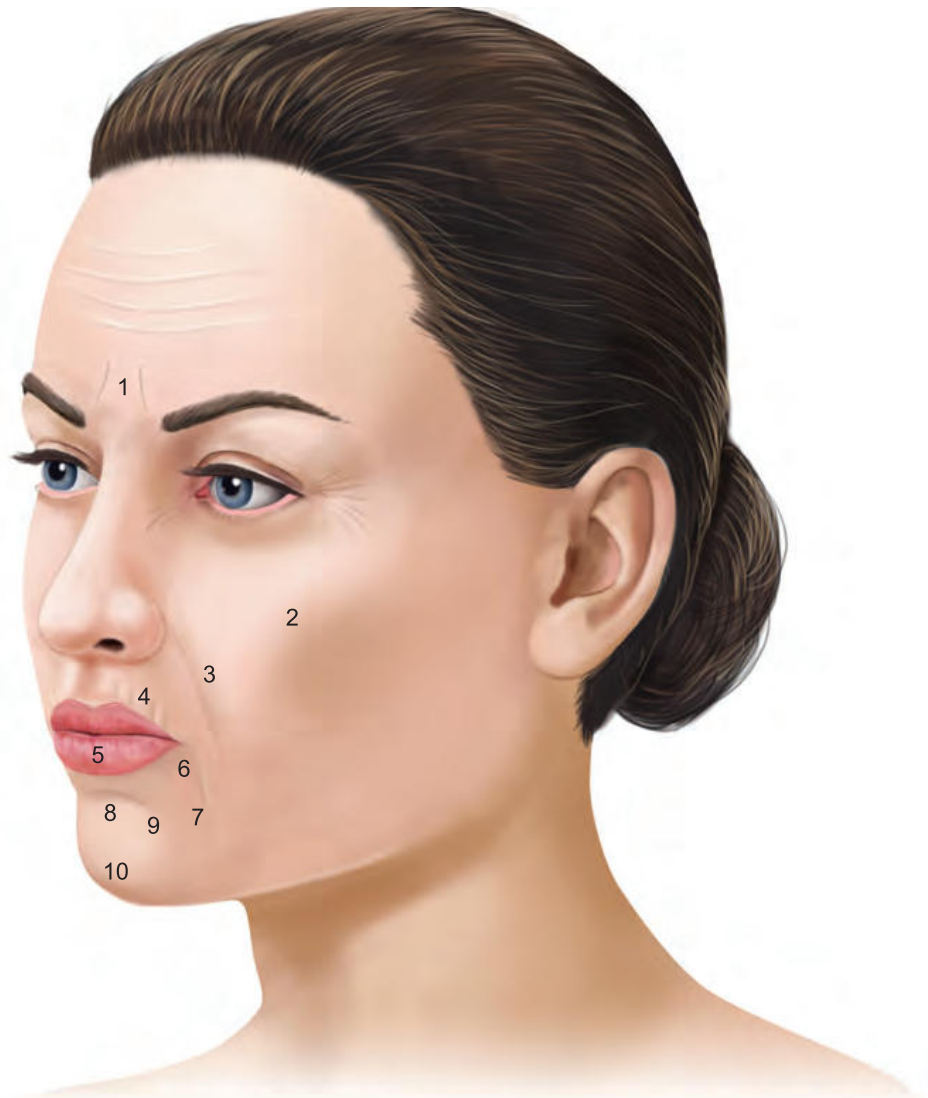
# Giải phẫu học chất độn da



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| 1. Frown line<br>(Nếp nhăn ở ấn đường) | 6. Downturned corners of mouth<br>(Sụt mép miệng)            |
| 2. Cheek flattening<br>(Làm căng má)   | 7. Marionette lines<br>(Nếp gấp môi - hàm dưới)              |
| 3. Nasolabial folds (Rãnh mũi má)      | 8. Chin line or mental crease<br>(Nếp nhăn cằm)              |
| 4. Lip lines (Nếp nhăn quanh miệng)    | 9. Extended mental crease<br>(Phần kéo dài của nếp nhăn cằm) |
| 5. Lip thinning<br>(Làm mỏng môi)      | 10. Chin flattening<br>(Gọt cằm)                             |



**FIGURE 1** • Nếp nhăn, nếp gấp và đường viền bất thường của khuôn mặt mặt — trước - sau (thuật ngữ y khoa).



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|--|--|
| 1. Frown line<br>(Nếp nhăn ở ấn đường) | 6. Downturned corners of mouth<br>(Sụt mép miệng)            |
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**FIGURE 2** • Nếp nhăn, nếp gấp và đường viền bất thường của khuôn mặt — góc bên (thuật ngữ y khoa).



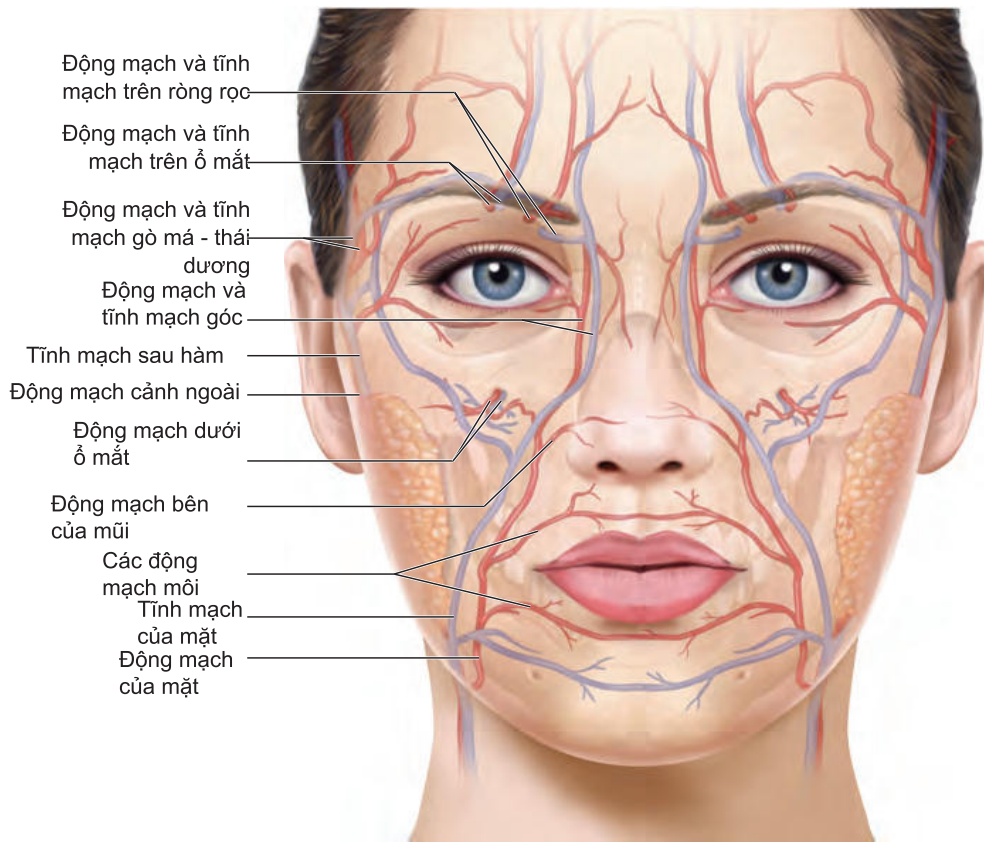


FIGURE 3 ● Hệ thống mạch máu của khuôn mặt.

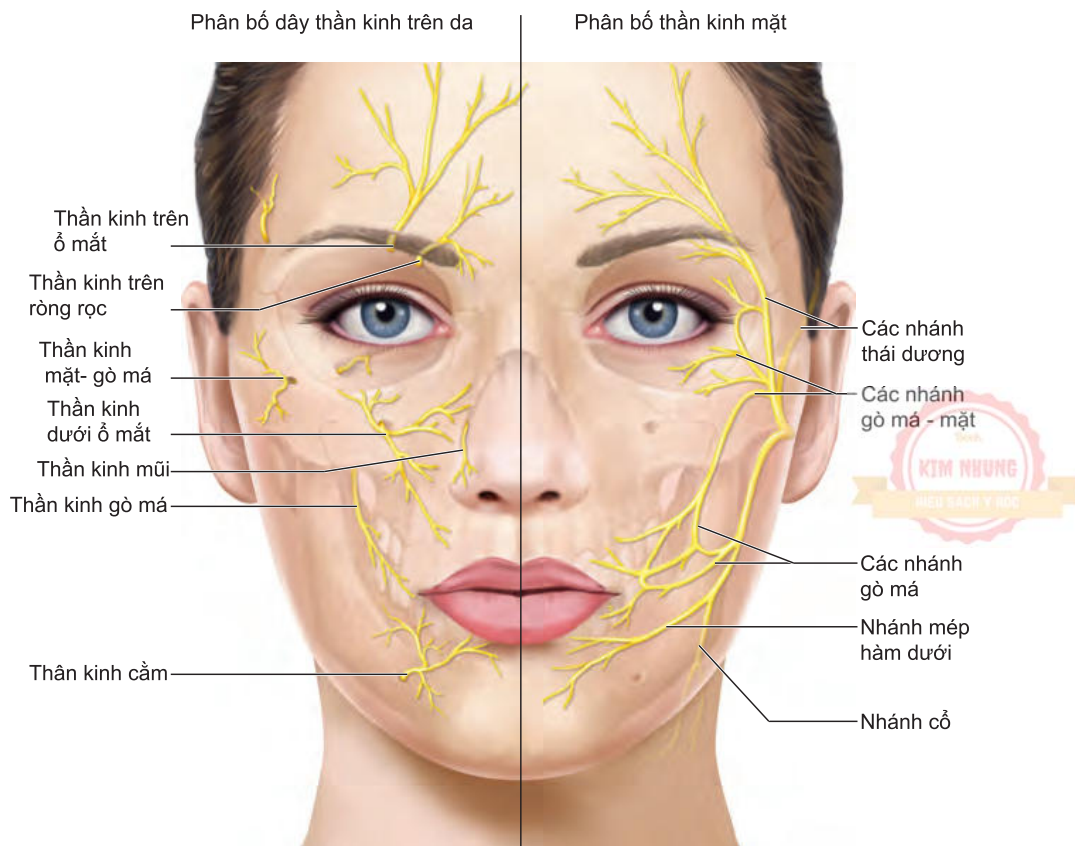
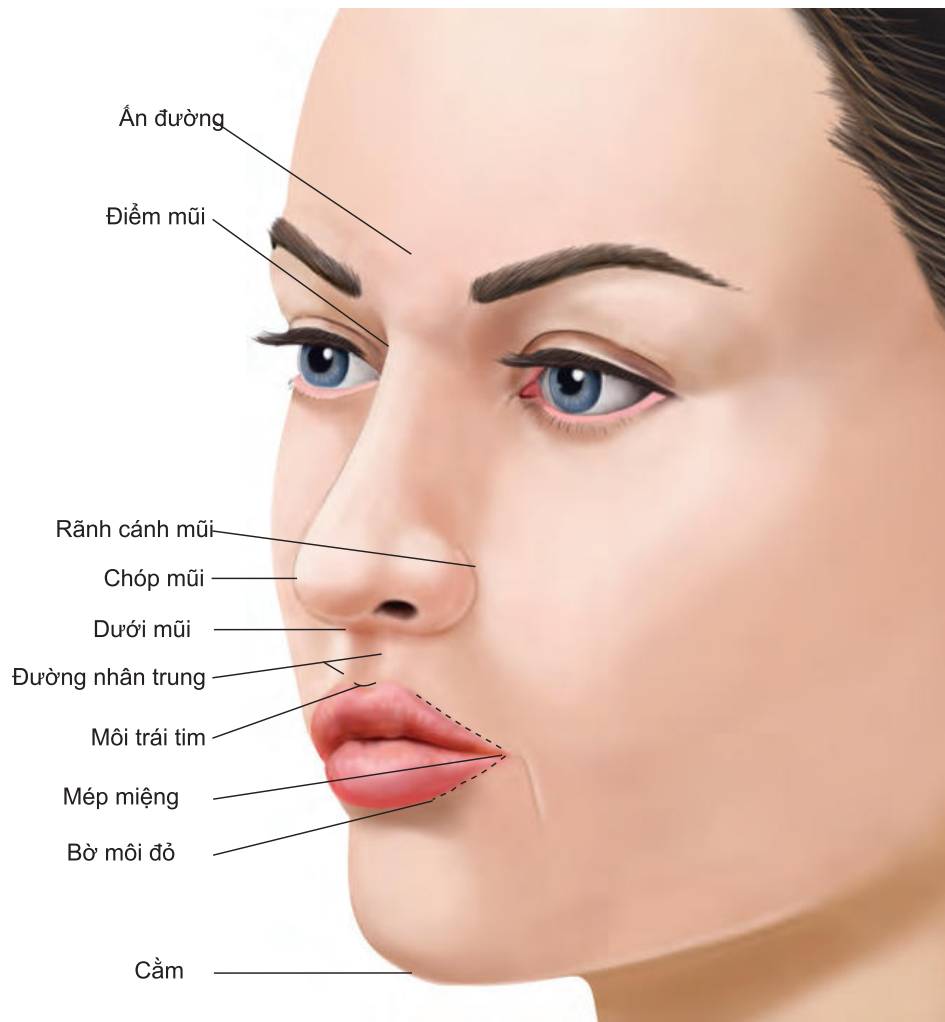


FIGURE 4 ● Các dây thần kinh của khuôn mặt.



**FIGURE 5** ● Các vị trí trên khuôn mặt



## Giới thiệu và các khái niệm nền tảng

Phương pháp bơm chất độn da đã trở thành một trong những phương pháp thẩm mỹ được thực hiện phổ biến nhất tại Hoa Kỳ, chỉ đứng sau điều trị bằng độc tố botulinum, theo số liệu thống kê của Hiệp hội Phẫu thuật Thẩm mỹ về cộng đồng người Hoa Kỳ. Họ đã tiến xa hơn mục đích chính của họ là các phương pháp điều trị cho các nếp nhăn và các nếp gấp trên khuôn mặt mà còn có các ứng dụng phức tạp hơn của điều khắc và tạo đường nét trên khuôn mặt. Chất độn da là một công cụ linh hoạt và đẹp cho sự trẻ hóa khuôn mặt và tiêm chất độn là một kỹ năng cần thiết cho các bác sĩ và nhà cung cấp dịch vụ chăm sóc sức khỏe có trình độ muốn kết hợp thuốc thẩm mỹ vào khi hành nghề.

Các chất độn hiện có khác nhau về thành phần, thời gian tác dụng, tính bền, kỹ thuật sử dụng, biến chứng và các yếu tố khác. Đạt được các kết quả mong muốn và giảm thiểu nguy cơ biến chứng phụ thuộc vào kỹ năng tiêm của người tiêm, kiến thức về sản phẩm chất độn da và giải phẫu, cũng như sự hiểu rõ về tỷ lệ khuôn mặt thẩm mỹ và tính đối xứng.

### Lão hóa mặt

Quá trình lão hóa trên khuôn mặt có liên quan đến sự mỏng dần của da và mất độ co giãn theo thời gian kèm theo sự giảm sút collagen da, axit hyaluronic (HA) và elastin. Quá trình lão hóa từ bên trong này được gia tăng và kết hợp bởi sự tổn thương do mặt trời và các yếu tố bên ngoài khác như hút thuốc lá, dẫn đến các nếp nhăn trên khuôn mặt (cũng được gọi là rhytid hoặc rhytides). Thói quen cơ cơ với biểu hiện trên khuôn mặt cũng góp phần hình thành các nếp nhăn, đặc biệt là ở góc một phần ba ở trên của khuôn mặt. Những nếp nhăn động này thường được điều trị bằng tiêm độc tố botulinum. Trong hai phần thấp hơn của khuôn mặt xuất hiện sự chảy xệ và lông lẻo rõ ràng hơn và chất độn da được sử dụng phổ biến nhất trong khu vực này (Hình 1 và 2). Các đường và nếp nhăn trong khu vực này thường có thể nhìn thấy khi khuôn mặt giữ yên, được gọi là các đường tĩnh. Mặt chảy xệ, còn được gọi là sự giảm sinh trắc học, kết quả từ sự tái hấp thu xương mặt, suy thoái mô dưới da và sự chảy xuống của các miếng mỡ. Đường nét trên khuôn mặt thay đổi theo độ tuổi từ má cao và cằm nhỏ (Hình 3A) sang nặng về phía dưới với gò má phẳng và những điểm nổi bật trên má (Hình 3 B).

### Các phương pháp cơ bản và nâng cao

Khu vực điều trị, loại sản phẩm (tạm thời, bán tạm thời, vĩnh viễn, vv), và kỹ thuật tiêm được sử dụng xác định mức độ phức tạp của các phương pháp làm đầy da. Khi bắt đầu tiêm thuốc độn da, nên bắt đầu với các phương pháp độn da cơ bản được mô tả dưới đây, khi đã thành thạo, thì sau đó tiến hành các phương pháp nâng cao.



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| 1. Frown line<br>(Nếp nhăn ở ấn đường) | 6. Downturned corners of mouth<br>(Sụt mép miệng)            |
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### Các phương pháp cơ bản

Các sản phẩm làm đầy da được khuyến dùng cho các quy trình cơ bản bao gồm Prevelle Silk®, Juve-derm® và Restylane®, tất cả đều là axit hyaluronic (HAs). Các chất độn da này thường dễ xử lý hơn, với các đặc tính dòng chảy tốt trong quá trình tiêm trong mô, đòi hỏi áp lực pit tông nhẹ nhàng. Sau khi tiêm, chúng sẽ dẻo dai và dễ dàng được định hình và nén, làm giảm nguy cơ các trường hợp không mong muốn và các đường cong bất thường. Ngoài ra, các sản phẩm HA có thể bị suy thoái bằng cách tiêm hyaluronidase để điều chỉnh nếu cần thiết. Các khu vực điều trị cho các phương pháp cơ bản được liệt kê trong Bảng 1.