

Cheryl M. Burgess (Ed.)

**Cosmetic Dermatology**

Cheryl M. Burgess (Ed.)

# Cosmetic Dermatology

With 35 Figures and 33 Tables

 Springer

**Cheryl M. Burgess, M.D., F.A.A.D.**

2311 M Street  
NW Suite 504  
Washington, D.C. 20037  
USA

Library of Congress Control Number: 2004115994

ISBN 3-540-23064-5 Springer Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilm or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

**Springer is a part of Springer Science+Business Media**

springeronline.com

© Springer-Verlag Berlin Heidelberg 2005

Printed in Germany

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Product liability: the publishers cannot guarantee the accuracy of any information about dosage and application contained in this book. In every individual case the user must check such information by consulting the relevant literature.

Editor: Marion Philipp

Desk Editor: Irmela Bohn

Production: ProEdit GmbH, 69126 Heidelberg, Germany

Cover: Frido Steinen-Broo, EStudio Calamar, Spain

Typesetting: K. Detzner, 67346 Speyer, Germany

Printed on acid-free paper 21/3150 ML 5 4 3 2 1 0

## Preface

Two years ago, this book was merely a concept, fueled by the clinical needs of a new and younger generation seeking cosmetic procedures and a desire to share my own clinical experiences with botulinum toxin and soft tissue augmentation. As the concept evolved, the number of topics did likewise, expanding the book's scope. With multiple topics, additional contributing authors were recruited. In contemplating the level of writing effort required, I had to ask myself: "How will this book differ from existing cosmetic dermatology textbooks?" Patients' changing demographics coupled with technological advancements and new FDA product approvals for dermatology have created an overwhelming need for cutting-edge information. This book attempts to fill the information deficit.

Today's demographics are transforming rapidly. Aging is no longer associated with frailty and impaired ability; growing old no longer means looking old. While the stigma associated with being "old" is decreasing, patient demand for cosmetic enhancements is increasing, particularly in the younger generation who seek interventions at the earliest signs of aging. Additionally, by 2050, the U.S. Census Bureau predicts non-Caucasian populations will comprise greater than 50% of the total population. Ethnic, racial, and gender differences present new challenges and necessitate changes in clinical techniques: practitioners' skills must accommodate demographic shifts lest clinical interventions falter.

This book's eight chapters focus on cutting-edge approaches to assessment and treatment of the earliest signs of aging. Topics selected represent areas where technology and improved understanding of cellular biology have advanced considerably in the past two decades. Chapters, although distinct, are unified by several important themes:

- Newer, noninvasive clinical interventions and therapeutics offer viable alternatives for younger patients seeking cosmetic enhancements. These entry-level procedures often accommodate patients' clinical needs as well as life styles (e.g., time away from work).
- With changing patient demographics, matching clinical technique to patients' unique skin type, tone, and color is crucial. When possible, recommendations reference the Fitzpatrick rating scale.
- Patients seeking cosmetic enhancements have definite expectations, and patient counseling is imperative. Managing patient expectations is medically ethical and essential. Apart from discussing obvious issues of procedures, contraindications, and potential adverse effects, dermatologists must convey a realistic assessment of predicted outcome and determine if patients have similar expectations. Although time-consuming, informed consent procedures cannot be short circuited.
- Cosmetic dermatology is a field with few established treatment algorithms. Unlike other medical specialties where clinical guidelines are standardized by expert consensus panels, dermatologists must evaluate each patient on a case-by-case basis and strategize accordingly. Detailed treatment planning must include patient participation.

The chapters are also united in another important but unique dimension: all authors are women and each has had one or more of the procedures discussed. Equally significant is the authors' diverse ethnic and racial mix: African American, Latino, Jewish, and Caucasian. Why female authors who are ethnically and racially diverse? These experiential characteristics add a depth of understanding and insight that transcend technique and credentials. Each author firmly believes her experiences strengthen therapeutic relationships with patients. Authors' personal self-selected dermatological procedures coupled with their gender, racial, and ethnic experiences resulted in each refining, modifying, and improving clinical techniques within their specialties, bringing an experiential clinical richness that otherwise would be lacking.

Chapter 1, "Anti-aging Medicine As It Relates to Dermatology," by Rafaela M. Quiroga, discusses the clinical science of anti-aging medicine emphasizing the physiological impact of free radical damage and the importance of diet, exercise, and lifestyle changes in the aging process. Jeannette Graf continues the discussion of anti-aging in Chap. 2, "Anti-aging Skin Care Ingredient Technologies," focusing on molecular changes at the cellular level and the impact of nutrients upon physiological processes. Topic discussion goes beyond antioxidants and free radical damage and focuses on the role of peptides, beta-glucan, polyphenols, and other molecular structures of cell life.

"Photoaging and Pigmentary Changes of the Skin" (Chap. 3), by Susan C. Taylor, begins by first differentiating clinical characteristics between intrinsic aging and photoaging and then proceeds to a comprehensive discussion of the clinical characteristics of photoaging and pigmentary changes in Asians, African Americans, and Caucasians.

The history of chemical peels dates back to the Egyptians and has become increasingly popular in the arena of anti-aging medicine. Chapter 4, "Chemexfoliation and Superficial Skin Resurfacing," by Paula E. Bourelly and Angela J. Lotsikas-Baggili, reviews chemical peeling agents and techniques. Since its introduction in 1995, microdermabrasion has gained popularity and is also covered.

In Chap. 5, "Botulinum Toxin," I cover the history, science, and treatment of botulinum toxin. Indications, patient selection, pretreatment considerations, postinjection considerations, complications, and adverse reactions are highlighted. Along with botulinum toxin, my specialty includes tissue augmentation. Tissue augmentation offers an alternative to invasive surgical procedures for facial aging and is the fastest growing segment among plastic and dermatologic procedures. In "Soft Tissue Augmentation" (Chap. 6), I discuss numerous augmentation options, ranging from natural to synthetic fillers, which confront practitioners. Treatment considerations surrounding permanent and temporary fillers are also highlighted.

Chapter 7, "Laser Skin Resurfacing," by Tina S. Alster and Seema Doshi, details ablative and nonablative technologies. Ablative technology has historically led to excellent clinical outcomes, particularly with one or a combination of the CO<sub>2</sub> and Er:YAG lasers, although these procedures usually require significant downtime. Younger patients desiring less aggressive methods of photo rejuvenation or procedures resulting in less downtime are good candidates for the rapidly evolving nonablative procedures. Results achieved with nonablative technology, however, are subtler and take several months. Side-effects profiles can be significant with both approaches, and the importance of clinical technique, postoperative treatment, and patient selection are detailed.

"Sclerotherapy," Chap. 8, by Jonith Breadon, first reviews physiological factors involved in the development of varicose veins, a condition affecting up to 60% of the population, which is associated with pain, lipodermatosclerosis, venous ulcerations, thrombophlebitis, and deep vein thrombosis. Jonith Breadon's discussion of specific techniques, treatment planning, and patient evaluation offers insights that even veteran practitioners will find useful.

Collectively, these eight chapters meet the needs of a diverse target audience. Those wishing information on a single topic only will find the chapters can be read independently. Dermatologists seeking to broaden their expertise will find the presentations up to date, well researched, and clinically relevant. The chapters

do not offer “how to” instruction, but practitioners will find a plethora of issues to consider that will assist them in clinical decision making. Dermatologists by no means have a monopoly on cosmetic enhancements. Other cosmetic specialties will find much useful information that will enrich their patient consultations and clinical practice. Finally, this book will benefit dermatology residents and medical students alike as these topics are core to most medical training curricula.

Many of today’s treatment interventions were nonexistent just 20 years ago. Like other medi-

cal specialists, today’s cosmetic dermatologists are practicing in a time when diagnostics and treatment advances are exploding at an exponential rate. It is truly an extraordinary time for dermatologists and their patients – a time filled with exciting challenges and options. And I hope this book in some small way conveys both the excitement and the challenge!

**Cheryl M. Burgess, M.D.**

November 2004

# Contents

<b>1</b>	<b>Medicine As It Relates to Dermatology</b> . . . . .	<b>1</b>	<b>5</b>	<b>Botulinum Toxin</b> . . . . .	<b>83</b>
	Rafaela M. Quiroga			Cheryl M. Burgess	
<b>2</b>	<b>Anti-aging Skin Care Ingredient Technologies</b> . . . . .	<b>17</b>	<b>6</b>	<b>Soft Tissue Augmentation</b> . . . . .	<b>93</b>
	Jeannette Graf			Cheryl M. Burgess	
<b>3</b>	<b>Photoaging and Pigmentary Changes of the Skin</b> . . . . .	<b>29</b>	<b>7</b>	<b>Laser Skin Resurfacing</b> . . . . .	<b>111</b>
	Susan C. Taylor			Tina Alster, Seema Doshi	
<b>4</b>	<b>Chemexfoliation and Superficial Skin Resurfacing</b> . . . . .	<b>53</b>	<b>8</b>	<b>Sclerotherapy</b> . . . . .	<b>127</b>
	Paula E. Bourelly, Angela J. Lotsikas-Baggili			Jonith Breadon	
				<b>Subject Index</b> . . . . .	<b>167</b>

# List of Contributors

**Tina Alster, M.D., F.A.A.D.**

(e-mail: Tina.alster@skinlaser.com)  
2311 M Street, NW Suite 200  
Washington, D.C. 20037, USA

**Paula E. Bourelly, M.D.**

(e-mail: pbourelly@yahoo.com)  
2412 Norbeck Farm Place  
Olney, MD 20832, USA

**Jonith Breadon, M.D.**

2525 N. Lincoln Ave.  
Chicago, IL 60614, USA

**Cheryl M. Burgess, M.D., F.A.A.D.**

(e-mail: Cheryl.burgess@  
ctr4dermatology.com)  
2311 M Street, NW Suite 504  
Washington, D.C. 20037, USA

**Seema Doshi, M.D.**

Washington Institute of Dermatologic Laser  
Surgery, Washington, D.C., USA

**Jeannette Graf, M.D., F.A.A.D.**

(e-mail: JOG88@aol.com)  
88 Bayview Ave.  
Great Neck, NY 11021, USA

**Angela J. Lotsikas-Baggili, M.D.**

(e-mail: lotsikaa@yahoo.com)  
1610 Grace Church Road  
Silver Spring, MD 20910, USA

**Rafaela M. Quiroga, M.D.**

(e-mail: rafaeladermdoc@hotmail.com)  
5353 Columbia Pike Suite #604  
Arlington VA 22204, USA

**Susan C. Taylor, M.D.**

(e-mail: Drstaylor1@aol.com)  
932 Pine Street  
Philadelphia, PA 19107, USA