Contents

Contributors, viii
Foreword, xii
Preface, xiii

Part I: Basic Concepts, 1

Section 1: Skin Physiology Pertinent to Cosmetic Dermatology, 3

1 Epidermal Barrier, 3
   Sreekumar Pillai, Megan Manco, and Christian Oresajo

2 Photoaging, 13
   Kira Minkis, Jillian Havey Swary, and Murad Alam

3 Pigmentation and Skin of Color, 23
   Jasmine C. Hollinger, Chesalna Kindred, and Rebat M. Halder

4 Sensitive Skin and the Somatosensory System, 33
   Francis McGlone and David Reilly

5 Novel, Compelling, Non-invasive Techniques for Evaluating Cosmetic Products, 42
   Thomas J. Stephens, Christian Oresajo, Lily I. Jiang, and Robert Goodman

6 Contact Dermatitis and Topical Agents, 52
   David E. Cohen, Alexandra Price, and Sarika Ramachandran

Section 2: Delivery of Cosmetic Skin Actives, 65

7 Percutaneous Delivery of Cosmetic Actives to the Skin, 65
   Sreekumar Pillai, Surabhi Singh, and Christian Oresajo

8 Creams and Ointments, 75
   Irwin Palefsky

Part II: Hygiene Products, 81

Section 1: Cleansers, 83

9 Bar Cleansers, 83
   Anthony W. Johnson, K.P. Ananthapadmanabhan, Stacy Hawkins, and Greg Nole

10 Personal Cleansers: Body Washes, 96
    Keith Ertel and Heather Focht

11 Facial Cleansers and Cleansing Cloths, 103
    Thomas Barlage, Susan Griffiths-Brophy, and Erik J. Haseneohrl

12 Hand Cleansers and Sanitizers, 110
    Duane Charbonneau

13 Shampoos for Normal Scalp Hygiene and Dandruff, 124

Section 2: Moisturizers, 132

14 Facial Moisturizers, 132
    Yohini Appa

15 Hand and Foot Moisturizers, 139
    Teresa M. Weber, Andrea M. Schoelermann, Ute Breitenbach, Ulrich Scherdin, and Alexandra Kowcz

16 Sunless Tanning Products, 148
    Angelike Galdi, Peter Foltis, and Christian Oresajo

17 Sunscreens, 153
    Dominique Moyal, Angelike Galdi, and Christian Oresajo

Section 3: Personal Care Products, 160

18 Antiperspirants and Deodorants, 160
    Eric S. Abrutyn

19 Blade Shaving, 166
    Kevin Cowley, Kristina Vanoosthuyze, Gillian McFeat, and Keith Ertel

Part III: Adornment, 175

Section 1: Colored Facial Cosmetics, 175

20 Facial Foundation, 177
    Sylvie Guichard and Véronique Roulier

21 Camouflage Techniques, 186
    Anne Boulèc

22 Lips and Lipsticks, 193
    Catherine Heusèlè, Hervé Cantin, and Frédéric Bonté
23 Eye Cosmetics, 199
   Sarah A. Vickery, Robyn Kolas, and Fatima Dicko

Section 2: Nail Cosmetics, 207

24 Nail Physiology and Grooming, 207
   Anna Hare and Phoebe Rich

25 Colored Nail Cosmetics and Hardeners, 217
   Paul H. Bryson and Sunil J. Sirdesai

26 Cosmetic Prostheses as Artificial Nail Enhancements, 226
   Douglas Schoon

Section 3: Hair Cosmetics, 234

27 Hair Physiology and Grooming, 234
   Maria Hordinsky, Ana Paula Avancini Caramori, and Jeff C. Donovan

28 Hair Dyes, 239
   Rene C. Rust and Harald Schlatter

29 Permanent Hair Waving, 251
   Annette Schwam-Jonczyk, Gerhard Sendelbach, Andreas Plohr, and Rene C. Rust

30 Hair Straightening, 262
   Harold Bryant, Felicia Dixon, Angela Ellington, and Crystal Porter

31 Hair Styling: Technology and Formulations, 270
   Thomas Krause and Rene C. Rust

Part IV: Anti-aging, 281

Section 1: Cosmeceuticals, 283

32 Botanicals, 283
   Carl R. Thornfeldt

33 Antioxidants and Anti-inflammatories, 295
   Bryan B. Fuller

34 Peptides and Proteins, 308
   Karl Lintner

35 Cellular Growth Factors, 318
   Rahul C. Mehta and Richard E. Fitzpatrick

36 Topical Cosmeceutical Retinoids, 325
   Olivier Sorg, Gürkan Kaya, and Jean H. Saurat

37 Topical Vitamins, 336
   Donald L. Bissett, John E. Oblong, and Laura J. Goodman

38 Clinical Uses of Hydroxyacids, 346
   Barbara A. Green, Eugene J. Van Scott, and Ruey J. Yu

39 The Contribution of Dietary Nutrients and Supplements to Skin Health, 357
   Helen Knaggs, Steve Wood, Doug Burke, Jan Lephart, and Jin Namkoong

Section 2: Injectable Anti-aging Techniques, 364

40 Botulinum Toxins, 364
   J. Daniel Jensen, Scott R. Freeman, and Joel L. Cohen

41 Hyaluronic Acid Fillers, 375
   Mark S. Nestor, Emily L. Kollmann, and Nicole Swenson

42 Calcium Hydroxylapatite for Soft Tissue Augmentation, 380
   Stephen Mandy

43 Autologous Skin Fillers, 385
   Amer H. Nassar, Andrew S. Dorizas, and Neil S. Sadick

44 Polyactic Acid Fillers, 390
   Kenneth R. Beer and Jacob Beer

Section 3: Resurfacing Techniques, 395

45 Superficial Chemical Peels, 395
   M. Amanda Jacobs and Randall Roenigk

46 Medium Depth Chemical Peels, 402
   Gary D. Monheit and Virginia A. Koubek

47 CO2 Laser Resurfacing: Confluent and Fractionated, 412
   Mitchel P. Goldman and Ana Marie Liolios

48 Nonablative Lasers, 429
   Adam S. Nabatian and David J. Goldberg

49 Dermabrasion, 437
   Christopher B. Harmon and Daniel P. Skinner

Section 4: Skin Modulation Techniques, 445

50 Laser-assisted Hair Removal, 445
   Keyvan Nouri, Voraphol Vejjabhinanta, Nidhi Avashia, and Jinda Rojanamatin

51 Radiofrequency Devices, 451
   Vic Narurkar

52 LED Photomodulation for Reversal of Photoaging and Reduction of Inflammation, 456
   David McDaniel, Robert Weiss, Roy Geronemus, Corinne Granger, and Leila Kanoun-Copy

Section 5: Skin Contouring Techniques, 463

53 Liposuction: Manual, Mechanical, and Laser Assisted, 463
   Anne Goldsberry, Emily Tierney, and C. William Hanke
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>Liposuction of the Neck, 476</td>
<td>Kimberly J. Butterwick</td>
</tr>
<tr>
<td>55</td>
<td>Hand Recontouring with Calcium Hydroxylapatite, 485</td>
<td>Kenneth L. Edelson</td>
</tr>
<tr>
<td>56</td>
<td><strong>Section 6: Implementation of Cosmetic Dermatology into Therapeutics, 492</strong></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Anti-aging Regimens, 492</td>
<td>Karen E. Burke</td>
</tr>
<tr>
<td>58</td>
<td>Over-the-counter Acne Treatments, 501</td>
<td>Emmy M. Graber and Diane Thiboutot</td>
</tr>
<tr>
<td>59</td>
<td>Eczema Regimens, 517</td>
<td>Zoe D. Draelos</td>
</tr>
<tr>
<td>60</td>
<td>Psoriasis Regimens, 522</td>
<td>Laura F. Sandoval, Karen E. Huang, and Steven R. Feldman</td>
</tr>
</tbody>
</table>

Index, 529