Contents

1. Evolution of Hair 1
Lakshmi DV, S Sacchidanand

- Convergent Evolution *1*
- Scale as a Basal State for Hair Follicle *1*
- Molecular Evolution of α- and β-keratin *3*
- Relative Hairlessness in Humans *3*

2. Hair Anatomy 5
Shilpa K, S Sacchidanand

- Types of Hair *5*
- Morphological Variants of Hair *7*
- Composition of Hair *8*
- Development of Hair Follicles *8*
- Anatomy of the Hair Follicle *9*
- Hair Shaft *14*
- Hair Cycle *16*
- Functions of Hair *20*

3. An Approach to a Patient with Hair Disorder 24
S Sacchidanand, Archana L

- History *24*
- Daily Hair Count Test *30*
- Standardized Wash Test *31*
- 60-Second Hair Count Test *31*
- Hair Pull Test *32*
- Global Photography Technique *32*
- Dermoscopy and Videodermoscopy *32*
- Hair Pluck Test/Trichogram *33*
- Unit Area Trichogram (UAT) *33*
- Phototrichogram (PTG) *33*
- Scalp Biopsy *35*

4. Genetic Hair Disorders 39
Arun C Inamadar, Vishalakshi S Pandit, Aparna Palit

- Monilethrix (Synonym: Beaded Hair) *39*
- Pseudomonilethrix *41*
- Pili Torti (PT) (Synonym: Twisted Hair, Corkscrew Hair) *41*
- Menkes Disease (Synonyms: Kinky Hair Disease, Trichopoliodystrophy, Steely Hair Disease) *44*
- Netherton Syndrome (Synonyms: Netherton's Disease, Bamboo Hair) *47*
- Trichothiodystrophy (Acronyms: PIBIDS, IBIDS and BIDS) *50*
- Ectodermal Dysplasia *53*

5. Hair Shaft Disorders 57
Savitha AS, S Sacchidanand
- Classification of Hair Shaft Disorders *57*
- Infections *68*
- Applications of Wood's Lamp in Hair Shaft Disorders *69*

6. Bacterial Infections of Hair and Scalp 72
Leelavathy B, Eswari L
- Classification *72*
- Diseases of the Scalp Due to Presumed Bacterial Etiology *80*
- Disorders of the Scalp in Other Bacterial Infections *84*

7. Fungal Infections of Hair and Scalp 86
R Madhu, C Janaki, G Sentamil Selvi
- Trichomycoses Caused by Dermatophytes *86*
- Pathogenesis *88*
- Piedra *94*
- Pityriasis Capitis Simplex/Seborrheic Dermatitis *96*

8. Pediculosis Capitis 99
Savitha AS
- Structure *99*
- Life Cycle *99*
- Epidemiology *99*
- Risk Factors for Transmission *100*
- Clinical Features *100*
- Differential Diagnosis *101*
- Treatment *101*
- Complications *103*
- Prognosis *103*

9. Scalp Disorders: Itchy and Scaly Scalp 105
Manjunath Shenoy M
- Pathophysiology of Itch (Pruritus) *105*
- Clinical Characteristics *107*
- Lichen Planus *109*
- Lichen Simplex *110*
- Diagnosis *111*
- Treatment *111*

10. Alopecia Areata 115
Eshini Perera, Rodney Sinclair
- Epidemiology *115*
- Etiology *115*
- Clinical Presentation *116*
- Differential Diagnosis *117*
- Physical Examination *117*
- Investigations *118*
- Histopathology *118*
- Management *118*
- Course of Disease *124*

11. Androgenetic Alopecia 128
Eshini Perera, Rodney Sinclair

- Epidemiology *128*
- Clinical Presentations *128*
- Etiology *128*
- Pathogenesis *129*
- Evaluation of Hair Loss *131*
- Serial Photography *133*
- Scalp Biopsies *133*
- Histopathology *134*
- Management *134*

12. Hair Loss in Women 141
Ralph M Trüeb

- Pathologic Dynamics of Hair Loss *141*
- Etiologies and Clinical Presentations *142*
- Dystrophic Anagen Effluvium *143*
- Telogen Effluvium *144*
- Androgenetic Alopecia *145*
- Postpartum Hair Loss *146*
- Menopause *146*
- Senescent Alopecia *146*
- Seasonality of Hair Growth and Shedding *147*
- Inflammatory Phenomena and Scarring *148*
- Postmenopausal Frontal Fibrosing Alopecia *148*
- Fibrosing Alopecia in a Pattern Distribution *148*
- Acute Diffuse and Total Alopecia of the Female Scalp *149*
- Psychogenic Pseudoeffluvium *150*
- Tonsure Trichotillomania *150*
- Adjustment Disorders *150*
- Quantitating Hair Loss *151*
- Value of Trichoscopy for Differential Diagnosis *151*
- Treatment *152*
- Value of Oral Supplementation Therapy *153*
- Treatment of Female Androgenetic Alopecia *153*
- Value of Hair Care *155*
- Autologous Hair Transplantation *156*
- Hair Prosthesis *156*
- Psychological Counseling *157*

13. Telogen Effluvium 162
Neelima Sharma, S Sacchidanand

- Definition *162*
- Burden *162*
- Impact on the Individual *162*
- Triggers *162*
- Physiological Condition *162*
- Dietary Triggers *164*
- Stress *166*
- Endocrine Dysfunction *166*
- Inflammatory Scalp Diseases *166*

- Drugs and Supplements *166*
- Pathogenesis *167*
- Classification *167*
- Diagnosis *169*
- Physical Examination *169*
- Treatment *171*
- Patient Education *171*
- Management of Triggers *171*
- Specific Treatments *172*
- Camouflage and Scalp Prosthesis *173*
- Surgery *173*

14. Hair and Endocrine System 175

Neelima Sharma

- Androgens *176*
- Estrogen *181*
- Thyroid Hormones *182*
- Vitamin D *183*
- Prolactin *184*
- Growth Hormone and Insulin-like Growth Factor *185*
- Insulin *185*
- Parathyroid Hormone *186*
- Melatonin *186*
- Glucocorticoids *187*
- Corticotropin-releasing Factor *187*
- Erythropoietin *187*

15. Cicatricial Alopecia 190

Ashok Kumar Jaiswal, TS Nagesh

- Epidemiology *190*
- Classification *190*
- Primary Cicatricial Alopecia *192*
- Secondary Cicatricial Alopecia *202*
- Cicatricial Alopecia: At a Glance *207*

16. A. Hirsutism 209

KC Nischal, Urmila Nischal

- Epidemiology *209*
- Etiopathogenesis *209*
- Clinical Features *215*
- Investigations *216*
- Management of Hirsutism *219*
- Treatment *220*

B. Hypertrichosis 228

S Sacchidanand, Divya Gorur

- Definition *228*
- Hypertrichosis of Lanugo Hair *228*
- Hypertrichosis of Vellus Hairs *230*
- Hypertrichosis of Terminal Hairs *230*

17. Hair and Nutrition 235
Shashikumar BM
- Protein-Energy Malnutrition (PEM) *235*
- Deficiency of Vitamins *236*
- Essential Fatty Acids (EFA) *238*
- Deficiency of Micronutrients *238*
- Treatment *239*

18. Cultural Influence on Hair Disorders 241
D Dinesh Kumar, Anoosha P
- Structural Evaluation *241*
- Hair Care Practices Among Different Cultures *242*
- Association of Hair and Scalp Disorders with the Prevailing Cultural Trends *244*

19. Canities 247
Asha GS, Lakshmi DV
- Epidemiology *247*
- Pathophysiology *247*
- Pattern of Graying *249*
- Characteristics of Gray Hair *249*
- Classification *249*
- Primary Diffuse Hypopigmentation of Hair *249*
- Poliosis *253*
- Alteration of Hair Color Due to Exogenous Agents *255*
- Management *255*

20. Follicular Tumors 259
Rajiv Sharad Joshi
- Functional Anatomy of the Hair Follicle *259*
- Keratinization of Various Follicular Structures *260*

21. Psychosomatic Hair Disorders 273
Smitha Prabhu, Sudhir Nayak UK, Shrutakirthi D Shenoi
- Primary Psychotrichological Conditions *273*
- Primary Trichological Condition with Secondary Psychological Impact *276*
- Multifactorial Diseases Affecting the Scalp *277*

22. Shampoos and Conditioners 285
Anil Abraham
- 'Genealogy' of the Current Day Shampoo *285*
- Definition *285*
- Shampoos that Address Specific Needs *287*
- Adverse Reactions to Shampoos *288*

23. Follicular Unit Transplantation 290
Manoj Khanna, Dolly Gupta
- History and Evolution of Hair Transplantation *290*
- Theory of Donor Dominance: Basis of Hair Transplantation *290*
- Mini-micro Grafting *291*
- Follicular Units and Follicular Unit Transplantation *292*

- Hair Transplantation in Females *300*
- Hair Transplantation under Special Situation *300*
- Limitations of Follicular Unit Transplantation *301*

24. Recent Advances in Hair Transplantation 303
Venkataram Mysore, Raghini Ghiya
- Improving Donor Scar *303*

25. Laser Hair Removal 311
Sanjeev J Aurangabadkar
- Definition *311*
- Hair Growth Cycle *312*
- Principle of Laser Kinetics and Dynamics for Hair Reduction *312*
- Types of Lasers for Hair Removal *312*
- Indications *313*
- Contraindications *314*
- History and Examination *314*
- Preprocedure Workup *314*
- Laser Hair Removal Procedure *314*
- Hair Reduction Systems *315*
- Newer Concepts in Laser Hair Removal *317*
- Choosing Appropriate Patients *317*
- Complications *318*

26. Mesotherapy for Hair and Scalp Disorders 320
Maya Vedamurthy
- Principle of Mesotherapy *320*
- Techniques used in Mesotherapy for Hair *321*
- Ingredients used in Mesotherapy for Hair Loss *323*
- Indications *323*
- Treatment Protocol and Procedure *323*
- Postmesotherapy Instructions/Care *323*
- Contraindications *323*
- Adverse Effects *324*
- Position of Mesotherapy *324*
- Advantages of Mesotherapy *324*

27. Hair Cosmetics 325
Malavika Kohli, Sheena Bansal
- Hair Treatments *325*
- Styling Aids *326*

28. Platelet Rich Plasma in Trichology 333
S Sacchidanand, Lakshmi DV
- Definition *333*
- Mechanism of Action *333*
- Growth Factors of Platelet Rich Plasma *333*
- Classification of Platelet Concentrates *333*
- Method of Preparation of Platelet Rich Plasma (PRP) *335*
- Factors Affecting Platelet Yield and Viability *335*
- Indications for Platelet Rich Plasma *335*
- Advantages of Platelet Rich Plasma *338*

29. Stem Cell Therapy in Hair Restoration 340
Eswari L, S Sacchidanand

- Stem Cells *340*
- Hair and Stem Cells *340*
- Human Induced Pluripotent Stem Cells *341*
- Human Hair Follicle Stem Cells (HFSCs) *342*
- Heterologous Mesenchymal Stem Cells *342*
- Criteria to Define Mesenchymal Stem Cells *342*
- Therapeutic Effects of Mesenchymal Stem Cells *343*
- Limits of Mesenchymal Stem Cells *343*

30. Overview of Management of Disorders of Hair and Scalp.....345
Prabhakar M Sangolli

- Alopecia *345*
- Scaling Disorders *348*

Index 353