Textbook of Aging Skin
Dedicated to those on a forgotten and sometimes lonely and scary aging journey—much more dignity and respect are deserved for all of you.

– MAF, KWM and HIM

When things go wrong as they sometimes will,
When the road you’re trudging seems all uphill,
When the funds are low and the debts are high,
And you want to smile but you have to sigh,
When care is pressing you down a bit
Rest if you must, but don’t you quit.
Success is failure turned inside out,
The silver tint on the clouds of doubt,
And you can never tell how close you are,
It may be near when it seems afar.
So, stick to the fight when you’re hardest hit
It’s when things go wrong that you mustn’t quit.

—Unknown
Deep appreciation and grateful thank-yous are extended to the significant efforts of many people who contributed both knowingly and indirectly to this book, by dedicating their valuable time in preparing their chapters. This book represents the fruits of a jointly conceived and executed venture, and has also benefited from global and diverse partners.

A special thank-you to Dr. Mark Dato and Mr. Ron Visscher for generously offering their time and expertise in peer-reviewing the relevant chapters and extending their immense support to this book. No praise is excessive for their efforts, and our heartfelt gratitude goes to them.

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Above all, we extend our everlasting gratitude and love to our parents, who inspired us and to our families and children, who supported and encouraged us all the way with their incredible patience. Only their continuous care, unconditional love, and incomparable sacrifice made all this possible, and easy to achieve.

Miranda A. Farage
Kenneth W. Miller
Howard I. Maibach

Cincinnati and San Francisco
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Foreword

The population is aging rapidly. Centenarians are no longer a rarity. The fastest growing segment of the population in the United States is people over 80. In the next 25 years, half of the population in the United States will be aged over 50.

These shifts will have a tremendous impact on the delivery of healthcare to the elderly and will require a new awareness of how cutaneous disorders affect the quality of life, comprising a heavy burden on health and wellbeing.

Physicians and healthcare workers are woefully ignorant of the distress, discomfort, and anxieties of people afflicted by disorders of the skin. There exists a widespread misconception that skin disorders are simply cosmetic nuisances that can be self-treated by a great assortment of anti-aging creams and lotions available at the local drug store. Most of these include high-sounding ingredients such as antioxidants, vitamins, nutrients, botanicals, and ancient folkloristic remedies, the efficacy and safety of which have never been tested. They offer little more than hope in a bottle. The fact is that common skin diseases may not often be lethal but can ruin enjoyment of life. Chronic itchy rashes can be maddening, lowering one’s self-esteem, embarrassing, interfering with sleep, and often accompanied by depression, social isolation, and deterioration of appearance; they can also be uncomfortable, and, not least, costly to treat.

The elderly commonly take 15–20 oral supplements daily to fight the ailments of old age. These are generally useless and may be harmful, often interacting adversely with prescription drugs. The elderly often resort to alternative medicines instead of seeing their doctor to obtain FDA-approved drugs, and also often skip their daily doses to save money. Noncompliance is common. Misdiagnosis and mistreatment of the elderly by health-care workers are common. National surveys show that skin diseases increase steadily throughout our lifespan. Old people may have as many as 5–10 coexistent cutaneous problems that are worthy of medical attention. Moreover, the clinical manifestations of skin diseases in the aged often have different appearances than in the young, confounding diagnosis. Importantly, healing of chronic lesions, especially ulcers, is impaired in the elderly. Immunity is weakened, increasing susceptibility to infections. Response to treatment is slower, leading to noncompliance. Adverse drug reactions are common and too commonly not suspected. Management of chronic conditions is difficult and frustrating.

The above litany of problems makes this textbook edited by Farage, Miller, and Maibach a welcome addition to the literature. It is invaluable as a reference resource covering exhaustively an enormous number of clinical conditions. No topic is neglected including cosmetic treatments. The numerous contributions are by highly qualified experts who have a published record of expertise.

This comprehensive volume is also practical and relevant to the everyday world of clinical practice. The information will be useful to physicians, manufacturers of drugs and skincare products, educators, investigators, nursing home personnel, estheticians, and federal regulators.

This first edition is up-to-date, including much new material that belongs to the shelves of every library, which deals with geriatric problems. Dermatologists especially will be remiss if they do not put this volume within easy reach for consultation as they encounter a swelling clientele of aging patients.

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Preface

The skin is a portal of knowledge on aging. From its softness and smoothness in infancy, through its suppleness in youth, to its wrinkled texture in elders, the skin displays the most visible and accessible manifestations of aging.

Due to falling birth rates and rising life expectancies in industrialized countries, the average age of the population is increasing. Research interest in the process of aging has grown and people are becoming obsessed with looking and “staying” young.

Although excellent compendia exist on the subject of aging skin, the body of knowledge is burgeoning. Consequently, this handbook compiles information into one comprehensive reference. It covers a range of topics, from the basics of skin structure and function, to the cellular and molecular mechanisms of aging, to the latest bioengineering instruments used to assess age-related changes in the skin. The Nobel Prize in Physiology and Medicine awarded in 2009 to Drs. E. H. Blackburn, C. W. Greider and J. W. Szostak will stimulate research that will ameliorate the effects of aging on the organ systems of both humans and animals.

This textbook will simplify approaches when the skin may be an efficient approach to aging based on Dr. Blackburn’s team research. The skin approachability and the opportunities to work on humans will provide us in the near future with rapid therapeutic and preventive applications.

Contributors are internationally recognized experts from multiple disciplines germane to this topic. We gratefully acknowledge all contributors for sharing their time and expertise.

We expect this handbook to be valuable to researchers and students with an interest in aging skin. Because research progress in this area is so rapid, we hope to update this compendium periodically as advances in the field dictate.

The editors welcome suggestions for the second edition.

Miranda A. Farage, Kenneth W. Miller, and Howard I. Maibach
October 2009
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