Prefaces

Reconstructive surgery of burns, especially of extensive burns, is a topic that requires the ideas and inspiration of plastic surgeons. Traditionally, it is considered that almost all burn wounds can be reconstructed using simple skin grafting. However, sophisticated reconstructive surgery based on knowledge of various surgical methods is needed to accomplish both functionally and cosmetically acceptable long-term results. The contents of this book represent ideal *guidelines* for burn reconstructive surgery and were provided by authors from 14 different countries. In other words, this book is the grand sum of the newest surgical technologies and strategies proposed by plastic surgeons.

I have been involved in reconstruction surgery for extensive burns since I became a plastic surgeon. I have developed many reconstructive procedures and have been able to apply these methods clinically. Burn reconstruction has brought many thoughts to develop flap surgical methods to me. Moreover, I have realized that burn reconstruction should be accomplished via an all-out mobilization of knowledge on flap surgery and that this is an area that requires continual development of surgical methods. However, I have met many plastic surgeons who are performing novel and innovative methods. This book is a collection of these worldwide experiences. I hope that this book will provide great benefits for burn patients worldwide.

Tokyo, Japan — Hiko Hyakusoku, MD, PhD

Damage to skin from thermal, electrical or chemical injury has devastating effects on aesthetic and functional outcomes of burn victims. The stigmata of burn patients remains one of the most devastating injuries that man can survive. Fortunately, over the last 30 years, there have been simultaneous advances in scar biology, materials science and knowledge of microanatomy, surgical techniques, transplantation and cell culture. As a result there are now many treatment options available that give greater hope to our patients restoring function and improving their societal interactions.

In this atlas, Dr. Ogawa has brought together the world's experts to review the important topics of super-thin flaps, pre-fabricated flaps, dermal and epidermal replacements as well as vacuum-assisted closure technologies. This atlas will be an important resource for practicing plastic surgeons as well as students and residents in training. Examples in the atlas will also be valuable for patient education of these varied techniques.

Boston, MA, USA

Julian J. Pribaz, MD
Dennis P. Orgill, MD, PhD

Burns represent a pathology remaining among the hardest to heal wounds. Even if important progresses in rescucitation allowed life-threatening body surfaces to regress during the last 50 years, force is to recognize that restoring the original function after extensive and deep burns requires a long period of fight against contractures, hypertrophy and tissue shortening. A multi-disciplinarity approach is mandatory to obtain a return to the social and working life, but skin has changed for the rest of the life of the patient.

The development of microsurgery in the 80s, followed by an intense activity in anatomical studies could evidence the angiosomes and the skin, muscle, tendon and bone vascular cartographies. From this era, all types of flaps were proposed, including pre-fabricated and perforator flaps, a founding melting pot and a source of intense activity for the new plastic and reconstructive surgery. This atlas details how to use them in burn reconstructive surgery.

During the last decade, the surgical possibilities of dermal replacement becomes more and more efficient. The recent development of tissue engineering, leading to added biological similarities with the normal skin, opens a new space for reflexion and trials, based on cell–extracellular matrix interactions via cytokines and growth factors.

The need for repairing the cosmetic outcome of facial burns remains a social challenge and will certainly be a long-term contract for the new generation of burns specialists and plastic surgeons.

Montpellier, France Luc Téot, MD, PhD

Every reconstructive surgeon thinks that evidence-based burn reconstruction is an ideal method; however, it is yet to be established. The reason for this may be that every single wound or scar is unique. Moreover, the color, texture, thickness and hardness of the skin vary according to human race, age, sex and body site. Thus, we are forced to select treatment methods on a case-by-case basis according to the limited experience of each surgeon.

Meanwhile, during the finishing stage of reconstruction, large parts of the surgical procedure should include elements of aesthetic surgery. In this stage, it may not be an exaggeration to state that evidence-based surgery is not beneficial. Treatment methods should be selected and performed based on the aesthetic sense and cultivated sensitivity of each surgeon. Evidence-based surgery and artistic reconstruction represent a big dilemma that is posed to every burn reconstructive surgeon.

I believe this book, which is entitled *Color Atlas of Burn Reconstructive Surgery* provides an answer for this particular dilemma. This answer may be the fusion of evidence-based surgery and artistic reconstruction. After reading this book, the surgeon will recognize what part of the reconstruction should be carried out using evidence-based surgery and what part should be performed artistically. We should not give up on the generation of evidence-based standardized protocols for patient safety or on the education of younger-generation surgeons. In addition, we should not neglect artistic reconstruction at any time.

In this book, international authors who have wide perspectives in burn reconstructive surgery shared their own valuable experiences and concepts about the characteristics and indications of their methods. The contents include wound management, classification and evaluation of wounds/scars, various artistic and geometric methods and future treatment strategies from a “regenerative medicine” standpoint. I hope that this book will enhance the work of burn reconstructive surgeons and confer tremendous benefits to burn patients.

Finally, I thank all authors and coeditors who have taken time from their busy schedules to assemble this book. In addition, I appreciate the tremendous help of Ms. Ellen Blasig at Springer in Germany. Her contribution was essential for the accomplishment of this project. Moreover, I thank the illustrator Mr. Kazuyuki Sugiu from Studio Sugi’s for preparing the figures.

Tokyo, Japan Rei Ogawa, MD, PhD