
P R E F A C E

Perforator flaps represent the latest milestone in the evolution of reconstructive flap surgery. As our understanding of the vascular anatomy of perforators has advanced, we have come to recognize the large network of perforator vessels present throughout the body and their potential for flap dissection. We now understand that any skin flap can be harvested, as long as it incorporates a perforator vessel that can be dissected. So, instead of first searching for the perforator and then determining the skin island overlying the vessel, we can now select a donor skin island that is a match to the recipient site in skin, color, thickness, texture, and subcutaneous fat quality, and then identify a nourishing perforator in the deeper tissues. The implications of this discovery are of major import to all reconstructive surgeons. We are no longer bound by the traditional conventions of flap surgery. More attention can be paid to the aesthetic quality of the reconstruction at the recipient site. Thus, with perforator flaps, we have progressed from the era of simply closing defects to that of customizing our reconstructions to achieve the best functional and aesthetic result in the reconstructed site as well as the donor site.

Although interest in perforator flap technique is growing worldwide, there is a relative paucity of reference materials to guide the surgeon interested in learning about these flaps and their clinical applications. This book has been written to fill that void. We have long been aware of the special advantages of perforator flaps and the need to educate our colleagues about this reconstructive advance. Thus we have collaborated on this project, combining our anatomic research and clinical experience, to provide an up-to-date reference that covers the entire spectrum of perforator flap applications known worldwide. We hope this work will convey our enthusiasm for these flaps and their potential for reconstructive surgery.

Our contributors are leading experts in the field of perforator flap surgery; they have added tremendous depth to this project. Many are the pioneers who blazed the trails to bring us to this point in the development of the perforator flap technique. Although as editors we are well aware of the organizational challenges that a multiauthored, two-volume textbook presents, we have made every effort to avoid potential weaknesses and build on obvious strengths. Thus great care has been taken to develop consistent formats for the chapters in each section and to create artwork and present anatomic studies that serve as a unifying theme throughout. We have also attempted to preserve the special voice and character of each contributor. We regard their divergent views and approaches as a distinct advantage for the reader, a culmination of expertise drawn from a worldwide perspective.

This book is unique in its coverage. For the first time all current information about existing perforator flaps has been gathered in one comprehensive work. The goal is to provide the reader with an overview of all skin flaps available today, and their potential applications in daily clinical practice. We have standardized the nomenclature throughout the chapters to facilitate improved and consistent communication and to guide future research. The anatomic injection studies throughout the book demonstrate the vast number of flaps that can be harvested on perforators throughout the body. If one masters the technique for freeing the perforator vessels from surrounding tissues, the only limitations to the development of new perforator flaps will be the individual surgeon's ingenuity, creativity, and surgical skill. Equipped with this anatomic knowledge, we hope that others will be inspired to create, develop, and share new methods for tissue transfer.

This book is divided into four parts. Part I focuses on the fundamentals of perforator flap surgery. It includes a historical overview as well as chapters on anatomy, nomenclature, physiology, basic technique, planning, and complications. We regard this introductory section as essential reading for the neophyte surgeon learning basic technique as well as the experienced reconstructive surgeon seeking to refine and enhance skills. Of particular note are the technical considerations described in Chapters 6 and 7, which are intended to help the reader avoid numerous potential pitfalls associated with perforator flap surgery. Part II is a region-by-region guide to the anatomy and surgical technique used for obtaining specific flaps from the head and neck, upper extremity, trunk, and lower extremity. Chapters in this section provide a thorough review of all currently described perforator flaps. Part III focuses on clinical applications for the various flaps for reconstructing defects in each body region. Part IV is an amalgam of unusual, unique, or futuristic topics. It includes innovations in flap design, free style free or pedicled flaps, supermicrosurgery, and nonmuscle perforator flaps. In the final chapter, "Concluding Thoughts," we discuss the current state of the art and philosophize about future directions. As has been true throughout the book, it is a collaborative vision.

This book is meant to be used in daily surgical practice as an invaluable and practical tool for the surgeon planning a reconstructive procedure. Thus if the surgeon is confronted with a soft tissue defect in a certain area of the body, he or she need only turn to the clinical applications section to review the various options for reconstruction. Once a specific flap has been selected as most appropriate, a step-by-step guide on how to harvest a flap can then be found in Part II. If a reader has a preference for a particular flap, the possible applications for each flap are also described in Part II.

A DVD is included with the book to enhance the learning experience. These videos graphically depict techniques for harvesting the most popular flaps used today. They also emphasize the theoretical and anatomic information necessary to put these techniques into practice in the operating room. Although techniques may vary from surgeon to surgeon, we hope that these flap demonstrations will help the reader gain perspective on the intraoperative decision-making and basic surgical principles involved with harvesting perforator flaps.

The reader will find controversy and debate within these pages, as should be expected and encouraged in a publication that explores a new and evolving field. Ultimately, you will reach your own conclusions as to what constitutes a perforator, whether perforator flap surgery is actually a novel technique or an extension of what we already do, or even whether perforator flaps are worthwhile. We firmly believe, however, that by learning about perforator flaps you will gain access to a vast array of new reconstructive options that will benefit your practice and your patients. It is our hope that the anatomic information contained herein will serve as a stimulus for innovation in developing new, exciting flap options for the future.

Steven F. Morris

Geoffrey G. Hallock

Peter C. Neligan

Phillip N. Blondeel