Reconstructive Plastic Surgery of the Head and Neck

Current Techniques and Flap Atlas

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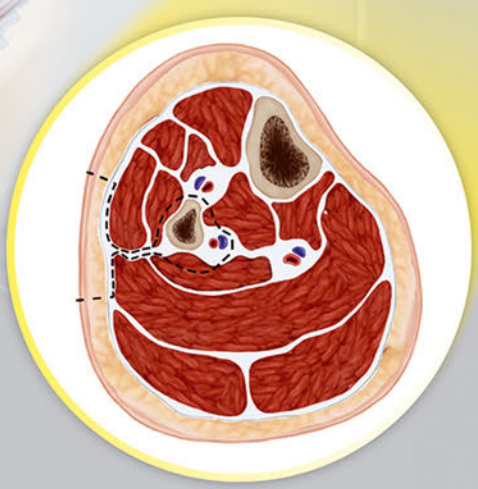

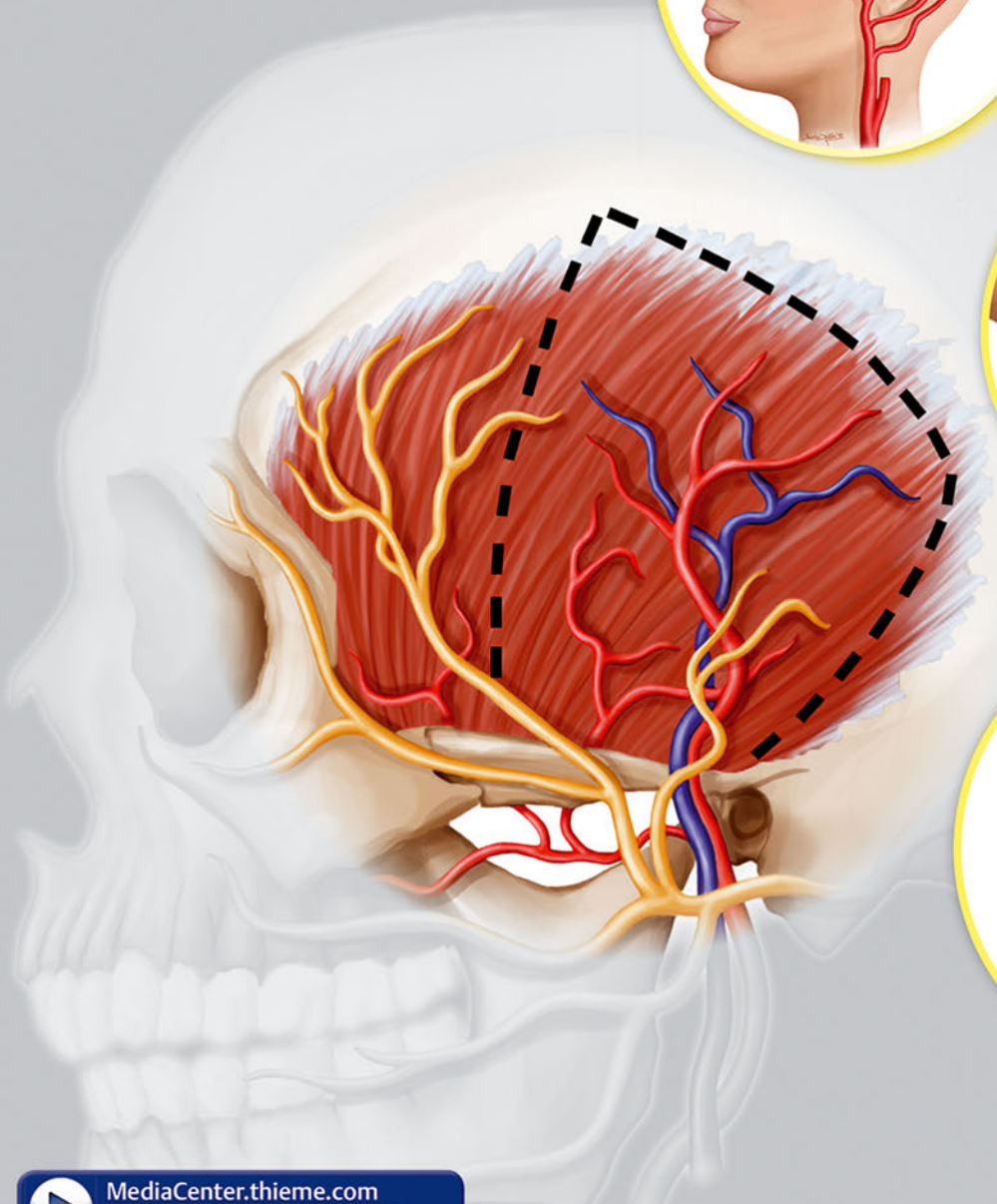

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We dedicate this book to our mentors, colleagues, and patients for their inspiration, commitment, and courage. We also dedicate this work to our families for their patience, support, and love. We have written this book for our students, residents, and fellows. We hope that the information contained herein will capture your imagination and that you will one day take head and neck reconstruction far beyond anything we can imagine.

Matthew M. Hanasono
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Preface

Concurrent with advances in the treatment of head and neck malignancies, head and neck reconstruction has flourished in recent years. Not only have we made great strides in restoring form and function to patients suffering from head and neck cancer, but the ability to reliably reconstruct surgical defects has also helped to improve cancer control by allowing more aggressive and complete oncologic ablation and facilitating timely administration of adjuvant therapies. As experience has enabled reconstructive surgeons to achieve consistently high flap success rates with predictably good functional and aesthetic results, the complexity of the surgical defects that we feel comfortable addressing has increased. Moreover, as survival from head and neck cancer has improved, we have observed an increase in second (or even third) primary cancers as well as long-term complications of treatment (such as osteoradionecrosis) in cancer survivors that frequently present even greater reconstructive challenges than the original cancer. To meet these challenges, reconstructive surgeons have explored new flaps and combinations of flaps, while seeking to minimize donor site morbidity with refined flap selection and muscle-sparing perforator dissection. Furthermore, we have reached beyond the boundaries of traditional surgical methods by embracing new techniques, such as composite tissue allotransplantation, and incorporating cutting-edge technologies, such as computer modeling, advanced imaging, and robotics, into our operative workflow.

The goal of this book is to provide an up-to-date guide to every aspect of head and neck reconstruction. We felt the need to fill a void since few recent texts are devoted solely to this broad and complicated field that is rich enough to be its own surgical specialty. We made every effort to make this book practical and complete. We believe trainees and young surgeons, as well as seasoned veterans, will benefit from the material presented, as both basic concepts and advanced techniques are discussed. Without a doubt, the coming years will see even more advances in head and neck reconstruction as surgeons continue to strive toward perfect and total restoration. We welcome such advances and hope that you, our readers, will be inspired by this book to contribute to them.

This book is divided into two parts. The first part is dedicated to various topics pertinent to modern head and neck reconstruction. Our goal in these chapters is to provide anatomic, functional, and oncologic information for a specific head and neck region and to present a reconstructive algorithm for that region based on our experience with the many thousands of head and neck reconstructions performed at MD Anderson Cancer Center over the past three decades. However, we set out to do much more than write a "how we do it" book. To give a balanced view, we invited many of the top reconstructive surgeons in the world to comment and expand upon our text. In many instances, these commentaries demonstrate that there is often more than one way to achieve excellent outcomes. In others, it shows that, as far as we have come, there is much yet to discover and learn.

Also in this section are a number of chapters dealing with specific aspects of the comprehensive care of the head and neck reconstruction patient, including a broad overview of head and neck cancer treatment, management of complications, and prosthetic rehabilitation, which may, in some cases, be the best reconstructive option for a given patient. Keeping with the spirit of discovery and innovation, we have also included chapters on robotic surgery, composite tissue allotransplantation, and imaging and computer modeling, which we feel are important new directions within the field of head and neck reconstruction.

The second part describes how to perform what we feel are the most important pedicled and free flaps for the head and neck reconstructive surgeon to have in his or her toolbox. Here, too, we acknowledge that there is more than one "right" way to perform the surgery, but hope that the reader will find the techniques we present, which have been refined by countless hours in the operating room, to be practical and reliable. Throughout both parts of the book, we have tried to illustrate the principles of reconstruction with clinical examples, featuring high quality photographs and illustrations. Further personalizing this text, we have added "Pearls and Pitfalls" sections that outline key concepts and critical nuances in surgical technique or patient management wherever they are pertinent.

We sincerely thank all of our contributors for their excellent work. In addition to the many expert commentaries included in our book, we humbly sought out the help of some extraordinary surgeons for chapters that could only be written by the leading authority on certain topics, such as facial and

tracheal transplantation, as well as for the supraclavicular artery island flap and the thoracodorsal artery perforator flap. We are even more appreciative of our patients who have given us permission to share experience gained from their surgeries and photos taken during the course of their care so that others may benefit from their hardships. We welcome feedback and the chance to one day completely rewrite this work based on further innovation and evidenced-based research.

Matthew M. Hanasono

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