Atlas of Surgical Techniques in Trauma

Second Edition

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To my parents, my wife Elizabeth, my daughters Alexis and Stefanie, and my son Nicholas.

D. Demetriades

To my parents, wife Susie, and son Koji.

K. Inaba

To the drivers of my inspiration: my parents, my wife, and children.

G. C. Velmahos

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Foreword

Many books come and go; anatomy books have existed since the sixteenth century and have been the basis of expert surgical exploration during surgical disease management. A surgeon's knowledge of anatomy in trauma is based on the need to expose a wide variety of areas of the body that are often not learned through traditional dissection or elective surgery. The path of a bullet or the extreme energy transfer during blunt trauma can cause damage to structures that require exposures not normally encountered. The decision making in picking the right incision, understanding the anatomic relationships that can be exposed, and knowing the moves to get to a critical area of injury are often times what determines success or failure (even life or death), particularly when the patient is bleeding.

The current second edition of the book *Atlas of Surgical Techniques in Trauma* by Demetriades, Inaba, and Velmahos fills a void that has existed for several decades. The current atlas approaches trauma from the standpoint of the possible exposures and relevant anatomy that are needed when encountering a specific anatomic injury.

For each area, the surgical anatomy is reviewed in classic terms, but augmented with cadaveric vascular injections showing the anatomic structures with very clear photographs complementing traditional anatomic drawings. The relevant points of anatomy in the context of a clinical injury or during exposure are emphasized. The general principles of what can be done to manage an injury are included: the appropriate incision, a step-wise approach during exposure emphasizing anatomy, which structures might be injured, which structures might be divided or ligated, and any specific goals of the operation.

A student using this book should be able to mentally rehearse and in fact visualize many of the structures that they may not have previously encountered. When accompanied by participation in cadaveric dissections, this should prepare the surgeon to encounter injuries which they may see infrequently. Dr. Demetriades and his co-authors have anticipated how important this challenge is to a trauma surgeon and have presented this knowledge in a wonderful text, which will serve many generations in the future.

The award-winning first version was translated into many languages, having a major impact around the world. I have no question that this version will be even more widely received. At a time when medical education is increasingly about efficiency, (with less time spent on classic subjects like anatomy) the need for understanding clinically relevant anatomy has never been greater.

This is truly a book that every surgeon who will ever encounter these kinds of clinical challenges should use. Own a copy and commit these wonderful photographs and principles to memory. You will find yourself well prepared when encountering these kinds of injuries. Your patients will benefit from this essential knowledge.

David B. Hoyt, MD, FACS
Executive Director, American College of Surgeons

Preface

The second edition of the *Atlas of Surgical Techniques in Trauma* provides a practical companion in the operating room to the surgeons who provide care to the injured. It is designed to be a rapid, highly visual summary of the critical anatomy, procedural sequencing, and pitfalls associated with these procedures. We believe that it will be a good companion for trainees as well as those in practice and in the military, as a rapid review of both common and uncommonly performed procedures.

The atlas is organized into chapters and sections according to anatomical areas. The text is written in a bulleted, reader-friendly format, and includes practical surgical anatomy, general principles, exposures, definitive management and technical tips, and pitfalls. It includes more than 900 high-quality photographs and illustrations, produced while performing these procedures on fresh, perfused, and ventilated human cadavers at the USC Fresh Tissue Dissection Lab. The surgical techniques are shown step by step and with visual details that inform the reader accurately about the critical elements of each procedure.

Whereas these operations represent broadly applied standards of care, many specific details reflect the philosophy of the editors and the authors, all of whom bring their individual, extensive, real-world clinical experience to each chapter. It is, therefore, possible that different ways exist to access and control injured structures. However, the ways described here are tested and proven successful. As such, they belong to every surgeon's armamentarium, when one is called to save the life of an injured patient in need of an operation.

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