

Urology In The Vietnam War

Casualty Management
And Lessons Learned



**BORDEN INSTITUTE
OFFICE OF THE SURGEON GENERAL
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UROLOGY IN THE VIETNAM WAR:

CASUALTY MANAGEMENT AND LESSONS LEARNED

by

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and

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*BORDEN INSTITUTE
UNITED STATES ARMY MEDICAL DEPARTMENT
WASHINGTON, DC*

2005

This red figure calyx-krater shows the body of Sarpedon, a son of Zeus killed during the Trojan War. In this scene he is being carried off the battlefield by Hypnos (Sleep) and Thanatos (Death).

In the 5th century BC the extensive development of Greek medicine was championed by Hippocrates of Cos. Medicine was learned in action by Greek warriors. Since then medicine has often been learned and advanced by the experiences of physicians who treat combat casualties.

The authors trust that many of the lessons learned and reviewed in this book will help the reader (surgeon/urologist) better prepare to manage urologic trauma.

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Calyx-krater, ca. 515 BC; signed by Euxitheos as potter and Euphronios as painter. Terracotta. Metropolitan Museum of Art, New York.

AUTHORS

JOHN NICHOLS WETTLAUER, MD

Colonel, Medical Corps, US Army, Retired

“Selfless service” best characterizes Dr. Wettlaufer’s long and varied career in the US Army. Before he went to medical school, John N. Wettlaufer served 2 years as an enlisted soldier and did basic research in cold injury at the Army Medical Research Laboratory, Fort Knox, Kentucky. Then he entered Georgetown University School of Medicine and graduated in 1958. After Dr Wettlaufer finished his internship at William Beaumont Army Hospital, El Paso, Texas, he took a prespecialty surgery residency at DeWitt Army Hospital, Fort Belvoir, Virginia. He then completed a urology residency at Walter Reed General Hospital, Washington, DC, from which he graduated in 1963. He was, in succession, Assistant Chief of Urology at Walter Reed and Brooke General Hospital, Fort Sam Houston, Texas. In 1966, he was assigned to the 106th General Hospital, Yokohama, Japan, and then became Consultant and Chief of Urology at the US Army Hospital, Camp Zama, Japan. After having personally cared for many of the patients described in this book, he returned to the continental United States in 1968 as Assistant Chief of Urology, Letterman General Hospital, San Francisco, California. The next year he was assigned to Madigan Army Medical Center, Tacoma, Washington, as Chief of Urology—a position he held until his retirement as a colonel in 1977.

As a civilian, Dr Wettlaufer maintained his relationship with the US Army as Consultant, Fitzsimons Army Medical Center, Aurora, Colorado, from 1977 to 1990. Concurrently, he rose to the position of Professor of Surgery, Division of Urology, Residency Program Director, University of Colorado Health Sciences Center, Denver, Colorado, 1981 to 1990.

At the beginning of operations Desert Shield and Desert Storm, Dr Wettlaufer volunteered to return to active duty and shortly thereafter became Chief of Urology and Residency Program Director, Madigan Army Medical Center, Tacoma, Washington, serving there from 1991 to 1995. He retired a second time in 1995 but still serves the Army as Urology Consultant, Madigan Army Medical Center, Tacoma, Washington. He is also Clinical Professor, Surgery, Uniformed Services University of the Health Sciences, Bethesda, Maryland.

Dr Wettlaufer remains clinically active and has various hospital staff assignments in the Tacoma area, as well as being Clinical Professor, Urology, at the University of Washington, Seattle, Washington, and president of the Puget Sound Urologic Society.

JOHN W. WEIGEL, MD

Colonel, Medical Corps, US Army, Retired

Dr Weigel’s career in the US Army was also long and varied. He graduated from the University of Kansas School of Medicine in 1954 and was drafted into the US Army in 1956. Dr Weigel served for 1 year at Fort Riley, Kansas; followed by 18 months as a resident in radiology at Fitzsimons Army Hospital, Denver, Colorado. He then served at Ryukyu Army Hospital, Okinawa. Dr Weigel served 1 year as a prespecialty general surgery

resident at Dewitt Army Hospital, Fort Belvoir, Virginia. He took his urology residency at Brooke Army Hospital, San Antonio, Texas, which he completed in 1965. He was Chief of Urology at DeWitt Army Hospital from 1965 until 1968, then Chief of Urology at US Army Hospital, Camp Zama, Japan, until 1971. He had temporary duty at the 12th Evacuation Hospital, Cu Chi, Vietnam, in 1969. Upon return to the United States, Dr Weigel served as Assistant Chief of Urology at Fitzsimons Army Hospital, then as Chief of Urology and Director of the Urology Residency Program from 1972 to 1975. He was voted Outstanding Teacher at both Fitzsimons Army Hospital, and at the University of Colorado School of Medicine. He received the Order of the Golden Nephros in 1973. He retired as a colonel in 1976 and was awarded the Meritorious Service Medal and Legion of Merit by the US Army.

As a civilian, Dr Weigel has been a staff urologist at the University of Kansas Medical Center since 1975, where currently he is a full professor. He is also a consultant at the Veterans Affairs Medical Center, Kansas City, Missouri. He is a Fellow of the American College of Surgeons and is past president of the Kansas City Urology Society, the Kansas chapter of the American College of Surgeons, and the South Central Section of the American Urologic Association. He was selected as one of the Best Doctors in Kansas City, the Best Doctors in America by Woodward and White in 2003, and listed in America's Top Physicians by the Consumers Research Council of America in 2004. He received the Student Voice Award in 1995 and again in 1997 from the medical students of the University of Kansas School of Medicine for outstanding teaching.

In 2000, he received the Golden Cane award from the American Urological Association, an honor conferred on 1 or sometimes 2 senior urologists yearly for outstanding clinical and academic accomplishments. The John W. Weigel Professorship in Urology was established in 2003 and is awarded for clinical research and support for urological teaching. Dr Weigel maintains a busy practice in adult urology.

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FOREWORD

War is a terrible way to learn anatomy, the effects of trauma, and bodily repair. War wounds derange body anatomy, physiology, chemistry, and physics, and tragically change lives. In earlier wars, infection was the main killer, but now with better medical care and in today's setting of "on-the-spot" warfare repair, all sorts of injuries are cared for almost at the moment of their happening. Often this has merit, sometimes it does not. The results are here for the reader to view and study, and to be reminded that the ultimate goals of the military physician/surgeon and the soldier are identical: preservation of life, society, and the dignity of mankind.

During the Vietnam War, the use of helicopters and progressive improvement in aeromedical evacuation changed the entire system of medical care: from moving medical treatment facilities (MTFs) to the casualties to transporting casualties to the MTFs. This system provided rapid, highly proficient, state-of-the-art expertise, equipment, and support for the combat casualty and resulted in both a very low hospital mortality and a high rate of return to duty.

As the US involvement in the Vietnam War—and concomitantly, casualties—increased, the need for adequate, close, offshore MTFs arose to add flexibility to the medical treatment system and manage the wounded. Accordingly, more than 3,500 hospital beds were created at several facilities in Japan; these began receiving casualties evacuated from the Republic of Vietnam (RVN) in early 1966. From that time to the conclusion of the war, MTFs in Japan were vitally important in the evacuation and management of combat casualties. The additional MTFs provided

- expert care in the continued management of the wounded (further surgical repair and reconstruction of wounds and complications);
- stabilization of patients prior to their evacuation to the continental United States; and
- a facility in which the less-seriously wounded could recover before returning to duty in RVN.

Previous books in the clinical medical and specialty series from the Vietnam War experience have been produced by the Center of Military History, US Army, and the Office of The Surgeon General. This volume is the first one published with the editorial support and direction of the Borden Institute. It is unique in that the authors, both urologists, were assigned for a continuum of 5½ years, primarily at the same hospital in Japan, mainly managing early and intermediate phases of urological injuries of casualties that had been evacuated to Japan. Their vantage point in Japan provided both authors a unique opportunity to assess the efficacy of the initial treatment that the casualties received in RVN and to gain invaluable experience in the longitudinal management of these wounds and their complications. As a result of the authors' experience, urologists in RVN received important feedback and recommendations for initial therapy of specific types of injuries.

Effective care of the wounded soldier in the Vietnam War depended on the communication of lessons learned in time. The *USARV Medical Bulletin*, the consultant system, and the yearly conferences (1967–1971) convened by the US Navy Commander in Chief, Pacific (CINCPAC), were highly effective and provided valuable, updated, individual and consensus recommendations for management of specific genitourinary system injuries. Ultimately, consensus-recommended standardization of therapy and management for urological traumatic injuries and conditions resulted in improved quality of care of the combat casualty.

Although significant time has elapsed since the Vietnam War, many of the lessons learned from this war and re-learned from prior wars are still applicable in both the military and the civilian trauma casualty environment. This historical treatise not only presents and integrates the RVN and Japan experience in the management of urological war wounds but also reviews preferred contemporary techniques of diagnosis and management of battlefield and civilian urological trauma. This volume may be especially valuable and applicable in these times of increased terrorism, disasters, and mass casualty events.

John N. Wettlaufer, MD, and John W. Weigel, MD, should be commended for their perseverance in completing this text, a project that was initiated in 1971. Both are retired career military urologists who have had distinguished careers and important positions in academic urology. The Army Medical Department is fortunate to have experienced their expertise and leadership.

Kevin C. Kiley, MD
Lieutenant General, Medical Corps, US Army
The Surgeon General

Washington, DC
June 2005

PREFACE

Each of the two authors of this book, *Urology in the Vietnam War: Casualty Management and Lessons Learned*, served as Chief of Urology, primarily at the US Army Hospital, Camp Zama (USAHCZ), Japan, during the Vietnam War. First author John N. Wettlaufer (JNW) served from February 1966 to June 1968; coauthor, John W. Weigel (JWW) from July 1968 to July 1971. JWW also spent several weeks on temporary duty working at the 12th Evacuation Hospital, Cu Chi, Republic of Vietnam, in spring 1970 during the “Parrot’s Beak Offensive.” Our experience and case material formed the basis of much of the content of this historical treatise. Long-term, meaningful, longitudinal, follow-up data regarding patient management and outcomes following evacuation to the continental United States were not available in sufficient numbers or detail for inclusion in this volume.

We managed all of the Vietnam genitourinary casualties who were evacuated to USAHCZ, Japan, over the 5½-year continuum from February 1966 to July 1971. During this time, we maintained and kept all records on patients with urological conditions, both those on whom we consulted and those we treated. The data presented in this book were extracted from our multiple reviews of these case records over the many years since then. In writing this book, we followed the semantic conventions that the term “injury” includes both blunt and penetrating trauma, that penetrating injuries are also known as “wounds,” that “RVN” refers to the country (Republic of Vietnam), and that the conflict is called the “Vietnam War.”

Some background regarding the genesis of this book may be useful. In May 1970, the first meeting of the advisory editorial board for the history of the US Army Medical Department in Vietnam and Southeast Asia was held at the historical unit, Forest Glen, Maryland, to formulate plans for a clinical series to chronicle the medical and surgical experience of all the professional disciplines. In May 1971, we were invited to be members of the Advisory Committee for the surgical history of the US Army Medical Department in Vietnam, responsible for the documentation and publication of the genitourinary experience. This volume was to be one of several in the surgical subspecialty series from the Vietnam War planned for publication by the Division of Military History, US Army, and the Office of The Surgeon General. A rough draft of much of the material in this book was transcribed in 1988 but further work on this project came to a standstill, as the Section of Medical History was disbanded at the Center of Military History, US Army. In December 2002, the Borden Institute, an agency of the Office of The Surgeon General, US Army, agreed to provide direction, encouragement, advice, organization, editorial and graphic support, and funding for the publication of this project. Since March 2003, the text of this book has been completely revised: all chapters have been rewritten and updated, and most include contemporary (2003–

2004) recommendations for standards of care of the casualty with urological traumatic injury and diseases of combat.

We are indebted to the efforts and support of many people who are responsible for the completion of this volume. From 1971 to 1988, the personnel of the former Medical History Division, US Army Center of Military History, continuously supplied invaluable statistical data, archival material, reprinted references, and stenographic capability. During the earlier phases of this book (1971–1982), Mr Charles J. Simpson, Director of the Clinical History Program, provided constant counsel, direction, the support of his facilities, encouragement, and a purpose and need to succeed with this project. The authors are personally indebted to Mr Simpson for his kindness, sage advice, memory, and support.

This manuscript could not have been completed without the willing support of the Borden Institute, Medical Department, US Army. We are most grateful for and appreciative of the overall direction provided by Dave E. Lounsbury, MD, Colonel, Medical Corps, US Army, Director and Editor in Chief of the Borden Institute; and for the key organizational advice and suggestions for alterations in the manuscript by Ronald F. Bellamy, MD, Colonel, US Army, Retired, Military Medical Editor at the Borden Institute. We are also grateful for and appreciative of the encouragement of John Greenwood, PhD, Chief of the Office of Medical History, Office of The Surgeon General, US Army. James R. Jezior, MD, LTC, Medical Corps, US Army, Assistant Chief, Urology Svc, Walter Reed Army Medical Center, reviewed this manuscript prior to publication.

We appreciate the assistance of the secretarial personnel of the several institutions who transcribed textual material. Two of the typists, both unpaid volunteers, need special recognition: Mrs. John W. Weigel, who typed the entire rough draft, which was completed in 1988; and Mrs. Verna Munroe, JNW's former secretary, who spent hundreds of volunteer hours, including many weekends and nights typing all of the reorganized, revised, and rewritten textual material in this book during 2003 and 2004. These are unusually dedicated and competent people, and we are especially fortunate to have had their superb services.

Finally, both of us are fortunate and thankful to have worked with such competent, extraordinarily well-motivated physicians, nurses, medical aidmen, and administrative personnel. In addition, the enthusiasm and dedication to excellence of the drafted, noncareer military physicians was laudatory, inspiring, and educational to all who worked with them. These medical personnel provided a level of care and expertise that we will always remember. This volume is dedicated and is a tribute to all Army Medical Department personnel who participated in the care of US combat casualties in the Vietnam War.

John N. Wettlaufer, MD
Colonel, Medical Corps, US Army, Retired



Readers need to keep in mind that most of the material presented in these chapters was extracted from written reports, including patients' clinical medical records and summaries from Vietnam and Japan, and personal experience in the management of urologic casualties in Japan, as events transpired during the Vietnam War. This volume is primarily a record of medicine, surgery, and urology as practiced during the late 1960s and early 1970s. Although no attempt has been made to revise the original experience, in each chapter dealing with organ-specific genitourinary trauma a section is devoted to recommended contemporary medical and surgical management. No effort has been made to update the statistics in light of more recent and complete epidemiological studies.

Authors

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