PREFACE

Unless they deal with major trauma on a particularly frequent basis, few surgeons can attain and sustain the level of skill necessary for decision making in major trauma. This includes both the intellectual decisions, and the manual dexterity required to perform all the manoeuvres for surgical access and control. These can be particularly challenging, and may be infrequently required, yet rapid access to, and control of sites of haemorrhage following trauma can be a life saving surgical intervention. Many situations require specialist trauma expertise, yet often this is simply not available within the time frame in which it is required

In years past, many surgeons honed their skills in war, and translated them into the techniques required in peace. In the 21st Century, this has changed, so that most surgeons work in an environment of peace, while a few serve in lower key conflicts. In many countries, the incidence of injury, particularly from vehicle related trauma has fallen below the numbers recorded when records were first kept. Many injuries are now treated non-operatively, so operative exposure and the skills required are reduced as well. Occasionally for this reason, the decision *not* to operate is based on inexperience or insecurity, rather than on good clinical judgement.

It is not enough to be a good operator. The effective practitioner is part of a multidisciplinary team that plans for, and is trained to provide the essential medical and surgical response required in the management of the injured patient.

Planning the response requires a clear understanding of:

- The causation including mechanism of injuries occurring within the local population.
- The initial, pre-hospital and emergency department care of the patient.
- The condition in which the patient is delivered to the hospital and subsequently to the operating theatre will be determined by the initial response, which itself may determine outcome.
- The resources, both physical and intellectual within the hospital, and the ability to anticipate and identify the specific problems associated with patients with multiple injuries.
- The limitations in providing specialist expertise within the time frame required.

In 1993, five surgeons (Howard Champion, USA; Stephen Deane, Australia; Abe Fingerhut, France; David Mulder, Canada; and Don Trunkey, USA), members of the International Society of Surgery - Société Internationale de Chirugie (ISS-SIC) and the International Association for Trauma Surgery and Intensive Care (IATSIC), met in San Francisco during the meeting of the American College of Surgeons. It was apparent that there was a specific need for further surgical training in the technical aspects of surgical care of the trauma patient, and that routine surgical training was too organ specific or area specific to allow the development of appropriate judgement and decision making skills in traumatized patients with multiple injuries. Particular attention needed to be directed to those who were senior trainees or had completed their training.

It was believed that a short course focussing on the life-saving surgical techniques and surgical decision making was required for surgeons, in order to further train the surgeon who dealt with major surgical trauma on an infrequent basis, deal with major trauma. This course would meet a worldwide need, and would supplement the well recognized and accepted American College of Surgeon Advanced Trauma Life Support (ATLS®) course. The experience that Sten Lennquist had gained offering 5 day courses for surgeons in Sweden was integrated into the programme development, and prototype courses were offered in Paris, Washington, and Sydney.

At International Surgical Week in Vienna in 1999, IATSIC's members approved a core curriculum, and a manual which forms the basis of the Definitive Surgical Trauma Care (DSTC™) course. The manual was first published in 2003 subsequently in 2007 and 2011, and this third edition in 2015. The manual is updated approximately every 4 years.

Initial Definitive Surgical Trauma Care (DSTC™) Courses were then launched in Austria (Graz), Australia (Melbourne and Sydney), and South Africa (Johannesburg). The material presented in these courses has been refined, a system of training developed using professional education expertise, and the result forms the basis of the standardized DSTC™ Course that now take place. A unique feature of the Course is that while the principles are standardized, once the Course has been established nationally in a country, then it can be modified to suit the needs and circumstances of the environment in which the care takes place. The Education Committee of IATSIC has an International DSTC™ Sub Committee which oversees the quality and content of the courses. However, the concept of the Definitive Surgical Trauma Care Course has remained the same. In addition to the initial "founding" countries (Australia,

Austria, and South Africa), courses have been delivered in more than 28 countries across the world, with the new participants joining the IATSIC programme each year. The course and its Manuals are presented in Portuguese and Spanish, as well as English.

The DSTC™ Course is designed to support those who, whether through choice or necessity, must deal with major surgical injury, and may not necessarily have the experience of expertise required. The requirements for a DSTC™ Course or the establishment of a DSTC™ Programme can be found in Appendix C of this Manual.

A Board of Contributors, made up of those who have contributed to the DSTC™ programme, continues to support and update this manual. I would like to thank them for their very great efforts put into the preparation, editing, dissection, redissection, and assembly of the manual and the course.

This fourth edition had been revised and updated, taking into account new evidence based information. The increased (and occasionally harmful) role of non-operative management (NOM) has been recognised. With the increased need for Peacekeeping, and modern asymmetrical conflicts, each carrying their own spectra of injury, the Military Module has been substantially updated and broadened to reflect recent conflict experience.

Over the last few years, what has always been obvious has been finally recognised and formalised. The indispensable contribution made by Anaesthetic and Critical Care colleagues has changed the approach to trauma, and the concept of a Trauma Team involving a Multidisciplinary Team. Anaesthesiology, through the enthusiastic inputs of Anaesthetic Faculty in the Netherlands, , Scandinavia, Switzerland, the United Kingdom, and many other countries has in parallel with this course, developed the Definitive Anaesthetic Trauma Care (DATC) Course. We are delighted to incorporate these aspects of care in this manual

The book is divided into sections:

- Trauma System and Crew Resource Management (CRM) communication principles
- Physiology and body's response to trauma.
    - Metabolic response
    - Transfusion
    - Damage Control

- Chapters on each anatomical area or organ system, divided into both an overview of the problems and pitfalls specific to that system, and the surgical techniques required to deal with major injury in that area including burns, brain injury and extremes of age.
- Chapters on modern diagnostic and therapeutic technology
    - Imaging
    - The role of minimally invasive surgery
- Additional modules which cover specific aspects of specialized care.,
    - Anaesthesiology
    - Austere and Military Conditions
    - Critical Care
- A separate appendix for the use of Operating Room Scrub nurses is included
- As before, the Manual contains all the resources for Trauma Scoring and Injury assessment.

This Manual is dedicated to those who care for the injured patient and whose passion is to do it well.

Ken Boffard
Editor