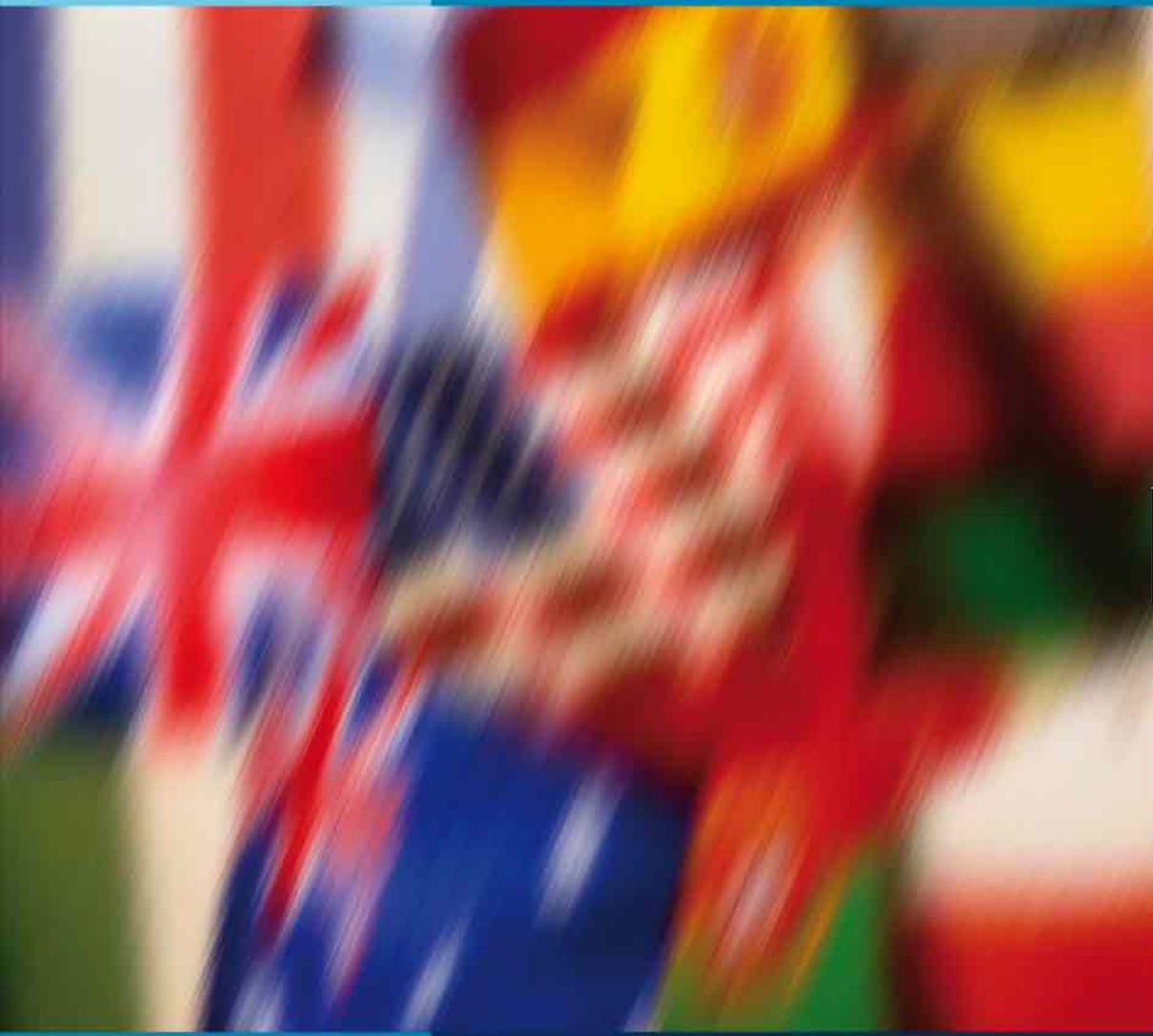
Day Surgery
Development and Practice

Editors | Paulo Lemos | Paul Jarrett | Beverly Philip



International Association for Ambulatory Surgery

Day Surgery
Development and Practice

Edited by:

Paulo Lemos, MD

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DAY SURGERY | DEVELOPMENT AND PRACTICE.

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In memory of:-

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Contents

Page

13 **Foreword**
Paulo Lemos, Paul Jarrett, Beverly Philip

15 **Preface**
Tom Ogg

21 **Chapter 1 | The development of ambulatory surgery and future challenges**
Paul Jarrett, Andrzej Staniszewski

This chapter explores the beginnings of modern day surgery and via its growth and advantages looks at how it can develop in the future. But, as in the past, barriers still exist to its expansion and these are examined.

35 **Chapter 2 | International Terminology in Ambulatory Surgery and its worldwide practice**
*Claus Toftgaard, Gérard Parmentie*r

This chapter consists of an overview of the international definitions for day surgery and its facilities. There is a description of the international survey undertaken in 2004 on the extent of day surgery in the countries that are members of the International Association for Ambulatory Surgery (IAAS). Comparisons with the previous surveys of 1997 and 1999 show the increase in day surgery activity over the years. The 2004 survey has been expanded to 37 procedures that may be undertaken in an ambulatory setting. The variation in activity between countries is large with the USA and Canada having the highest percentage of day surgery operations and the Scandinavian countries having the highest percentage in Europe. Also within countries there is a great variation between regions and hospitals, but overall the tendency is for more and more surgery to be undertaken on a day basis. The reimbursement system in countries has an influence on the proportion of procedures done on a day basis. A system where hospitals and clinics are paid the same whether the patient is treated in an ambulatory or an inpatient setting gives a strong incentive for the development of ambulatory surgery.

61 **Chapter 3 | Planning and designing a Day Surgery Unit**
Paul Jarrett, Lindsay Roberts

Planning and design are essential for the functional and financial viability of a day surgery unit, which must deliver procedural services of the highest standards of quality and safety. There is no preferred model. Units may be located on a hospital site or freestanding. Hospital based units are best located in a dedicated area physically and functionally separate from the inpatient section. Day units may be multidisciplinary or unidisciplinary and, having regard to variations in site, size and patient volume, design flexibility is essential. Terminology, planning and design options are discussed. Extended recovery, limited care accommodation and mobile surgical units are models that will stimulate the further expansion of day surgery.

89 **Chapter 4 | Day surgery procedures**
Dick De Jong, Juan Marín, Ricco Rinkel, Paul van Kesteren, Rui Rangel, Saskia Imhof, Ype Henry, Jacques Baart, Arthur de Gast, Seine Ekkelkamp, Chantal van der Horst, Jean de la Rosette and Pilar Laguna.

Improvements in surgery have played an important role in the exponential growth of ambulatory surgery in the last few decades. New operative techniques such as endoscopic surgery and other types of minimally invasive surgery have been developed and surgeons have become increasingly aware of important issues such as patient and procedure selection and proper peri-operative care in ambulatory surgery. A knowledge and understanding of the problems and challenges of different procedures in a number of specialties are discussed in order to guarantee success. Suitable procedures are recommended and patient selection taken into account.

125 **Chapter 5 | Pre-operative screening and selection of adult day surgery patients**
Veera Gudimetla, Ian Smith

Pre-operative assessment of day surgery patients is important to minimise peri-operative complications and late cancellations. Previous guidelines have often been overly conservative and somewhat arbitrary. Selection should be evidence based wherever possible and based on the premise that hospital admission is only justified where it will simplify management or improve outcome. Pre-operative assessment is primarily a clinical process, with additional tests used only when specifically indicated.

139 **Chapter 6 | Paediatric issues for ambulatory surgery**
Raafat Hannallah

The key to the success of paediatric day surgery lies in careful selection, screening and preparation of prospective patients. Selected patients should be healthy, or have a well controlled medical condition. Screening must be completed prior to the day of surgery. Anaesthetic techniques should ensure smooth onset, prompt emergence, fast recovery and safe discharge with good control of post-operative pain and vomiting.

157 **Chapter 7 | Patient information, assessment and preparation of day cases**
Carlo Castoro, Christina Drace, Ugo Baccaglini

The selection of suitable patients for day surgery, patient information, assessment and preparation are essentials for the achievement of successful outcomes of care. A protocol of pre-operative assessment should be agreed and implemented in any day unit. All the staff should be fully aware of this process and dedicated care pathways should be available in order to facilitate patient selection and preparation for day care. In a day surgery environment, contact with patients is brief and intense. Also, patients are in charge of their pre-operative preparation and recovery takes place at home. This makes information provision a challenge for day surgery. An effective information provision policy aims to improve patient satisfaction with the overall day surgery experience and aid anxiety reduction.

185 **Chapter 8 | Anaesthetic techniques for ambulatory surgery**
Johan Raeder

The choice of anaesthetic technique for ambulatory surgery based on considerations of the best safety, quality and cost effectiveness for the individual patient in the actual setting to be used are discussed in this chapter. Attention should be to post-operative side effects such as pain, nausea, vomiting and fatigue. Loco-regional techniques provide superior pain control, but may be more time consuming and require more expertise. Propofol based intravenous anaesthesia has less post-operative nausea and vomiting but slightly slower immediate emergence when compared with inhalational anaesthesia.

209 **Chapter 9 | Analgesia techniques for day cases**
Anil Gupta

Pain management should start early, be aggressive and patients should be encouraged to take oral drugs regularly. Traditional methods include the use of paracetamol, NSAIDs and opioids, which can be used in a multi-modal pain management strategy. Intra-articular local anaesthetics, morphine and ketorolac have been injected for pain relief but with mixed results. The use of peripheral nerve blocks offers good and prolonged pain relief. Local anaesthetics administered via catheters are a possible alternative but further studies are needed. Pain relief is essential in order to achieve patient satisfaction, and successful ambulatory surgery means achieving excellence in pain management, both at the hospital and following discharge home.

229 **Chapter 10 | Management of post-operative nausea and vomiting in ambulatory surgery**
Filadelfo Bustos, Candy Semeraro, Servando Lopez, Manuel Giner

Post-operative nausea and vomiting (PONV), together with pain, are frequent complications in ambulatory surgery, causing delay in recovery and unanticipated admissions. Studies report varying incidences of PONV before patient discharge. Various predisposing factors, depending on the patient, the type of anaesthesia and the surgical procedure, have been identified and will be addressed in this chapter. The patient's risk index for PONV can be determined from these factors and prophylaxis can been administered following a multimodal protocol (general measures plus anti-emetic drugs). In cases of PONV, despite prophylaxis, treatment should be given with different drugs.

241 **Chapter 11 | Post-operative recovery and discharge**
Imad Awad, Frances Chung

The continued advances in surgical (e.g. minimally invasive surgery) and anaesthetic techniques (regional anaesthesia, ultra short acting drugs) will allow larger numbers of patients to take advantage of ambulatory surgery. It is pivotal to ensure safe discharge home of patients by adhering to validated discharge criteria such as the Post Anesthesia Discharge Scoring System (PADS). Patients having general or spinal anaesthesia who are in a category of low risk for urinary retention can be discharged home without voiding. It is unsafe to drive 2 hours pre-operatively and up to 24 hours post-operatively. Fast track is a new and exciting concept that needs to be more validated with scientific research to ensure patient safety and worthy time and cost savings.

257 **Chapter 12 | Patient outcomes and clinical indicators for ambulatory surgery**
Paulo Lemos, Ana Margarida Regalado

Patient outcome is one of the most important issues related to healthcare. This chapter reviews different perspectives analysing not only the traditional outcomes of mortality and major and minor morbidity, but also aspects that are essential for patient well being, such as functional health status, quality of life, and patient satisfaction. Economic outcomes are the subject of great attention by all health partners. Thus, an approach to cost effective analysis of new drugs and technology and their impact on the health economy is described. Finally, the chapter addresses the need to develop clinical indicators in ambulatory surgery practice, in order to promote continuous improvement in the quality of patient care.

281 **Chapter 13 | Freestanding Ambulatory Surgery Units**
Kathy Bryant

This chapter discusses the specific attributes of Freestanding Ambulatory Surgery Units (FASUs), their historical development in the USA, FASU business operations, achieving safety in the FASU setting and the outlook for this growing field.

299 **Chapter 14 | Office-Based Surgery**
Hugh Bartholomeusz, Jost Brökelmann, Jacky Reydelet, Paul Jarrett

This chapter traces the history of the development of office-based surgery. The benefits and problems of this type of surgery are discussed. It covers guidelines to be followed in office-based surgery including physical facilities, minimal standards to be followed and issues of registration and accreditation. The chapter includes specific requirements for procedures performed under local anaesthesia alone, under local anaesthesia and sedation and under general anaesthesia. Prototype office-based surgery facility designs are provided.

319 **Chapter 15 | Quality issues in day surgery**
Pilar Rivas

In this chapter the establishment of criteria and standards for Day Surgery Units will be proposed in order to achieve high quality performance in day surgery programmes. Accreditation and Certification processes for day surgery will be discussed. Clinical pathways for different procedures will be proposed as a method to improve quality in ambulatory surgery programmes.

341 **Index**

Foreword

Developments in anaesthesia and surgery have allowed an impressive worldwide growth in ambulatory surgery over the last decade. Ambulatory surgery has the potential to improve quality of care with low patient morbidity, and in a more demanding society where cost has an important role, ambulatory surgery has the potential to be the key in providing efficient surgical services. However, ambulatory surgery must be at least as safe and of the same quality as inpatient surgery. At no time should quality of care be subsumed to economic benefit.

With the purpose of promoting the development of high quality day surgery programmes many national associations joined together in 1995 to create an international body called the International Association for Ambulatory Surgery (IAAS). Its goals are:

- To stimulate the formation of National Associations for Ambulatory Surgery.
- To promote education and to publish an international journal, called "Ambulatory Surgery".
- To form a database of information on ambulatory surgery and anaesthesia.
- To organise seminars and conferences.
- To encourage research into ambulatory surgery and to publish the results.

The IAAS has just celebrated its 10th anniversary. This special occasion seemed an opportune time to produce an international book containing basic and pragmatic recommendations on the practice of ambulatory surgery. The authors for this book have been drawn from many countries around the world and they are all experts in this field. They have given freely of their time with the aim of promoting the spread of high quality ambulatory surgery. The editors are grateful for their enthusiastic contributions.

Finally, the editors, on behalf of the IAAS, would like to thank Bristol-Myers Squibb for their financial support in publishing this book.

Paulo Lemos
Paul Jarrett
Beverly Philip

Preface

As a co-founder of the International Association of Ambulatory Surgery (IAAS) in 1995 I strongly support the concept of this book. Over the past 20 years the expansion of global day surgery has revolutionised the delivery of healthcare by surgeons, anaesthetists, nurses and managers alike.

This book marks the tenth anniversary of the IAAS. The initial objectives of this Association were to encourage the development and expansion of high quality day surgery and to promote education and research in the subject. It also offered to act as an advisory body to all interested parties for the development and maintenance of high standards of patient care in ambulatory surgery facilities. However, advances in this field will only be forthcoming if further attention is paid to the collection of accurate data and the introduction of relevant educational programmes. Indeed it is not surprising that day surgery still fails to flourish in many countries possibly because this important subject does not appear in the curriculum of most undergraduate medical schools. Hopefully the publication of this IAAS book may help to alter this unacceptable situation.

The editor has invited an impressive array of international experts on day surgery. Many of the contributors have first hand practical knowledge on the subject and they are only too aware of the problems encountered by medical and nursing staff seeking to implement day surgery in their own hospitals. A major success of the IAAS to date has been its fostering of a multidisciplinary approach to the subject and as a direct result there has been a steady global expansion of day surgery. Here is one area of healthcare where people from different professional backgrounds may co-operate to provide a first class patient service. In short it would appear that everyone benefits from the introduction of an organised approach to day surgery.

Let me propose an international definition of a day case that should be considered wherever ambulatory surgery programmes are being developed: “A surgical day case is a patient who is admitted for investigation or operation on a planned non-resident basis and who none the less requires facilities for recovery. The whole procedure should not require an overnight stay in a hospital bed.” Unfortunately many countries simply ignore this basic definition and several variants have crept into the practice of day surgery with the development of 23 hour surgery and patient hotels to name but a few. The message is a simple one for all health personnel wishing to develop day surgery, start with a simple basket of 10 cases before developing a programme of major surgery which may eventually lead to 23 hour hospital stays.

Ambulatory (day) surgery is not a new concept. However, despite its slow development in many European countries the past 20 years has seen day surgery become established practice. This is in no small measure due to the formation of the IAAS. Long waiting lists, low staffing levels and shortage of financial resources have all decreased the elective or non-emergency surgery performed in many countries. It is acknowledged that most

governments are in the business of providing cost effective care and so day surgery has proved popular with healthcare professionals. In addition the recent developments in minimally invasive surgery, anaesthesia, analgesia and equipment manufacture have all fuelled the expansion of day surgery.

Initially in many countries the barriers to the development of day surgery came from different methods of medical insurance payments combined with the apathy from central governments, hospital managers and doctors. The IAAS has done much to overcome these obstacles with planned programmes of research, education and the regular exchange of ideas by surgeons, anaesthetists, nurses and managers from over 30 countries at International Conferences hosted by the IAAS in Brussels, London, Venice, Geneva, Boston and Seville. In my opinion day surgery should be developed on its own merits and the advantages to be gained include high volume patient throughput, low post-operative morbidity and minimal infection rates. Surgical waiting lists may also be reduced and economic benefits may accrue especially if inpatient beds are simultaneously reduced. It is acknowledged that the main opposition to the implementation of the latter proposal usually comes from the medical establishment.

The first chapter is written by Professor Paul Jarrett (UK), a pioneer of day surgery. He outlines the historical aspect of the subject and the challenges to be overcome if any successful programme of day surgery is to be implemented.

In Chapter 2 Mr Gerard Parmentier (France) has attempted to unravel the terminologies relating to ambulatory/ day surgery. People are understandably confused by the conflicting jargon on this subject and his section seeks to clarify the various terminologies.

In Chapter 3 the importance of appropriate planning and design for a new day unit or centre has been addressed. Many people have different opinions on this matter but certain basic principles apply. Briefly there is absolutely no reason why the wheel should be reinvented whether planning a day unit in Australia, Europe or America. The sound advice given in this chapter should smooth any difficulties encountered in establishing the majority of day units elsewhere. So far the IAAS has proceeded cautiously on the office-based surgery front. Experienced practitioners acknowledge that major and minor complications may arise after ambulatory surgery performed in the best of units. In my humble opinion office surgery is a potential time bomb waiting to explode.

The selection of suitable day procedures is examined by Dr Dick De Jong (Netherlands) et al. in Chapter 4. Day surgery is not confined to minor procedures and there are now hundreds of operations which lend themselves for treatment on a day basis. The important message here for all healthcare professionals is to start your new programme of day surgery with suitable low risk cases and to build on your experience before introducing longer and more challenging surgery such as laparoscopic cholecystectomies. Every year

more operative procedures are recommended for day surgery and healthcare professionals should resist pressures from governments, industry and insurance companies to perform inappropriate complex surgery in the ambulatory setting. Vigilance is required.

Ideal pre-operative patient selection (Chapter 5) is sensibly debated by Dr Ian Smith (UK) and is, in my opinion, the key to success for any day surgical venture. In this field medical and nursing colleagues have combined to produce guidelines, which if followed, will guarantee safe, efficient and quality day care. Indeed so successful has day case selection been in several countries that the majority of non-emergency (elective) inpatient surgical cases are now screened using the methods employed in most day units. Briefly pre-operative assessment decisions should be based on physical status, invasiveness of the surgical operation and also on where the procedure will be performed eg a free-standing day unit or an isolated physician's office. Regardless of the type of facility the underlying goal should always be to maintain safety and quality.

Over the years the IAAS has been fortunate to have had the support of Dr Raafat Hannallah, a Past President of SAMBA. In chapter 8 he discusses the paediatric issues relating to ambulatory surgery. There can be no doubt that most children prefer day care to inpatient hospitalisation and Dr Hannallah's advice is a model of clarity and should be studied carefully by anyone wishing to establish a successful paediatric ambulatory service.

As in any other field information and education are fundamental for guaranteed success. Dr Carlo Castoro (Italy) outlines the essentials for good practice in Chapter 7. Day patients and their carers appreciate good information and the nursing profession has masterminded the introduction of patient information leaflets, pre-operative questionnaires and post-operative audit via telephone calls to name but a few. Any successful day unit should pay attention to this most important aspect of day care. Furthermore there is still a belief in teaching hospitals that surgery and anaesthesia should not be taught in day units. In my opinion most medical students would not only benefit from the wide diversity of cases seen in any day unit but also from the multidisciplinary teaching they would receive.

Anaesthetic advances over the last 20 years have fuelled the expansion of day surgery and Professor Johan Raeder (Norway) discusses a variety of anaesthetic techniques in Chapter 8. He is an acknowledged expert in his speciality and he indicates that there is still much debate as regards the best day case anaesthetic technique. Nothing stands still in medical practice and Professor Raeder succinctly outlines his thoughts on the future anaesthetic advances for day surgery.

Day patients clearly require excellent post-operative analgesia and Dr Anil Gupta (Sweden) in Chapter 9 addresses the basis for successful pain management. There can be no excuse for allowing patients to suffer pain following day surgery given the vast array of analgesics and local anaesthetic agents available to surgeons and anaesthetists these days.

Pain and post-operative nausea and vomiting following day surgery are major problems in many day units and their treatment should be energetically pursued. Dr Bustos (Spain) in Chapter 10 outlines the treatment and prevention of post-operative nausea and vomiting. Clear practical guidelines for its treatment have been issued and all medical and nursing personnel involved in day surgery should seriously implement these in their own units.

Over the years early patient discharge from day units has produced relatively minor post-operative morbidity. Professor Frances Chung (Canada) has a wealth of research experience on this subject and in Chapter 11 she discusses the fast track concept, discharge criteria and post-operative instructions. All these aspects of day surgery should be carefully considered and the guidelines from Professor Chung should be implemented in every ambulatory setting. In the USA by the year 2005 it is predicted that 82% of all surgery will be performed on a day basis and of that number 24% will be managed in office settings. Recovery facilities will have to develop to meet this challenge and 23- hour recovery facilities, hospital hotels, home healthcare and free-standing recovery centres all have their advocates. Sensible innovation should be encouraged but there is a need for outcome studies that assess safety, quality and cost.

Chapter 12 written by Dr Paulo Lemos (Portugal) considers aspects of quality assurance. The fundamental concept underlying modern ambulatory surgery is that the care delivered to the day patient should be of the highest quality and equal, if not superior, to inpatient treatment. Why has the implementation of quality assurance been so slow? Firstly, problems relating to the methods of data collection remain to be solved and secondly what actually constitutes an indicator of quality needs to be defined. The development of appropriate indicators for day surgery should be an ongoing process. Above all quality assurance should not be confused with research.

In my opinion all those involved in day surgery including the IAAS still have a promotional job to do. The undoubted benefits of day surgery should be discussed with the Health Ministers of all countries, the World Health Organisation and the European Economic Commission. The move to day surgery will require constant promotion for some years to come. If the IAAS wishes to remain a vibrant association in the field of ambulatory surgery then ventures such as this book are to be recommended to global health authorities. One of the criticisms raised by several countries opposed to the IAAS, namely the formation of an international talking shop with no teeth, will be answered by the publication of this book and CD series. Certainly this publication deserves to be studied by both supporters and non-supporters of day surgery alike. Perhaps 100 years after the introduction of day surgery by Nicoll in Glasgow the subject may now be regarded seriously by all personnel involved in the training of future nurses, doctors and managers. At the very least day surgery with all its ramifications should be included in medical undergraduate curricula for after all day surgery is not only the surgery of today but the surgery of the future.

Education and relevant data collection are essential prerequisites for the expansion of day care. The IAAS would be failing in its duty if the above programmes were not implemented internationally. The Association should encourage doctors from every country to improve their efficiency and to monitor the outcome of their day programmes. Safety and quality factors will determine the further expansion of day facilities. Essentially day surgery is an organisational exercise and any expansion should be planned on the basis of programmes of audit, research and education.

Paulo Lemos is to be congratulated for gathering together such an excellent group of experts in day surgery. The contents of this worthwhile book will definitely highlight the importance of the IAAS in the further development of the subject. I warmly congratulate the IAAS in this initiative and this book is a most suitable way of marking ten years of international co-operation in day surgery.

Tom W Ogg