CHAPTER 1

Introduction and prologue

> Surgery remains only as safe as those wielding the scalpel.
>
> *Tito Lopes*

Introduction

Surgical training

Surgical training in gynaecology has seen dramatic changes in both the UK and the USA over the past 20–30 years. When the current editors were in training, there were no restrictions on the number of hours that they could be asked to work. It was common to be resident on call every third night in addition to daytime work, which often resulted in a working week in excess of 110 hours. In the UK, the European Working Time Directive was extended to junior doctors in 2004 thereby reducing the working week to an average of 48 hours. In the United States, the Accreditation Council for Graduate Medical Education in 2003 required duty hours to be limited to 80 hours per week.

Although the reduction in working hours is important for one's work–life balance as well as patient safety, it inevitably has had a major impact on surgical training. The concept of the surgical team or firm to which a trainee was attached has all but disappeared. The introduction of shift systems has made it difficult, and in some cases impossible, for trainees to attend the surgical and clinical sessions of their team. This has resulted in some trainees failing to comprehend the continuity of care of a surgical patient, running the risk of producing technicians rather then doctors.

At the same time, there has been a marked reduction in the number of hysterectomies performed as a result of more conservative management options for dysfunctional uterine bleeding. In the nine-year period from 1995 to 2004, there was a 46% reduction in the number of hysterectomy operations performed in NHS hospitals in England and between 2008 and 2012 there was a further 7% fall in hysterectomies in the UK.

With the increasing use of laparoscopic surgery in elective gynaecology, including for hysterectomy, the 'open' approach to gynaecological surgery, traditionally the surgical 'bread and butter' for trainees, is also on the decline. Equally, a large number of ectopic pregnancies are now managed conservatively meaning that trainees are lacking exposure to emergency laparoscopic surgery for tubal pregnancies.

It is vital that standard safe techniques continue to be taught to all trainees. Thus, although many procedures have been translated into minimal access operations the principles and practice of the open version must be learned alongside the minimal access approach. This is especially relevant wherever a minimal access procedure has to be translated into an open procedure because of difficulties and complications experienced during the operation. It is a concern of the editors that the 'unusual' is not being experienced on a satisfactory scale by trainees. Nothing can replace time spent in the operating room for building up skills and confidence in dealing with the unusual and unexpected. A recent comment by a president of a Royal College compared the time limited training of a surgeon to

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the limitless time application of an Olympic athlete. Very few gold medals would be won if the Working Time Directive was followed!

Gynaecology training

Current training in the UK is a competency-based process and it is envisaged that the majority of trainees will take seven years to complete the programme. In the last two years of training, the trainees are required to undertake a minimum of two of twenty available advanced training skills modules or they can apply for subspecialty training in gynaecological oncology, maternal and fetal medicine, reproductive medicine or urogynaecology. It is disappointing that as part of the current training programme the trainee must be deemed competent in opening and closing a transverse incision at caesarean section before commencing his or her second year but need only be assessed as competent for opening and closing a vertical abdominal incision if undertaking the advanced module for benign surgery in years six and seven.

Basic skills and training opportunities

Trainees wishing to develop as gynaecological surgeons should attend appropriate courses, including cadaver and live animal workshops. However, these are no substitutes for learning the basic surgical skills and picking up good habits, early in training; bad habits are difficult to lose at a later stage. As assistants, they should question any variations in technique among the surgeons. As surgeons, they should review every operation they perform to assess how they could have done better.

In relation to laparoscopic surgery, there is no excuse for trainees not practising with laparoscopic simulators, which are often readily available and easy to construct. It is readily apparent to trainers which trainees have spent adequate time on simulators.

Sadly, a consequence of the new training is an inevitable lack of knowledge and experience of the 'unusual', with the all too frequent result of difficulties for both the patient and the surgeon. These difficulties are often manifest in an almost complete failure to appreciate the wide range of possibilities for management. Previous editors of this text have advocated that any surgery should be tailored to the specific needs of the patient and her condition. Unfortunately, modern patients are in real danger of being treated by surgeons with a limited experience and a narrow range of skills which may be applied in a 'one size fits all' pattern. In this text, we have attempted to provide a wide range of options for management, which we would encourage all trainees to practise assiduously to give their patients the very best possible chance of a successful outcome.

Despite the recent changes in gynaecological training, the essence of surgery remains essentially unchanged. The editors have, as with previous editions, felt it appropriate to retain the prologue written for the 9th and 10th editions by JM Monaghan based on that of the 1st edition of this series, *A Text-book of Gynaecological Surgery*, published in 1911 by Comyns Berkeley and Victor Bonney. It remains just as relevant today as it was a century ago.

Prologue: after Comyns Berkeley and Victor Bonney, (JM Monaghan)

The bearing of the surgeon

A surgeon when operating should always remember that the character of the work of his subordinates will be largely influenced by his own bearing. While it is impossible to lay down definite rules suitable for all temperaments, nevertheless there are certain considerations which will prove useful to those embarking on a gynaecological career. Anyone who has taken the trouble to study the work of other operators cannot fail to have observed how variously the stress and strain of operating is borne by different minds and will deduce from a consideration of the strong and weak points of each operator some conception of the ideal.

The thoughtful surgeon, influenced by this study, will endeavour to discipline himself so that he will strive constantly to achieve the ideal. By so doing, he will encourage all who work in the wards and theatres with him – young colleagues in training, anaesthetists, nurses, theatre assistants and orderlies – to appreciate the privileges and responsibilities of their common task. Expert coordinated teamwork is essential to the success of modern surgery. This teamwork has resulted in a significant lowering of operative morbidity and mortality.

However, it is important to recognize the enormous contribution to the safety of modern surgery

made by other disciplines, especially anaesthesiology. The preoperative assessment and the postoperative care carried out by the anaesthetist has rendered surgery safer and has also allowed patients who would not in the past have been considered eligible for surgery to have their procedures performed successfully. The role of specialties such as haematology, biochemistry, microbiology, radiology, pathology and physiotherapy are also well recognized.

Bonney maintained that the keystone of a surgeon's bearing should be his self-control; and while it is his duty to keep a general eye on all that takes place in the operating theatre and without hesitation correct mistakes, he should guard against becoming irritable or losing temper. The surgeon who when faced with difficulties loses control has mistaken his vocation, however dexterous he may be, or however learned in the technical details of the art. The habit of abusing the assistants, the instruments or the anaesthetist, so easy to acquire and so hard to lose, is not one to be commended; the lack of personal confidence from which such behaviour stems will inevitably spread to other members of staff, so that at the very time the surgeon needs effective help it is likely to be found wanting. However, the converse of accepting poor standards of care and behaviour is not to be condoned. The continual presentation of inadequately prepared instrumentation should not be accepted. There is little excuse for staff or equipment to arrive in theatre in a state ill prepared for the task ahead.

The whole team should look forward to a theatre session as a period of pleasure, stimulation and achievement, not as a chore and a period of misery to be suffered. The surgeon should also remember that he is on 'display' and his ability to cope with adversity as well as his manner when the surgery is going well will be keenly observed. The surgeon should teach continuously, pointing out to assistants and observers the small points of technique as well as related facts to the case in hand.

Bonney enjoined that the surgeon should not gossip; the present editors feel that day-to-day chitchat is not out of place in the operating theatre and is to be preferred to the media view of an operating theatre as a place of knife-like tension fraught with grave interpersonal relationships. However, the mark of the good surgeon and his team is that, at the time of stress, the noise level in theatre should fall rather than rise, as each member of the team goes about his or her task with speed and efficiency.

It is inevitable that at some point the surgeon will come face to face with imminent disaster; even the most stalwart individual will feel his heart sink at such a moment. The operator should always remember that at such moments if basic surgical principles are applied quickly and accurately the situation will be rapidly rescued. Hesitation and uncertainty will all too often terminate in disaster. A sturdy belief in his or her own powers and a refusal to accept defeat are the best assets of a calling which pre-eminently demands moral courage.

Before operating, the surgeon should prepare by going over in his or her own mind the various possibilities in the projected procedure, so that there may be no surprises and he or she may all the better meet any eventuality. Likewise, following the procedure it is valuable to go over in one's mind every step in the operation in order to analyze any deficiencies and difficulties experienced; it is only by this continuous self-assessment and analysis that surgeons can from their own efforts improve their practice.

It is of increasing importance that the surgeon understands the need for meticulous record-keeping in order to build a comprehensive database for future analysis. The modern surgeon has to continually examine his and others' work in order to practice to the highest possible standards. More and more guidelines are being generated; the surgeon has to be sure that his work meets the quality requirements of modern practice. Patients, purchasers and professional bodies wish to be able to access the best possible practices. Transparency of standards is essential to modern medical practice. The high-quality surgeon has little to fear from the implementation of guidelines and should look upon these times as opportunities for developing the highest quality of care.

Surgery is physically and mentally tiring. The surgeon should be sure to be adequately equipped in both these areas to meet the demands of theatre. It is important to remember that driving the staff on for long, tiring sessions is counterproductive; there is little merit in performing long procedures with an already exhausted staff. The surgeon's hands and mind become less steady, the assistants less attentive and the nurses tired and disillusioned. It is under these circumstances that mistakes occur.

It is important, however, not to be dogmatic about the ideal length either of individual operations or of operating lists. A full day in the operating theatre may suit one surgical team but be anathema to another.

Speed in operating

Speed, as an indication of perfect operative technique, is as characteristic of a fine surgeon, as striving for after-effect is the stock-in-trade of the charlatan. An operation rapidly yet correctly performed has many advantages over one as technically correct yet laboriously and tediously accomplished. The period over which haemorrhage may occur is shortened, the tissues are handled less and are therefore less bruised, the time the peritoneum is open and exposed is shortened, the amount and length of anaesthesia is shortened and the impact of the operative shock, which is an accumulation of all these factors, is lessened. Moreover, less strain is put upon the temper and legs of the operator and assistants with the result that the interest of the latter and the onlookers is maintained at the highest level. However, this speed must be tempered with attention to detail, particularly of haemostasis, and by a conscious effort not to unnecessarily handle tissue.

Operative manipulation

The surgeon should continually endeavour to reduce the number of manipulations involved in a procedure to the absolute minimum consistent with sound performance. If an operation is observed critically, one is struck by the vast number of unnecessary movements performed, the majority of which are due to the uncertainty and inexperience of the operator. In older surgeons, unless care is taken to analyze these movements and eliminate them they will become part of the habits and ritual of the procedure.

Minimizing trauma is of fundamental importance for uncomplicated wound healing. The art of gentle surgery must be developed (Moynihan). Sadly, many surgeons achieve speed by being rough with tissue, particularly by direct handling. This must be avoided at all costs, and the temptation to tear tissue with the hands rather than to delicately incise and dissect with instruments is to be eschewed. All operative manipulations should be gentle; force is occasionally essential but should be applied with accuracy, only to the tissue to be removed and for limited periods of time. The surgeon who tears and traumatizes tissue will see the error of his ways in the long recovery periods that his patients require and in the high complication rate.

Moynihan spoke in 1920 at the inaugural meeting of the British Association of Surgeons on 'The ritual of a surgical operation', stating that 'he [the surgeon] must set endeavour in continual motion, and seek always and earnestly for simpler methods and a better way. In the craft of surgery the master word is simplicity'.

Further reading

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