BAUS GUIDELINES FOR TRAINING IN LAPAROSCOPY

BAUS GUIDELINES IN LAPAROSCOPIC MENTORSHIP

1. GUIDELINES FOR TRAINING IN LAPAROSCOPY

Objective: These guidelines were commissioned by the National Institute for Health and Clinical Excellence (NICE) in response to safety concerns about the rapid uptake of new, complex laparoscopic procedures.

Materials and Methods: A combination of expert opinion and literature review was used to produce a consensus document.

Results: Patient demand and excellent reports in the literature have prompted many consultant urologists with little prior laparoscopic training to learn laparoscopic procedures. Laparoscopic urological surgery involves some of the most complex procedures in all of surgery and there has been a lack of formal training for consultants. We have produced guidelines that are designed to help consultant urologists gain experience safely by a combination of didactic learning and mentorship. We recommend that urologists work with a mentor and master ablative laparoscopic surgery before taking on more complex procedures such as prostatectomy, cystectomy, pyeloplasty, and partial nephrectomy. These guidelines were approved by BAUS Council on 26 October 2006.

Conclusions: These guidelines are intended to be complementary to the NICE guidelines on specific procedures which are available on their website (www.nice.org.uk).

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INTRODUCTION

Training in urological laparoscopic surgery in the United Kingdom has been inadequate because of several factors:

- a shortage of designated training centres
- a shortage of recognised trainers
- lack of appropriate facilities, in the form of either equipment, expertise or support from respective Trusts.

Laparoscopic surgery in urology differs from its counterparts in general surgery or gynaecology in that there are no relatively simple high volume procedures, suitable for training. Consequently, laparoscopy in urology has traditionally been considered a sub-specialist procedure; in fact, the majority of consultant urologists in the UK have had little if any training at all in laparoscopic urological procedures. Future training needs to be targeted and more structured in order for the trainee to gain experience while maintaining patient safety.

The UK has few centres of excellence for urological laparoscopic surgery. This situation is compounded by a lack of trained manpower, expertise, funding, and flexibility. Britain has relatively few consultant urologists per capita when compared to Europe or North America. The present funding structure of the National Health Service (NHS) does not reward hospitals for performing complex procedures and undertaking new technological advances. Traditional consultant urologists' job plans, which typically include 2 or 3 inpatient theatre sessions per week, do not offer enough access to theatre time nor the flexibility needed to develop a timely and effective referral service focused on laparoscopic surgery.

Training in laparoscopy would be enhanced by a change in the law regarding the use of wet labs for surgical training, which at present effectively amounts to a complete prohibition in the UK. Instead of mastering complex tasks in a training facility, UK trainees must learn within the context of clinical practice, i.e. on patients, with all of its limitations and risks. A training centre should be able to offer laparoscopic training in both a structured dry and wet lab facility, and in a busy clinical setting. Trainees at such a centre should be able to participate in complex laparoscopic surgery and undertake lab simulation practice on a daily basis. Currently no centre in the UK offers this level of training.

The goal of this document is to guide urological surgeons through the learning process in order to reduce the risks associated with the introduction of complex new procedures.

CRITERIA FOR TRAINING IN LAPAROSCOPIC UROLOGICAL SURGERY

As part of training in laparoscopic urological surgery, we recommend that urologists fulfil the following training criteria. Firstly, before introducing laparoscopic procedures to a hospital, consultants need to comply with local clinical governance rules. For instance, a common requirement is to have written approval from the lead clinician and medical director, as well as the local Clinical Effectiveness Committee. Consultant urologists training in laparoscopic techniques are encouraged to work in partnership with another consultant within their department where possible to develop a team approach.

The technique of laparoscopic nephrectomy, when performed by experienced surgeons in high-volume centres, is associated with improved safety and recovery time when compared to the open surgical approach.[1, 2] Laparoscopic radical nephrectomy appears to confer at least the same oncological benefits as open radical nephrectomy. [3, 4] The BAUS Laparoscopic Nephrectomy Audit has reported that centres performing more than 12 cases per annum have better outcomes in terms of conversion, transfusion, and complication rates when compared to those with fewer cases. [5]

The National Institute for Health and Clinical Excellence (NICE) has published guidelines for a number of laparoscopic procedures, including nephrectomy, pyeloplasty, and radical prostatectomy (www.nice.org.uk). While each procedure has been deemed safe and effective by NICE, each document refers to adequacy of training as being of particular concern.

Those wishing to learn urological laparoscopy, assuming no previous laparoscopic skills, must complete the following steps:

1. Complete a dry lab course and develop facilities to practice at 'home'.
2. Complete an animal wet lab.
3. Watch live procedures in context of demonstrations, i.e., a master class.
4. Go to high volume centre to watch designated cases. Proposed theatre team to visit a high volume centre to learn all aspects of the surgery.
5. Identify a mentor.
6. Start doing laparoscopic nephrectomy with mentor.
7. At the end of the training period, perform several procedures independently observed by an experienced laparoscopic surgeon.
8. Audit results. Submit results to BAUS annual laparoscopic nephrectomy audit.
9. Aim to perform at least 12 marker cases per annum.

The sequence of the training programme for each urologist may vary to take into account previous laparoscopic experience and the expertise offered by consultant urological colleagues within the department. For example, a consultant working in a urology department with an established laparoscopic workload would not necessarily need to visit another centre, while a newly appointed consultant with extensive training could start by identifying a mentor (Step #5). We highly recommend that urologists with complementary skills work together in teams of two, e.g., one with expertise in laparoscopic surgery and the other in open surgery. An alternative model of training is to work for a designated period of time, e. g. 6 months, in a high-volume centre.

Laparoscopic skills, such as access, dissection, haemostasis, and reconstruction, are initially best acquired in a skills lab environment, thus improving skills by practice. We recommend that each unit have an in-house dry simulator to maintain skills competence. Research has shown that such simulators enable trainees to maintain competency, in contrast to units without access to simulators where the trainees have to re-learn competency in the clinical setting. [6, 7, 8]

UK centres should be identified which can offer intensive training in urological laparoscopic surgery. These centres should be off the steep part of the learning curve and performing a high volume of cases per year. The trainee would be expected to assist in laparoscopic cases, undergoing structured training in all aspects of the procedure, then to perform a designated number of cases under supervision. At the end of the training period, the trainee would either be accredited or recommended for further training.

ADVANCED LAPAROSCOPIC PROCEDURES

Further training can be undertaken in laparoscopic suturing and more advanced courses which are procedure based, e. g., pyeloplasty, partial nephrectomy, and radical prostatectomy. We recommend that these procedures not be carried out by clinicians without prior experience in laparoscopic nephrectomy. Nevertheless, we recognise that entry criteria into this level of complex surgery can be fulfilled in several different ways, depending on the level of expertise in both open and laparoscopic procedures. For example, a consultant with extensive experience in open radical prostatectomy may choose to have focused training in laparoscopic radical prostatectomy by doing an intensive fellowship in that procedure rather than training initially in laparoscopic nephrectomy. We will describe our preferred method for training, namely, to become competent at standard upper tract laparoscopic procedures before moving on to more complex procedures. Complex upper tract procedures such as partial nephrectomy and pyeloplasty should not be undertaken without prior audited competence in nephrectomy. Once again, we recommend working as a team within a department in order to take advantage of local expertise.

Consultants wishing to progress to more advanced procedures, e. g. laparoscopy for pelvic malignancy, should first establish competence in upper tract laparoscopic surgery. This can be accomplished by either competence based assessment or by submitting audit data confirming safe practice. Following this, consultants should adopt the following approach:

1. Attend a designated procedure specific wet lab course.
2. Watch live procedures in context of demonstrations, i.e., a master class.
3. Go to high volume centre to watch designated cases. Proposed theatre team to visit a high volume centre to learn all aspects of the surgery.
4. Identify a mentor.
5. Start doing complex procedures with mentor.
6. At the end of the training period, perform several procedures independently observed by an experienced laparoscopic surgeon.
7. Audit results. Submit results to BAUS annual laparoscopic audit.

LAPAROSCOPIC RADICAL PROSTATECTOMY

Radical prostatectomy offers a potential cure for many men with early stage prostate cancer and is being performed with increasing regularity in the UK. The technique of laparoscopic radical prostatectomy, when performed by experienced surgeons in high-volume centres, appears to offer unique advantages when compared to other surgical approaches. Laparoscopic radical prostatectomy appears to confer the same oncological benefits as open radical prostatectomy, albeit with a faster recovery time and less blood loss. [9-12]

Problems associated with laparoscopic radical prostatectomy tend to be related to surgical experience and competence, not to the procedure itself. We believe that it ought to be offered as a valid, safe treatment option to men with prostate cancer deemed appropriate for local radical therapy, but significant improvements in training are necessary before urologists or units in most parts of the UK can offer this procedure to patients safely. Alternative training models are being developed involving modular training so that the tasks involved in this complex procedure can be learned in stepwise fashion rather than in an 'all-or-nothing' way. [13, 14]

Laparoscopic radical prostatectomy is a uniquely challenging procedure for which training in the UK is restricted to a small number of centres. The procedure demands an extremely high level of laparoscopic surgical competence and should not be offered to patients in the United Kingdom without strict adherence to these guidelines regarding training. The primary reason for these guidelines is the fact that laparoscopic radical prostatectomy, when performed by inexperienced surgeons, is associated with a high incidence of serious short- and long-term complications. It is for this reason that those urologists who work in cancer centres and are keen to develop a laparoscopic pelvic malignancy service should undergo the suggested training above. However, only a few units in the UK have experience of more than 50 procedures in this field.

NICE Guidance suggests that clinicians wishing to undertake laparoscopic radical prostatectomy should inform the clinical governance leads in their trusts through the Clinical Effectiveness Committee. The same holds true for other advanced laparoscopic procedures, such as cystectomy, partial nephrectomy, and pyeloplasty. They should ensure that patients offered this procedure understand any uncertainty about the procedure's safety and efficacy and should provide them with clear written information. Use of NICE's "Information for the Public" is recommended. Clinicians should ensure that appropriate arrangements are in place for audit or research as publication of safety and efficacy outcomes will help in reducing current uncertainty.

Existing NICE cancer service guidance is available from the Institute's website (www.nice.org.uk) including recommendations on laparoscopic radical prostatectomy, pyeloplasty, and nephrectomy.

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2. BAUS LAPAROSCOPIC MENTORSHIP GUIDELINES

We believe that the era of surgeons who are relatively inexperienced in urological laparoscopy acting as mentors is over. Mentors should be aware of their responsibility to ensure that trainees and consultant colleagues adhere to the Guidelines published by NICE and BAUS.

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INTRODUCTION

These Guidelines are intended to guide urological surgeons who are asked to help consultant colleagues to establish a practice in laparoscopy or expand their indications. The framework for mentorship was established in 2000, at which time there were only a few urologists in the UK with experience in laparoscopic techniques. Since then, there has been a rapid expansion of the number of urologists carrying out laparoscopic surgery. However, the majority of centres reporting laparoscopic nephrectomies in a recent national audit performed less than one case per month. This would imply that, while the expansion in laparoscopic service has been rapid, relatively few consultants presently carry out laparoscopic procedures on a regular basis. The centres carrying out more than one case per month reported better results in terms of operative time, conversion rates, and complication rates. [1]

Guidelines from the National Institute of Health and Clinical Excellence (NICE, www.nice.org.uk) specifically refer to the need for advanced training before undertaking advanced laparoscopic procedures in urology. BAUS has published Guidelines for Training in Laparoscopy, which are intended to complement NICE guidance. [2] The guidelines include a recommendation that consultants identify a mentor to guide them through their initial cases. The present document will set out guidelines for what is expected of mentors. Until subspecialty training is established in the UK, we believe there is still a need for mentorship as part of the learning process. The mentor and trainee must understand at the beginning of training that the process is not a validated way to ensure that the trainee is 'competent'; rather, it is simply the training method deemed most appropriate by BAUS.

Who can act as a mentor?
When laparoscopic urology was in its infancy, there were no experienced urological surgeons to act as mentors; consequently, consultants who were still going through the learning process were trying to guide others. Today, however, there are at least 20 centres in the UK performing a high volume of nephrectomies annually. [3] We believe that the era of surgeons who are relatively inexperienced in laparoscopic nephrectomy (including general surgeons and gynaecologists) acting as mentors is over, since the need for further rapid expansion is limited. Instead, we would like to encourage a smaller number of trainees to get more intensive training in centres performing a large volume of cases.

Mentors for laparoscopic nephrectomy should fulfil the following criteria:

- Have performed at least 50 laparoscopic nephrectomies independently as a consultant.
- Submit the results to the annual BAUS laparoscopic nephrectomy audit
- Ensure that the trainee
    - has notified his medical director and lead clinician of this new development
    - is aware of BAUS Guidelines on Laparoscopic Training
    - is aware of NICE Guidelines on Laparoscopic Nephrectomy
    - has attended a BAUS dry and wet lab course
    - has an undertaking from colleagues to refer appropriate cases
    - limits his indications to nephrectomy until he is deemed competent in that procedure

- performs at least one laparoscopic nephrectomy solo with an independent observer (not the mentor).

The mentor and trainee must be realistic in their expectations, as the trainee may be expected to visit the mentor's unit many times and vice versa. An informal 'contract' should be made in order to make the commitment clear to both parties. Consideration should be made regarding payment to either the trainer or his Trust for the trainer's time. As stated above, an independent urologist must observe the trainee before he is advised to perform laparoscopic nephrectomy solo.

Complex laparoscopic surgery

Concerns have been raised about complications and failed procedures in more complex laparoscopic surgery. Laparoscopic partial nephrectomy, for instance, has been associated with catastrophic bleeding, positive margins, recurrences, etc., yet some urologists have taken this procedure on without any formal training nor much experience in laparoscopic nephrectomy. In addition, several urologists in the UK have been forced to stop performing laparoscopic radical prostatectomy as a result of complications. In short, there has been a great degree of enthusiasm for these new techniques without a great deal of training. We therefore offer the following guidelines which are intended to complement NICE Guidelines:

Mentors for more advanced procedures should fulfil the following criteria

- For pyeloplasty: to have performed at least 20 cases independently as a consultant and to have submitted his results to the BAUS Section of Endourology PUJ audit.
- For partial nephrectomy: to have performed at least 100 laparoscopic nephrectomies and 20 partial nephrectomies independently as a consultant and to have submitted his results to the BAUS Laparoscopic Nephrectomy audit.
- For radical prostatectomy: to have performed at least 100 cases independently as a consultant and to have submitted his results to the BAUS Section of Oncology audit.

In summary, we believe that the era of surgeons who are relatively inexperienced acting as mentors is over. Mentors should be aware of their responsibility to ensure that trainees and consultant colleagues adhere to the Guidelines published by NICE and BAUS.

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