

Minor surgery in general practice – setting the standards

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Abstract

Background A self-assessment tool was trialled to set a baseline for control of infection in general practice and to assess the nature and adequacy of infection control precautions in primary care settings with particular reference to minor surgery.

Methods A request for volunteers was included in a flier sent out periodically by the Communicable Disease Unit to all general practices in the county ($n = 114$). Eleven practices (9.6 per cent) volunteered to take part and an audit of infection control precautions was undertaken with the practice nurse and/or manager.

Results Of the 11 general practices audited, nine did not have a written policy for control of infection, did not have a separate, dedicated room for minor surgery, did not use protective clothing appropriately, used terry towels for hand-drying and reprocessed single-use only items. Ten used inappropriate methods to decontaminate heat labile items, seven did not record sterilizer processing cycles and five did not comply with HTM 2010 with regard to sterilizer maintenance.

Following the survey, minimum infection control requirements have been developed for future applications to provide extended minor surgery within general practice and these will be monitored at subsequent surgery inspection visits and through audit.

Conclusions Results suggest that there is little room for complacency with regard to standards of infection control in general practice. In view of the increasing shift towards primary care based minor surgery it would be helpful if minimum standards were to be agreed nationally.

Keywords: minor surgery, infection control, standards, quality

Introduction

There is currently little information available on infection risks from minor surgical procedures undertaken in general practice. Many factors are involved in the development of post surgical wound infection, including the type and site of surgery, length of time taken during operation, skin preparation, skill of the surgeon and patient risk factors. Although the majority of all wound infections are endogenous, that is from the patient's own flora, the main sources of exogenous infection are from the air (skin scales) and from failure in aseptic technique or sterilization.¹ Several studies have been undertaken which

suggest that there is a significant lack of understanding among practice staff about the risks of cross-infection^{2,3} and safe methods for the decontamination of instruments.^{4–6}

A Canadian study of 2540 out-patient day case surgical operations found an overall wound infection rate of 5.5 per cent, and the rate for clean procedures was 4.6 per cent.⁷ Although many of the surgical procedures in the study are not currently performed in general practice, the findings illustrate that 'minor' surgery is not without risk to the patient. A more salutary example occurred in 1989 in New South Wales⁸ when four women became infected with HIV during minor surgical procedures carried out in the consulting rooms of an experienced specialist surgeon. All four women underwent surgical removal of minor skin lesions on the same list as a male patient who was later identified as having been HIV positive at the time of operation. Investigators concluded that cross-infection probably occurred through inadequate decontamination methods.⁸

Recent guidance issued by the NHS Executive (HSG(96)31)⁹ requires Health Authorities to establish and operate new procedures for authorizing the provision of secondary care services (extended minor surgical procedures) in primary care settings and to ensure the safe and effective provision of those services. Examples of extended minor surgery include procedures such as excision of ganglia, removal and ligation of varicose veins, hormone replacement therapy (HRT) implants, caudal epidural and vasectomy (Table 1). Prevention of cross-infection involves ensuring safe practice, but recent guidelines¹⁰ give little detail of recommended minimum standards for premises, sterilization techniques or infection control for minor surgery.

Method

To assess the nature and adequacy of infection control precautions within surgeries a self-assessment tool for infection

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Table 1 Minor surgical and extended minor surgical procedures approved by the Health Authority

Minor surgical procedures	Extended minor surgical procedures
Injections: intra-articular, peri-articular, varicose veins, haemorrhoids	Meibomian cysts
Aspirations: joints, cysts, bursae, hydrocele	Eyelid operations
Incisions: abscesses, cysts, thrombosed piles	Excision of ganglia
Excisions: sebaceous cysts, lipoma, warts, skin lesions for histology, intradermal naevi, papilloma, dermatofibroma and similar lesions, removal of toenails	Nail bed ablation
Curette, cautery and cryocautery: warts and verrucae, other skin lesions (e.g. molluscum contagiosum)	Ligation or removal of varicose veins
Other: removal of foreign bodies, nasal cautery	Fegan sclerotherapy
	Hormone implant HRT
	Caudal epidural
	Sigmoidoscopy

control in general practice was trialled in the District. This was a further development of an audit tool trialled elsewhere.¹¹ A brief outline of the proposed trial was included in a flier sent out to all general practices in the county. Eleven out of a total of 114 general practices volunteered to be audited. Six of the volunteer practices were from urban areas and five served rural communities. One practice had two partners, five had three or four and the remainder six or seven. There were no single-handed practices and two of the 11 were fundholders. The practices were well distributed across the county.

Each was visited and the audit criteria were discussed in detail with the practice nurse(s) and/or practice manager. This was followed by a visual inspection of the premises with particular emphasis on clinical areas. Following each visit, which lasted between two and three hours, a written report including recommendations was sent to each practice.

Results

It is acknowledged that results from any self-selected sample are not necessarily representative. Bias may arise because those who volunteer may have particular characteristics not found in those who do not. For example, these practices may have volunteered because they felt in need of advice with regard to their infection control practice. An additional source of bias could be the small sample size of 9.6 per cent. Nevertheless, overall findings were similar to those of studies previously reported in the literature. This paper will discuss those aspects of infection control which could have implications for safe practice during minor surgery (Table 2).

Policy

Nine practices did not have a written policy for the control of infection and six had neither a policy nor guidelines for the management of an inoculation incident.

Equipment and facilities

Hand basins and sinks were fitted with hand-operated taps in some or all clinical areas in six premises. Bar soaps and terry

hand towels were in use in seven and nine practices, respectively, and multi-use nail brushes were used in ten. Over half (six) of the surgeries visited were using waste bins without foot-operated lids in some/all of their clinical areas. With regard to protective clothing, plastic aprons were provided in only five premises and face masks and eye protection in two.

Most surgeries were found to carry out surgical procedures in the treatment room(s) with only two having a separate, dedicated room for minor surgery. The treatment and consulting rooms were found to be dusty and/or not damp-dusted daily in the majority of practices visited (nine). Just under half (five) did not have their sterilizing equipment regularly maintained on a planned programme.

Practice

Most surgeries (nine) did not use protective clothing, such as gloves, aprons and face masks, appropriately. Resheathed needles were observed in sharps disposal bins in five surgeries, and one or more bins were found to be overfilled in a similar number of premises.

In six surgeries instruments were washed before sterilization in a sink which was also used for hand washing. Temperature recordings of each sterilizer cycle were routinely recorded in only four practices and instruments were autoclaved either wrapped or in pouches in three. A similar number reported that items used in the vagina and cervix, such as ring pessaries or contraceptive diaphragms, were processed for re-use using chemical disinfection. Inappropriate decontamination methods were in use for heat labile items in ten practices, and certain single-use items were processed for re-use in nine.

Discussion

All health care professionals have legal obligations with regard to their patients and the people that they work with. Under the Health and Safety at Work, etc., Act (HASAW) 1974,¹² statutory responsibilities include the safety of all persons within their sphere of influence in their working environment. In addition, the Control of Substances Hazardous to Health

Table 2 Trial of a self-assessment tool for control of infection in general practice – a selection of results from 11 surgeries

	Number	Per cent
<i>Policy</i>		
No practice policy for control of infection	9	81.8
No policy or guidelines for management of needlestick or contamination incident	6	54.5
<i>Equipment and facilities</i>		
Hand-operated taps in some or all clinical areas	6	54.5
Bar soaps as well as liquid soap in use	7	63.6
Terry hand as well as paper towels in use	9	81.8
Multi-use nail brushes used (i.e. not single-use or autoclavable)	10	90.9
Some or all clinical waste bins without foot-operated lids	6	54.5
Plastic aprons not provided	6	54.5
Face masks and eye protection not provided	9	81.8
Sterilizing equipment not on planned maintenance (HTM 2010)	5	45.5
No separate, dedicated treatment room for minor surgery	9	81.8
Treatment or consulting rooms dusty or not damp-dusted daily	7	63.6
<i>Practice</i>		
Protective clothing not worn appropriately	9	81.8
One or more sharps bin found to be more than 2/3 full	5	45.5
Needles resheathed before disposal	5	45.5
Equipment or instruments washed in a sink also used for hand washing	6	54.5
Single-use items processed for re-use	9	81.8
Inappropriate decontamination of heat labile items	10	90.9
Temperature of each sterilizer processing cycle not recorded	7	63.6
Instruments autoclaved wrapped or in pouches	3	27.3
Items used in vagina or cervix not heat disinfected	3	27.3

Table 3 Minimum requirements: standards for infection control for applications under HSG(96)31

<i>Record keeping</i>	
A written policy defining safe practices for the control of infection to include cleaning schedules	
<i>Facilities</i>	
A well-ventilated room set out as a treatment or minor operation room	
A fully washable treatment couch in good repair and of adjustable height	
A source of strong adjustable lighting	
Separate sinks for washing hands and instruments	
A hand washbasin within the room with:	
hot and cold water supply	
elbow- or wrist-operated taps	
liquid soap dispenser	
disposable paper hand towels	
<i>Practice</i>	
Protective gloves and an apron are worn and changed between cases	
Staff involved with surgical procedures have had Hepatitis B vaccination in accordance with HSG(93)40	
Sharps boxes conforming to BS7320 are available	
<i>Decontamination</i>	
Single-use items are used once only and then discarded	
If used, endoscopes are disposable or decontaminated via a Sterile Supplies service	
Instruments and appliances used in the vagina or cervix are sterilized after each use in accordance with Safety Action Bulletin 18 – SAB(94)22	
All instruments are pre-washed then sterilized, or are single-use only	
Sterilization of instruments takes place via a Sterile Supplies service or via a bench-top steam sterilizer which complies with BS3970 (parts 1 and 4), and Safety Specification EN61010: Part 2-041	
The sterilizer is maintained on a planned programme which complies with Health Technical Memorandum 2010	

(COSHH) regulations¹³ include the control of pathogenic micro-organisms.

To comply with the requirements of this legislation it has long been recommended that every general practice should draw up an infection control policy for all staff to implement¹⁴ and suggestions have been made as to what the policy might include. The purpose of such a policy is to ensure that required standards of practice for safe infection control precautions are made explicit, and requires instruction and training in its implementation. However, this survey found that only two practices had an agreed written policy for control of infection.

Safe handling and disposal of sharps is vital to reduce risk of exposure to bloodborne viruses.^{15,16} At least one or more bin was found to be overfilled and evidence of resheathing of needles was observed in just under half the practices visited. However, in the five practices where this occurred, resheathed needles were observed in one consulting room only, suggesting that the majority of staff followed current guidelines when disposing of syringes and needles.^{14,16} Six surgeries did not have written guidelines or a protocol on what to do in the event of an inoculation or contamination incident. There needs to be clear written guidance readily available as to what constitutes an incident, the immediate first aid necessary, what information needs to be documented and what further action may be required.

Meticulous hand-hygiene is acknowledged to be the most important infection control activity, although research has repeatedly shown that compliance with hand washing amongst all grades of health-care personnel is generally poor. Elbow- or wrist-operated mixer taps reduce the risk of operator hand contamination but the majority of surgeries had hand-operated taps in some or all clinical areas. The use of pedal-operated bins decreases the risk of hand contamination when disposing of waste but just under half the practices provided this type of bin in every clinical area.

Bar soaps, terry towelling squares and multi-use nail brushes soon become contaminated with micro-organisms, particularly when stored wet between uses, and the use of liquid soap and paper towels is recommended,^{1,14} yet some or all were in use in the majority of participating surgeries. Use was confined to the doctors' consulting rooms, even though liquid soap and paper towels were also provided in the majority of cases, in all but two practices.

All blood and body fluids are potentially infectious and precautions are necessary to prevent exposure to them.¹⁶ It was therefore of considerable concern to find that the only form of protective clothing routinely available was disposable gloves. Plastic aprons were rarely worn in the majority of practices and not provided at all in over half. Eye protection and face masks should be worn for any procedure where there is a risk of splash, spray or aerosol occurring, yet most surgeries did not have them available if needed. Although failure to wear necessary protective clothing is ultimately the responsibility of

each individual, failure to provide it is in breach of the HASAW Act and COSHH regulations.

Environmental cleanliness is of considerable importance with regard to control of infection. Dust contains large amounts of human skin scales, each covered with thousands of micro-organisms, and dusty surfaces are a potential source of infection via staff hands. Treatment and consulting rooms were found to be dusty, and/or not damp-dusted daily, in over half of the practices. The cost of cleaning services was cited as the reason for this.

The decontamination of instruments and equipment was also an area of concern. Certain items manufactured as single-use only were commonly reprocessed, e.g. nebulizer and suction tubing, masks and mouth pieces, with nine practices attempting to decontaminate and re-use them. Reducing costs was cited as the reason for such practice. Health-care providers need to be aware that re-use of single-use items has legal, technical and economic implications for the reprocessor.¹⁷

Seven surgeries washed equipment and instruments in a sink also used for hand washing. This can significantly increase the risk of hand and environmental contamination. Inappropriate decontamination of medium-risk items, i.e. diaphragms and ring pessaries, occurred in three practices. Chemical disinfection had been chosen because these items quickly perish when heat sterilized, thus increasing costs. All items used in the vagina and cervix should either be single-use disposable or disinfected by heat, and chemical disinfection should not be used.¹⁸

Although, as a general rule, all high- and medium-risk items should be single-use or autoclavable, certain heat-labile, medium-risk items, e.g. auriscope earpieces and glass thermometers, may be disinfected by washing followed by soaking for 10 minutes in 70 per cent alcohol.¹ These items were found to be inappropriately decontaminated in nine practices.

Benchtop steam sterilizers, unless equipped with a vacuum air-extraction cycle, are designed for unwrapped instruments only.¹⁴ However, three practices were found to process instruments wrapped or in pouches. Just under half the sterilizers were not being maintained in accordance with Health Technical Memorandum (HTM) 2010¹⁹ to ensure safe and effective operation.

Under HTM 2010, managerial responsibilities include a log book giving details of examinations, tests, faults and modifications. Testing includes both daily process testing and weekly testing by the user, routine quarterly performance tests by a qualified test person and annual examination by a registered surveyor. The user should also note that the correct temperature of each processing cycle has been reached but this was not being monitored and recorded in many surgeries.

All the practices were involved in performing minor surgery but only two had a separate treatment or minor surgery room dedicated solely for this purpose. It can be argued that safe standards of infection control are more significant than venue with regard to quality of outcome from minor surgery.

Nevertheless, a dedicated room, separate from where dirty dressings are carried out, is likely to reduce the risk of cross-infection. It can also be argued that the facilities used for minor surgery should be, at the least, equal to those of a casualty or emergency room. However, there are no nationally agreed guidelines on minimum requirements and enormous variations in the quality of premises occur across the country. These differences arise from the varying demands of different Health Authorities and the capital available.²⁰

All the practice nurses interviewed during the trial were well-motivated and anxious to implement safe infection control standards. However, both they and the five practice managers involved expressed concern over the extra costs likely to be incurred by changes in practice. Two practice managers and two GPs expressed the view that some of the suggested improvements would not be affordable without extra funding.

Feedback from the practices following audit has been positive. Two have put recommendations into place and a third requested a further visit for infection control advice in the design and commissioning of an upgrade of the premises, to include a minor surgery suite. In addition, guidelines for infection control in general practice have been drawn up, based on the standards and criteria set out in the self-assessment audit tool, as a joint venture between the Clinical Audit Outcomes Group and the Practice Nurse Guidelines Group.

Conclusions

Preparation for minor surgery sessions should be as thorough as that undertaken in day surgery units. It should include ensuring a clean environment, use of appropriate protective clothing, provision of sterile instruments and meticulous hand hygiene. Despite the small number of general practices participating in this trial, our findings support those of other studies reported in the literature. These suggest that there is little room for complacency with regard to safe standards of infection control during minor surgery in general practice. As a result of this work, and in light of recent guidance,¹⁰ the Health Authority has taken the following action:

- (1) the adoption of minimum infection control standards in its requirements for applications to provide secondary care within general practice (Table 3);
- (2) monitoring these standards at subsequent surgery inspection visits;
- (3) encouraging self-assessment of infection control precautions in general practice;
- (4) auditing standards of infection control more widely through the Clinical Audit Advisory Group.

Under HSG(96)31 Health Authorities are advised to consider (1) whether equipment and facilities are suitable for the purpose and are subject to proper maintenance, decontamination and calibration as appropriate, and (2) whether quality

standards are equal to those written into contracts placed with other providers for the same service.⁹ To ensure this quality of service is provided in the primary care setting it would be helpful if minimum requirements for safe infection control during minor surgery were to be agreed nationally.

References

- 1 Ayliffe GAJ, Lowbury EJJ, Geddon AM, Williams JD. *Control of hospital infection*, 3rd edn. London: Chapman and Hall, 1992.
- 2 Foy C, Gallagher M, Rhodes T, *et al.* HIV – measures to control infection in general practice. *Br Med J* 1990; **300**: 1048–1049.
- 3 Overend A, Hall WW, Godwin PGR. Does earwax lose its pathogens on your auriscope overnight? *Br Med J* 1992; **305**: 1571–1573.
- 4 Hoffman PN, Cooke EM, Larkin DP, *et al.* Control of infection in general practice: a survey and recommendations. *Br Med J* 1988; **297**: 34–37.
- 5 Farrow SC, Kaul S, Littlepage BC. Disinfection methods in general practice and health authority clinics: a telephone survey. *J R Coll Gen Pract* 1988; **38**: 447–449.
- 6 Morgan DR, Lamont TJ, Dawson JD, Booth C. Decontamination of instruments and control of cross infection in general practice. *Br Med J* 1990; **300**: 1379–1380.
- 7 Zoutman D, Pearce P, McKenzie, M, Taylor, G. Surgical wound infection occurring in day surgery patients. *Am J Infection Control* 1990; **18**(4): 277–282.
- 8 Chant K, Lowe D, Rubin G, *et al.* Patient-to-patient transmission of HIV in private surgical consulting rooms (letter). *Lancet* 1993; **342**: 1548–1549.
- 9 Department of Health. *Health Service Guidelines (HSG(96)31) – a national framework for the provision of secondary care within general practice*. London: HMSO, 1996.
- 10 British Medical Association. *Minor surgery in general practice. Guidance from the General Medical Services Committee and the Royal College of General Practitioners*. London: BMA, 1996.
- 11 Finn L, McCulloch J. Infection control in GP surgeries: safe practices? *Br J Nursing* 1996; **5**(6): 341–348.
- 12 Department of Health and Social Security. *Health Service Management, Health and Safety at Work, etc., Act*. London: HMSO, 1974.
- 13 Health and Safety Executive. *Control of Substances Hazardous to Health Regulations*. London: HMSO, 1994.
- 14 BMA. *A code of practice for sterilisation of instruments and control of cross infection*. London: BMA, 1989, 1995.
- 15 Advisory Committee on Dangerous Pathogens (ACDP).

- HIV – the causative agent of AIDS and related conditions*, 2nd revision of guidelines. London: HMSO, 1990.
- 16 ACDP. *Protection against blood-borne infections in the work-place: HIV and hepatitis*. London: HMSO, 1995.
- 17 Medical Devices Agency. *The reuse of medical devices supplied for single use only. MDA DB 9501*. London: MDA, 1995.
- 18 Department of Health. *Safety Action Bulletin 108 – SAB(94)22. Instruments and appliances used in the vagina and cervix: recommended methods for decontamination*. London: HMSO, 1994.
- 19 DoH, NHS Estates Agency. *Health Technical Memorandum 2010 (HTM 2010)*. London: HMSO, 1994.
- 20 Leese B, Taylor C, Bosanquet N. *A stitch in time? Minor surgery in general practice*. Discussion Paper 132. York: Centre for Health Economics, University of York, 1995.

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