The Journal of Laryngology & Otology
March 2005, Vol. **119,** pp. 202–206

A study of out-of-hours facilities in otolaryngology: current provision and problems

R MOORTHY, MRCS(ENG), M MAGAREY, BMED, A JOSHI, MBBS, S M JAYARAJ, FRCS(CSIG), FRCS(ORL), P M CLARKE, FRCS(ORL)

Abstract

'*Action on* ENT' has recently published advice as to the minimum requirements for equipment required to provide a safe and suitable out-of-hours service in ENT.

Our objectives were to determine the availability of a dedicated ENT treatment room for seeing patients out of hours, appropriately maintained specialized ENT equipment and availability of appropriate assistance. In addition, the mechanism for disinfection of nasoendoscopes out of hours was determined.

Telephone questionnaires of 106 ENT units in England, which provide an out-of-hours ENT service, were taken. At each unit the standard questionnaire was answered by the first on-call ENT doctor.

One hundred and one units (95 per cent) had access to a dedicated treatment room out of hours. The number of units with a microscope was 91 (86 per cent), headlight/lamp and mirror was 105 (99 per cent), flexible nasoendoscope was 86 (81 per cent) and cautery (electrical or chemical) was 105 (99 per cent). Seventy-nine units (75 per cent) found that their treatment rooms were adequately stocked, and 62 units (58 per cent) had assistance available when needed. Twenty-four units (23 per cent) sterilized their scopes adequately, 22 units (21 per cent) used endosheaths, 26 units (24 per cent) used a variety of inadequate cleaning methods, and 34 respondents (32 per cent) were unsure how their scopes were cleaned.

This survey has shown that not all ENT units have appropriately equipped out-of-hours facilities. There is a need for nationally agreed guidelines stating the minimum equipment and assistance required to provide a safe, adequate and suitable out-of-hours service. National guidelines on out-of-hours disinfection of flexible nasoendoscopes are also required.

Key words: Otolaryngology; Emergency Medical Services; Equipment and Supplies

Introduction

The centralization of ENT services has led to large central units providing out-of-hours services to peripheral hospitals – the 'hub and spoke' model (Figure 1). The ability to competently manage emergency patients presenting out of hours to an on-call ENT team is dependent on the availability of a treatment area and adequate equipment. Given the increased number of patients seen and treated in centralized units, it is essential that a minimum standard of equipment be easily available out of hours.

The British Association of Otorhinolaryngologists–Head and Neck Surgeons has published a list of the minimum requirements for an ENT out-patient clinic[1] (Table I) and '*Action on* ENT'[2] states that 'all departments treating emergency cases should provide 24-hour availability of specialized equipment'. As yet, there have been no published guidelines listing specialized ENT equipment that should be available in treating out-of-hours emergencies.

Flexible nasoendoscopes are used out of hours in over 90 per cent of units.[3] Disinfection of the scope between patients is vital for preventing cross infection. As yet there is no UK otolaryngology

TABLE I

MINIMUM REQUIREMENTS FOR AN ENT OUT-PATIENT CLINIC

(1)	Light source with mirror
(2)	Good quality otoscope with assorted speculae
(3)	A complete set of examination utensils in sufficient number to avoid delays in clinic
(4)	A fibre-optic nasoendoscope
(5)	At least one rigid Hopkins's rod telescope
(6)	A microscope along with equipment for suction and other aural toilet
(7)	Audiometer and tympanometer
(8)	Soundproof facilities
(9)	Appropriate technical support
(10)	Nursing support

From the Department of ENT/Head and Neck Surgery, Charing Cross Hospital, London, UK.
Poster presentation at the Joint Meeting of ENT UK, RSM and Action on ENT, Liverpool, UK, 6–8 July 2004.
Accepted for publication: 8 December 2004.

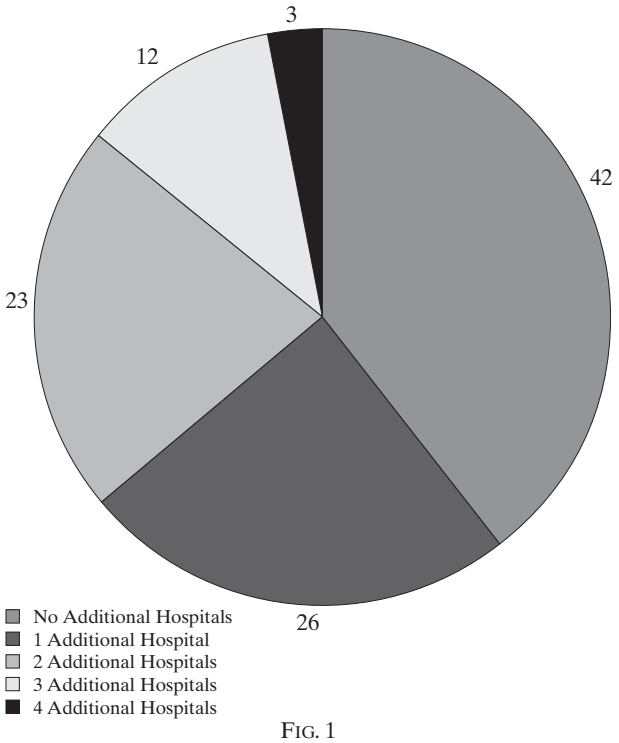

FIG. 1
Number of additional hospitals covered.

guideline for the disinfection of nasoendoscopes out of hours, despite previous calls for one.[3,4]

We performed a telephone questionnaire survey to investigate what facilities and specialized equipment are currently available out of hours in ENT units throughout England, and the techniques used to disinfect flexible nasoendoscopes.

Material and methods

A telephone questionnaire (Table II) was developed to establish the availability of facilities, equipment, common medication, disinfection techniques and nursing assistance out of hours. The questionnaire allowed acquisition of a broad range of data. The first on-call ENT doctor was contacted out of hours to ask if they were willing to participate. The questionnaire was quick to complete so as to minimize disruption to the ENT doctor interviewed.

A list of 124 ENT units, covering all the NHS Trusts in England and including both teaching hospitals and district general hospitals was drawn up. Each unit was contacted and only those that also provided out-of-hours (17:00 to 08:00 the following day) services between Monday and Friday were eligible for inclusion.

All the phone calls were made out of hours by three of the authors (RM, MM and AJ) between January and April 2003.

Results

Of the 124 units contacted, 106 units offered an out-of-hours service Mondays to Fridays. At all 106 units, the first on-call doctor for ENT agreed to answer questions as part of the survey.

TABLE II
TELEPHONE QUESTIONNAIRE

Proforma for Emergency Facilities Audit	
Primary Hospital	
Number of hospitals covered	
Dedicated ENT treatment room	Yes/No
If present where is it sited	A&E/ENT Ward/Other
Otology	
Microscope	Yes/No
Otoscope	Yes/No
Suction	Yes/No
Drugs	Drops/TAC cream
Wicks	Pope wick/Ribbon
Rhinology	
Headlight/lamp and mirror	Yes/No
Flexible nasoendoscope	Yes/No
Rigid nasoendoscope	Yes/No
Cautery	Chemical/Electrical
LA	LA/Cocaine/Adrenaline
Nasal packs	Tampons/BIPP/Balloon
Laryngology	
Scalpel	Yes/No
Heliox	Yes/No
Magill's forceps	Yes/No
Who stocks the room?	
How are the scopes cleaned?	
Who cleans the scope?	
Is the room usually fully stocked?	Yes/No
Assistance available?	Usually/Rarely/Never HCA/Nurse

Location of treatment room

One hundred and one units (95 per cent) had an ENT treatment room. The other five units either had a trolley of equipment in the Accident and Emergency department or had to arrange for the out-patient clinic to be opened for access to equipment.

Of the 101 units with a treatment room, the location is shown in Figure 2. Six units had treatment rooms situated in other areas, such as a dedicated ENT casualty or on another ward.

Equipment

In 74 units the room was well stocked and maintained. In 27 units it was felt to be inadequately stocked (Figure 3, Tables III and IV).

TABLE III
AVAILABILITY OF MAJOR EQUIPMENT

Equipment	Yes	No
Microscope	91 (86%)	15 (14%)
Otoscope	102 (96%)	4 (4%)
Suction	104 (98%)	2 (2%)
Headlight	80 (75%)	26 (25%)
Lamp and mirror	56 (53%)	50 (47%)
Flexible nasoendoscope	86 (81%)	20 (19%)
Rigid nasoendoscope	22 (21%)	84 (79%)
Electric cautery	21 (20%)	85 (80%)
Chemical cautery	104 (98%)	2 (2%)
Scalpel	91 (86%)	15 (14%)
Heliox	24 (23%)	82 (77%)
Magills forceps	88 (83%)	18 (17%)

https://doi.org/10.1258/0022215053561585 Published online by Cambridge University Press

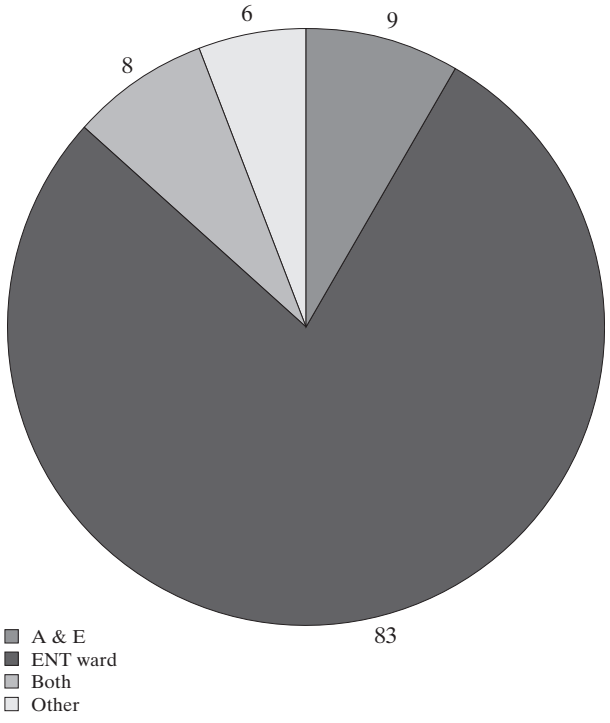

FIG . 2
Location of ENT treatment room.

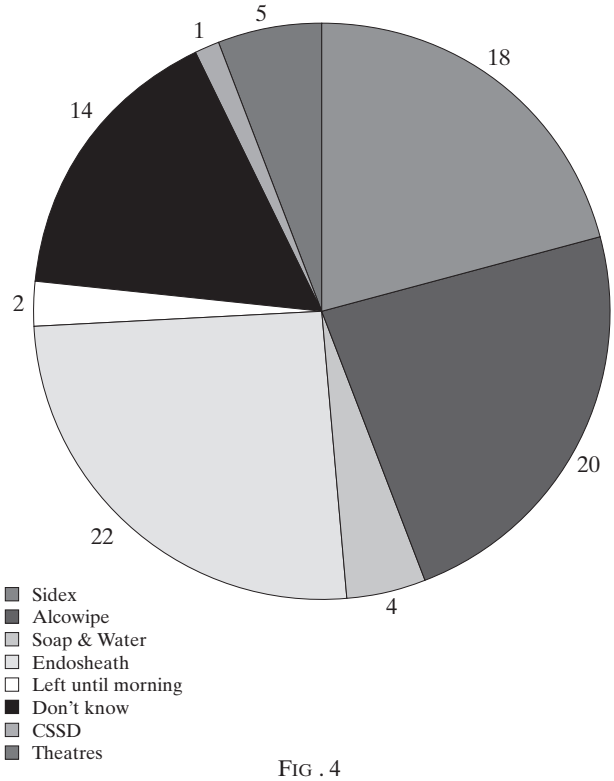

FIG . 4
Disinfection methods for flexible nasoendoscopes.

Disinfection of flexible nasoendoscope

A variety of methods were used to clean the flexible nasoendoscopes out of hours (Figure 4). The most popular methods included Cidex in 18 units (21 per cent), endosheaths in 22 units (26 per cent) and alcohol wipe in 20 units (23 per cent).

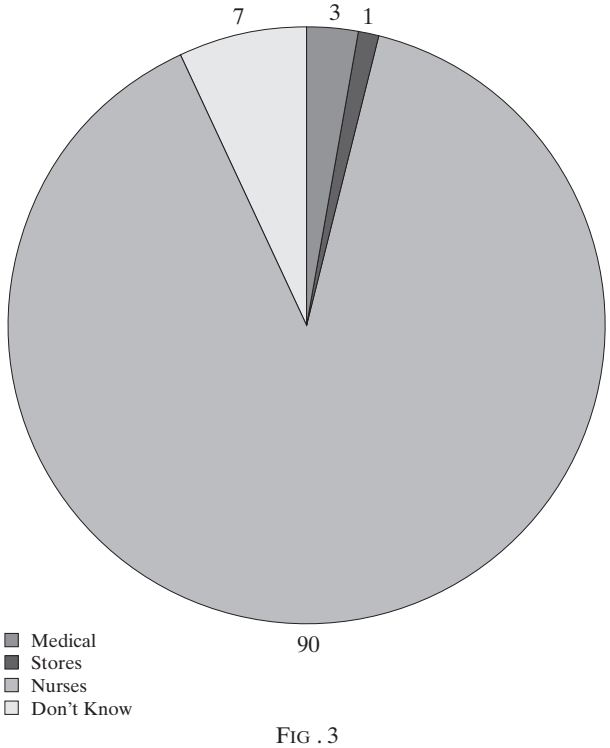

FIG . 3
Who stocks the room.

Discussion

The centralization of services has inevitably resulted in the out-of-hours service increasingly being provided by a 'hub and spoke' model. This has been corroborated by this telephone questionnaire survey, with 64 units (62 per cent) covering more than one hospital (Figure 1). This means that each unit covers a larger catchment population than was perhaps originally designed for, with a correspondingly increased workload. Therefore the adequate provision of a suitable treatment area and adequate equipment is all the more crucial to providing a professional specialist service, which apart from ensuring efficient treatment, also inspires confidence in its patients.

The vast majority of the units questioned had a dedicated ENT treatment room but five units had to either use a trolley or had to arrange for the out-patient clinic to be opened. This can prove to be difficult, especially overnight. This can lead to inadequate management of patients due to the difficulty and possible delay in accessing necessary equipment.

The location of the treatment room is important. It needs to be sited in a location that will allow both emergency patients and in-patients to be seen with minimal disruption. There should also be adequately trained staff available to assist with patients when required. On the ENT ward, the most common site in our survey, in-patients and emergency patients can be seen on the ward, without disruption to patients waiting to be seen and treated by the Accident and Emergency department. Staff are adequately trained but their assistance might not be available due to the

https://doi.org/10.1258/0022215053561585 Published online by Cambridge University Press

pressure of duties caring for their ward patients (Figure 5).

The placement of the treatment room in the Accident and Emergency department may be more efficient and appropriate for the treatment of patients with life-threatening problems or those requiring immediate resuscitation and monitoring. The problem, however, with having the room based in the Accident and Emergency department include increased disruption to the department if in-patients require treatment out of hours. The Accident and Emergency nurses and health-care assistants are trained to deal with emergency patients, but may be less experienced with specific ENT emergencies.

- **This study is a telephone-based cross-sectional survey assessing the provision of out-of-hours facilities in England**
- **The paper shows that not all the units surveyed could provide a full range of equipment, and on the basis of this recommends minimum standards for the facilities and equipment that should be made available**
- **The authors conclude that disinfection of nasoendoscopes poses particular problems and the paper highlights the need for agreed protocols to effect this**

The minimum equipment required in the treatment room should enable the treatment of all common and life-threatening emergencies.

Epistaxis is the most common ENT problem encountered as an emergency.[5] The assessment and management of patients with epistaxis involves the use of local anaesthetic spray, not available in three per cent of units. Cocaine and adrenaline are occasionally used, but were not available in 45 per cent and 38 per cent of units, respectively. If a bleeding point can be visualized then this is best treated with cautery – chemical or electrical, which was not available in two per cent of units. If a patient continues to bleed or cautery is unavailable or unsuccessful then the nose must be packed. All units had nasal tampons but in five per cent of units posterior packs were not easily accessible out of hours.

TABLE IV

AVAILABILITY OF OTHER EQUIPMENT AND MEDICATION

Other equipment and medication	Yes	No
Local anaesthetic spray	103 (97%)	3 (3%)
Antibiotic ear drops	98 (92%)	8 (8%)
TAC cream	93 (88%)	13 (12%)
Ear wicks	100 (94%)	6 (6%)
Adrenaline	66 (62%)	40 (38%)
Cocaine	58 (55%)	48 (45%)
Merocel	106 (100%)	0 (0%)
BIPP pack	96 (91%)	9 (9%)
Posterior balloons	101 (95%)	5 (5%)

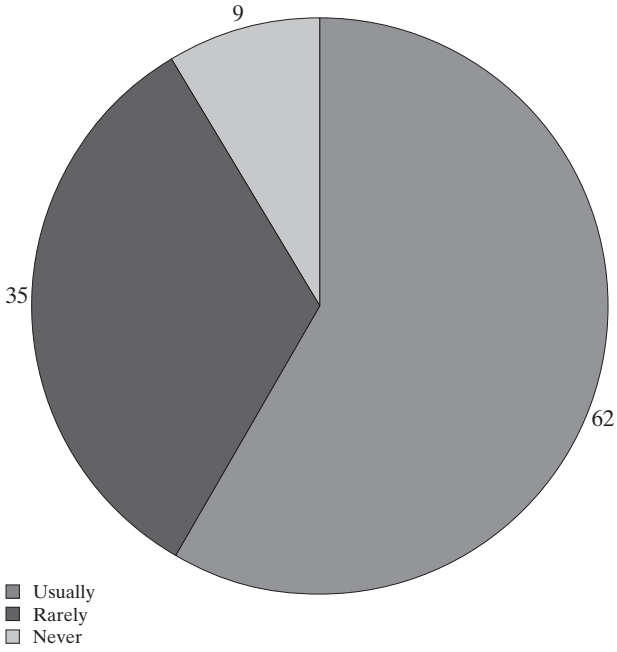

FIG . 5
Availability of assistance.

Tonsillitis, quinsy and upper airway problems, including foreign bodies, form a large part of the workload seen out of hours. For upper airway assessment, the flexible nasoendoscope has superseded indirect laryngoscopy, which was available in only 81 per cent of units. The remaining 19 per cent of units used indirect laryngoscopy, which can be a difficult skill for a senior house officer to learn and perform, especially in a sick patient.

Post-tonsillectomy haemorrhage is a potentially life-threatening problem, which requires immediate measures to be taken. Initial steps include the application of an adrenaline-soaked gauze, which would not be easily available in 38 per cent of units.

Foreign bodies in the oropharynx can be removed with Magill's forceps, available in only 83 per cent of units.

Emergency conditions affecting the ear, such as otitis externa, require easy access to a working microscope, available in only 86 per cent of units. Also necessary are suction and tips, otowicks, tri-adcortyl and antibiotic drops, which were available in the vast majority of units.

Despite calls by previous papers[3,4] for a national disinfection protocol for flexible nasoendoscopes out of hours, one has yet to be published. Our audit has shown the wide variety of methods used to clean nasoendoscopes. Only three of the methods used would be considered suitable (Cidex, CSSD and theatre). The use of plastic sheaths has increased and is seen as an alternative to high-level disinfection, especially out of hours. The use of sheaths, however, must be combined with an intermediate-level disinfection.[3] Some scope manufacturers discourage the use of sheaths due to their potential to damage the scope.

https://doi.org/10.1258/0022215053561585 Published online by Cambridge University Press

Recommendations

All units offering an out-of-hours service in ENT must provide all the facilities and equipment listed below. We call on all ENT departments in the UK to adopt these recommendations to ensure that all units can offer their patients a professional specialist service out of hours.

(1) There should be a dedicated ENT treatment room containing all the required equipment (see equipment list).

(2) The room should be sited in an appropriate area, dependent on local factors, to allow easy availability out of hours and the ability to see both in-patient and emergency patients.

(3) Availability of appropriately experienced nursing staff to assist when required.

(4) The room should be adequately stocked and equipment maintained.

(5) A disinfection protocol for the flexible nasoendoscope and Hopkins rod out of hours, which includes training of nursing staff and on-call medical staff.

Equipment list (based on Table I)

(1) Headlight or lamp and mirror

(2) Examination utensils, e.g. nasal speculae, metal tongue depressors. Available in sufficient numbers to avoid delays out of hours

(3) Otoscope with assorted speculae

(4) Microscope along with equipment for suction and for aural toilet

(5) A flexible nasoendoscope and light source

(6) Nasal packing (anterior and posterior)

(7) Cautery – chemical or electrical

(8) Local anaesthetic – spray and injection

(9) Adrenaline for topical use

(10) Otowicks, topical steroid, antibiotic and anti-fungal preparations

References

1 The British Association of Otorhinolaryngologists–Head and Neck Surgeons. *Clinical Governance and the Role of The British Association of Otorhinolaryngologists Head and Neck Surgeons*. BAO–HNS Document 3, 2000;Appendix 1
2 NHS Modernisation Agency. *Good Practice Guide*. Action on ENT, 2002
3 Kanagalingam J, Zainal A, Georgalas C, Paun S, Tolley NS. The disinfection of flexible fibre-optic nasoendoscopes out-of-hours: confidential telephone survey of ENT units in England. *J Laryngol Otol* 2002;**116**:817–22
4 Banfield GK, Hinton AE. A national survey of disinfection techniques for flexible nasoendoscopes in UK ENT out-patients. *J Laryngol Otol* 2000;**114**:202–4
5 Small M, Maran AGD. Epistaxis and arterial ligation. *J Laryngol Otol* 1984;**98**:281–4

Address for correspondence:
Mr Ram Moorthy,
Specialist Registrar in ENT,
West Midlands Rotation,
Apartment 201,
2 Townsend Way,
Birmingham B1 2RT, UK.

E-mail: ram75@medix-uk.com

Mr R Moorthy takes responsibility for the integrity of the content of the paper.
Competing interests: None declared