

## An Audit of the Use of Ophthalmic Theatre Time

**Caleb D Mpyet FWACS**

*Department of Ophthalmology  
Jos University Teaching Hospital  
PMB 2076  
Jos, Plateau State, Nigeria*

### Introduction

Several barriers limit the access of blind people to cataract surgery. These barriers can be patient or provider related. Provider related factors could be overcome by improving the efficiency with which human and material resources are used.<sup>1</sup>

One of the major barriers to the uptake of cataract surgery in developing countries is the cost to the patient of surgery.<sup>2</sup> This includes the cost of transportation for a number of clinic visits, food for the patient, a guide or carer, and the actual cost of surgery. This has reduced the number of cataract operations performed.<sup>3</sup>

The cost of consumables increases with the number of operations performed. However, the operational cost remains fixed whether one procedure or more are performed. Improving the efficiency with which human and material resources are utilised is expected to result in an increase in the number of operations performed over a period of time. This will result in a reduction in the unit cost of surgery and the waiting list of operating theatres, as previously described elsewhere.<sup>4</sup>

This study assessed how an ophthalmic theatre utilised its resources with a view to increasing efficiency and reducing the unit cost of surgery. It is hoped that this will remove some of the major barriers to the uptake of cataract surgery and encourage other eye units to carry out similar studies.

### Materials and Methods

Elective ophthalmic operating lists were prospectively surveyed over a period of six months (July-December, 1999). The ophthalmic nurses, in charge of the theatre, timed and recorded events taking place – from the time the list was supposed to start to the end of the list. All lists were scheduled to start by 08.00 hours. There was no scheduled time for the end of any list. For the purpose of this study, a case was considered to have started with the positioning of the drapes and ended with their removal.

Turnover time was defined as the time interval between the end of one case and the beginning of the next case. Activities taking place during this time were also

noted. Delays with the start of the list or each case and the reasons for such delays were also noted.

Lists or cases that were cancelled were excluded from the study. Also excluded were lists where records were inaccurate at the end of the day.

### Surgical Lists

A total of 42 elective lists were satisfactorily surveyed over the period of this study – with an average of 5 cases per list.

Thirty-eight lists (90%) included cataract extraction as a procedure. Some had only cataract extraction as the procedure for that day.

### Operating Time

During the 42 lists surveyed, 185.75 hours were recorded from the scheduled start time to the end of the list. The average duration of operating lists was 4.4 hours. The actual time spent operating was 92.6 hours, 49.9% of the total time. There was an average of 25.7 minutes per case. The time given to turnover amounted to 44.5 hours (23.9%). This means that 137.1 hours (73.8%) were spent on both operating and turnover.

During turnovers, instruments are changed, one patient is helped off the table and the next is assisted onto the table and then anaesthetised. The surgeons also write their operation notes.

An average of 24.7 minutes was given to turnover. The average turnover time spent between cases done under local anaesthesia (18.9 minutes) was shorter than that between cases involving general anaesthesia (30.8 minutes). Twenty-four lists had at least one case done under general anaesthesia, with most cases done under local anaesthesia.

At least one anaesthetist was attached to each list. However, the surgeons administered all the local anaesthesia. Anaesthetists only gave general anaesthesia.

### Start and Turnover Delays

All the lists surveyed started after the scheduled time. The total start delay time was 45.1 hours (24.3%) of total time.

Surgeons were the most frequent cause of start delays. A total of 16.7 hours (37.0%) of delay time was due to the late arrival of surgeons. Surgeons tended to arrive late when they had short lists.

Disruption in public power supply was responsible for 15.6 hours (34.6%) of start delays. The late arrival of anaesthetists was responsible for 1.9 hours of start delays. Other causes of late starts were due to the theatre staff failing to prepare sterile sets on time (62 minutes) and the ward staff not transferring patients to the theatre on time (35 minutes). At other times, a combination of factors caused late starts.

After the list had started a number of factors caused the next case to start late, resulting in delays. The ward 'wasted' 142 minutes trying to prepare and transfer the next patient. Thirty-six minutes were spent waiting for electricity to be restored. The surgeon attending to 'other things' caused delay of 35 minutes.

### Discussion

The 42 lists surveyed showed a total of 45.1 hours were 'lost' before the first operation began, often while waiting for a member of the operating team. The most common reason for the delay was a lack of a recognised time for the patient to be in position, and anaesthetised on the table. Most members of the theatre team took the 08.00 hours start time as the time to start preparing instruments/patient or to arrive at the theatre suite. This has been observed in other studies.<sup>5</sup> There is, therefore, a need to agree on the time the first patient should be anaesthetised, on the operating table and sterile instruments ready.

The average turnover time was 24.7 minutes. This is a long time for an ophthalmic theatre. This time could be shortened if the theatre has two functioning operating tables and anaesthetists are also trained to administer the local anaesthesia. Thus, it would be possible for the surgeon to move from one table to the other. This can be made possible if there are at least two theatre assistants and another in charge of cleaning and sterilising the instruments. The provision of three complete cataract sets will make this possible.

Disruption in the power supply is a problem more often found in developing countries. This could lead to cancellation of operation lists. There is a need to devise means that will reduce dependence on public power supplies.

Activity took place during 73.8% of the time. This is above that for orthopaedic<sup>5</sup> and general surgery<sup>6</sup> lists but below the 90% utilisation recommended by management executives.<sup>7</sup> The 'Wednesday list' almost attained 90% utilisation, so this objective is possible. Staff should be assigned duties in the operating room to improve efficiency and utilisation of resources.

## Conclusion

A number of our operating theatre lists are still being poorly managed, resulting in longer waiting lists, reduced hospital income and increased hospital expenditure. There is a need to improve the utilisation of personnel and time – to meet the requirements of good management and patient care.

## Acknowledgements

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## References

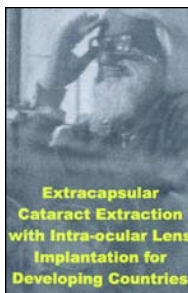
- 1 Yorston D. Are intraocular lenses the solution to cataract blindness in Africa (Commentary)? *Br J Ophthalmol* 1998; **82**: 469–471.
- 2 Johnson G J, Goode V, Faal H. Barriers to the uptake of cataract surgery. *Tropical Doctor* 1998; **28**(8): 218–220.

- 3 Foster A. Who will operate on Africa's 3 million curably blind people? *Lancet* 1991; **337**: 1267–1269.
- 4 Yorston D, Foster A. Cataract surgery: utilisation of services and cost recovery. *J Comm Eye Health* 1995; **8**: 6–7.
- 5 Ricketts D et al. An orthopaedic theatre timings survey. *Ann R Coll Surg Engl* 1994; **76**: 200–204.
- 6 Narain P K, Tackley R, Lee M, Clyne C A C. A computer audit of the use of theatre time by a surgical team. *Ann R Coll Surg Engl* 1992; **7**: 166–168.
- 7 NHS Management Executive (1989). *The Management and Utilisation of the Operating Department (the Bevan Report)*. HMSO, London.

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## Video

### Extracapsular Cataract Extraction with Intraocular Lens Implantation for Developing Countries



John Sandford-Smith

This 40-minute video describes extracapsular lens extraction with intraocu-

lar lens implant, step by step and in detail, using instruments and equipment which are appropriate for developing countries.

The introduction sequence is very helpful and relevant, putting the subject into context. The clear and natural commentary gives the impression that the narrator (the teacher) is speaking to the viewer/listener (the learner) personally. Clear graphics complement the principles factually illustrated in the film. However, certain practices observed in this footage (filmed in an eye camp) give cause for concern. A guideline list of caution points are available

on request.

The real strength of this video is that encountered problems, difficulties and modifications are shown and that incorrect techniques are also addressed. Important principles are reinforced throughout with a useful summary at the end. Together, these points make this video a very valuable tool for teaching a surgical skill.

Sue Stevens

Available from:

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Keppel Street, London WC1E 7HT, UK  
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EXAMINATIONS CALENDAR 2003 (UK and OVERSEAS)

### UK Examination Dates

Examination	Applications and Fees Due	Essay and/or MCQ Papers	Clinicals/Orals/OSES <sup>+</sup> /OSCES <sup>+</sup>
Part 1 MRCOphth	9 December 2002	20–21 January 2003	None
	17 March 2003	28–29 April 2003	None
	1 September 2003	13–14 October 2003	None
Part 2 MRCOphth	22 April 2003	2 June 2003	2–6 June 2003
	22 September 2003	3 November 2003	3–7 November 2003
Part 3 MRCOphth*	20 January 2003	3 March 2003	3–7 March 2003
	4 August 2003	15 September 2003	15–19 September 2003
<b>The Part 3 Examination will be changing in September 2003 – for details please contact the Exams Department</b>			
Diploma in Ophthalmology (DRCOphth)	6 May 2003	16 June 2003	16–18 June 2003
	6 October 2003	17 November 2003	17–19 November 2003

From November 2001, there has been no practical refraction section in the Diploma Examination

### India Examination Dates

Provided a minimum of six candidates are booked to sit, the Parts 1, 2 and 3 Membership Examinations are scheduled to be held on the following dates

Part 1 MRCOphth	17 March 2003	28–29 April 2003	None
Part 1 MRCOphth	1 September 2003	13–14 October 2003	None
Part 2 MRCOphth	1 September 2003	15 October 2003	15–16 October 2003
Part 3 MRCOphth	1 September 2003	16 October 2003	16–17 October 2003

Overseas Location: Aravind Eye Hospital, Madurai, Tamil Nadu, South India

\* Any changes in any of the above dates will be posted on the website and within application packs + Objective Structured Examination and Objective Structured Clinical Examination

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