

Changing the post cataract surgery review pathway – is patient safety compromised?

BY A WALKDEN, C SCHMOLL AND M WRIGHT

Cataract surgery continues to be the most commonly performed elective surgical procedure in the UK, with an annual rate of approximately 4150/100,000 people over the age of 65 accounting for a significant proportion of the surgical workload of most ophthalmologists [1]. It is estimated that 225,000 new cases of visually impairing cataract should be expected each year, with the five-year cumulative incidence being estimated at 1.1 million new cases among the population aged 65 years and older.

Increasing demand for cataract surgery combined with the pressures of meeting waiting list targets make it crucial to optimise clinicians' time in order to meet the escalating surgical workload. The postoperative review pathway is one aspect of the process where efficiency can potentially be improved without compromising patient safety.

In the UK, current Royal College of Ophthalmology (RCOphth) guidelines suggest that following cataract surgery a postoperative review within one day should take place, followed by a 'final review'. Most units have adopted a nurse practitioner run post surgical review ensuring compliance with the college guidelines. The final review can be performed by 'ophthalmologists, nurses, optometrists or orthoptists working within the unit to agreed guidelines or by accredited optometrists working outside the unit' [1]. The final postoperative review is a necessary part of the patient pathway as it provides an opportunity to assess visual recovery and collect refractive outcome data.

This guideline suggests that the 'final review' postoperative review process can be performed by 'accredited optometrists working outside the unit'.

Following the devolution of healthcare in Scotland, the report from the Scottish Executive, the 'Review of Community Eye Care Services in Scotland' marked a significant development for eye care services and optometrists [2]. Optometrists in Scotland can be reimbursed for carrying out extended examinations, with recent legislation giving prescribing powers to help facilitate an improved community based eye care service [3,4].

With the new General Ophthalmic Services contract, changes in legislation allow community optometrists to undertake postoperative cataract surgery review appointments as a 'supplementary examination' currently costing £21.50 per session [5]. Based upon the results of the pilot study outlined below our unit implemented a change from a hospital-based to a community optometrist-based final review pathway.

Methods

Retrospective case-note review of 122 control patients reviewed in hospital postoperatively was undertaken. Data was collected prospectively from 126 consecutive patients undergoing routine phacoemulsification cataract surgery. These patients were discharged immediately to community optometrist review. All patients were operated on by a single consultant ophthalmologist. All patients underwent surgery over the same seven month period.

Under the existing pathway, the first 122 patients were routinely seen in the eye clinic by the hospital optometrist one to two weeks postoperatively. Patients deemed to be at significantly increased perioperative risk were seen by the surgeon within the first postoperative week.

The second group of 126 patients comprised the new pathway and were all discharged to a final four-week review at the community optometrist on the day of surgery. Within this group 'at risk' patients were also seen by the surgeon within one week and then discharged to the community optometrists.

Data was collected for all unplanned emergency reviews in the eye clinic within six weeks of surgery in both groups. Any patients presenting as an emergency after this period were excluded as they were unlikely to be presenting with complications relating to cataract surgery. Refractive outcomes were returned to the consultant surgeon via the Lothian Eye Service Cataract Surgery Refractive Outcome Form (see appendix). All patients with postoperative symptoms or complications were referred back to the operating unit, meaning accurate complication rates were obtained with no loss of follow-up. Two-tailed Chi squared analysis was used to determine statistical significance between the groups.

Results

Existing pathway cohort

One hundred and twenty-two (62.1% female) patients underwent phacoemulsification with intraocular lens implant over a 110 day period. All of these patients had arranged hospital follow-up. Five out of 122 (4.1%) patients had a one-week consultant review appointment arranged following surgery. Indications for these reviews are shown in Table 1. The remaining 117 patients (95.9%) had planned follow-up with the department's optometrist two weeks post surgery. Four out of 122 patients (3.3%) presented as an emergency outwith their planned

follow-up. Indications for emergency follow-up are shown in Table 2. Mean time for emergency presentation to department was 3.2 weeks following surgery postoperatively (range 1-4.8 weeks).

New pathway cohort

One hundred and twenty-six patients underwent phaco-emulsification and intraocular lens implant over a 91 day period (60.3% female). Six out of 126 (4.8%) had a planned one-week consultant review appointment arranged following surgery (see Table 3); 120/126 (95.2%) patients were discharged to four-week community optometrist review; two patients (1.6%) had unplanned presentations to eye casualty. Mean time for emergency presentation to department was 2.25 weeks following surgery postoperatively (range 2-2.5 weeks) (see Table 4).

Summary statistics

There was no statistical significance between the number of emergency presentations between the two groups. (Chi-squared two-tailed $p=0.72$). When compared with the hospital follow-up group (old pathway cohort), the odds ratio (OR) for consultant recall in community follow-up group (new pathway cohort) is 1.18, whilst the OR for emergency presentation in this cohort is 0.48. Thus there does not appear to be an increased propensity for earlier elective hospital review on the consultant's part under the new pathway, and the likelihood of emergency representation (at least in this sample) was halved.

Discussion

Phacoemulsification cataract surgery is associated with rapid visual recovery and a low rate of postoperative complications [6,7]. Day case procedures are the current standard as they have been shown to increase patient satisfaction without adversely affecting outcomes [8,9].

With such good outcomes, a debate has arisen with regard to whether routine hospital follow-up is required following uncomplicated surgery. Previous authors have questioned whether a day one postoperative review is necessary, with many units replacing this with a triaging phone-call by a trained healthcare professional [10].

Our study investigated whether patient safety was adversely affected if patients underwent final review by

Table 1: Table showing clinical indication for consultant review for hospital follow-up group.

Clinical indication for consultant review:	Number of patients
Suture removal	2
Assess recovery following intraoperative zonular dehiscence	2
Previous history of herpes simplex keratitis	1
Total	n=5

Table 2: Emergency presentations within six weeks of surgery hospital follow-up group.

Reason for emergency presentation:	Number of patients
Steroid induced postoperative IOP rise	1
Postoperative wound keratitis	1
Self-resolving painful eye, no pathology identified	1
Postoperative corneal oedema	1
Total	n=4

Table 3: Table showing clinical indication for consultant review for community follow-up group.

Clinical indication for consultant review:	Number of patients
Refraction check as highly myopic	1
POH of anterior uveitis	1
Secondary anterior chamber implant for previous traumatic cataract	1
Suture removal	3
Total	n=6

Table 4: Emergency presentations within six weeks of surgery community follow-up group.

Reason for emergency presentation:	Number of patients
Postoperative anterior uveitis	1
Postoperative dry eyes	1
Total	n=2

community optometrists in place of a routine hospital based review. Our results show no significant difference ($p=0.7188$) between the complication rates of those undergoing final review in hospital and those having community optometrist final review. This shows patient safety is not compromised if patients are discharged to the community optometrists for final review on the day of routine, uncomplicated surgery. We have also found that patients in this pathway are no more likely to be recalled for consultant review (OR 1.18), nor are they more likely to return as an emergency presentation (OR 0.48). These results, however, may be influenced by the low complication rate and size of our patient cohort. We would expect that with a larger sample it is likely that the OR for emergency representation would be closer to one.

Following the decision by the Scottish

government in 2007 that no patient will wait longer than 18 weeks from referral to treatment for cataract surgery and the introduction of free eye health checks by community optometrists, the demand for cataract surgery is an increasing burden on ophthalmic services. Escalating demand leads to longer waiting times, penalties for hospitals not achieving government targets and outsourcing of surgical workloads to private providers. The college cataract surgery guidelines highlight many problems associated with the outsourcing of surgical lists, citing patient follow-up and continuity of care amongst others as potential pitfalls [1].

A recent college statement in May 2012 has suggested using a network of community optometrists to provide 'organised post-surgery follow-up in the community' as a way to add value

and cost savings to the current cataract pathway [11]. Our study shows that if community optometrist follow-up is used there is the potential to free up clinic time within the hospital to be used more effectively for other clinical activities. It also results in one less visit to hospital in the postoperative patient pathway. Across our patient cohort there is the potential to move 95.6% of (n=237) hospital final review appointments into the community. This could be used for other clinical activities. For example, in Lothian the hospital-based optometrists are now being trained for participation in the implementation of a shared care glaucoma service.

As our study highlights, if this is to happen it is important that each surgical case is considered individually with a decision made as to whether they can be discharged straight to the community on the day of surgery. Although over 95% of patients are able to be discharged to the community optometrists, the authors recommend that the following groups of patients are considered for hospital based review. Firstly, those with intraoperative complications should be recalled. In addition, patients with coexisting pathology such as uveitis, advanced or unstable glaucoma and high myopia warrant early hospital eye clinic review.

Finally, if a shift towards community based follow-up is to happen it is paramount that a system is in place for patients to link back into hospital services if they develop concerns or complications. In the Lothian Eye Service all patients are given a postoperative information leaflet which clearly indicates that if the patient suffers a reduction in vision or pain they should immediately phone our dedicated clinic number and be seen by an eye specialist. In addition there must be a robust method of communication and reporting between the operating surgeon and community optometrists to report postoperative surgical outcomes with clear parameters for re-referral to hospital services if desired outcomes are not achieved. The Lothian Eye Service cataract surgery refractive outcome form indicates that if best corrected visual acuity in the operated eye is worse than 6/12 at the postoperative visit and no reason is indicated for this, e.g.

amblyopic eye, etc. the patient should be re-referred back via the dedicated clinic number.

References

1. Royal College of Ophthalmologists Guidelines on Cataract Surgery.
2. Review of community eyecare services in Scotland December 13, 2006. The Scottish Government. www.scotland.gov.uk/Publications/2006/12/13102441/0 Last accessed August 2014.
3. The UK eye care services project. Phase One. Royal College of Optometrists.
4. NHS Education for Scotland Report 2011-12.
5. Scottish GOS Regulations. www.aop.org.uk/uploads/uploaded_files/scottish_gos_amendments_advice.pdf Last accessed August 2014.
6. Lyle WA, Jin GJ. Prospective evaluation of early visual and refractive effects with small clear corneal incision for cataract surgery. *J Cataract Refract Surg* 1996;**22**:1456-60.
7. Desai P. The National Cataract Surgery Survey. II. Clinical outcomes. *Eye* 1993;**7**:489-94.
8. Cooper JM. Development of day case cataract surgery: literature review. *Br J Nursing* 1996;**5**:1327-33.
9. Strong NP. Day case cataract surgery. *Br J Ophthalmol* 1991;**75**:731-3.
10. Cohen VML, Demetria H, Jordan K, et al. First day post-operative review following uncomplicated phacoemulsification. *Eye* 1998;**12**:634-6.
11. College Statement on Access to Cataract Surgery 24/05/2012. The Royal College of Ophthalmologists. www.rcophth.ac.uk/news.asp?section=24§ionTitle=News&itemid=491 Last accessed August 2014

TAKE HOME MESSAGE

- Cataract surgery is the most commonly performed surgery in the UK.
- An ageing population and increasing patient expectations places a burden on NHS ophthalmic services.
- In experienced hands, the majority of cataract surgery is uneventful with a low complication rate.
- This paper shows that community optometrist follow-up does not impact negatively on patient visual outcomes.
- Discharge on day of surgery reduces burden of postoperative hospital follow-up, without impacting on patient safety.



Andrew Walkden, (MBCChB), Princess Alexandra Eye Pavillion, Edinburgh, NHS Lothian;

Correspondence: Dr Andrew Walkden, 35 Albert Rd, Hale, Altrincham, Cheshire, WA15 9AH.

E: walkdenandrew@gmail.com

Declaration of Competing Interests
None declared.



Mark Wright, (FRCSEd), Princess Alexandra Eye Pavillion, Edinburgh, NHS Lothian.

Declaration of Competing Interests
None declared.



Conrad Schmolli, (FRCOphth), Princess Alexandra Eye Pavillion, Edinburgh, NHS Lothian.

Declaration of Competing Interests
None declared.

The findings from this study were presented at the Scottish Ophthalmic Club meeting, Glasgow, September 2012.