Monitoring Cataract Surgical Outcomes: ‘Hand Written’ Registration Method

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Introduction
The purpose of this hand written method of monitoring cataract surgery outcomes is to provide a practical method, assisting cataract surgeons and programme managers to monitor qualitatively the results of their cataract surgery. Such monitoring is the key to improving the quality and results of our cataract surgery.

The hand registered method is quick, simple, and friendly to use!

The Process

At discharge
• Before the patient is discharged, the Snellen visual acuity (VA) in the operated eye is tested and is recorded in the case notes
• If the VA is less than (<) 6/60, it is rechecked, both with and without a pinhole
• If the VA is <6/60, the eye is carefully examined to determine the cause of the poor vision
• The details for each patient are recorded on form A
• The discharge is only authorised once this has happened.

At 8 week follow-up
• At 8 week or more follow-up, the Snellen visual acuity with the spectacles that the patient has or will be wearing is tested and is recorded in the case notes
• If the VA is <6/60, the eye is carefully examined to determine the cause of the poor vision
• The details for each patient are recorded on form B.

How to Complete Form A: Discharge Visual Acuity
• Form A is completed at discharge
• It should be completed for all patients who have had a cataract operation except those under the age of 20 years and those cases of cataract due to trauma

How to Complete Form A: Discharge Visual Acuity

<table>
<thead>
<tr>
<th>Questions and Answers: Dr Hans Limburg asks Dr Colin Cook</th>
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<tbody>
<tr>
<td>1. Why use the manual tally sheet system? Monitoring of cataract surgical outcomes is a tool that is guaranteed to ensure that we always continue to improve the quality and outcome of our cataract surgery. The manual tally method is a simple, quick, and inexpensive method of doing this. It is suitable for use in any hospital that does not have access to a sophisticated computer system.</td>
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<td>2. What are the experiences in Edendale Hospital? The system has been used in our hospital since July 2000. It is an integral part of the clinical routine. The data analysis takes about 10 minutes each month. The results are reported and discussed at staff meetings each month. The system facilitates a positive culture of quality control and accountability amongst the staff, with everyone committed to improving results and outcome whenever possible.</td>
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<td>3. What are the results in Edendale Hospital? Because many of our patients have to travel considerable distances for follow-up, fewer than 30% attend for any follow-up. We, therefore, only monitor the day one visual acuities before patients are discharged. We are particularly interested in seeing that &lt;5% of poor outcome (VA &lt;6/60) on day one is due to surgical complication. We are also particularly interested in identifying and discussing the causes of poor outcome due to surgery.</td>
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<td>4. How many other hospitals in the region use the manual tally sheet system? We have encouraged the use of the manual tally system in a number of hospitals in the Southern Africa region. Each of the hospitals has been advised to modify the system to best suit their own situations. We have not monitored their results, only whether they are or are not monitoring. In the planning and development of our Vision 2020 programmes, the manual monitoring of our cataract surgery outcomes is something that can be immediately and simply implemented.</td>
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**CATARACT SURGERY OUTCOME**

**FORM A: DISCHARGE VISUAL ACUITY**

<table>
<thead>
<tr>
<th>Serial number</th>
<th>Patient name</th>
<th>Date of surgery</th>
<th>Surgeon</th>
<th>Operation to follow-up(weeks)</th>
<th>IOL Y/N</th>
<th>Surgical complications</th>
<th>Good 6/6–6/18</th>
<th>Borderline 6/24–6/60</th>
<th>Poor &lt;6/60</th>
<th>Cause of poor outcome (&lt;6/60)</th>
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<td>Spectacles</td>
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</tbody>
</table>

• One row of the form is completed for each cataract operated eye, which is seen at 8 weeks or more.
• Each form has space for 20 cataract operations.

1. **Follow-up VA** (good, borderline, poor) – tick one of the 3 columns, depending on the measured visual acuity.
2. **Cause of poor outcome** (selection, surgery, spectacles, sequelae) – if the VA is recorded as less than 6/60, the reason should be recorded in the appropriate column.
   - This should only be done if the VA is <6/60.
   - Only one column should be filled.
   - If there is more than one cause for the poor outcome, the clinically most significant cause should be identified.

3. **Selection** (co-existent disease or pathology causing poor vision) – specify the disease or pathology.
4. **Surgery** (intra-operative complication(s)) – specify the complication(s).
5. **Spectacles** (uncorrected refractive error) – tick this column if the VA improves to 6/60 or better with a pin-hole or with spectacles which are not available to the patient.
6. **Sequelae** (post-operative complication(s)) – specify the complication(s).

**Analysis of the Data**

• The analysis should be done for every 100 cases, and compared with previous results.
• It can be done either for the department as a whole, or for individual surgeons, or both. You need to decide which option is most suitable for your situation.
• Add up the entries in each column on forms A and B and calculate the percentages. It should only take about 10 minutes!

**Using the Results to Monitor Performance and Improve**

The analysis is a tool to help improve the quality of surgery. This is its purpose.
It is used to compare past results with present results.
It is not to be used to compare one surgeon with another, or one hospital with another.

The aim is:
• Reduce surgical complications
• Increase percentage with good outcome
Introduction: Why Monitor?
It is well known that the world is facing a cataract crisis. The number of people blind from cataract increases annually, and, as the Earth’s population ages, this increasing growth in cataract blindness is accelerating. It is estimated that the elimination of cataract blindness will require over 30 million cataract operations to be carried out every year by 2020 – a threefold increase in less than 20 years.

However, the cataract crisis is not solely a crisis due to low surgical output. In addition, there is evidence of a disturbingly high rate of poor surgical outcomes. In India, 15–25% of eyes see less than 6/60 with available correction.2,3 In China, nearly 40% of eyes had a poor outcome.4 The situation in Africa is unlikely to be any better.

Poor outcomes may be due to any of the following:
- Selection
- Surgery
- Spectacles and uncorrected refractive error

Outcomes can be improved by any measures that will:
- Improve case selection, and avoid surgery in patients who will not benefit
- Improve the quality of surgery, and avoid surgical complications
- Improve post-operative correction of refractive error, and minimise surgically induced ametropia.

A good cataract outcome monitoring system will contribute to all the above.

How to Monitor

Obviously the more data included in any monitoring system, the more information can be retrieved. However, collecting detailed data on outcomes can be time consuming. Eventually this leads to ‘audit fatigue’, and the information is no longer recorded. As a bare minimum, data should be collected on pre- and post-operative visual acuity, and on intra-operative complications. In a manual monitoring system, this may be as much data as can be analysed routinely. With a computerised system, analysis can be automated, so it is reasonable to collect more