

Community Eye Health *Journal*

Being involved in a medical error can be devastating; health workers will need the support of senior colleagues (p. 26).

STOCK IMAGE



When something goes wrong in medical care



David Yorston

Consultant

Ophthalmologist:
Tennent Institute of
Ophthalmology,
Gartnavel Hospital,
Glasgow, Scotland,
UK.

As health workers, we do everything within our power to ensure that our patients have the best visual and clinical outcomes possible. What should we do if something goes wrong?

Health care is an inherently dangerous activity. We give people drugs that can be poisonous and use sharp instruments in their eyes. Sometimes, these activities will have harmful consequences. What should we do when someone comes to harm as a result of something we have, or have not, done?

The UK's General Medical Council – the body that sets ethical standards for doctors in the UK – provides guidance¹ that emphasises the duty of candour: the duty to be open and truthful with our patients. If something goes wrong, we have to tell our patients, give them a full explanation, and apologise.

The guidance emphasises that the explanation and apology should be delivered by a senior clinician. That person may not be at fault, but she or he is responsible for the care of the patient. A more senior health worker may also be more likely to have the knowledge and experience needed in order to answer the patient's questions.

If the apology and explanation is to be delivered by a senior clinician, the more junior members of the team have a duty to inform her or his senior colleague about the error. This can be an uncomfortable moment; therefore, senior staff have a duty to encourage a culture of reporting errors without fear of retribution.

Continues overleaf ►



About this issue

It is inevitable that things will sometimes go wrong in health care, despite our best efforts. The consequences of these adverse events can be serious, but patients will have a much better outcome if the error is recognised promptly and managed appropriately. That starts with an open conversation that acknowledges the error and provides as full an explanation as possible of what went wrong, why it happened, and how you are going to put it right.

Contents

- 21 When something goes wrong in medical care**
David Yorston
- 25 "Why didn't they tell us the truth?"**
Elmien Wolvaardt
- 26 Managing errors in the eye unit**
Larry Benjamin, David Yorston and John Buchan
- 28 External reviews: making an eye service safer**
Beth Barnes, Bernie Chang and Melanie Hingorani
- 31 Legal risks in medical practice**
Vincent K Mutai
- 32 Medication error affecting newborns' sight: a national response**
Nyawira Mwangi and Michael Mbee Gichangi
- 33 Medical errors in South Asia**
Sridivya Mukpalkar
- 34 Teaching retinal surgery using a low-cost simulator**
James Rice
- 36 Blame does not keep patients safe**
Elmien Wolvaardt
- 36 Take part in the Grand Challenges in Global Eye Health study**
Jacqui Ramke, Hannah Faal and Matthew Burton
- 37 TRACHOMA: Safe mass drug administration and trachoma elimination**
David Addiss, Virginia Sarah, Nebiyu Negussu and Paul Emerson
- 38 Questions and answers: when things go wrong**
- 39 Picture quiz**
- 39 Announcements**
- 40 KEY MESSAGES**

In this type of environment, most errors will be acknowledged as a system failure in which a combination of circumstances have caused an error. Occasionally, a mistake by one individual will be the main cause of the event. In both situations, the default response should be to investigate the cause of the error and provide education and training where needed, rather than taking disciplinary action. This should be reserved for the very rare cases in which a health care worker is deliberately negligent.

When to tell the patient

Sometimes, patients may not be aware that anything has gone wrong (for example, if a complication occurs while the patient is anaesthetised). In this situation, you may feel that no useful purpose is served by informing the patient of the adverse event. However, failure to inform the patient is dishonest. The complication may come to light if the patient is examined by another doctor, in which case your original error is compounded by your lack of honesty.

It may also be tempting to wait until the final outcome of the event is known. However, we have a duty to provide a full explanation as soon as possible, even though that may mean returning for more difficult conversations as the extent of the harm becomes clear. Insurers in the UK and elsewhere are very clear about the importance of giving patients as full an explanation as possible, as soon as possible (known as 'disclosure') as this has been shown to reduce the likelihood of legal claims. However, many eye health professionals are not aware of the importance of disclosure – this is something that should be prioritised in training and we hope that this issue of the *Community Eye Health Journal* will go some way towards filling the gap.

What should you say?

You should always start by apologising. Health workers may feel reluctant to apologise, as they worry that an apology implies that they are at fault. In most countries, however, it has been established that offering an

Community Eye Health Journal
VOLUME 32 • NUMBER 106 • 2019



Editor
Elmien Wolvaardt
editor@cehjournal.org

Consulting editor for Issue 106
David Yorston

Editorial administrator
Anita Shah anita.shah@lshtm.ac.uk

Editorial committee
Nick Astbury
Matthew Burton
Sally Crook
Allen Foster
Clare Gilbert
Suzanne Gilbert
Michelle Hennelly
Hannah Kuper
Fatima Kyari
Priya Morjaria
GV Murthy
Daksha Patel
Noela Prasad

Babar Qureshi
Serge Resnikoff
Richard Wormald
David Yorston

Regional consultants
Hannah Faal (AFR)
Kovin Naidoo (AFR)
Wanjiku Mathenge (AFR)
Van Lansingh (AMR)
Andrea Zin (AMR)
Ian Murdoch (EUR)
Janos Nemeth (EUR)
GVS Murthy (SEAR)
R Thulsiraj (SEAR)
Babar Qureshi (EMR)
Mansur Rabiu (EMR)
Leshan Tan (WPR)
Hugh Taylor (WPR)

Design
Lance Bellers

Printing
Newman Thomson

CEHJ online
Visit the *Community Eye Health Journal* online. All back issues are available as HTML and PDF. Visit: www.cehjournal.org

Online edition and newsletter
web@cehjournal.org

Please support us

We rely on donations / subscriptions from charities and generous individuals to carry out our work. We need your help.

Subscriptions in high-income countries cost UK £100 per year. Contact Anita Shah admin@cehjournal.org or visit our website: www.cehjournal.org/donate

Subscriptions

Readers in low- and middle-income countries receive the journal free of charge. Send your name, occupation, and postal address to the address below. French, Spanish, and Chinese editions are available. To subscribe online, visit www.cehjournal.org/subscribe

apology does not mean that you are accepting legal liability for any harm that has occurred. A prompt and sincere apology will help the patient to come to terms with the adverse event, and to make the best recovery.

You should be sensitive to the needs of the patient. There needs to be enough time for a full discussion and sufficient privacy – this is not a conversation to have in a corridor. It may be advisable to have other family members present.

Patients usually want three things from an apology:

- 1 An explanation of what went wrong and how it happened. This has to be given in a way that the patient can understand, with a minimum of medical jargon. Often, we will not know exactly how something went wrong – there may have been a complex chain of errors leading to the event. If you don't know exactly how it happened, reassure the patient that you will personally investigate what went wrong, and that you will inform them of the results of your investigation when it is complete.
- 2 A plan to minimise or rectify the damage caused, and, if possible, some idea of the likely outcome. If the patient has been charged for treatment, you should reassure them that any additional treatment required as a result of the adverse event will be free.
- 3 How you plan to ensure that no one else is harmed in the same way.

Why is this so important?

Worldwide, legal claims for medical errors cost millions of dollars every year. This money would be far better spent on treating patients and paying for, or training, health care workers. A sincere apology and full explanation reduces the risk of a claim for compensation. However, there are two much more important reasons:

- 1 We need to remember that a person has been harmed. Our ethical duty is to minimise that harm and to relieve the anxiety and distress they are

Adverse event or medical error?

An adverse event is an event that leads to a negative outcome for the patient. This would include irreversible harm and sight loss, but might also include an extended stay in hospital and the financial costs of additional clinic visits, even if there is no permanent injury to the patient. An adverse event does not include the expected worsening of the condition, despite adequate treatment; for example, continuing visual field loss in glaucoma, despite maximum medical therapy or vitreous haemorrhage in diabetic retinopathy, despite good laser treatment.

The dividing line between an avoidable medical error and an unavoidable adverse event is not always clear. If a patient suffers a posterior capsule rupture during cataract surgery, this is definitely an adverse event. However, was it avoidable? By some measures it is avoidable, in that the posterior capsule doesn't burst unless the surgeon catches it with an instrument. However, even the best surgeons have a capsule rupture rate of 0.5-1%. If the cataract was known to be complex, but a junior trainee was left unsupervised to carry out the operation, that would be a medical error. However, if the consultant carried out the operation, taking every possible precaution, but the capsule rupture still occurred, it is harder to see how this could have been avoided.

suffering. Apologising, and explaining what went wrong, is an essential first step to help your patient recover.

- 2 By being open about errors, we make it easier to learn from them and for others to avoid them in future. It has been said that wise people learn from their own mistakes, to which I would add: even smarter people learn from other people's mistakes.

Case history 1: The cataract surgeon

A cataract surgeon is performing routine cataract surgery. While she is removing the soft lens matter, the eye suddenly becomes hard and the red reflex becomes dark. The surgeon realises that there is a large choroidal haemorrhage, immediately abandons the operation, and secures the wound.

Continues overleaf ►

Address for subscriptions

Anita Shah, International Centre for Eye Health, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK.

Tel +44 (0)207 958 8336

Email admin@cehjournal.org

Correspondence articles

We accept submissions of 800 words about readers' experiences.

Contact Anita Shah:

correspondence@cehjournal.org

Published by the International Centre for Eye Health, London School of Hygiene & Tropical Medicine.

Unless otherwise stated, authors share copyright for articles with the *Community Eye Health Journal*. Illustrators and photographers retain copyright for images published in the journal.

Please note that articles are published online first and may have been shortened to fit the available space in this printed edition.

Unless otherwise stated, journal content is licensed under a Creative Commons Attribution-NonCommercial (CC BY-NC) license which permits unrestricted use, distribution, and reproduction in any medium for non-commercial purposes, provided that the copyright holders are acknowledged.

ISSN 0953-6833.

Disclaimer

Signed articles are the responsibility of the named authors alone and do not necessarily reflect the views of the London School of Hygiene & Tropical Medicine (the School). Although every effort is made to ensure accuracy, the School does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the School in preference to others of a similar nature that are not mentioned. The School does not endorse or recommend products or services for which you may view advertisements in this Journal.

The *Community Eye Health Journal* is supported by:



The next day the eye has a vision of hand motions – it was 6/60 pre-operatively – and the patient is not happy.

As the operating surgeon, the cataract surgeon has a duty to apologise to the patient and to provide a full explanation. The complication was not her fault, as a choroidal haemorrhage usually occurs spontaneously. Her management of the complication was correct, and she has done nothing wrong, but she has a duty to explain to the patient what went wrong and to apologise that she has made the vision worse.

The surgeon must speak to the patient as soon as possible after the operation. Assuming it was conducted under local anaesthetic, the patient will be well aware that something went wrong, as he or she will have heard the instructions to the nurses and their replies. The patient may be imagining something even worse than a choroidal haemorrhage, so the sooner the surgeon provides an explanation, the sooner the patient will be reassured. Explain what the future management will be, and reassure the patient that there is a good chance of regaining sight in the eye once the haemorrhage has settled.

Case history 2: The eye nurse

A woman with early mild glaucoma, treated using eye drops, has cataract surgery. One month later, she attends for postoperative review and is seen by an eye nurse. Her vision is 6/9, and she is delighted. As she leaves the clinic, she asks if she should continue with the eye drops. Assuming she is referring to the glaucoma medication, the nurse says: "Yes, you must continue to use them indefinitely."

When the woman returns for her glaucoma follow-up appointment six months later, her vision has dropped to 6/18, the intraocular pressure is 42 mmHg and the disc is deeply cupped. The eye nurse discovers that the woman had continued to use the topical steroids she was given after the cataract operation for the last six months, because she was told to "continue the drops indefinitely".

The nurse might think, "Why should I apologise? It was the patient's mistake that they continued to use the eye drops when she should have stopped them!" However, he is the expert, not the patient. It was his responsibility to ensure that she fully understood the instructions. As the patient is not really aware of the reduced vision in the affected eye, the nurse might also think that there is no need for an explanation, which may be embarrassing for him and distressing for the patient. However, to attempt to conceal the error is dishonest, and it prevents others from learning from this error.

As a relatively junior person in the team, he should tell a more senior person what has happened. It may be best if they accompany him when he tells the patient, in case the patient asks questions that he is unable to answer.

As a result of telling the patient, and more senior staff, about the error, a new system is introduced in the clinic: postoperative drops are separated from long-term medication, and this error never occurs again. If the nurse had kept quiet, other patients could have been harmed, but being honest about the error, (mainly due to poor communication), has led to improved care.



ELMIEN WOLVARDT

Case history 3: The eye clinic manager

You are the eye clinic manager. The hospital engineer tells you that an air-conditioner in the sterilisation unit is not working properly and may be blowing particles into the area where sterile instruments are placed in the instrument trays. The manager is not able to tell you how big the risk is, but she says that the air conditioner will take a week to repair. You don't want to cancel all operations for a week, as the clinic is very short of money. If there are no operations, there is no income. You assume the risk is small and don't inform the surgeons of the problem. Unfortunately, three patients operated on during the next few days develop endophthalmitis.

The duty of candour is not just for clinical staff. Everyone who is involved in health care has a duty to be honest and transparent about errors. In this case, you need to tell the surgeons about the problem with the air-conditioner, and why you decided to let the operations go ahead. It might be tempting to keep quiet and try to cover up what has happened; only you and the engineer know about the problem. However, the truth inevitably does come out, and any attempt to conceal it makes the problem far worse. It is much better to be open and honest immediately than to have the truth dragged out later.

Conclusion

It is inevitable that things will sometimes go wrong in health care, despite our best efforts. The consequences of these adverse events can be serious, but patients will have a much better outcome if the condition is recognised promptly and managed appropriately. That starts with an open conversation that acknowledges the error and provides as full an explanation as possible of what went wrong, why it happened, and how you are going to put it right. The patient's recovery starts with your apology.

Good communication, ensuring patients understand their treatment, reduces the risk of harm; it is also critical when handling errors and adverse events.

"The duty of candour is not just for clinical staff. Everyone who is involved in health care has a duty to be honest and transparent about errors."

Reference

- 1 www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/candour---openness-and-honesty-when-things-go-wrong



Elmien Wolvaardt
 Editor: *Community Eye Health Journal*, International Centre for Eye Health, London School of Hygiene & Tropical Medicine, UK.

“Why didn’t they tell us the truth?”

Admitting our mistakes is part of what defines us as mature and trustworthy human beings. Medical professionals have an even greater responsibility to be truthful to their patients, and it can be devastating – and damaging – if this trust is betrayed.

Joseph is a soft-spoken accountant. We are on the phone, and he is telling me about his shock at discovering for how long doctors had hidden the truth about his wife’s cancer diagnosis.

When his wife, Rose, was diagnosed late last year, the tumour was already large. “I was so shocked. I asked the oncologist: ‘Please tell me this hasn’t just come out of nowhere,’” Joseph remembers.

Rose was put on an aggressive treatment regimen, culminating in a session of high-strength radiotherapy just a week before her death.

Still traumatised by the speed of events and the suffering of his beloved wife, the last person Joseph expected to hear from two weeks after Rose’s passing was their family doctor. “She told me that the size of the tumour, and the speed of Rose’s death, did not make sense. She wanted me to get Rose’s notes from the hospital,” says Joseph.

The notes showed that a small tumour was visible in a scan taken more than a year before, when Rose had been admitted with pain. The radiologist on duty, who had been working a 16-hour shift, had missed the tumour.

“It’s devastating enough to think that Rose’s life could have been saved,” says Joseph. “But every oncologist and specialist who looked at the notes would have seen that scan and known that the cancer had been there for more than a year. Why did no-one say anything to us?”

Perhaps they were afraid of your anger, or that you would sue them, I venture.

“But Rose was not like that; she was strong and kind. She would have understood that mistakes can happen, and she would have accepted this; she would have accepted that the cancer had gone too far.

“I’m not saying it would have been easy for her,” he sighs,



Not being told the truth was devastating for Joseph.
 (PHOTO POSED BY A MODEL)

“but by not telling us, they took away her choice. If she knew the cancer had gone too far, she would have opted for palliative care, or much less aggressive treatment – enough to be comfortable and make the best of the time she had left.

“As it was, Rose had nothing of those last five months – and we had nothing of her. Just round after round of chemotherapy, and her being ill for weeks afterwards.

“I kept asking the doctors to speak to me, to explain what was going on, what the purpose was of each new treatment. But nobody would speak to me, not even the nurses who were supposed to be helping us. They kept telling me that they would discuss Rose’s case at their next meeting.” He pauses. “Rose never got out of bed again after that last radiotherapy treatment. You should have seen how she looked ...,” he says, his voice faltering. “No-one would treat an animal like that.”

There is a long pause. When Joseph speaks again, there is anger in his voice.

“All they cared about was protecting themselves and protecting each other’s reputation. What did they talk about at those meetings? About how much longer they could continue hiding the truth from us?”

Joseph is still waiting for answers. Although the hospital’s senior leadership team have visited the family at home, they were not able to explain why he and Rose were never told about the mistake, nor why the doctors continued to treat Rose up until the week before her death. The case has now been referred to court.

The names and circumstances of the people in this article have been changed to protect their identity.

“Why didn’t they tell us the truth?” – a commentary

Although this tragic event took place in an oncology clinic, rather than an eye clinic, there are some important lessons for eye care workers:

- The person who made the error was working a 16 hour shift. It is tempting to blame an individual for such a serious event. However, there are wider system failures that led to this situation, and punishing the individual will not prevent a similar event, unless working

hours are brought under control.

- Joseph has suffered the loss of his wife, and his suffering has been compounded by the lack of transparency. Reading his story, it is clear that he is much more upset by the hospital’s reaction to the mistake than the missed diagnosis itself.
- Because no one gave the patient or her husband a full explanation, they proceeded with aggressive treatment

in a vain attempt to cure her and avoid the error coming to light. If we conceal the facts from patients, they cannot be partners in making decisions about their treatment.

- Although keeping quiet about the error may have been intended to avoid litigation, it has led to a lawsuit, which might have been avoided by an early and full disclosure of the missed diagnosis.

– by David Yorston



Larry Benjamin
Consultant
Ophthalmologist:
Stoke Mandeville
Hospital, Aylesbury,
UK.



David Yorston
Consultant
Ophthalmologist:
Tennent Institute of
Ophthalmology,
Gartnavel Hospital,
Glasgow, Scotland,
UK.



John Buchan
Consultant
Ophthalmologist:
International Centre
for Eye Health,
London School of
Hygiene and Tropical
Medicine, UK.

Managing errors in the eye unit

It takes a team to deliver eye care. When things go wrong, it is important to focus on the patient and to learn from the error while working supportively with the health professionals involved.



Caring for the patient is the main responsibility of an eye health worker, especially if something has gone wrong. MALAWI

No-one working in eye care wants to make a mistake. To protect our patients, it is vital that we anticipate problems and develop systems that minimise risk, such as the WHO Guidelines on Safe Surgery and the WHO Surgical Safety Checklist.¹

If something goes wrong, however, we have three main responsibilities:

- Care for the patient.** Be honest, tell them that something has gone wrong (p. 21) and provide appropriate care.
- Support the health worker involved** (including training).
- Learn from the error**, so it does not happen again.

1. Care for the patient

Ensure that harm to the patient is minimised

For instance, contact the patient immediately if you find out that there has been a drug error. Find out whether the patient has been harmed, and deal with any consequences of the error.

As an example, if you discover that a dilution error has occurred in the preparation of antibiotics for an intra-ocular injection, immediately contact all the patients involved to see if they are symptomatic. Offer to examine them and treat any adverse reactions.

Apologise to the patient(s)

Never be afraid to apologise to the patient(s) concerned. This is not an admission of liability, but an expression of sympathy, and most people would expect it (p. 21).

Avoid cover-ups and promote a 'no blame' culture

It is very important for managers and senior colleagues to promote a culture of openness and transparency, free from fear of blame or retribution, so that issues can be openly discussed and a way forward found.

A 'no blame' culture (see panel on p. 27) means that staff members feel free to report incidents immediately, rather than covering them up until more harm is caused.

2. Support the health workers involved

Most health workers will be deeply affected by their involvement in an event that harms a patient. They are sometimes referred to as the 'second victims' of medical errors, as involvement in a medical error can lead to a loss of confidence, and they may even leave the profession. We cannot afford to lose skilled health workers, so it is important that they are rehabilitated as well.

Include health workers in the process of patient recall, assessment and treatment

Health workers benefit when their involvement with a patient continues after an error is discovered, e.g., by arranging an appointment and examining them, as it gives them an opportunity to do something positive for the patient. By asking the health worker to remain involved, you are showing that you still have confidence



From the field

Medical errors in Brazil

Joao Furtado
Department of Ophthalmology, University of São Paulo, Brazil

When there is an error, we are required to tell patients the truth, in a language they will understand. We also have to provide eye care free of charge for the related problems.

Everything about the patient's treatment (steps, procedures and medication) is recorded in the medical notes. If there is an error, the head of surgical care and the chief nurse would be notified, and an internal investigation would take place. This investigation would determine suggestions to prevent it from happening again (e.g., training or the development of a checklist).

in them, which will help to rebuild their confidence in themselves. Finally, being involved in an error provides a valuable opportunity for them to learn, with the support of their colleagues, how to handle the situation in future.

Encourage (healthy) reflection

Invite health workers to think about what happened, and why. Did they follow the correct procedure? Were they tired? Was there a communication error, and why? Are there adequate systems in place to minimise the risk of error?

Health workers may blame themselves, even when it is not their fault. If they think the error is their fault, ask whether this is a realistic assessment. Would another reasonable, trained person have acted differently if they had access to the same information at the time?

The converse may also be true. Some health workers may be unwilling to accept any responsibility, instead blaming everyone else without considering their own role in the event. These health workers may well repeat their error, which makes them dangerous to patients. Health workers who engage constructively and accept that they may have played a part in an error are less likely to repeat the same mistakes.

Involve health workers in prevention

Ask questions such as: "What suggestions do you have to help us avoid this sort of mistake in the future?" or, "Can you see any steps in the handling of medicines that might need to be changed to prevent this error occurring again?"

This is vital, as the health worker may have insights that more senior members of the team cannot understand. For example, senior doctors and managers rarely dispense eye drops. If there is a problem with the dispensing system, the more junior members of the team are far more likely to know about it.

3. Learn from incidents

It is also good practice to make reporting all such incidents routine, for instance with a departmental "incident book". Incidents can then be regularly discussed at staff meetings, and lessons learned to improve standards and outcomes.

Investigate how the error was made, and make sure that accurate information is obtained (e.g., patient notes, the prescription and dispensing instructions) so that the issue can be discussed, in a constructive way, with all those concerned.

Identify whether there are any gaps in staff members' training, and address these by offering relevant training, supervision, or teaching so that a similar error is not repeated in the future.

Sometimes, an error is brought to light as a result of a complaint being made by a patient or, possibly, another staff member. Unless it is felt to be a matter that may immediately affect patient safety, it is important to hear and investigate both sides of the story before taking any action. Organise a meeting with the health worker(s) concerned as soon as possible.

How to break bad news

It is essential to provide formal teaching and/or guidelines on breaking bad news; this is invaluable as it gives everyone a starting place when trying to address these situations. This can be done by role play, but it is also vital that health workers in training can observe senior staff giving bad news in real life.

In our hospital, the health worker(s) involved will tell the patient that a mistake has been made, and that:

- They are deeply sorry that this has happened
- Everything possible will be done to help sort out the problem and manage any complications
- Senior members of the team will be involved to ensure that the best possible outcome is reached.

This reassures the patient that everything possible is being done to resolve the problem and that they will get the support and treatment they need. This can also help other health care workers feel reassured that they will get the support of their team and management if, or when, they are involved in an error.

Leadership

It is important that leaders work with eye teams to:

- Make patient safety a priority
- Audit errors regularly, and make someone responsible for this
- Put a clear process in place to address medical errors
- Create a no-blame culture and a supportive working environment – this should help to prevent health workers feeling as if they need to cover up their mistakes (p. 36)
- Ensure that everyone can learn from the incident, so that it is not repeated.

Reference

- 1 WHO Safe Surgery www.who.int/patientsafety/safesurgery/en



From the field

Medical errors in Kenya

Nyawira Mwangi

Principal Lecturer: Ophthalmology Programs, Kenya Medical Training College, Nairobi and Research Fellow: London School of Hygiene and Tropical Medicine, UK.

When there is a medical error, we follow these steps:

- 1 If the error is noted at the time of surgery or soon after, provide emergency care that might save the vision or eye.
- 2 Communicate with the patient, explain what has happened, what care will be provided (perhaps waiving costs), and the likely outcomes.
- 3 Have a meeting with the team to identify why the error occurred and what should be done to prevent it from happening again. The challenge here is that the meeting has to be specific and candid enough to identify the root cause, but at the same time avoid the 'quick fix' of simply identifying who is to be blamed.
- 4 Document the entire process and make a report.
- 5 If the hospital has a morbidity meeting, encourage staff members to present the case.
- 6 Implement measures to prevent this in future, such as additional medication checks, training or staffing.
- 7 Anticipate legal or professional actions from this event.



Beth Barnes

Head of Professional Support: Royal College of Ophthalmologists, London, UK.



Bernie Chang

Chair of External Service Reviews: Royal College of Ophthalmologists, London, UK.



Melanie Hingorani

Chair of Professional Standards: Royal College of Ophthalmologists, London, UK.

External reviews: making an eye service safer

Over-stretched health services can struggle to ensure that patient safety and quality of care is of a consistently high standard, which sometimes results in harm to a patient. An external review can provide helpful guidance for improvement.



It is vital to involve staff members when planning a service review. BANGLADESH

When something goes wrong, it is important to admit it and be transparent. Patient complaints, concerns about standards of care, adverse outcomes, medical errors and 'never' events must be taken seriously and lessons must be learnt from them.

A 'never' event¹ is defined in the UK as an adverse event in medical care that is identifiable, preventable and can have serious consequences for patients. Those relevant to ophthalmology are:

- Wrong site/side surgery (includes wrong patient)
- Wrong implant surgery
- Retained foreign object after surgery.

A no-blame culture and a 'whistleblowing' policy (which states that individuals are able to raise concerns without fear of prejudice) is important for transparency. Medical personnel also have a duty of candour (p. 21) which means they are responsible for reporting incidents.

Although it is common for organisations to be aware of risks to patient care and safety and to make attempts to address these, this can be difficult amidst the day-to-day pressures and challenges of a busy hospital or eye unit. Lack of time to make all the changes needed, or a lack of independent and objective input, can result in further under-performance and a negative impact on patients, which causes stress and difficulties for staff members. An independent and external service review can help.

Do we need an external review?

External reviews are often triggered due to concerns about patient safety. This might come from a team's own reflection of how it is performing, from an inspection that has highlighted areas of improvement, or – unfortunately – when a medical error or incident has occurred.

Doing nothing is not a good option. A continuing series of errors will lower morale, damage the reputation of the service, and may lead to court cases.

How does an external review work?

An external review involves a team of independent and objective experts visiting the hospital or eye unit to look at:

- Current performance
- The way the service is run
- The challenges faced, e.g., finances, human resources, or issues with higher management
- What needs to change in order to improve patient outcomes and safety.

The review is carried out in close collaboration with the ophthalmology team being reviewed. The external review team will highlight areas of concern and make practical recommendations for improvement; all of which is written in a report that is confidential to the hospital. If serious issues are identified and patients are possibly coming to harm, the review group may have to act accordingly and report this to relevant authorities.

Above all, the central ethos of an external review is one of shared learning to improve the outcomes for patients.

Inviting a review

Inviting an external review can seem intimidating. However, external reviews are collaborative and supportive in nature, and the report is usually confidential to the eye unit/hospital. The unit requesting the review should have the opportunity to agree who the reviewers are, and should be involved in every aspect of the process. The terms of reference for the review must also be agreed by all parties. If there is no external review service in your country or region, it may



From the field

Case study: Imperial College Healthcare NHS Trust

Ali Mearza

Consultant Ophthalmic Surgeon & Clinical Director, Imperial College Healthcare NHS Trust

The eye department at Imperial College Healthcare NHS Trust underwent an external review by the Royal College of Ophthalmologists, UK in January 2017.

The review was commissioned by the Medical Director of the Trust following a series of Never Events within ophthalmology in the preceding 18 months. It was felt at the time that an external review would be a positive step in highlighting areas of weakness as well as providing advice on improvements.

There was a change in leadership structure in July 2016, when a newly appointed clinical director and general manager joined the Trust. It was felt the review would be helpful in providing some direction to the new management team.

The review took place in January 2017. The process was very thorough, with information gathering beforehand and then detailed interviews with relevant members of staff as well as a detailed tour of the department.

Our main concern was the perception that the review would mark us down as a department and would only highlight the weak areas, but this was not true. The review was extremely helpful, in that it highlighted good practice and confirmed that the

changes the new management team had already put in place were taking us in the right direction.

The review also highlighted limitations faced by our department, including issues with the building, IT infrastructure, nursing and admin structures. This aspect of the review results helped us to advocate for support for the changes we needed in order to do better.

For us, it was a very useful exercise as it highlighted good practice, identified areas of improvement, gave us ideas for some innovative developments within the department based on other's experiences and, importantly, gave us external validation that the department was safe and providing a good service, despite the constraints we faced.

Two years on, and we are pleased to say that our structures are better, our department is stronger and better staffed, staff morale is higher and we have not had any Never Events since the original series that triggered the review in the first place.

We would recommend an external review to others. The review sets standards for what we should be doing and to what standard – based on what would be considered normal practice elsewhere – and it does this from an external viewpoint. An external review can be a powerful tool to advocate for, and implement, positive change.

“Our main worry was that the review would only highlight our weak areas, but this was not true.”

be worthwhile contacting your department of health, or national professional body or association, to suggest they set up an external review service.

Testimonials from UK hospitals

“The review report highlighted shortcomings within the service and other safety issues. All recommendations taken on board and implemented. No safety or service related problems have since been identified. A well run system is in place with high level of patient satisfaction. Extremely valuable for safe and efficiently running service meeting all national standards for care.”

“The review has been a very useful exercise in terms of getting an external opinion on the service. It has instigated discussion within the team and enabled us to formulate our own action plan to take forward the recommendations. This has coincided with a change in the management team, which has had a positive impact, in terms of enabling change.”

“On behalf of the department, we found the review extremely helpful [...] it highlighted many areas that required increased input with a big emphasis on the development of allied health professional roles;

something we've taken on board [...] finally, we're beginning to see action at a senior level on this, with engagement that we've just not seen before.”

How to provide a review service

For a review to be credible and realistic, a review service must retain its independence, objectivity and impartiality, and it must be open and transparent in all its dealings.²

It is important to develop a framework that sets out how the service will be governed and what processes will be followed. Aspects to consider include data security, training for reviewers, how to generate useful reports, and fees. A review may take anything from two days to more than two weeks, so consider the resources and expenses needed and plan for the costs accordingly.

Who should be on the review team?

It is a privilege and a responsibility to be a member of a review team. In the UK, feedback from reviewers

Continues overleaf ►

suggest that the reviews are a valuable learning experience for them and for the organisations requesting assistance.

It is important that members of the external review team have extensive experience and are generally well-respected professionals in their field. However, training is required and is important to ensure that members understand how to conduct interviews, assess problems and make recommendations.

The team can include doctors, lay reviewers and any other allied health professionals (usually a team of three). It is important to ensure that there are no conflicts of interest, so the review can be carried out without bias. It is very important that the unit requesting the review has an opportunity to agree who the reviewers are.

Top tips

- Follow your governance and process framework.
- Remember that this can be an intimidating and stressful time for the unit, so be open and friendly and reassure them that you are there to help and not to judge.
- Before the day of the visit, discuss the issues and requirements of the review with organisation leaders. This includes developing the specific terms of reference and planning how the review team will approach the review.
- Undertake the review in a timely manner; this will minimise stress and expense for the organisation, the ophthalmology team, and the reviewers.
- Agree the roles of each member of the review team, e.g., who will take the notes, and agree the possible questions to ask interviewees.
- Information and evidence should be gathered from public sources and from the organisation throughout the review, and this should be analysed before, during and after the visit. Don't be afraid to carry on asking questions until you have enough information.
- Use a standard template for the report.
- Give the unit, and the individuals interviewed, every opportunity to fully engage with the process, to understand the reason for the review and to consent to it. Encourage individuals to present their views in interviews. They should be told what other evidence has been provided to the review team.



ISMAEL CORDERO

Dangerous equipment has been identified in some external reviews.

- Check your findings and recommendations to ensure they are robust and do not include *unconscious bias* (see Further reading).
- Allow an opportunity for the organisation being reviewed to correct any factual errors, but not allow them to influence the report itself; this must remain independent.
- The reports and analysis should add value with clear judgements and, where appropriate, recommendations.
- The confidentiality of individuals providing information should be respected, but the over-riding aim is to assess and put in place recommendations to address identified patient safety issues.
- At the end of the visit, provide an overview and preliminary recommendations to the team, in person – including quick wins and immediate actions to take. Then follow up with the full report.

The RCOphth review service

Over the last 12 years, the RCOphth has assisted over 40 organisations with formal review services and provided informal advice, assessments and recommendations to many more. The overriding aims of each review are to ensure the highest standards of care and patient safety are recognised and being delivered.

In most reviews, the RCOphth external service review team was often simply confirming the issues that staff had already recognised and, in some cases, already addressing. Often, it was clear that ophthalmology department staff were committed to high standards of patient care and welcomed the

support and recommendations we provided. Our experience in performing such reviews has shown that there are often common or recurring issues. The RCOphth shares these identified themes for learning and improvement³ more widely, so that other units can benefit.

The most rewarded part of the process usually comes sometime after the review report has been submitted. We request follow-up information after six months and about 50% of organisations have responded to these requests. Ongoing engagement is improving, and we also provide ongoing support if required.

References

- 1 Never Events <https://improvement.nhs.uk/resources/never-events-policy-and-framework/> NHS Improvement, 2018
- 2 Operating principles for managing invited reviews within healthcare. The Academy of Medical Royal Colleges, 2016. www.aomrc.org.uk/news-and-views/operating-principles-managing-invited-reviews-within-healthcare/
- 3 External Service Reviews: local support, national learning, RCOphth, 2018

Further reading: unconscious bias

- 1 <https://implicit.harvard.edu/implicit/>
- 2 www.wikihow.com/Overcome-Unconscious-and-Hidden-Biases
- 3 <http://kirwaninstitute.osu.edu/research/understanding-implicit-bias/>



Vincent K Mutai
Advocate of the
High Court of Kenya,
Nairobi, Kenya.

Legal risks in medical practice

Did you know that informed consent can be a defence in claims of negligence? An understanding of the law is vital in medical practice.

Laws are different in different countries, so it is impossible to write a definitive medico-legal guide that will apply in every country. This article sets out some simplified explanations of important medico-legal concepts that are widely accepted around the world.



Understanding the law in your country can be reassuring.

Competence and regulation

Patients attend a medical practice believing that the health workers possess skill and expertise that can cure, or at least improve, their medical condition. The patient believes that health workers have a level of skill and competence beyond that of an ordinary person in the street. These skills and competences are acquired through training and experience.

In most countries, doctors and nurses are registered with national regulatory authorities, which confirms that the health worker has sufficient skill and knowledge to treat patients competently.

Regulatory authorities can remove health workers from the register if they are thought to be incompetent and a danger to the public. Alternatively, they may recommend further training, or closer supervision, until the health worker has demonstrated that they are once again competent to deliver care.

Negligence

Medical treatment carries a risk of causing harm that may lead to the patient being even worse than they were before they were treated. Even if no treatment is provided (perhaps because the condition was not recognised) this may also be harmful. If a patient comes to harm as a result of a health worker's action, or inaction, this may lead to a claim for negligence.

Negligence is a claim under private law that arises when a person suffers damages or injury as a result of a failure by another person to exercise care.

To succeed in a negligence claim, the patient must establish that the doctor (or other health worker) failed to take the care that

a reasonable doctor would exercise in the same circumstances; this is known as the 'reasonable person in similar circumstances' test.

All medical interventions carry a risk that the patient's

condition may be worse, rather than better, after treatment. This does not mean that the health worker has been negligent, provided that he or she has exercised reasonable care.

Vicarious liability

Vicarious liability means liability arising from the action of others under the control or supervision of a senior health worker. For the supervising person to be liable, there must be an employment relationship that places one in authority over the other (e.g., head nurse/matron and nurse).

If a health worker under the supervision of a senior medical professional causes harm through a medical error, the supervising doctor or nurse may be held responsible. Health workers should ensure that the practitioners they supervise have the knowledge, skills, and resources to perform their roles competently and safely.

Informed consent

Kenya's Health Act No. 21 of 2017 requires that patients must give informed consent before they can be treated. A health care provider is required to provide sufficient information to a patient to enable them to participate actively in decisions about their care. The information should be provided in a language that the user understands, and takes into account the user's level of literacy.

The UK Supreme Court recently ruled that a doctor's failure to disclose a risk associated with childbirth was negligence. The Court stated that the doctor has a duty to ensure that patients are properly informed about their condition, the range of treatment options available, and the associated risks, before treatment is given.

The legal significance of informed consent is that it can be a defence to claims of negligence. If a patient agrees to a treatment, knowing that it carries a risk of a complication, they cannot claim negligence if they suffer that complication, provided that the health worker has taken reasonable care to avoid the complication.

“Medical treatment carries a risk of causing harm that may lead to the patient being even worse than they were before treatment.”



Nyawira Mwangi
Research Fellow:
London School of
Hygiene and Tropical
Medicine, London,
UK.



Michael Mbee Gichangi
Head: Ophthalmic
Services Unit:
Ministry of Health,
Nairobi, Kenya.

Medication error affecting newborns' sight: a national response

There have been several reports in Kenya of the wrong use of chlorhexidine digluconate solution 7.1% in the eyes of babies, resulting in chemical injury. Nyawira Mwangi spoke with Michael Gichangi, lead ophthalmologist at Kenya's Ministry of Health, about this problem.

Chlorhexidine is an antiseptic recommended by the World Health Organisation for use on the umbilical cord in order to prevent neonatal sepsis. It must be applied when the cord is cut and for six days afterwards. The packaging used resembles eye drop bottles, and reports indicate that some mothers therefore confuse the antiseptic with eye drops and instil it in their babies' eyes. At the concentration of 7.1%, chlorhexidine is toxic to the cornea and can cause permanent visual loss. This has been reported in other countries previously.¹

Q: What is the situation now?

Publicity and discussion of this issue in mainstream and social media has allowed the public, the eye care community, pharmacists, paediatricians, eye care managers and other stakeholders to become aware of this important issue.

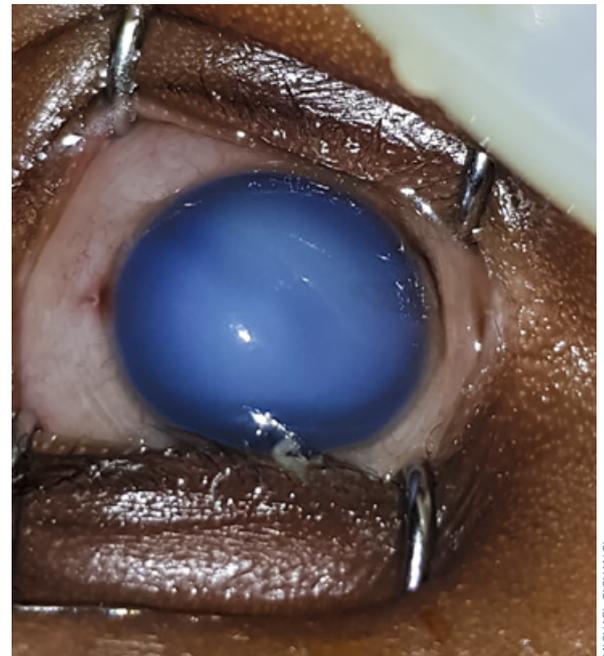
Patient safety is receiving growing attention in Kenya, and eye care providers are on the alert. We are discussing the issue at conferences, and we are also examining the broad factors that have contributed to the error, including manufacturing, packaging, importing and dispensing, as well as the way errors are reported and handled. This has strengthened the health system, as the processes of reporting medication errors and investigating them has now become clearer.

Q: How are you dealing with this problem?

We are working with Kenya's national Pharmacy and Poisons Board (PPB), which is receiving the reports and investigating the errors, and we are also having conversations with the manufacturers about changing the packaging to avoid confusion with eye drops. There is also a need to educate the mother or carer when dispensing the drugs; it is not enough to tell them: "These are your drugs to take home." It is important to explain how to use the medication. We are encouraging reporting as well as quick diagnosis, treatment and counselling.

We are therefore training health care workers to do the following:

- When dispensing chlorhexidine, inform mothers that the antiseptic is for the umbilical cord only, not the eye.
- Advise mothers to seek immediate help if such an incident occurs. If near a



Chlorhexidine 7.1% is toxic to the cornea. KENYA

MICHAEL GICHANGI

health facility, they should rush the baby for prompt skilled health care. If far from a health facility, they should irrigate the eye with clean running tap water.

- Provide emergency care to any babies affected: irrigate the eye with normal saline, apply a topical anaesthetic, give an oral painkiller and refer the baby to an ophthalmologist as soon as possible.
- Report all incidents. The PPB has requested that health workers report each incident of this error on a specified reporting form in order to generate evidence for action.

Q: What are the challenges with medical errors in Kenya, more broadly?

Many medical errors are not reported. Alternative approaches are needed to identify a much higher proportion of the errors that actually occur and go unreported.

There are many barriers that currently prevent the reporting of errors. To increase our opportunities to learn from errors, the following three changes are needed:

- 1 A more open culture of discussing errors, including discussing them at professional forums.
- 2 Increasing awareness amongst health workers about the reporting mechanism of the Pharmacy and Poisons Board.
- 3 Adequate investigation of the root causes of errors.

Q: Can technology make a difference in reporting or dealing with medical errors?

mHealth applications might increase efficiency of reporting. In this instance, we have used mHealth and social media to publicise and discuss the issue within the eye care community.



Chlorhexidine ointment can be mistaken for eye ointment.

MICHAEL GICHANGI

Reference

- 1 World Health Organization Information Exchange System Alert No. 133. Chlorhexidine 7,1% digluconate (CHX) aqueous solution or gel (10ml): Reports of serious eye injury due to errors in administration. February 2019. www.who.int/maternal_child_adolescent/news_events/news/chlorhexidine-digluconate-chx-possible-serious-eye-injury/en/



Sridivya Mukpalkar
 Editor: *Community Eye Health Journal*
 South Asia edition,
 Hyderabad, India.

Medical errors in South Asia

Countries in South Asia deal with medical errors in broadly similar ways, in line with international practice. However, there are differences in approach, and some can do better.

As with all types of surgery, eye surgery has inherent risks. It is important that patients understand the prognosis and risks, and that they have realistic expectations about the visual outcome. However, eye surgery doesn't always go as expected.

If something has gone wrong, especially if the patient becomes blind, this can be devastating. In these difficult situations, it is recommended that doctors and/or senior managers step in and communicate directly with the patient to apologise, say what went wrong and explain what they will do to help the patient.

This approach is not only good for the patient and the family, but also for the hospital and the doctors involved. As a study by Kathleen Mazor et al. notes: "when errors occur, patients and family members are more likely to respond positively when they receive an acknowledgment that what occurred was an error: an explanation of what occurred, an expression of remorse and concern for the patient, and an explicit apology. When the error results in serious and significant harm for the patient, these are even more essential."¹ Being honest about errors also makes it possible for medical personnel and institutions to learn and avoid a future occurrence of the same error.

At Aravind Eye Hospitals in the southern Indian state of Tamil Nadu, if there is a decision during surgery to change the planned surgical technique or intraocular lens, the patient's family is informed, even while surgery is still in progress. A senior doctor or allied ophthalmic professional will break the news to the patient and family members if there has been a surgeon error or a surgical complication. Any error and near miss (a medical error that was noticed and corrected before it caused harm to the patient) is reported immediately on the Incident Reporting System, and detailed notes regarding the error are entered into the patient's medical record. The source of the error is immediately investigated and identified, and every week these errors are reviewed by a committee. Surgical complications are discussed by the relevant surgical team in what is known as the 'complications meeting.'

In the LV Prasad Eye Institute (LVPEI) network, spread across the states of Andhra Pradesh, Odisha and Telangana in India, doctors and senior managers



Post-surgery counselling at the Tun Hussein Onn National Eye Hospital. MALAYSIA

communicate with the patient when there has been an error or a complication. In case of an error by a surgeon, the operating theatre administrator sends a report that is reviewed by the Quality Department and the director of the Patient Care Department. LV Prasad acknowledges that the impact of a medical error or a complication on a patient is not just short-term, and recommend a psychologist if patients need further support.

In Sri Lanka, many eye hospitals follow a similar approach when handling medical errors. Specialists and senior doctors advise house officers or residents on what should be conveyed to the patients, and what not, in case of a medical error. When the workload is very high for the doctors, the nursing officer or house officer who looks after the patient will speak to them about the error. Although there is no formal protocol for error

“It is recommended that doctors and/or senior managers step in and communicate directly with the patient.”

reporting and managing, informal discussions usually take place among the surgical/clinical team. Counselling is not offered as a routine, but the patient may be referred to low vision and rehabilitation care in appropriate cases. More work needs to be done in Sri Lanka to strengthen the way medical errors are handled, such as

telling all patients, including those who are illiterate, when there has been a surgeon or medical error.

In Bangladesh, doctors break the news of an error to the patient and the family. In case of an error, the surgeon, the person in charge of the operating theatre, the medical director and the CEO are informed. An incident form is completed for any error and the senior management takes appropriate action. Depending on the hospital, detailed notes are entered into the patient's medical record by the doctor or senior operating theatre nurse.

In Pakistan, medical errors are handled in a structured way. Patients and managers are informed immediately, and managers will take corrective action and seek to learn lessons from the incident. However, there is room for improvement in all sectors and amongst all stakeholders providing eye care; this has been highlighted by Pakistan's National VISION 2020 Committee and efforts are underway to develop national guidelines.

Reference

- 1 Mazor KM, Goff SL, Dodd K and Alper EJ. Understanding patients' perceptions of medical errors. *J Commun Healthc* 2009;2(1):34-46.

The author would like to thank Prabhat Piyasena (Ophthalmic Medical Officer and Research Fellow: National Eye Hospital, Sri Lanka), Nazmun Nahar (Associate Professor: Ispahani Islamia Eye Institute and Hospital, Bangladesh) Manjula ES (Assistant Director: Patient Care Services, LV Prasad Eye Institute, India), Asela Abeydeera (Community Ophthalmologist: Ministry of Health, Sri Lanka), Sharifuzzaman Parag (Coordinator: Dr K Zaman BNSB Eye Hospital, Bangladesh), Babar Qureshi (Director of Inclusive Eye Health, CBM UK) and Dhivya Ravilla Ramasamy (Senior Faculty: LAICO, Aravind Eye Care System, India) for their contributions to this article.



James Rice
Vitreoretinal
Consultant:
University of Cape
Town Division of
Ophthalmology,
Cape Town,
South Africa.

Making a low-cost retinal surgical simulator

In surgical training, simulation offers an opportunity to practice skills away from the patient. This low-cost simulator has been developed for retinal surgery trainees.

New surgical skills should be learned in a safe, low-stress environment that does not put the patient at risk. Trying to learn new techniques while operating on patients increases the risk of complications and makes for an anxious learning experience for the trainee surgeon. It is also stressful for the trainer and, most importantly, the patient.

Surgical simulation provides a learning environment that poses no risk to the patient and puts the surgeon at ease. Several simulators are now available for training retinal surgeons. Unfortunately, access to this type of technology is limited in low- and middle-income countries because of cost. Similarly, artificial eyes for training are expensive and may have limited re-use. With this in mind, we have constructed a simple, very cheap eye model which is used under the retinal microscope to train surgical dexterity with retinal instruments. The cost of the model is less than USD \$20 and it can be constructed in a few hours. The complete model is shown in Figure 1a.

How to construct the base

What you will need (Figure 1b):

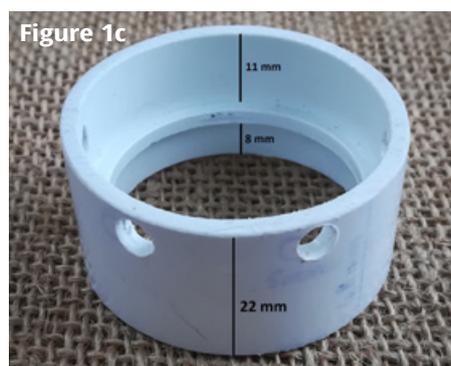
- Three pieces of wood for the base and 'forehead', each 15 cm x 7 cm x 2 cm.
- A plastic tube or pipe with 40 mm *internal* diameter, to act as the 'eye socket'. 40 mm PVC pipe is too narrow, but a 40 mm PVC pipe connector works perfectly. This supports the ball and allows free rotation in all directions.
- Battery powered string lights (also known as 'fairy lights' or 'Christmas tree lights').
- Re-usable adhesive putty.



Figure 1a Completed model

Instructions

- 1 Using Figure 1b as a guide, glue two pieces of wood together to create the 'forehead' and use the other to create the platform for the support ring ('eye socket').
- 2 Cut the pipe connector to an appropriate length (about 22 mm). If you have a connector that has a central internal 'ridge', then I suggest cutting it 11 mm above the ridge and 8 mm below it (Figure 1c).
- 3 The top of the ball in the support ring should rest just below the level of the 'forehead' so that the hands are in the same position as during surgery.
- 4 Drill 5 mm holes 2-3 mm from the upper edge of the support ring where the lights will go (Figure 1c). We recommend at least three or four lights.
- 5 Glue the support ring in place.
- 6 The first three or four lights nearest the batteries are used. The rest of the lights can be cut off and the cut ends sealed with electrical tape. Place the lights in the drilled holes and hold in place using re-usable adhesive putty. They should not protrude through the holes so they don't affect rotation of the ball (Figure 1d). Alternatively, place the lights in holes in the ball (visible in Figure 1a); however, the weight of the wire tends to drag the ball.



How to construct the tasks in the balls (eyes)

What you will need (Figure 2a):

- Three standard white table tennis or ping-pong balls, 40 mm in diameter, that serve as the 'eyes'. A different task is set up in each ball.
- One wooden and one sponge base (10 mm thick), filed or cut to fit inside the bottom section of the ball. These raise the floor of the ball, so that standard surgical instruments can reach the training tasks.
- A thin piece of non-stick silicone rubber cut from a 'cookie' or 'muffin' mould (available in some baking shops), the same size as the surface of the block of wood.
- A piece of pencil eraser/rubber and two sewing needles.
- Cotton thread.
- A piece of multi-strand electric wire.
- Re-usable adhesive putty.
- Spray-on membrane dressing. We used Opsite Spray®, which costs US \$25 for 100 ml and makes multiple membranes.

Instructions

- 1 Use a small drill or soldering iron (which easily melts the plastic) to create a 7 mm wide 'pupil' in each ping-pong ball. Draw the limbus in the approximate position around the pupil.
- 2 At 3.5 mm from the limbus, the normal anatomical position of the pars-plana, use an 18-gauge hypodermic needle to make small openings for the instruments. Enlarge these as necessary so that you feel no friction on the instruments.
- 3 Cut a wide slit (35 mm by 10 mm) in the side of the ball just below the 'equator' to insert the tasks (Figure 2b).
- 4 For ball 1 (Figure 3a), use a needle to string the cotton thread across the inside of the ball. Insert a sponge base.
- 5 For ball 2, use re-usable putty adhesive to fix the pencil eraser/rubber to the bottom of the ball. Insert the two sewing needles at a slight angle (Figure 3b).
- 6 For ball 3, place a thin, even layer of the putty adhesive on top of the wooden base. Insert the base and secure in place with more putty.
- 7 To prepare the membrane, spray a thin layer of the spray-on dressing onto the non-stick silicone rubber. Colour the membrane with a felt-tipped pen and use a razor blade to score it gently. The membrane peels effectively in strips which are easy to visualise. Unscored membrane is useful for bimanual tasks.
- 8 Slide the silicone rubber with prepared membrane gently through the side opening onto the top of the block and tap gently in place with a pencil through the 'pupil'. The thin layer of putty will keep the silicone in place, but it can be easily removed to make a new membrane.

Using the model

Place the model on the operating table and use the indirect viewing system attached to the operating microscope. The different balls are easily interchanged to perform the different tasks.

You can invent your own tasks that require fine motor movements. Useful tasks include:

- Balancing small loops of wire (cut from single strands of the multi-strand electric wire) onto the threads that have been strung across the inside of ball 1 (Figure 3a).



Figure 2a



Figure 2b

- Threading a wire through the eye of the needle using a single hand or as a two-handed exercise (Figure 3b).
- Cutting out small printed shapes (Figure 3c). You can do this in any of the balls.
- Manipulating a fine membrane (Figure 3d)
- Moving a loop along a wire maze with an indicator light (construction described elsewhere)¹ (Figures 3e and 3f).

Conclusion

Although the model does not teach specific procedures (such as retinal detachment repair), it does provide a realistic surgical environment. It allows the trainee to work with real retinal instruments and learn fine motor control. Our trainees have also found it useful for learning orientation with the indirect viewing system, including how to adjust field and magnification with the foot pedals, how to align the microscope with globe rotation and the effects of the instrument shaft on globe rotation.

The time to perform certain tasks improves with practice. If an assistant eyepiece is present, a supervisor can observe and teach instrument control.

A full description with videos is published elsewhere². A formal validation study of the usefulness of the model as a training tool is being conducted.

References

- 1 Rice JC, van der Westhuizen D, Lin A. Miniature tremor toy for retinal trainees SA Ophthalmology Journal. Autumn 2019; 14(2): 28–29.
- 2 Rice JC, Steffen J, du Toit L. Simulation Training in Vitreoretinal Surgery: A Low-Cost, Medium-Fidelity Model. Retina. 2017 Feb;37(2):409-412.

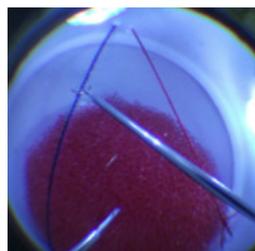


Figure 3a
Wire loops on a cotton thread

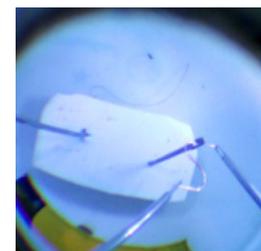


Figure 3b
Wire loop through the eye of a needle



Figure 3c
Cutting out printed shapes

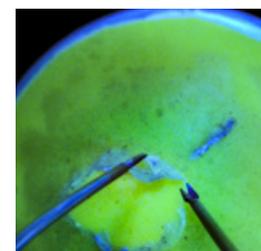


Figure 3d
Manipulation of a fine membrane



Figure 3e
Wire loop without touch

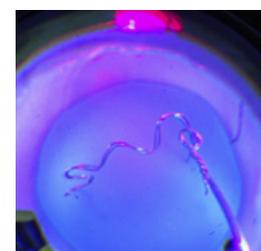


Figure 3f
Wire loop with light indicating touch



Elmien

Wolvaardt

Editor: *Community Eye Health Journal*, International Centre for Eye Health, London School of Hygiene & Tropical Medicine, UK.

Blame does not keep patients safe

A focus on systems and culture, rather than individuals, is ideal.

Many organisations and health systems – even the legal system, to some extent – seek to blame individual health care workers if a patient suffers harm. The truth is that human error is inevitable: people make mistakes.¹

The health care environment is highly complex. Many systems and processes, e.g., procurement, stock room management, record-keeping, staff rosters and clinical processes, and the people involved in them, must function effectively and in step with one another in order to ensure safe care and good outcomes.

Unless those involved in a medical error deliberately sought to cause harm, blaming and punishing them does not help. Instead, focus on the systems and processes that guide and support health care workers. Are they adequate? Do they reduce the risk of errors? If not, how can they be improved? If the system doesn't change, the next person in the job will simply repeat the error. The World Health Organization Safe Surgery approach² is an excellent example of minimising error by improving the system and framework.

The ideal: a culture of safety and learning

Ideally, health care providers should establish a no blame culture, or 'just culture', in their organisation.

A just culture "considers wider systemic issues where things go wrong, enabling professionals and those operating the system to learn without fear of retribution."³ This absence of retribution is crucial. If health workers sense that making an error will have a negative impact on their career, they will not report it. However, the absence of retribution may not be enough: health workers should be treated with respect

and encouraged to speak up if something is wrong, as exemplified in the WHO Safe Surgery approach.²

For a health care culture to be 'just', it has to be one in which people "want to share what they know, because they can see how it will help to identify real, systemic causes of patient safety lapses."³ Team members have to be confident that managers will work with them to deal with the underlying causes or contributing factors to an error,⁴ else they may lack the motivation to report errors and keep accurate records.

Creating a just culture requires leadership, joined-up thinking, collaboration with policy makers and professional bodies, good record-keeping, and human resources and administrative processes that reward quality, courage and honesty. A challenging, but worthwhile, task.

Share your thoughts

If you have transformed your organisational culture, we want to hear from you. Write to editor@cehjournal.org.

Useful resources

- Patient Safety Learning (www.patientsafetylearning.org) develop initiatives and resources (e.g. the Blueprint for Action⁴) to address systemic and cultural factors affecting patient safety and the handling of medical errors. Health workers can join in discussions and download or share resources with others, free of charge, at the Patient Safety Learning Hub: www.pslhub.org
- The Communication and Optimal Resolution (CANDOR) process is based on 'just culture' principles. The entire toolkit, including teaching resources, is available free of charge. <http://bit.ly/just-USA>

References

- 1 Welch DL. Human error and human factors engineering in health care. *Biomed Instrum Technol* 1997;31(6):627-31.
- 2 WHO Safe Surgery www.who.int/patientsafety/safesurgery/en
- 3 <https://www.gov.uk/government/groups/professor-sir-norman-williams-review>
- 4 www.patientsafetylearning.org/resources/blueprint



Jacqui Ramke

Commonwealth Rutherford Fellow: London School of Hygiene & Tropical Medicine, UK.



Hannah Faal

Chairperson of the Board: Africa Vision Research Institute, Durban, South Africa.



Matthew Burton

Professor of International Eye Health, London School of Hygiene and Tropical Medicine, UK.

Take part in the Grand Challenges in Global Eye Health study

As readers of the *Community Eye Health Journal*, you are warmly invited to take part in the Grand Challenges in Global Eye Health study, which is part of the ongoing Lancet Commission on Global Eye Health, and aims to identify the "grand challenges" in global eye health.

We hope that our results will help to guide future research, and we need your insights and ideas to make this work – whatever your role.

What is involved?

We want you to answer one question: *What are the grand challenges in global eye health?*

A grand challenge is a "specific barrier that, if removed, would help to solve an important health problem. If successfully implemented, the intervention(s) to address this grand challenge would have a high likelihood of

feasibility for scaling up and impact." Grand challenges may be at a global or national level, or at the level of your clinic or community. Please think about the challenges you see in your daily work and tell us about them.

What next?

To take part, visit <http://bit.ly/eyechallenge>. Read more about the study in the Participant Information Sheet and scroll down to select whether you do, or do not, consent to take part. The responses you provide will not be presented in a way that could identify you. The deadline is **30 September 2019**.

The study has ethical approval from the London School of Hygiene and Tropical Medicine Research Ethics Committee (Ref 17487). We hope that you will participate in this exciting study and look forward to hearing about your grand challenges. Email: Jacqueline.Ramke@lshtm.ac.uk if you would like more information.



David Addiss
Director: Focus Area for Compassion and Ethics (FACE), Task Force for Global Health, Decatur, GA, USA.



Virginia Sarah
Global Partnerships Executive, The Fred Hollows Foundation, London, UK



Nebiyu Negussu
Neglected Tropical Diseases Team Leader: Federal Ministry of Health, Addis Ababa, Ethiopia.



Paul Emerson
Director, International Trachoma Initiative, Task Force for Global Health, Decatur, GA, USA.

References

- 1 Kohn LT, Corrigan JM, Donaldson MS, eds. To err is human: Building a safer health system. Washington DC: National Academy Press; 1999.
- 2 International Coalition for Trachoma Control (ICTC). Supportive Supervision for Mass Drug Administration for PCT-NTDs. October, 2018. Available as a PDF (6.3 MB). <http://bit.ly/MDASupervision>
- 3 International Trachoma Initiative. Zithromax® Management Guide 2019. Atlanta: International Trachoma Initiative; <https://trachoma.org/zithromax-management-guide>.

Safe mass drug administration and trachoma elimination

Simple measures and new Zithromax® dosing guidelines protect children and ensure the safety of mass drug administration.

Mass drug administration (MDA), which involves giving medicines to a whole community at one time, usually once a year, is a major component of the SAFE strategy to eliminate trachoma (Surgery, Antibiotics, Facial cleanliness, and Environmental improvement) and a cornerstone of programmes to eliminate other neglected tropical diseases (NTDs).

For the past decade, NTD programmes have focused on increasing the number of people treated. Since 2016, more than 1 billion people a year receive treatment through MDA for the NTDs that affect their communities. However, global health programmes have an obligation not only to provide benefits to populations, but also to minimise harm to individuals.

Although MDA medicines are pharmacologically safe, young children have died after choking on tablets for NTDs. The available, but limited, evidence suggests that forcing children to swallow tablets against their will is the main risk factor.

Choking during MDA is a medical error (in this instance, a failure to administer the drug as it is intended) that leads to a preventable adverse event (death due to choking). Medical errors have clearly defined risk factors, such as fatigue, crowding, poor communication, being rushed, and task overload¹ – all of which can occur in MDA settings. The risk of such events can be reduced through:

- Advanced planning and safety training that emphasises role-playing, problem-solving, communication, orderly work flow, and resilience
- Suitable guidelines and protocols
- Supportive supervision, as outlined in the International Coalition for Trachoma Control’s manual for training supervisors.²

In trachoma programmes, choking-related deaths can be largely avoided because azithromycin can be given as a powder for oral suspension (POS). When reconstituted with water, this becomes a sweet-tasting syrup.

To promote MDA safety, the International Trachoma Initiative have recently made adjustments to MDA protocols, including:

- Increasing the upper age recommended for POS to 7 years and the minimum height for tablets to 120 cm
- Removing the one- and two-tablet doses from dosing poles to simplify dosing and accommodate the expanded use of POS



Embet Belachew, aged 7, receiving Zithromax® in the form of oral suspension in the North Mecha Woreda, Amhara Region. ETHIOPIA

BRENT STIRTON/GETTY IMAGES FOR THE INTERNATIONAL TRACHOMA INITIATIVE

- Reiterating the recommendation to offer POS to anyone, of any age, who has trouble swallowing tablets.

MDA safety ultimately depends on the quality of the interaction between the community drug distributor (CDD) and the person taking the medicine (or in the case of young children, the child’s parent or guardian). CDDs must follow treatment guidelines and be adequately trained, prepared, and able to effectively communicate with parents and children. Current recommendations for CDDs, reflected in the ITI Zithromax® Management Guide 2019³ are as follows:

- Adhere to the new dosing guidelines for trachoma: give POS to children aged 7 or younger and offer tablets only to people who are 120 cm or more in height
- Offer POS to anyone, of any age, who has trouble swallowing tablets
- Directly observe all treatments
- Never force children to take azithromycin, hold their nose to make them swallow, or force their head back to give them the medicine – this increases the risk of choking
- For children who are fussy, irritable, or resist taking azithromycin, reassure the parent or guardian and give them time to calm the child, so the child can receive the treatment
- If the child continues to resist taking azithromycin, do not treat the child during this round of MDA.

Observational assessments of MDAs are needed to evaluate current safety practices and to identify prevention strategies. Prompt investigation, management and reporting of serious adverse events are not only legal and regulatory requirements; they also serve to decrease rumours, restore trust, and sustain high MDA coverage.

The push to reach the high coverage required for trachoma elimination need not conflict with MDA safety – high-quality programmes can achieve both.

Test your knowledge and understanding

This page is designed to help you to test your own understanding of the concepts covered in this issue, and to reflect on what you have learnt.



BHOJA RAJ GAUTAM, IAPB #EYECAREEVERYWHERE

Counselling on cataract at a rural village. NEPAL

We hope that you will also discuss the questions with your colleagues and other members of the eye care team, perhaps in a journal club. To complete the activities online – and get instant feedback – please visit www.cehjournal.org

Tick ALL that are TRUE

Question 1

During cataract surgery on an elderly woman, the capsule ruptures and vitreous is lost, but you are able to insert an intraocular lens. What should you do?

- a. Nothing. She doesn't speak English so was unaware that there was any complication during the surgery, and telling her will just cause needless anxiety.
- b. Nothing now, but maybe tell her about it later, when you know what the visual result will be.
- c. Give her a complete explanation as soon as possible, but avoid saying that you are sorry, as it could be seen as an admission of negligence.
- d. Give her a full explanation immediately, and say that you are sorry that this problem has occurred.
- e. Send a junior colleague to apologise, as you have to go to another clinic.

Question 3

Which of the following are examples of clinical negligence?

- a. Losing sight because of a choroidal haemorrhage during surgery.
- b. Progression of glaucoma, despite treatment with eyedrops.
- c. Perforation of a corneal ulcer, leading to loss of the eye, following treatment with intensive topical antibiotics.
- d. Vitreous haemorrhage in a patient with proliferative diabetic retinopathy one month after pan-retinal laser treatment.

Question 2

You discover that a patient with glaucoma has left the clinic with betamethasone rather than beta blocker eye drops, because of an error by a junior nurse. What should you do?

- a. Nothing. The different prescription will not make much difference.
- b. Call in the nurse and explain that it is her fault that the patient is likely to go blind, and then fire her.
- c. Phone the patient and tell him that he has got the wrong eyedrops, but it was the nurse's fault, and that he can come back and buy the correct eyedrops tomorrow.
- d. Hold a meeting with all clinic staff, and explain that an error has occurred, without naming any individuals. Ask for suggestions to modify procedures in the clinic to avoid this error in future.

Question 4

A patient attends the clinic complaining of blurred vision in a painful photophobic eye. An eye nurse makes a diagnosis of conjunctivitis and prescribes chloramphenicol eyedrops, but he does not stain the cornea with fluorescein. Two days later, the patient returns with a vision of hand movements (HM), a large corneal ulcer and a hypopyon. What should you do?

- a. Sack the eye nurse for gross negligence.
- b. Investigate what factors may have affected care on the day the patient attended, and arrange a period of training and supervised practice for the nurse.
- c. Advise the patient that this clinic cannot treat her eye, and recommend that she goes to another hospital.
- d. Tell the patient that this is her fault. She must have used traditional eye medicine, because she was given the correct treatment in the clinic.

ANSWERS

1. a. No. Even if the patient is unaware of the complication, you have a duty to be honest and explain what happened. b. No. Explanations should be given promptly, as soon as possible after the incident, even if the final outcome is unknown. c. No. Giving an apology is essential. Saying you are sorry she has had a problem is not an admission of negligence. d. Correct. e. No. A senior health worker, with sufficient knowledge and experience to answer questions, should always be involved.

2. a. No. It is possible that the patient will not come to serious harm, but you have a duty to put right mistakes that are made in your clinic. b. No. This will promote a blame culture, which makes it difficult to identify the cause of an error, and put it right so it doesn't happen again. c. No. Blaming others doesn't excuse your responsibility as the supervising senior health worker. If the problem occurred as a result of the clinic's mistake, the clinic is responsible and should provide the correct treatment free of charge. d. Correct. You must also phone the patient, tell him that he has got the wrong eyedrops, apologise, and tell him what he should do next.

3. None of these are examples of negligence. However, they are all well-known risks. If the patient had not been warned about them before starting treatment, the doctor could be found to be negligent for not obtaining informed consent from the patient.

4. a. No. The nurse has been negligent but sacking him without any investigation creates a blame culture; this prevents the team from taking action to improve the care in the clinic. b. Correct. You may find that the pharmacy had not ordered any fluorescein, or that the nurse was grossly overworked because two of his co-workers were sleeping. In some countries you may have a duty to report the incident to a regulatory body, who will judge whether the nurse poses a threat to patient safety. c. No. Although it is embarrassing, you have a duty to treat the patient, and to explain what went wrong. If the patient chooses to go to a different clinic, that is understandable, but you should not refuse to treat her. d. No. Never blame the patient. Even if she did use traditional eye medicine, the examination and treatment she received at the clinic was inadequate.

Picture quiz



NICK ASTBURY

This 25-year-old person complained of a sore left eye associated with a history of left-sided facial pain and a skin rash affecting the forehead and eyelids over the last month

Tick ALL that are TRUE

Question 1

What is the likely diagnosis?

- a. Eczema
 b. Herpes simplex virus infection
 c. Contact dermatitis
 d. Herpes zoster ophthalmicus
 e. Measles

Question 2

What test should be advised?

- a. Skin test for allergens
 b. Cell culture for herpes simplex virus
 c. Blood test for HIV

Question 3

Which of the following are ocular complications of this condition?

- a. Keratitis
 b. Iritis
 c. Cataract
 d. Anaesthetic cornea
 e. Raised intraocular pressure

ANSWERS

1. d. Herpes zoster ophthalmicus (HZO).
 2. c. Many patients with HZO have no obvious predisposing cause, but HIV is a risk factor, so the patient should be advised to have a test for HIV infection. HZO is usually more severe in HIV-positive patients.
 3. a, b, d and e. Ocular complications are more likely if the nasociliary branch of the trigeminal nerve is involved, shown by a rash on the side of the nose.
 HZO may cause keratitis and/or iritis, often associated with raised IOP. An anaesthetic cornea leading to chronic corneal ulceration (neurotrophic keratitis) is a serious long-term complication. Lid scarring with deformities can also lead to exposure keratitis.

World Sight Day 2019 and IAPB photo competition

World Sight Day (10 October 2019) is an international day of awareness about avoidable blindness and its prevention and an important advocacy and communications opportunity for the eye health community. This is a great time to engage with a wider audience: patients' families, working adults, people with diabetes; – and showcase why eye health needs everybody's attention. To find out more, visit www.iapb.org/advocacy/world-sight-day



The theme this year is **Vision First!**

To mark the event, IAPB is inviting you to submit photographs that draw attention to avoidable blindness and visual impairment. There are great prizes to be won: a digital single-lens reflex camera (amateur category) and US \$1,000 (professional category).

Entry is free and the closing date is **10 October 2019**. To find out more, visit <https://photocomp.iapb.org>

CEHJ app update

Community Eye Health Journal app is nearly ready!

We are really excited to share it with you. Join our mailing list at www.cehjournal.org/subscribe and we will notify you when the app is available on Google Play and in the App Store. Your data is secure; we will not share it with others. Send your feedback and suggestions to admin@cehjournal.org.



Courses

MSc Public Health for Eye Care, London School of Hygiene & Tropical Medicine, London, UK

Fully funded scholarships are available for Commonwealth country nationals. For more information visit www.lshtm.ac.uk/study/masters/mscphec.html or email romulo.fabunan@lshtm.ac.uk

Small Incision Cataract Surgery Training at Lions Medical Training Centre in Nairobi, Kenya

Courses begin every six weeks and cost US \$1,000 for training and approximately US \$1,000 for accommodation. Email training@lionsloresho.org or call/message +254 728 970 601 or +254 733 619 191.

Free online courses

The ICEH Open Education for eye care programme offers a series of online courses in key topics in public health eye care. All the courses are free to access. More free courses coming! Certification also available. For more information visit <http://iceh.lshtm.ac.uk/oer/>

Subscriptions

Contact Anita Shah admin@cehjournal.org

Subscribe to our mailing list

web@cehjournal.org

or visit www.cehjournal.org/subscribe

Visit us online

www.cehjournal.org

www.facebook.com/CEHJournal

<https://twitter.com/CEHJournal>

Next issue



PAK-SANG LEE

The next issue of the *Community Eye Health Journal* is on the theme **Examining the eye**

When things go wrong in eye care

Be honest with patients



PAUL COURTRIGHT

- Explain the risks and possible visual outcomes of the procedure.
- Obtain written consent from the patient.
- Keep accurate records of all the care given to a patient.
- If something goes wrong, tell the patient as soon as possible.

Say that you are sorry



WAVEBREAKMEDIA

- Saying that you are sorry makes a big difference to the patient.
- It does not mean that you are at fault, or that you accept legal liability. A sincere apology may reduce the risk of legal action.
- When you apologise, explain what went wrong, how you will minimise or rectify the damage caused and how you plan to ensure no-one else will be harmed.

Support others and keep on learning



SHAFIQU-LALAM KIRON/SIGHTSAVERS

- Create a working environment where it is safe to admit mistakes.
- Support health workers who have been involved in a medical error.
- Record and investigate errors so you and your team can learn from them and prevent future errors.
- Invite an external review if you need more input.
- Keep up to date with your professional and legal responsibilities.