



Patient Safety in Eye Care Organisations

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“Secret of Quality is love Love your Patient

Love your profession

Love your God

If you Love you can work backwards and monitor the system”

-Avedis Donabedian (Founder of Quality in Health Care)

Our first duty as health care professionals is to **‘Do No Harm’** as what Florence Nightingale taught us long back. This editorial will discuss about the Guiding Principles and the Minimum Mandatory Standards required to make an Eye Care Organisation safe.

World Health Organisation came out with a clear mandate, **“Engaging Patients for Patient Safety”** on **World Patient Safety Day 2023**, in recognition of the crucial role patients, families, and caregivers play in the safety of health care.

It is about time we educate, engage, and empower our patients to improve their safety while they are in our care. Evidence shows that when patients are treated as partners in their care, significant gains are made in safety, patient

satisfaction, and health outcomes. By becoming active members of the health care team, patients can contribute to the safety of their care and that of the health care system as a whole.

Guiding Principles for a Safe Eye Care Organisation

First is Standardisation with Standard Operating Procedure (SOP) for all critical processes of a hospital. It is also important to update SOP annually or when needed because practice recommendations change as scientific evidence builds up against current practices or better options evolve. As Ophthalmologists, it is important for us to be mentally agile to learn, unlearn, and relearn.

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Secondly, it will be a continuous culture of training as human resource is the most important resource in our organisations and training is the only way to empower our staff to work optimally and without errors with SOP.

Thirdly, an incident reporting culture, it involves encouraging staff to promptly report any adverse events, errors, or near misses. A positive reporting culture fosters learning from mistakes, implementing improvements, and ultimately enhancing overall health care quality. As the Japanese say, “Mistake is a Treasure”, we learn from our mistakes and staff should be encouraged to report any errors instead of being fearful of any penalty.

Minimum Mandatory Standards Required for a Safe Eye Care Organisation

Quality is decided by intent which is fixed by the management. Hospital Policy should focus on the seven international patient safety goals.

I. First is Reducing the Risk of Hospital Acquired Infection

Parameters that can cause increase in Bioburden in Operation Room that can lead to surgical site infection:

a. Pre-existing Ocular Conditions

Preoperative checking for patients with pre-existing eye conditions or compromised immune systems is needed as they may be more susceptible to infections.

Patient related - Patient should have bath before coming to the hospital and give them a clean set of hospital clothing to change before shifting to Operation Room. They are not harbouring infection such as respiratory or an open wound and so on. Patient Fitness on Immunity - Regular fitness checkups in a hospital are essential for monitoring overall health and can contribute to a strong immune system by addressing underlying issues. Patient with local eye infection such as Internal hordeolum, Conjunctivitis, Discharge from eye, Meibomianitis, Blepharitis, etc.

b. Bacterial Contamination of Surgical Site

Despite strict hygiene measures, bacteria from the surrounding environment or the patient's own ocular surface can enter the eye during surgery. Cleaning eyelids with betadine buds during immediate preoperative assessment and instilling betadine drop preoperatively once five minutes prior to the surgery,

c. Inadequate Sterilisation of Instruments

Insufficient sterilisation of surgical instruments or the surgical environment may contribute to infections. Our Central Sterile Services Department (CSSD) or Theatre Sterile Supply Unit (TSSU) should be equipped with following standards:

i. Reverse Osmosis

Ophthalmic surgical instruments are often made of stainless steel, which can be susceptible to corrosion when exposed to

minerals and impurities in regular tap water. The reverse osmosis (RO) water minimises this risk, ensuring the longevity of the instruments.

ii. Ultrasonic Cleaner

Ultrasonic cleaning is gentle on delicate ophthalmic instruments, minimising the risk of damage. Ultrasonic cleaners help minimise the risk of introducing contaminants that could lead to infections in patients.

iii. Class B autoclave

Class B autoclave for instruments like Phaco probe, Irrigation and Aspiration probes, and cannulas are must. Air trapped in such instruments if not cleared with the help of vacuum cycle in class B autoclave can lead to pockets of areas where steam does not reach and adding the risk of inadequately sterile instruments.

- Sterilisation indicators
- Physical, chemical, and biological indicators
- Colour change in class 1 indicator
- Colour change in Bowie Dick strip which are kept in empty load to ensure complete air removal from the tubings of the steriliser
- Colour change in Batch Monitoring strips

- Physical copy from autoclave machine (No Error)

Ensuring sterility of surgical instruments with a minimum of a class B autoclave and/or Ethylene Oxide (EtO) and periodically testing the efficiency and efficacy of the sterilisation by validating the cycles.

d. Reuse of Single Use Device:

All facilities should establish written policy and protocols for Reuse of Single Use Device. It should be approved by the governing body of the facility and be available to operating room and instrument processing staff. These policies and procedures should be reviewed annually and on acquisition of new instrumentation or sterilising equipment.

e. Operation Room Zoning Improper Personnel Related:

- Limiting access to the operating room to authorised personnel only reduces the potential for contamination from non-essential individuals.
- Employees suffering from respiratory or other infection should be barred from entering Operation Theatre (OT). Every authorised person (including surgeon) should change into clean scrubs before

f. Operation Room Disinfection Protocols Not Strictly Adhered and Monitored Operation Room Cleaning Protocol:

Ensuring Disinfection of the entire OT complex with approved and proven agents and monitoring that with scientific testing. Simple but effective techniques of disinfection and cleaning have been discussed below.

- **3-bucket system** - The 3-bucket system in the context of an operating room refers to a method of cleaning and disinfecting. It involves three separate buckets:
 - Plain water bucket - The first bucket contains plain water used for initial cleaning to remove organic debris and other contaminants.
 - Soap water bucket - The second bucket, which contains soap water. This step helps remove any remaining dirt.
 - Disinfectant bucket - The third bucket contains disinfectant solution to kill any remaining microorganisms and ensure they are sterile for the next use.

This method helps maintain asepsis in the OT, reduce the risk of infections during surgical procedures.

- **Detachable mops** are preferred for cleaning in operating rooms because they allow for easy removal and thorough cleaning. These mops also can be autoclaved easily which helps in reducing the risk of cross-contamination between different areas or surgeries. This promotes a higher level

of hygiene and helps maintain a sterile environment.

- **Disinfection practices** - Regularly disinfecting all surfaces in the operating room, including tables, equipment, and countertops, to minimise the risk of microbial contamination.
- **Ensuring disinfection of air conditioner filters in OT complex** - Maintaining a controlled and sterile environment by implementing measures like air filtration and ventilation systems to reduce airborne contaminants.

g. Monitoring Microbiological Surveillance:

It is an effective tool for identifying and controlling infections. The purpose of this editorial was to discuss the prevalence rate of microorganisms in Operation Room, the type of microorganisms, and the contamination of various surfaces and air of Operation Room.

h. Operation Room Infrastructure:

Introduction of barriers with two or three door principle, maintaining air quality with necessary filters including but not limited to the high efficiency particulate air (HEPA) filter, sequential dilution with fresh air changes and repeatedly passing the air over the filters and maintaining temperature and humidity inside the Operation Room



i. Quality Control of Disposables and Materials Used for Surgery:

Standardisation of intraocular products with vendors with Good Manufacture Practice (GMP) will reduce intraocular inflammation and complications. Moreover, an accountability chain can be established if each surgeon does self Ophthalmology Surgical Competency Assessment Rubrics (OSCARs) for their surgeries.

j. Poor Compliance with Post-operative Care:

A detailed discharge summary with communication about post-operative care, such as following prescribed antibiotic regimens and maintaining proper eye hygiene, when and how to contact the hospital in case of any early warning signs of post-operative infection.

I. Swiss cheese model theory:

Failure of any one factor can surely lead to infection. The holes in the Swiss cheese are never aligned but when they do it leads to a disaster. So, do not create conditions that will help those holes to align.

II. Second International Patient Safety Guidelines is to Improve Effective Communication and Handovers

Effective communication is vital for a patient-centric approach in health care. Health care professionals should practice active listening,

use clear and understandable language, and encourage patients to ask questions. Providing information about diagnoses, treatment options, and care plans in a compassionate manner fosters trust.

III. Third International Patient Safety Guidelines is to Improve Surgical and Anaesthesia Safety:

It prioritises the well-being and preferences of the patient. This involves shared decision-making, and ensuring patient safety throughout the entire perioperative process. Safety measures include preoperative assessments, comprehensive anaesthesia plans, and post-operative monitoring to minimise risks and enhance overall patient experience.

IV. Fourth International Patient Safety Guidelines is to Improve Medication Safety:

It involves accurate prescribing, proper administration, and vigilant monitoring of medications. Key aspects include verifying patient allergies, double-checking doses, educating patients on proper use, to minimise errors and enhance overall safety in medication management.

V. Fifth International Patient Safety Guidelines is to Improve Patient Fall Prevention:


Preventing patient falls is essential in health care settings, maintaining a safe environment




by removing hazards, using assistive devices, providing non-slip footwear, and ensuring that patients know how to use call bells for assistance.

VI. Sixth International Patient Safety Guidelines is to Improve Patient Identification:

Surgical Safety Checklist



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ANESTHESIA RECORD

Name : _____ ID _____ Age /Sex _____
 Right Eye Surgery Date : _____ Left Eye Surgery Date : _____

PRE OP ANESTHESIA EVALUATION

Vitals
Effort tolerance
Any of the regular medicine stopped on the day of surgery
Allergies
Hearing capacity
Involuntary head /eye movement

SURGICAL SAFETY CHECKLIST

Sign in before anesthesia	Time out – before incision	Sign out before patient leave OR
Name tag checked <input type="checkbox"/> Y/N	All team members introduce them selves loudly.	Any equipment issues _____
Site confirmed <input type="checkbox"/> Right/Left	Patient asks to announce her/his name loudly.	Check for the used instruments count
Procedure confirmed <input type="checkbox"/> Y/N	Procedure and operated eye announced loudly	Recall batch numbers of intracameral drugs entered
Sac Patency checked <input type="checkbox"/> Y/N	Model and power of implant announced loudly	Sterilization recall sticker
Anticoagulant checked <input type="checkbox"/> Y/N	Check the clarity of irrigation fluid.	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 40px; height: 40px;"></div> <div style="border: 1px solid black; width: 40px; height: 40px;"></div> </div>
Tamoxifen use <input type="checkbox"/> Y/N	Check IOL availability.	Concerns on drugs/surgeries/ anesthesia
Debris removed <input type="checkbox"/> Y/N	Check backup IOL availability	Any other special instructions
	Check GVP and high alert.	
	Any change of anesthesia plan?	
	Any change of surgery plan?	

Immediate Pre- Op Evaluation	Right Eye	Left Eye
BP _____	_____	_____
PULSE _____	_____	_____
Respiratory Rate _____	_____	_____
O2 Saturation _____	_____	_____
GRBS _____	_____	_____

Right Eye Block

2% Lid + Adrenaline	
0.5% Anesth	
Hydraz	

Local Anesthesia

Peribulbar	
Medical Canal	
Topical	

Anesthesia Surgery

Start	
End	
Duration	

Left Eye Block

2% Lid + Adrenaline	
0.5% Anesth	
Hydraz	

Local Anesthesia

Peribulbar	
Medical Canal	
Topical	

Anesthesia Surgery

Start	
End	
Duration	

PER OPERATIVE ANESTHESIA RECORD

TIME	
BLOOD PRESSURE	200
	180
	160
PULSE	140
	120
RESPIRATORY RATE	100
	80
	60
	40
O2 Saturation	
Alimosa/Analgesic	
ADR	
Remarks	

PER OPERATIVE ANESTHESIA RECORD

TIME	
BLOOD PRESSURE	200
	180
	160
PULSE	140
	120
RESPIRATORY RATE	100
	80
	60
	40
O2 Saturation	
Alimosa/Analgesic	
ADR	
Remarks	

IMMEDIATE POST OP VITALS

BP _____	_____
PULSE _____	_____
O2 SATURATION _____	_____

Anesthetist Signature _____
Date & Time _____

Anesthetist Signature _____
Date & Time _____

Video – Comprehensive Guide for Safe Cataract Surgery



Patient identification before surgery is crucial for ensuring the right procedure on the right individual. This typically involves confirming the patient's identity using multiple identifiers such as name and medical record number.

Additionally, some institutions use barcode scanning or Radio-Frequency Identification (RFID) technology to enhance accuracy.

VII. Seventh International Patient Safety Guidelines is to Improve Availability of Rapid Response Teams in case of medical, fire, or any other emergency:

The primary goal of the rapid response team (RRT) is to identify and prevent further clinical deterioration and transfer the patient to a higher level of care if needed. The RRT is activated when health care providers recognise signs of a medical emergency, promoting timely, and coordinated responses to improve patient outcomes.



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