AIOS Guidelines

to Prevent Intraocular Infection

Joint initiative of

All India Ophthalmological Society (AIOS)
& Cipla

FROM DARKNESS TO LIGHT

तमसो मा ज्योतिर्गमय

Cipla FORESIGHT™
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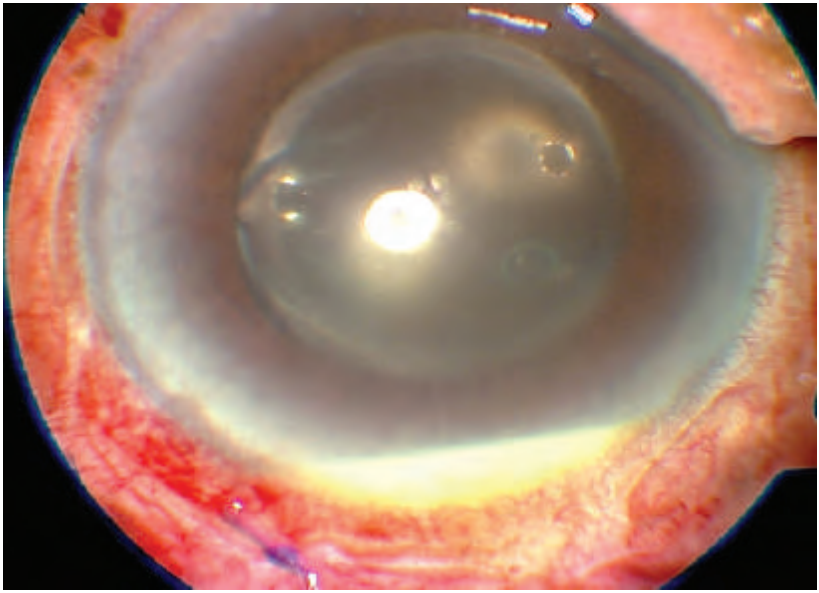

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For any suggestions please write to
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Foreword

Post-Operative Endophthalmitis is a scary and disastrous complication of Intraocular Surgery. Despite all precautions, infections do occur in best of hands and best of set ups. Our aim should be to minimize the occurrence of Endophthalmitis by taking adequate pre-operative / operative & post operative measurers.

In order to evolve guidelines to prevent or minimize post operative infections, a workshop was held under the aegis of AIOS. Twenty two (22) experts from across the country formed three (3) groups. Each group drafted its recommendations which were then merged, deliberated in detail and a consensus evolved. These guidelines are a synopsis of the consensus arrived at that workshop.

I thank all the participants for their valuable time & help. Special thanks to Dr. K.P.S. Malik (the then President of AIOS) for motivating me to carry out this exercise; to Dr. Babu Rajendran, President of AIOS for his critical appraisal of this document; to Dr. Rajvardhan Azad, President Elect for all his help & to M/s Cipla for sponsoring the event.

I hope this document is of help to all the Ophthalmologists.

For any suggestion or feedback, please feel free to contact me, or you could also communicate with AIOS Secretariat.

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Blood & Urine Sugar

- Random Blood Sugar should be < 200 mg/dL
- Urine Sugar
  - If performed must be NIL
  - If POSITIVE, surgery to be done only after Blood Sugar results

Blood Sugar Testing

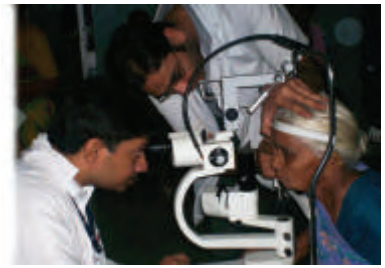
Blood Pressure

- Adequately controlled
- Should be < 150/90 mm Hg

Blood Pressure Measurement

Ocular Examination

- No Syringing
- If Regurgitation is +ve - NO surgery
- If Infection of Lids, Adnexa & Surroundings - No Surgery to be done



Ocular Examination

Pre Operative Topical Antibiotics

- One day prior to surgery: 3 - 4 times a day
- Broad spectrum antibiotic drops to be used

Pre Operative Antibiotics

Physician Clearance

- For known Systemic Diseases
  - Check for cardiac, Neurologic, Renal, Respiratory, HIV, Endocrine & Hepatic disease
- Fitness from a physician (with PG degree)

Fitness from a Physician

In Mass Surgeries

- Fitness from a Physician (PG degree)
- Patients with multiple systemic problems - Surgery NOT to be done
- Combined Surgery - NOT to be done
- High risk cases & topical surgeries to be done only by experienced surgeons with all due precautions

Examination at an Eye Camp

General

- Anaesthetist/Pulse Oximeter- Desirable (Not a must)
- Emergency Drugs - Mandatory
- Microscope Must
- Magnifying Glasses NOT to be used for surgeries
- Written informed consent in patient's language explaining the risks involved and benefits expected

Pulse Oximeter (Desirable)

Surgeon

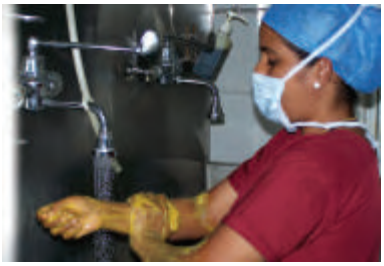
- Sterilized Gloves for every case
- Gown - for maximum of 5 cases
- Surgeon should not come out of OT in OT gown
- Mask should cover nose properly
- OT Cap - to be worn properly - tucking in all hair
- Position of Hands after scrubbing & Gloving - above waist & upright in front
- Shoe Covers are NOT to be used
- Separate washable rubber OT slippers- different colour coding
- Separate bathroom slippers

Mask should cover Nose

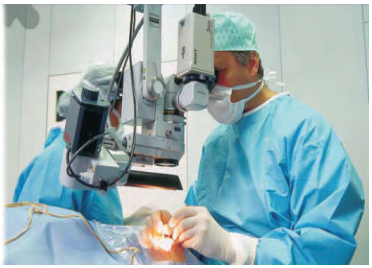
Surgeon

- Doctors / Staff with URTI / Skin infection or any other obvious infection should not be allowed to enter the OT
- Gowning/Hand Washing/Gloving as per standard protocol for all OT personnel
  - With Betadine / Chlorhexidine
  - Running Tap water
  - Boiled – cooled water
- Clean, Washed OT dress
- No Street clothes inside OT for Staff
- OT etiquette to be put on walls
- Important Do's and Don't's on the wall
- No contact procedures like (Biometery/ Tonometry) on day of surgery
- Document sequence of surgeries
- Avoid Corneal Incisions
- Prefer SICS for mass surgeries
- Do not perform more than 25 cases / surgeon / day 8 hours

Clean, Washed, Autoclaved OT Dress



Scrubbing of Hands with Betadine



Ophthalmic Microsurgery

Irrigating Fluids

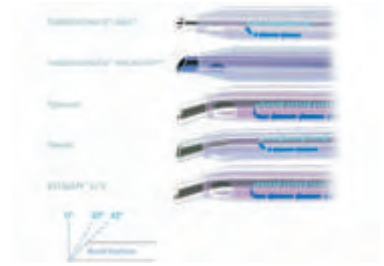
- Note the Batch Number
- Use Glass/Plastic Bottle
- If Glass Bottle - do Vacuum test (Bubbles on putting drip set)
- Physical inspection against light
- Preferably - One bottle for One Patient
- No double autoclaving
- Preferably keep Infusion bottle for 24 hours after use
- Microbiological work up and approval for each batch, where ever feasible.
- Ringer Lactate, BSS equally effective (Although BSS preferable)
- Antibiotic in Irrigating solution - not essential

Irrigating Fluid (Bottle)

Irrigating Fluid (Pack)

Wound Security

- When in doubt - sutures to be applied
- Phaco - Tips and sleeve to be changed for each case
- Tubing to be primed

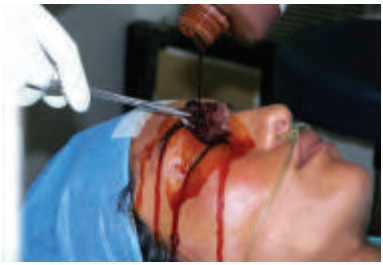


Phaco Tips & Sleeves

Sterility of patients

- Bath/ Facial wash with soap and water before surgery
- Cancel surgery when there is unusual congestion or discharge
- Speculum must
- Disposable Adhesive Drape to isolate lashes to be used
- Patients to wear clean, washed OT dress with Cap & gown (No street clothes)
- Povidone Iodine 5% for 3 minutes
  - On skin and periorbital area
  - Boundary - hairline, tip of nose, nasolabial fold & ear
  - In the Conjunctival sac for 1 minute

Facial wash with soap & water



Paint with Povidone Iodine 5%

At the end of surgery

- Sub Conjunctival antibiotic - steroid - in the Inferior fornix
- If no sub conjunctival (Topical anaesthesia) topical application of B-S antibiotic

Slit Lamp Exam

Post - Surgery Care

- Patch preferable for at least 6 hrs – avoid rubbing
- Follow Up on 1st, 3rd,7th & 28th days
- With Visual acuity with pin hole
- Slit lamp examination preferable
- Look for Media opacity with direct ophthalmoscope
- Protective glasses/eye shade for 1 week
- Oral antibiotics only in high risk cases
- Topical antibiotics with steroids for a minimum of 4 weeks
- Personal hygeine to be emphasised
- Short acting cycloplegic at the discretion of surgeon
- Document all Post-op findings
- Surgeon / Assistant to be available at the venue for at least 7 days

Eye Patch

Post Surgery Checkup

Dedicated Eye OT in a
Hospital Set up - No Make shift OT's

Suggested Lay Out

- Outer Zone - Reception
- Clean Zone - Changing
- Room/transfer zone
- Aseptic Zone - Scrubbing / Gowning / Gloving / Operation Room / Autoclave Room
- Disposal Zone - Equipment & supplies are processed

Autoclaving

Fumigation

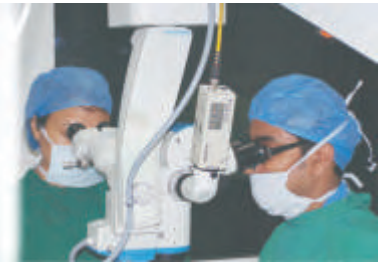
- Starting OT for the First time
  - At least 3 fumigations & preferably get 3 negative cultures of OT
- Running OT - Single Fumigation to be done
- Standard protocol as defined by Govt.
  - Formalin 30ml of 40% Formalin dissolved in 90 ml of clean water for 1000 cft by aerosol spray – to be left for 6 hrs. Then carbolization by 2% carbolic acid
  - If fumigator not available 35 ml of 40% Formalin in 10 gms Potassium Permanganate for 1000 cft to be left for 24 hrs

Fumigation

One for One Rule :
One bottle of irrigating fluid for one patient

Important Considerations

- Sterility of OT
  - Personnel
  - Fumigation
  - Walls & Floor
  - Space - Minimum 180 sq ft
- Personnel in the OT
  - Maximum 5 personnel per 180 sq feet
  - Sterility of OT through Aldekol
  - Formaldehyde - 6%, Glutaraldehyde 6% and Benzalkonium chloride 5%
  - For 4000 cft 325 aldekol in 350 ml of water sprayed for 30 minutes - close for 2 hrs - Switch on AC - OT ready in 3 hrs
- Air Conditioner Maintenance
  - Clean Filters every week
  - Servicing and cleaning every month



Microsurgery

Air Conditioner Maintenance

Sterilization of Instruments

- Preferably ETO / Autoclave or Flash autoclave
- 6-8 sets should be available
- In between cases - Autoclaving to be done
- Chemical Sterilization is not recommended

Autoclave Sterilization

Monitoring of Sterilization

- Chemical Indicators - 3 indicators
  - One on the outside wrap
  - 2nd on inside wrap, 3rd inside the tray
- Microbiological Indicators
- Log Book to be maintained
- Maximum use of disposable instruments

ETO Sterilization

Use:

- Autoclaved/ ETO instruments
- Standard Quality Irrigating Fluids

Use of Disposable Instruments

Training

- Periodic Assessment and training of OT personnel through Seminars and Educational Videos

Training Session

What to do, in case of Infection?

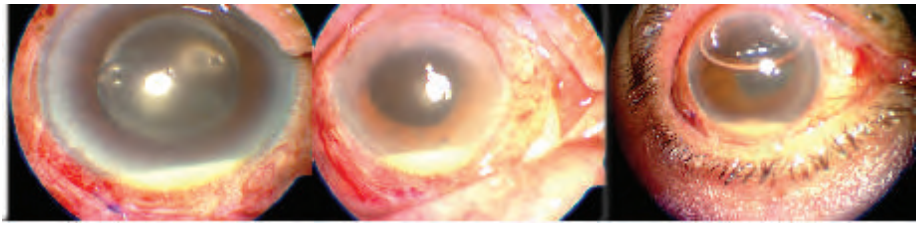
- Dialogue with Patients and Relatives
- Explain:
  - Mechanics of Infection
  - It is still treatable
  - Need for cooperation & referral
- Document all findings
- Review all sterility factors
- Have Peer Review
- Refer to higher center
- Treat Energetically with
  - Intravitreal Antibiotics and supportive therapy
- Seal & take cultures from OT
- Note batch numbers of all solutions used and send samples for culture
- Seal and keep all solutions used in safe custody

Document, Document & Document ....

Culture Examination

Microbiological Testing

Pre Operative Antibiotics



Cluster Endophthalmitis

In Cluster Infections or Outbreak

- A cluster infection is defined as the occurrence of two or more than two infections at a time, or the occurrence of repeated postoperative infection
- Inform Authorities (CMO, MS, Senior Authority)
- Insitute Infection Control Committees
- Inform AIOS & seek help
- Engage & seek help of lawyer
- Handle Press carefully (prevent pandemonium from spreading)
- Let Hospital Committee handle Press

Do not Panic ; Treat Early
Learn to give Intravitreal Antibiotics with 30 G Needle

Checklist for Elective Intraocular Surgery

1. Random Blood Sugar <= 200 mg %
2. BP < 150/90 mm Hg
3. Physician Clearance in cases with Systemic Disease
4. Pre-Op Topical Antibiotics
5. Written Informed Consent in Patient's Language
6. No Contact Procedures / Syringing on day of Surgery
7. Microscope Must
8. Sterilized Gloves for every Case
9. Disposal Adhesive Drape to isolate Lashes
10. Betadine on Skin & Periorbital Area for 3 minutes

Checklist for Elective Intraocular Surgery

11. Betadine in Conjunctival Sac for 1 minute

12. Note Batch Number of Irrigating Fluids

13. Document all findings (Pre-Op, Operative, Post-Operative)

14. Instruments Autoclaved / ETO

15. `NO` chemical sterilization

16. Maximise Use of Disposables

17. In case of doubt of Infection :
    - Talk to Patient/ Relatives
    - Institute Prompt Appropriate Treatment
    - Seek Help from higher Authorities

Betadine, Betadine & Betadine....

The guidelines on Prevention of Intraocular Infection were evolved during a workshop held by AIOS on 15th Nov' 2008.

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Dr. Taraprasad Das, Bhubaneswar
Dr. Uday Ganjiwala, Gujarat

Notes

Terms of Use

Aim of these guidelines is to assist the ophthalmic surgeon in minimizing the occurence of post-operative infection. These, in any case, are not inclusive and are not a substitute for good surgery and pre / per / post operative care.

These guidelines are mere suggestions and cannot be used in court of law to safe guard against or for any legal proceedings. AIOS has no financial or any other interest in formulation of these guidelines

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