Contents

1. Introduction **1**
Nishat Hussain Ahmed, Gita Satpathy
- History *1*
- Cleaning, Disinfection and Sterilization *2*
- Cleaning *4*
- Sterilization and Disinfection *5*

2. Operation Theatre: Design and Layout **15**
Ritika Mukhija, Neelima Aron, Namrata Sharma, Atul Kumar
- History *15*
- Setting up an Operation Theatre *15*
- Layout *16*
- Lighting *19*
- Temperature and Humidity *19*
- Scrub Room *19*
- Recovery Room *19*
- Minor Operation Theatre *20*

3. Air Flow System in Ophthalmic Operation Theatre **22**
Prateek Kakkar, Neelima Aron, Atul Kumar
- Ventilation/Air Conditioning *22*
- Laminar Air Flow *23*
- Air Change Per Hour *23*
- Air Velocity *23*
- Positive Pressure *24*
- Air Filtration *24*
- Maintenance of Air Flow System *24*

4. Water Requirement in Ophthalmic Operation Theatre **26**
Mrittika Sen, Neelima Aron, Namrata Sharma, Atul Kumar
- Handwashing *26*
- Instruments *26*

5. Operation Theatre List and Record Maintenance **29**
Pranita Sahay, Srikant Kumar Padhy, Neelima Aron
- The Operation Theatre List *29*
- Recommendations *29*
- Special Considerations while Preparing an Operation Theatre List *30*
- Distribution of the Operation Theatre List *31*
- Record Maintenance in Operation Theatre *31*

6. Pre-operative Patient Preparation **33**
Mukesh Patil, Neelima Aron, Namrata Sharma, Atul Kumar
- Pre-operative Measures *33*
- Operation Theatre Attire *34*
- Marking and Cleaning of the Surgical Area *34*
- Shifting the Patient to Operation Theatre *35*
- Surgical Preparation *35*
- *High Risk:* HIV, HBsAg, HCV *36*

7. Pre-operative Preparation of Operation Theatre Personnel **38**
Archita Singh, Sagnik Sen, Ankit Singh Tomar, Neelima Aron
- Operation Theatre Occupancy *38*
- Operation Theatre Attire *38*
- Components of the Attire *39*
- *Special Cases:* HIV, Hepatitis B and C *41*
- Surgical Scrubbing *42*
- Gowning and Gloving *43*

8. OT Protocol: Codes of Conduct **47**
Sagnik Sen, Neelima Aron, Vaishali, Namrata Sharma
- General Considerations *47*
- Scrubbed Surgeon and Assistant *47*
- Nursing Staff *48*
- Operation Theatre Assistant *49*
- Observer in the Operation Theatre *50*
- Visitors in the Operation Theatre *50*
- Intra-operative and Post-operative Practices *50*
- Practices in the use of Intra-operative Adjuncts *51*

9. Operation Theatre Sterilization **52**
Ruchita Falera, Sagnik Sen, Neelima Aron
- Operation Theatre Cleaning *52*
- Operation Theatre Disinfection and Sterilization *53*
- Cleaning Schedule *55*
- Septic Operation Theatre *55*
- Special Cases: HIV, Hepatitis B, Hepatitis C *56*

10. Ophthalmic Instrument Sterilization **57**
Nishat Hussain Ahmed, Manthan Chaniyara, Sagnik Sen, Neelima Aron, Gita Satpathy
- Instrument Processing *57*
- Sterilization *59*
- Instrument Sterilization in Ophthalmic OT *64*

11. Waste Disposal in Ophthalmic Operation Theatre **68**
Reena Singh, Rajesh Sinha
- Categorization of Waste in Operation Theatre *69*
- Segregation and Accumulation of Categorized Waste *69*
- Packaging of Segregated Wastes *70*
- Transportation of Packed Wastes from OT to Final Site of Treatment or Disposal *71*
- Treatment of Waste *71*
- Training of Staff Handling Waste Disposal in Operation Theatre *72*

12. Quality Control and Surveillance **73**
Nishat Hussain Ahmed, Gita Satpathy, Neelima Aron
- Quality Control *73*
- Microbiological Sampling *78*
- Hospital Sterilization and Disinfection Policy *82*

13. Post-Cataract Surgery Endophthalmitis **87**
Anubha Rathi, Rohan Chawla, Atul Kumar
- Microbial Spectrum of Post-operative Endophthalmitis *87*
- *MRSA and MRSE:* Increasing Resistance to Topical Antibiotics *87*
- Risk Factors and Incidence of Post-cataract Surgery Endophthalmitis *88*
- Prophylaxis of Post-cataract Surgery Endophthalmitis *88*
- Diagnosis and Management *90*

14. Post-Intravitreal Injection Infections **94**
Raghav Ravani, Rohan Chawla, Atul Kumar
- Incidence and Risk Factors *94*
- Clinical Presentation *94*
- Diagnosis and Management *95*
- Prophylaxis *96*

15. Endophthalmitis after Pars Plana Vitrectomy **101**
Karthikeya R, Rohan Chawla, Atul Kumar
- Clinical Features *101*
- Risk Factors *101*
- Prophylaxis *102*
- Management *103*
- Outcomes *103*

16. Post-LASIK Infections **105**
Divya Singh, Neelima Aron, Prafulla K Maharana, Namrata Sharma
- Microbial Spectrum *105*
- Risk Factors *105*
- Clinical Diagnosis *106*
- Prophylaxis *107*
- *Treatment:* Medical and Surgical Therapy *108*

17. Infections after Intrastromal Corneal Ring Segments **110**
Deepali Singhal, Neelima Aron, Prasad Gupta, Rajesh Sinha
- Risk Factors *110*
- Etiological Organisms *110*
- Pathogenesis *111*
- Differential Diagnosis *111*
- Clinical Features *111*
- Microbiological Work-up *112*
- Treatment *112*
- Complications and Sequelae *112*
- Prophylaxis *112*

18. Post-Collagen Cross-Linking Infections **114**
Jayanand Urkude, Neelima Aron, Anubha Rathi, Prafulla K Maharana, Namrata Sharma
- Incidence *114*
- Risk Factors *114*
- Microbial Profile of Post-collagen Cross-linking Infection *115*
- Prophylaxis *115*
- Diagnosis and Management *116*

19. Post-Keratoplasty Infections **119**
Neelima Aron, Prafulla K Maharana, Namrata Sharma
- Risk Factors for Graft Infection and Prevention *119*
- Clinical Features *121*
- Investigations *123*
- Microbiological Spectrum *124*
- Management *124*
- Prevention *125*
- Outcomes *125*

20. Bleb-Related Infections **128**
Neha Midha, Talvir Sidhu, Tanuj Dada
- Incidence *128*
- Classification *128*
- Risk Factors *129*
- Microbial Spectrum *129*
- Prophylaxis *131*
- Diagnosis and Management *132*
- Visual Outcome and Prognosis *132*
- Patient Education and Counseling *133*

21. Post-Strabismus Surgery Infections **136**
Saranya Devi K, Rohit Saxena
- Incidence and Prevalence *136*
- Microbial Flora and Risk Factors *136*
- Endophthalmitis *137*
- Orbital and Preseptal Cellulitis *137*
- Scleritis *137*
- Surgically-induced Necrotizing Scleritis *138*
- Prophylaxis and Management *138*

22. Post-Pterygium Surgery Infections **143**
Neelima Aron, Divya Agarwal, Prafulla K Maharana, Namrata Sharma
- Incidence and Microbial Spectrum *143*
- Risk Factors *143*
- Pathogenesis *143*
- Clinical Presentation *144*
- Investigations *145*
- Management *145*
- Prophylaxis *147*

23. Infections after Ocular Surface Reconstruction Surgery **149**
Amreen Aslam, Renu Venugopal, Neelima Aron, Prafulla K Maharana, Namrata Sharma
- Incidence *149*
- Risk Factors *150*
- Clinical Features *150*
- Investigations *151*
- Prophylaxis *152*
- Treatment *153*
- Coexisting Endophthalmitis *153*

24. Infections after Oculoplasty Surgery **155**
Amar Pujari, Rachna Meel, Neelam Pushker
- Pre-operative Assessment *155*
- Intra-operative Precautions *155*
- Post-operative Care and Antibiotic Prophylaxis *156*
- Microbiology Profile *156*
- Antibiotics for Prophylaxis *156*
- Diagnosis and Management *157*

Index *159*