



Hong Kong College of Surgical Nursing

**Surgical Nursing Training: Part B
Specialty - Ophthalmological Nursing**

Curriculum

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1. INTRODUCTION

The Ophthalmological Nursing Training is designed for registered nurses (RN) who want to advance their clinical knowledge, skills, and practice to a higher level competency in the spectrum of Surgery. This training curriculum of Ophthalmological Nursing illustrates the requirement of a surgical nurse to achieve with competency in the advanced clinical practice.

2. AIMS

- 2.1 To provide trainees updated ophthalmological knowledge and skills in managing clients with ophthalmological conditions / illness so as to provide holistic quality care to clients. **(Domain 1, 2, 4, 5 & 6)**
- 2.2 To equip trainees to take up the extended roles and responsibilities in Ophthalmological nursing. **(Domain 1, 2, 3, 4, 5, 6 & 7)**

3. LEARNING OBJECTIVES

Upon completion of the course, trainees should be able to:

- 3.1 Describe the anatomy & physiology of the eye and the pathology of the visual system **(Domain 1, 4, 5 & 6)**
- 3.2 Outline common ophthalmological conditions / illness **(Domain 1, 2, 4, 5 & 6)**
- 3.3 Outline the latest medical and nursing management of clients with ophthalmological conditions / illness **(Domain 1, 2, 3, 4, 5, 6 & 7)**
- 3.4 Demonstrate the specific knowledge on the structure and function of ophthalmological equipment, instruments, accessories & prosthesis **(Domain 1, 2, 4, 5 & 6)**
- 3.5 Provide specialized care and educations to patients undergoing ophthalmological investigation, treatment, for example: photodynamic therapy, intravitreal injection, cross-linking, corneal scraping, electrolysis of eye lashes, Axial Length & Keratometry, Ultrasound Biomicroscopy, Anterior Segment Optical Coherence Tomography, Posterior Segment Optical Coherence Tomography, genetic tests for Retinoblastoma **(Domain 1, 2, 4, 5 & 6)**
- 3.6 Apply nursing process effectively to patients with ophthalmological conditions / illness **(Domain 1, 2, 3, 4, 5, 6 & 7)**
- 3.7 State the common drugs used in ophthalmological conditions / illness, and their action and adverse reaction **(Domain 1, 2, 4 & 5)**
- 3.8 Act as resource person **(Domain 1, 2, 3, 4, 5, 6 & 7)**

- 3.9 Promote evidence -based practice (**Domain 1, 2, 3, 4, 5, 6 & 7**)
- 3.10 Apply infection control effectively during ophthalmological investigation, examination and treatment. (**Domain 1, 2, 3, 4, 5, 6 & 7**)

4. LANGUAGE MEDIUM

Both English and Cantonese will be used in class. All written assignments and examination will be in English.

5. COURSE CONTENTS (Total learning hours = 167 hours)

5.1 Anatomy Physiology & Pathology of visual system (Domain1, 4, 5 & 6) (6 hours)

- 5.1.1 Applied anatomy, physiology & pathology of the visual system

5.2 Cornea (Domain1, 2, 3, 4, 5, 6 & 7) (16 hours)

- 5.2.1 Integrate and apply advanced clinical knowledge in the pathophysiology of corneal disease.
- 5.2.2 Integrate and apply advanced clinical knowledge with competence in managing clients with corneal disease:
- Different types of corneal disease. e.g. Keratoconus, Corneal dystrophy, Decemetocele
 - Different types of corneal Surgery. e.g. Cross Linkage, Astigmatic Keratotomy, Penetrating Keratoplasty (A&K), Deep Anterior Lamella Keratoplasty (DALK), Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK) and Amniotic Membrane Transplantation (AMT)
 - Management of post corneal surgery cases
- 5.2.3 Integrate and apply advanced clinical knowledge in Eye Bank Service
- Indications for corneal transplant
 - Usage of corneal and scleral tissue
 - Quality assurance of Eye Bank Service
 - Eye Bank Management System (EBMS)

5.3 Glaucoma (Domain1, 2, 3, 4, 5, 6 & 7) (12 hours)

- 5.3.1 Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of Glaucoma.
- 5.3.2 Integrate and apply advanced clinical knowledge with competence in managing clients with Glaucoma
- Difference types of Glaucoma. e.g. Open-Angle, Angle-Closure, Secondary, Congenital, Normal Tension, Uveitic,

- Different types of Glaucoma surgeries. e.g. Trabeculectomy, Needling, Cyclophotocoagulation Therapy, I-stent
- Management of post glaucoma surgery

5.4 Oculoplastic (Domain1, 2, 3, 4, 5, 6 & 7) (13 hours)

- 5.4.1 Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of oculoplastic and orbital disease.
- 5.4.2 Integrate and apply advanced clinical knowledge with competence in managing clients with oculoplastic and orbital disease:
- Different types of oculoplastic and orbital disease. e.g. Entropion, Trichiasis, Dacryocystitis, Ptosis, Orbital tumor, Orbital fracture, Thyroid Eye Disease
 - Different types of oculoplastic and orbital disease surgeries. e.g. Orbitotomy, Endoscopic Dacryocystorhinostomy (EDCR), Blepharoplasty, Orbital floor fracture repair, Evisceration, and Enucleation
 - Management of post oculoplastic and orbital disease surgery

5.5 Vitreo-Retina (Domain1, 2, 3, 4, 5, 6 & 7) (16 hours)

- 5.5.1 Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of vitreo-retinal disease.
- 5.5.2 Integrate and apply advanced clinical knowledge with competence in managing clients with vitreo-retinal disease:
- Different types of vitreo-retinal disease. e.g. Macular degeneration, Diabetic retinopathy, Epiretinal membrane, Macular hole, Vitreous haemorrhage, Retinal artery occlusion, Choroidal detachment
 - Different types of investigations. e.g. Optical Coherence Tomography(OCT), Fundal fluorescence angiogram(FFA), Indocyanine green angiogram(ICG), Ultrasound
 - Different types of treatments.e.g. Photodynamic therapy, Intravitreal injection of anti-VEGF, Laser barrier, vitreo-retinal Surgery
 - Management of post vitreo-retinal surgery

5.6 Cataract (Domain1, 2, 3, 4, 5, 6 & 7) (12 hours)

- 5.6.1 Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of cataract.
- 5.6.2 Integrate and apply advanced clinical knowledge with competence in performing advanced assessment measures:
- Axial length and keratometry (A & K)
 - Pachymetry

- 5.6.3 Integrate and apply advanced clinical knowledge with competence in managing clients with cataract
- Different types of surgeries. e.g. Extracapsular cataract extraction (ECCE), Phacoemulsification, and Intracapsular cataract extraction (ICCE)
 - Different types of intraocular lens e.g. monofocal, Toric, Scleral Fixed, Aniridia, and multifocal

5.7 Paediatric Ophthalmic disease (Domain1, 2, 3, 4, 5, 6 & 7) (14 hours)

- 5.7.1 Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of Paediatric Ophthalmological disease
- 5.7.2 Integrate and apply advanced clinical knowledge with competence in managing clients with Paediatric Ophthalmological disease
- Different types of Paediatric Ophthalmological disease e.g. Strabismus conditions, Retinoblastoma, Congenital Cataract, Congenital Glaucoma, and Retinopathy of Prematurity
 - Different types of surgeries. e.g. Squint surgeries, Examination under general anesthesia +/- Cryotherapy +/-Endolaser, Evisceration + Medpor implantation, and Cataract Surgery
 - Genetic counselling and blood test for Retinoblastoma case

5.8 Infections and inflammation of visual system (Domain1, 2, 3, 4, 5, 6 & 7) (11 hours)

- 5.8.1 Integrate and apply advanced clinical knowledge in the pathophysiology of:
- Chalazion
 - Blepharitis
 - Acute Conjunctivitis
 - Keratitis, Corneal ulcer
 - Scleritis
 - Retinitis
 - Endophthalmitis
 - Uveitis

5.9 Others (Domain1, 2, 3, 4, 5, 6 & 7) (54 hours)

- 5.9.1 Infection control in ophthalmology **(2 hours)**
- 5.9.2 Ocular trauma **(2 hours)**
- 5.9.3 Ocular emergencies e.g. chemical injury **(2 hours)**
- 5.9.4 Neuro-ophthalmology **(2 hours)**
- 5.9.5 Anaesthesia for eye operations **(2 hours)**
- 5.9.6 Low vision clinic **(1 hour)**
- 5.9.7 Introduction of slit lamp **(3 hours)**

- 5.9.8 Orthoptic assessment **(3 hours)**
- 5.9.9 Optometric assessment **(3 hours)**
- 5.9.10 Pharmacology **(3 hours)**
- 5.9.11 Electrodiagnostic test **(1 hour)**
- 5.9.12 Ophthalmic imaging **(2 hours)**
- 5.9.13 Nurses' role in ophthalmological setting **(1 hour)**
- 5.9.14 Clinic running & management **(2 hours)**
- 5.9.15 Triage and Referral; Patient history and ocular assessment **(2 hours)**
- 5.9.16 Pre-Admission and Pre-Discharge Nursing Service (PAPDNS) **(2 hours)**
- 5.9.17 Ophthalmological Nursing Procedures **(3 hours)**
- 5.9.18 Theatre management in ophthalmological settings **(2 hours)**
- 5.9.19 Wound management **(2 hours)**
- 5.9.20 Nursing care of ocular implants & prosthesis **(1 hour)**
- 5.9.21 Psychological care for ophthalmological clients **(2 hours)**
- 5.9.22 Handling of Ophthalmological instruments and equipment **(1 hours)**
- 5.9.23 Principles and methods of disinfection and Sterilization **(2 hours)**
- 5.9.24 Lasers and laser safety **(1 hour)**
- 5.9.25 Common Ophthalmological Terminology and Abbreviations **(1 hour)**
- 5.9.26 Evidence-based practice in ophthalmological nursing **(3 hours)**
- 5.9.27 Legal and ethical issue-consent, time out procedure-documentation **(2 hours)**
- 5.9.28 Occupational safety & health in ophthalmological practice **(1 hour)**

5.10 Miscellaneous (13 hours + Evaluation & Examination 5 hours)

- 5.10.1 Case sharing **(6 hours)**
- 5.10.2 Skills workshop & Group project presentation **(7 hours)**
- 5.10.3 Briefing on Clinical Practicum **(1 hour)**
- 5.10.4 Ophthalmology Core specialty evaluation **(1 hour)**
- 5.10.5 Examination **(3 hours)**

6. Relationship between curriculum and domain of competence framework

| | | Domains | | | | | | |
|---|--|---------|----|-----|----|---|----|-----|
| | | I | II | III | IV | V | VI | VII |
| A. Anatomy Physiology & Pathology of visual system | | | | | | | | |
| 1 | Applied anatomy, physiology & pathology of the visual system | √ | | | √ | √ | √ | |
| B. Cornea | | | | | | | | |
| 1 | Integrate and apply advanced clinical knowledge in the pathophysiology of corneal disease. | √ | | | √ | √ | √ | |
| 2 | Integrate and apply advanced clinical knowledge with competence in managing clients with corneal disease: | √ | | | √ | √ | √ | |
| | a. Different types of corneal disease. e.g. Keratoconus, Corneal dystrophy, Decemetocoele | | | | | | | |
| | b. Different types of corneal Surgery. e.g. Cross Linkage, Astigmatic Keratotomy, Penetrating Keratoplasty (A&K), Deep Anterior Lamella Keratoplasty (DALK), Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK) and Amniotic Membrane Transplantation (AMT) | | | | | | | |
| | c. Management of post corneal surgery cases | √ | √ | √ | √ | √ | √ | √ |
| 3 | Integrate and apply advanced clinical knowledge in eye bank service | √ | | | √ | √ | √ | |
| | a. Indications for corneal transplant | | | | | | | |
| | b. Usage of corneal and scleral tissue | √ | | | √ | √ | √ | |
| | c. Quality assurance of eye bank service | √ | | | √ | √ | √ | |
| | d. Eye Bank Management System (EBMS) | √ | | | √ | √ | √ | |
| C. Glaucoma | | | | | | | | |
| 1 | Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of Glaucoma. | √ | | | √ | √ | √ | |
| 2 | Integrate and apply advanced clinical knowledge with competence in managing clients with Glaucoma | √ | | | √ | √ | √ | |
| | a. Difference types of Glaucoma. e.g. Open-Angle, Angle-Closure, Secondary, Congenital, Normal Tension, Uveitic, | | | | | | | |

| | | Domains | | | | | | |
|-------------------------|---|---------|----|-----|----|---|----|-----|
| | | I | II | III | IV | V | VI | VII |
| | b. Different types of Glaucoma surgeries. e.g Trabeculectomy, Needling, Cyclophotocoagulation Therapy, I-stent | √ | | | √ | √ | √ | |
| | c. Management of post glaucoma surgery | √ | √ | √ | √ | √ | √ | √ |
| D. Oculoplastic | | | | | | | | |
| 1 | Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of oculoplastic and orbital disease. | √ | | | √ | √ | √ | |
| 2 | Integrate and apply advanced clinical knowledge with competence in managing clients with oculoplastic and orbital disease: | | | | | | | |
| | a. Different types of oculoplastic and orbital disease. e.g. Entropion, Trichiasis, Dacryocystitis, Ptosis, Orbital tumor, Orbital fracture, Thyroid Eye Disease | √ | | | √ | √ | √ | |
| | b. Different types of oculoplastic and orbital disease surgeries. e.g. Orbitotomy, Endoscopic Dacryocystorhinostomy(EDCR), Blepharoplasty, Orbital floor fracture repair, Evisceration, and Enucleation | √ | | | √ | √ | √ | |
| | c. Management of post oculoplastic and orbital disease surgery | √ | √ | √ | √ | √ | √ | √ |
| E. Vitreo-Retina | | | | | | | | |
| 1 | Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of vitreo-retinal disease. | √ | | | √ | √ | √ | |
| 2 | Integrate and apply advanced clinical knowledge with competence in managing clients with vitreo-retinal disease: | | | | | | | |
| | a. Different types of vitreo-retinal disease. e.g. Macular degeneration, Diabetic retinopathy, Epiretinal membrane, Macular hole, Vitreous haemorrhage, Retinal artery occlusion, Choroidal detachment | √ | | | √ | √ | √ | |

| | | Domains | | | | | | |
|---|---|---------|----|-----|----|---|----|-----|
| | | I | II | III | IV | V | VI | VII |
| | b. Different types of investigations. e.g. Optical Coherence Tomography(OCT), Fundal fluorescence angiogram(FFA), Indocyanine green angiogram(ICG), Ultrasound | √ | | | √ | √ | √ | |
| | c. Different types of treatments. e.g. Photodynamic therapy, Intravitreal injection of anti-VEGF, Laser barrier, vitreo-retinal Surgery | √ | | | √ | √ | √ | |
| | d. Management of post VR surgery | √ | √ | √ | √ | √ | √ | √ |
| F. Cataract | | | | | | | | |
| 1 | Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of cataract. | √ | | | √ | √ | √ | |
| 2 | Integrate and apply advanced clinical knowledge with competence in performing advanced assessment measures: | √ | | | √ | √ | √ | |
| | a. Axial length and keratometry (A & K) | | | | | | | |
| | b. Pachymetry | √ | | | √ | √ | √ | |
| 3 | Integrate and apply advanced clinical knowledge with competence in managing clients with cataract | | | | | | | |
| | a. Different types of surgeries. e.g. Extracapsular cataract extraction(ECCE), Phacoemulsification, and Intracapsular cataract extraction(ICCE) | √ | √ | √ | √ | √ | √ | √ |
| | b. Different types of IOL. e.g. monofocal, Toric, Scleral Fixed, Aniridia, and multifocal | √ | | | √ | √ | √ | |
| G. Paediatric Ophthalmic Disease | | | | | | | | |
| 1 | Integrate and apply advanced clinical knowledge in the pathophysiology and manifestations of Paediatric Ophthalmic disease | √ | | | √ | √ | √ | |
| 2 | Integrate and apply advanced clinical knowledge with competence in managing clients with Paediatric Ophthalmic disease | | | | | | | |
| | a. Different types of Paediatric Ophthalmic disease. e.g. Strabismus conditions, Retinoblastoma, Congenital Cataract, Congenital Glaucoma, and Retinopathy of Prematurity | √ | | | √ | √ | √ | |

| | | Domains | | | | | | |
|--|---|---------|----|-----|----|---|----|-----|
| | | I | II | III | IV | V | VI | VII |
| | b. Different types of surgeries. e.g. Squint surgeries, Examination under general anesthesia +/- Cryotherapy +/-Endolaser, Evisceration + Medpor implantation, and Cataract Surgery | √ | | | √ | √ | √ | |
| | c. Genetic counselling & blood test for Retinoblastoma case | √ | √ | √ | √ | √ | √ | √ |
| H. Infections and inflammation of visual system | | | | | | | | |
| 1 | a. Blepharitis | √ | | | √ | √ | √ | |
| | b. Acute Conjunctivitis | √ | | | √ | √ | √ | |
| | c. Keratitis, Corneal ulcer | √ | | | √ | √ | √ | |
| | d. Scleritis | √ | | | √ | √ | √ | |
| | e. Retinitis | √ | | | √ | √ | √ | |
| | f. Endophthalmitis | √ | | | √ | √ | √ | |
| | g. Uveitis | √ | | | √ | √ | √ | |
| I. Others | | | | | | | | |
| 1 | Infection control in ophthalmology | √ | √ | √ | √ | √ | √ | |
| 2 | Ocular trauma | √ | | | √ | √ | √ | |
| 3 | Ocular emergencies e.g. chemical injury | √ | | | √ | √ | √ | |
| 4 | Neuro-ophthalmology | √ | | | √ | √ | √ | |
| 5 | Anaesthesia for eye operations | √ | | | √ | √ | √ | |
| 6 | Low vision clinic | √ | √ | √ | √ | √ | √ | √ |
| 7 | Introduction of slit lamp | √ | | | √ | √ | √ | |
| 8 | Orthoptic assessment | √ | | | √ | √ | √ | |
| 9 | Optometric assessment | √ | | | √ | √ | √ | |
| 10 | Pharmacology | √ | | | √ | √ | √ | |
| 11 | Electrodiagnostic test | √ | | | √ | √ | √ | |
| 12 | Ophthalmological imaging | √ | | | √ | √ | √ | |
| 13 | Nurses' role in ophthalmological setting | √ | √ | √ | √ | √ | √ | √ |
| 14 | Clinic running & management | √ | √ | √ | √ | √ | √ | √ |
| 15 | Triage and Referral; Patient history and ocular assessment | √ | √ | √ | √ | √ | √ | √ |
| 16 | Pre-Admission and Pre-Discharge Nursing Service (PAPDNS) | √ | √ | √ | √ | √ | √ | √ |
| 17 | Ophthalmic Nursing Procedures | √ | √ | √ | √ | √ | √ | √ |

| | | Domains | | | | | | |
|----|---|---------|----|-----|----|---|----|-----|
| | | I | II | III | IV | V | VI | VII |
| 18 | Theatre management in ophthalmological settings | √ | √ | √ | √ | √ | √ | √ |
| 19 | Wound management | √ | √ | √ | √ | √ | √ | √ |
| 20 | Nursing care of ocular implants & prosthesis | √ | √ | √ | √ | √ | √ | √ |
| 21 | Psychological care for ophthalmic clients | √ | √ | √ | √ | √ | √ | √ |
| 22 | Handling of Ophthalmological instruments and equipment | √ | | | √ | √ | √ | |
| 23 | Principles and methods of disinfection and Sterilization | √ | | | √ | √ | √ | |
| 24 | Lasers and laser safety | √ | | | √ | √ | √ | |
| 25 | Common Ophthalmic Terminology and Abbreviations | √ | | | √ | √ | √ | |
| 26 | Evidence-based practice in ophthalmological nursing | √ | √ | √ | √ | √ | √ | √ |
| 27 | Legal and ethical issue-consent, time out procedure-documentation | √ | | √ | √ | √ | √ | |
| 28 | Occupational safety & health in ophthalmological practice | √ | | | √ | √ | √ | |

7. SUMMARY OF LEARNING HOURS

| Item | Specialty | Hours |
|-------|---|-------|
| 1. | Anatomy Physiology & Pathology of visual system | 6 |
| 2. | Cornea | 16 |
| 3. | Glaucoma | 12 |
| 4. | Occuloplastic | 13 |
| 5. | Vitreo-Retina | 16 |
| 6. | Cataract | 12 |
| 7. | Paediatric Ophthalmic disease | 14 |
| 8. | Infections and inflammation of visual system | 11 |
| 9. | Others | 54 |
| 10. | Case Sharing & Presentation | 13 |
| Total | | 167 |

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