



**YENEPOYA**

(DEEMED TO BE UNIVERSITY)

Recognized under Sec 3(A) of the UGC Act 1956

Accredited by NAAC with 'A' Grade

## **YENEPOYA DENTAL COLLEGE**

### **PROGRAM AND PROGRAM SPECIFIC/COURSE OUTCOMES**

#### **POST DOCTORAL FELLOWSHIP**

#### **CLEFT & CRANIOFACIAL SURGERY**

**ATTESTED**

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## PROGRAM OUTCOMES

### POST-DOCTORAL FELLOWSHIP IN CLEFT AND CRANIOFACIAL SURGERY

(K=Knowledge, S=Skill, A=Attitude)

**PO1** : Demonstrate knowledge of basic sciences relevant to the practice of cleft and craniofacial surgery (K)

**PO2**: To acquire knowledge and understanding of epidemiology, etiology, pathophysiology and national and global burden of cleft lip and palate and craniofacial deformities. (K)

**PO3**: Record case history, perform clinical examination, order essential investigations and interpret them to arrive at a final diagnosis and plan the treatment and management of cleft lip and palate and craniofacial deformities. (K,S,A)

**PO4**: Formulate an evidence-based and cost-effective treatment plan in collaboration with other specialists such as paediatricians, pedodontists, physicians, ENT surgeons, orthodontists, speech pathologists, dietician and counsellors along with the patient after providing appropriate information and obtaining an informed consent. Safeguard the privacy, confidentiality of the patient and the data obtained from them. Respect the patient's right to information and right to seek a second opinion. (K,S,A)

**PO5** : Practise personal hygiene, asepsis, sterilization, prevention of cross infection and safe disposal of hospital waste keeping in view of the high prevalence of hepatitis, HIV and other transmissible diseases(K,S,A)

**PO6**: Apply general surgical principles to pre and post-surgical management particularly evaluation, post-surgical care, fluids and electrolyte management, blood transfusion and post-surgical pain and wound management. (S,A)

**PO7**: To deliver appropriate surgical and medical management for patients with cleft lip and/or palate and its associated deformities and craniofacial anomalies by interaction with other dental, medical and allied disciplines.(S,A)

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**PO8:** To develop the ability to communicate with professional colleagues and function as an effective team member / leader of a multi professional cleft and craniofacial surgical team and setting up of a dedicated center for treatment of cleft and craniofacial anomalies.(S,A)

**PO9:** To contribute to the international, national and regional health scenario for conditions relevant to the specialty irrespective of social status, caste, creed or religion of the patient. Conduction of camps and outreach programmes for benefit of society. (S,A)

**PO10:** Demonstrate respect for human values, human rights and social responsibilities.(S,A)

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## PROGRAM SPECIFIC /COURSE OUTCOMES

### POST-DOCTORAL FELLOWSHIP IN CLEFT AND CRANIOFACIAL SURGERY

#### Unit: Introduction

- 1.1: To describe the epidemiology and etiology of cleft and craniofacial anomalies
- 1.2: To understand the history of evolution of cleft lip and palate management

#### Unit: Anatomy, Patho-Embryology & Growth and Development

- 2.1: To describe the normal anatomy and embryology of craniofacial complex
- 2.2: To explain the anatomy and embryogenesis of cleft lip, cleft palate and cranio facial anomalies
- 2.3: To understand the Genetic aberrations involved in Syndromic and non-syndromic clefts.
- 2.4: To explain the process of postnatal craniofacial growth and development,
- 2.5: To understand the facial growth in Cleft Lip and Palate

#### Unit: Classification

- 3.1: To classify cleft lip, cleft palate, and facial clefts
- 3.2: To enlist other congenital Craniofacial Anomalies

#### Unit: Unilateral Cleft Lip Deformity

- 4.1: To describe the Anatomy, History and Surgical goals of unilateral cleft lip deformity.
- 4.2: Enlist the factors governing the timing of cleft lip repair.
- 4.3: To illustrate and perform the techniques of unilateral cleft lip management including pre surgical orthopaedics and lip adhesion.
- 4.4: To explain the goal and techniques of primary nasal deformity correction.
- 4.5: To describe the management strategies for secondary lip deformities.

#### Unit: Bilateral Cleft Lip Deformity

- 5.1: To describe the anatomy, history and surgical goals of bilateral cleft lip deformity.

5.2: To illustrate and perform the techniques of bilateral cleft lip management and management of pre-maxilla including pre-surgical orthopaedics and lip adhesion.

5.3: To explain the goal and techniques of primary nasal deformity correction.

5.4: To describe the management strategies for secondary lip deformities.

### **Unit: Cleft Palate Deformity**

6.1: To describe the anatomy, history and surgical goals of cleft palate deformity.

6.2: To explain the feeding techniques, speech assessment and timing of cleft palate surgery.

6.3: To illustrate and perform the techniques of cleft palate repair.

6.4: To describe the role of prosthodontics (Obturator) in cleft palate management.

6.5: To understand the concept of Velopharyngeal Incompetence, its manifestations and management (Pharyngeal Flaps, Pharyngoplasties).

6.6: To explain the clinical presentation and management of submucous cleft palate.

6.7: To diagnose palatal fistulae and explain the techniques of fistula closure.

### **Unit: Alveolar Bone Grafting**

7.1: Describe the anatomy of cleft alveolus

7.2: Enlist the management strategies employed in the past and perform current management protocols for treatment of cleft alveolus.

7.3: Enlist the various bone grafts used in management of cleft alveolus. Describe the indications, contraindications, advantages, disadvantages and harvesting technique of various autogenous bone grafts.

### **Unit: Cleft Rhinoplasty**

8.1: Describe the normal anatomy of the nose and the anatomy of the nose in a patient of cleft lip.

8.2: Explain the various types of Rhinoplasty.

### **Unit: Orthodontics in Cleft Lip and Palate**

9.1: Describe the growth of maxilla, mandible and the dentition.

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9.2: Enlist the radiographic techniques of growth assessment.

9.3: Describe the various cephalometric analyses.

9.4: Enumerate the factors governing orthodontic treatment in cleft patients.

#### **Unit: Rare Cranio-orofacial Clefts**

10.1: Explain the incidence, embryogenesis, classification and management of cranio-orofacial clefts.

#### **Unit: Principles of Craniofacial Surgery**

11.1: Explain the clinical features, assessment, planning and surgical correction of Orbital Hypertelorism.

11.2: Describe the etiopathogenesis, types, evaluation, and management: early surgery/late surgery for Craniosynostosis

11.3: Explain the embryology, etiopathogenesis, clinical spectrum, evaluation, and management of craniofacial microsomia.

#### **Unit: Craniofacial Syndromes**

12.1: Describe the etiology, clinical features and management of Treacher Collins Syndrome (Mandibulofacial Dysostosis), Romberg's Disease (Hemifacial Atrophy), Pierre Robin Sequence, Klippel Fiel Syndrome, Apertz syndrome and Crouzons disease.

#### **Unit: Cleft Orthognathic Surgery and Distraction Osteogenesis**

13.1: Recall the historical perspectives of Orthognathic surgery.

13.2: Explain the types of dental occlusion and skeletal relationships.

13.3: Illustrate the biological basis of Orthognathic surgery.

13.4: Explain in detail evaluation and treatment planning in Orthognathic surgery including cephalometric analysis, model surgery and virtual surgical planning.

13.5: Describe the various osteotomies for the maxilla and mandible- indications, contraindications, advantages, disadvantages, technique and complications.

13.6: Elaborate the evolution, indications, contraindications, advantages, disadvantages, vector planning, types of distractors, phases and complications of distraction osteogenesis.

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**Unit: Asepsis and sterilization**

- 14.1: Define and practice asepsis, sterilization and disinfection
- 14.2: Enumerate and explain the physical and chemical methods of sterilization
- 14.3: Organize and arrange equipment based on the principles of sterilization
- 14.4: Describe universal barrier technique for prevention of infection transmission
- 14.5: Describe gloving, gowning and draping procedures for major surgical procedures
- 14.6: Explain the disposal of biomedical waste and sharps
- 14.7: Illustrate the protocol for needle stick injuries with special emphasis on HIV and HB<sub>s</sub>Ag infections.
- 14.8: Identify the routes of HIV/hepatitis transmission and discuss the clinical manifestations and laboratory tests for HIV/AIDS, hepatitis and Covid-19 infections.

**Unit: Pre-surgical evaluation**

- 15.1: Enlist the various systemic disorders associated with cleft lip and palate.
- 15.2: Enumerate the components of case history recording, general physical examination, local examination, diagnosis and investigations.
- 15.3: Understand the drug dosage calculation in pediatric patients based on weight and age.
- 15.4: Enlist the routine blood investigations performed before surgery and their relevance in cleft lip and palate patients.
- 15.5: Perform IM injections and placement of IV cannula.

**Unit: General anesthesia**

- 16.1: Classify general anesthetic agents and describe the more commonly used anesthetic agents.
- 16.2: Explain the various stages of general anesthesia.
- 16.3: Appraise the factors to be considered before administration of general anesthesia.
- 16.4: Enumerate and discuss regarding preanesthetic medication and its advantages.
- 16.5: Define and explain conscious sedation.
- 16.6: Enumerate various complications of general anesthesia.
- 16.7: Discuss the basic purpose and procedure of CPR.
- 16.8: Explain the basic principles of tracheostomy.

16.9: Underline the importance of emergency drugs

**Unit: Closure of wounds**

17.1: Recall and apply the principles of suturing.

17.2: Differentiate wound healing in adults and pediatric patients.

17.3: Classify suture materials and describe the body response to various suture materials.

17.4: Explain and perform various suturing techniques.

**Unit: Control of haemorrhage during surgery**

18.1: Recall the process of normal haemostasis.

18.2: Enumerate local and systemic causes for excessive bleeding from the surgical site.

18.3: Classify bleeding and clotting disorders

18.4: Enlist the investigations to be prescribed in cases of excessive bleeding

18.5: Evaluate and perform local measures to control bleeding including mechanical, chemical and thermal methods.

18.6: Describe the use of hypotensive anaesthesia.

**Unit: Post-operative care**

19.1: Illustrate and deliver post-operative instructions.

19.2: Enlist the various analgesics and their mechanism of action and apply the same.

19.3: Enlist the various antibiotics and their mechanism of action and apply the same.

19.4: Restate the significance of long term post-operative follow-up.

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