

Fellowship in Orthognathic Surgery

Goals

To establish a comprehensive training program for maxillofacial surgeons in orthognathic surgery.

Objectives

Knowledge: The trainee should acquire a detailed knowledge pertaining to the cases requiring orthognathic surgery based on history, clinical and radiological evaluations and complete knowledge of all aspects of the diagnosis, treatment planning and management of patients requiring and undergoing orthognathic surgery to achieve desirable and planned esthetics and function.

Skills &Attitudes: The trainee should, at the end of one year, be able to diagnose, plan and manage cases requiring orthognathic surgery. The specific surgical skills required are:

- 1.Patient selection for Orthognathic Surgery
- 2.Diagnosis and Treatment Planning for Orthognathic Surgery
- 3.The Application of Video Imaging Technique to Orthognathic Surgery
- 4.Orthodontic Preparation for Orthognathic Surgery
- 5.Model Surgery
- 6.Wound Healing and Peri-operative Management
- 7.Maxillary and Midfacial Procedures
- 8.Mandibular Procedures
- 9.Combined Maxillary and Mandibular Surgery
- 10.Orthognathic Surgery before Completion of Growth
- 11.Maxillofacial Surgery for Treatment of Obstructive Sleep Apnoea
- 12.Rehabilitation after Orthognathic Surgery

The trainee should develop a compassionate attitude towards dealing with both the patients as well as their relatives.

Communication abilities

It is essential to develop skills required to maintain a harmonious working relationship with all the specialists involved such that the principles of good team management can be established.

Course contents (syllabus)

Essential Knowledge: The trainee should acquire detailed knowledge pertaining to the cases requiring orthognathic surgery. Complete knowledge of all aspects in the diagnosis, treatment planning and management of different types of maxillofacial structural and functional deformities requiring orthognathic surgery including the concept of team management with interaction between associate specialties like anesthesia, general surgery, orthodontics, orthopaedics, ophthalmology, neurology etc.

Skills & Attitudes: The trainee should, at the end of one year, be able to diagnose, plan and manage cases requiring orthognathic surgery. The specific surgical skills required are:

- Patient selection for Orthognathic Surgery
- Diagnosis and Treatment Planning for Orthognathic Surgery
- The Application of Video Imaging Technique to Orthognathic Surgery
- Orthodontic Preparation for Orthognathic Surgery
- Model Surgery
- Revascularization and Healing of Orthognathic Surgical Procedures
- Preoperative, Intraoperative, and Postoperative Care
- Ambulatory Anesthesia for Orthognathic Surgery
- Surgically Assisted Maxillary Expansion
- LeFort I Osteotomy
- Anterior and Posterior Maxillary Segmental Osteotomies
- Maxillary Quadrangular LeFort I and Quadrangular LeFort II Osteotomy
- High Level Midface Osteotomy Surgery
- Bilateral Sagittal Split Osteotomy: Advancement and Setback
- Vertical Ramus Osteotomy and Inverted-L Osteotomy
- Anterior Mandibular Subapical Osteotomy
- Mandibular Body Osteotomy
- Total Mandibular Subapical Osteotomy
- Distraction Osteogenesis for Congenital Micrognathias
- Intraoral Distraction Osteogenesis
- General Procedures
- Combined Maxillary and Mandibular Surgery
- Rigid Internal Fixation in Orthognathic Surgery
- Functional Outcomes Following Orthognathic Surgery
 - Soft Tissue Changes Associated with Orthognathic Surgery
- Psychological Ramifications of Orthognathic Surgery
- Orthognathic Surgery Before Completion of Growth
- Maxillofacial Surgery for Treatment of Obstructive Sleep Apnoea
- Rehabilitation after Orthognathic Surgery

Essential Investigation and Diagnostic procedures

1. Clinical evaluation by examination, inspection, palpation and models.
2. Radiological evaluation by the use of routine radiographs including OPG, PNS views, PA views etc and also evaluation with the use of Cephalograms and CT scans, MRI's, Ultrasonography etc.

Procedural and Operative Skills

Graded responsibility in care of patients and operative work (Structured training schedule): a structured program will be enforced to introduce the trainee to the evaluation and management of patients requiring orthognathic surgery.

The recognized center must be performing not less than 100 surgical procedures in the area per annum in order to be able to provide sufficient training material for the fellowship candidate.

Each fellow at the end of one year should have carried out or assisted at least 75 cases under the supervision of a senior specialist on all aspects of orthognathic surgery.

+Key:

O – Washed up & observed

A – Assisted a more senior surgeon

PA – Performed procedure under the direct Supervision of a senior specialist.

PI – Performed independently.

Surgical procedures:

Procedures	Category	Number
Genioplasty	PA + PI	7+3
Alloplastic Augment	PA+PI	5+2
Lefort I	PA	10
BSSO	PA	10
VRO	PA	5
Segmental Osteotomy	A	5
Distraction Osteogenesis	A	10
Anterior Mandibular Subapical Osteotomy	A	5
Total Mandibular Subapical Osteotomy	A	3
Combined Maxillary and Mandibular Surgery	A	5
Mandibular Body Osteotomy	A	5

The above suggested categories level of training and number are minimal requirements. The students / teachers are encouraged to advance these further to the best of their abilities and also strive to gain experience in many procedures that are not listed.

Eligibility criteria for candidates:

The candidates applying for fellowship should have successfully completed either of the following:

1. MDS in Oral Maxillofacial Surgery in DCI approved program.
2. Passed FDSRCS from the Royal College of Surgeons of England, Glasgow or Edinburgh.
3. Passed FFDRCSI from the Royal College of Surgeons of Ireland.

Requirements for accreditation of an institution:

The Department of Maxillofacial Surgery should have been in existence in the Institution as an independent unit or as a part of the dental college and should have performed at least **100 orthognathic surgeries** in the previous year.

The Staff:

The director of the program should be an actively practicing and a dedicated maxillofacial surgeon.

- **The unit should be headed by a person with a minimum of 10 years of post MDS experience who is attached to a 100 bedded multispecialty hospital with ICU or an exclusive 20 bedded maxillofacial surgery hospital with ICU.**
- **Should have done at least 250 major orthognathic surgical procedures.**

Teaching / Learning activities: The training program must include the following didactic activities:

1. Lectures by faculty not only in orthognathic surgery but also in related specialties like orthodontia, anesthesia, neurology, orthopedics etc.
2. Every fellow would have to develop and complete at least one research project which could be either clinical or lab based, preferably leading to either a presentation or publication in a peer reviewed journal.

Participation in departmental activities:

- a. **Journal reviewed meetings:** One session every two weeks.
- b. **Seminars:** One session every two weeks.
- c. **Clinico-pathological conferences:** Not essential
- d. **Inter departmental meetings:** One multi- disciplinary team meeting a week to discuss management protocols for specific cases (core specialist required are maxillofacial surgeon, orthodontist, prosthodontist, pedodontist, plastic surgeons, general surgeons, anesthesiologist, etc.
- e. **Community work:** camps/ field visits: It is important to improve awareness amongst the local population about the etiology and management of maxillofacial structural and functional deformities. The trainee shall learn to organize camps in various districts surrounding a health care and trauma center. Follow up field visits are also essential.
- f. **Clinical rounds:** Daily two rounds shall be held, at least one of which will be led by the consultant.
- g. **Any other:** Trainees will be encouraged to publish papers in peer reviewed journals.

Orientation program: Ex: a) Use of library b) Laboratory procedures c) National programs
d) Any other: Not essential.

Training and teaching skills and research methodology:

Trainees will be encouraged to participate in teaching activities related to MDS (Oral Maxillofacial Surgery). Fellowship trainees will have to initiate and complete an independent research project under supervision.

Monitoring of teaching / learning activities

Methods:

1. Direct consultant to trainee interaction.
2. Maintenance of log book.
3. Formal quarterly review of performance.
 - a) Frequency
 - b) Schedules or checklists, log books diary.

Final Assessment to be submitted by the Director at the end of Programme to AOMSI.

Recommended books and journals:

1. Fonseca RJ Oral and Maxillofacial Surgery: Orthognathic Surgery 2nd Edition Volume 2. The University Of Michigan Elsevier Health Sciences Saunders 2000.
2. Reyneke JP Essentials of Orthognathic Surgery 2nd Edition Quintessence Publishing Co, Inc. Carol Stream 2003.
3. Miloro M, Ghali GE, Larsen PE, Waite PD Peterson's Principles of Oral and Maxillofacial Surgery 2nd Edition Volume 2 B.C. Decker Inc. Hamilton 2004.
4. Posnik JC Principles and Practice of Orthognathic Surgery: Principles and Practice 1st Edition Volume 1-2 St. Louis Elsevier Inc. Saunders 2013.
5. Henderson D Color Atlas and Textbook of Orthognathic Surgery: The Surgery of Facial Skeleton Deformity 2nd Edition The University of Michigan Mosby Year Book Medical Publishers 1999.
6. Mani V Orthognathic Surgery: Esthetic Surgery of the Face 1st Edition Jaypee Brothers Medical Publishers 2014.
7. Mc Carthy JG, Li M, Coleman JJ, Sadove AM Aesthetic Surgery of Craniofacial Skeleton: An Atlas 1st Edition New York Springer –Verlag New York Inc. 2012.
8. Epker BN, Stella JP, Fish LC Dentofacial Deformities: Integrated Orthodontic and Surgical Correction 2nd Edition Volume 3 Mosby January 1998.