



## **Proposal for AOMSI Fellowship Program in Oral & Maxillofacial Oncology and Reconstructive Surgery.**

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## **Introduction:**

This proposal for a new Fellowship program in Oral & Maxillofacial Oncology outlines the need, candidacy, institutional requirement, selection process and structure of the training program. The overall goal of the training program is to generate surgeons with a firm grounding in the biologic basis of current oncological practice, technical expertise in advanced Oral and Maxillofacial ablative and reconstructive surgery and training in translational research.

## **The Need For a Separate Training Program in Oral & Maxillofacial Oncology-**

### **The Magnitude of Oral and Maxillofacial Oncological Problem in India**

Head and neck cancer, which arises from the upper-aerodigestive tract mucosa and associated structures, is one of the major causes of death and disfigurement in the Indian subcontinent (Fig 1). While it account for about 3% of all tumors around the world, in India it represent over 30% of all tumors. Amongst these, oral cancer has the largest numbers. These tumors share similar risk factors, biologic behaviors and treatment responses. Although it is considered as a disease of elderly caused by smoking, alcohol abuse, pan and gutka chewing, recent analysis of national cancer registries revealed that the median age of the disease is decreasing and increasingly being seen in individuals with no apparent risk factors.

The management of Oral malignancy has now evolved from a single specialty approach to multidisciplinary team approach, which consists of OMFS oncosurgery (trained surgeon) head and neck surgical oncology, radiation oncology, medical oncology and rehabilitation services. Along with in depth knowledge in one own specialty, it is necessary to have a working knowledge of other services for effective participation in multidisciplinary tumor boards and treatment formulation. Application of that multidisciplinary approach not only has helped to improve the survival rate, albeit modest, certainly made an impact in improving quality of life of the patients through several organ and function preservation strategies. Development of that multidisciplinary teamwork culture is mandatory for personnel involved in the management of head and neck cancer.

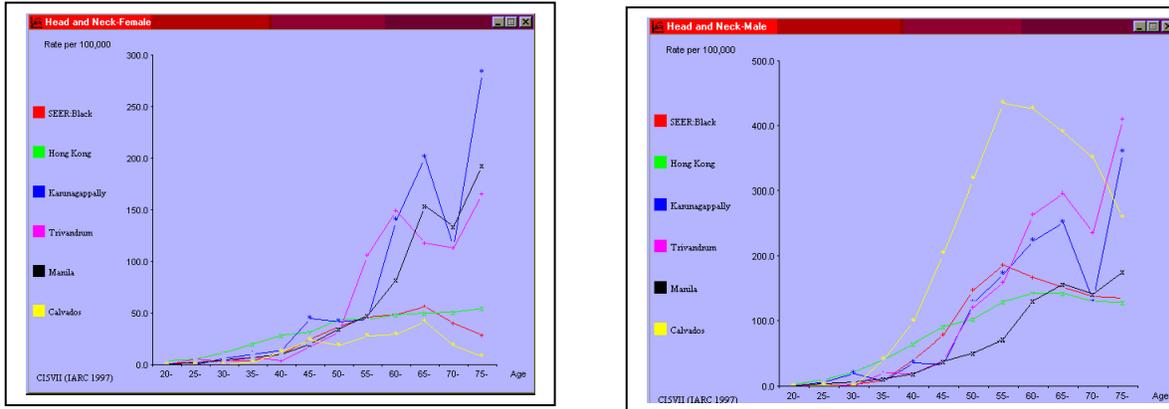


Figure 1

### Shortcomings in OMFS oncology Surgical Services in India:

The various shortcomings in care for Oral cancer patients are summarized in the following table:

Requirements	Shortcomings	Reasons
<b>Detection of oral cancer precancerous lesions</b>	Less than 20% of head and neck cancers are detected at early stage (I and II).	Majority of oral and head and neck cancers are asymptomatic until late stage of disease. In addition, the lesions can mimic various benign inflammatory and infective conditions. Moreover, dental practitioners and ENT surgeons often miss the opportunity to detect asymptomatic lesions during routine clinical examinations.
<b>Referral</b>	Delayed and inappropriate referral	Limited knowledge of the nature of lesion often lead to inappropriate treatment and delay in diagnosis. With the lack of awareness of the head and neck oncology specialty, patients are often referred to general oncologists, surgeons or radiotherapists. This further delay initiation of treatment, and more often receives inappropriate treatment.



**Treatment**

Only a small proportion of referred patients receive the specialist seeing the treatment. The type of treatment often depends on the specialist seeing the treatment.

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	comprehensive treatment	Few institutions are with good standards of care and such care is too expensive for most people.
<b>Prevention</b>	No organized health education and cancer prevention program	A significant number of Oral cancers are caused by tobacco and alcohol abuse and are largely preventable. However, because of the limited number of specialists with interest in oral oncology, there is a general lack of commitment in health education and initiation of head and neck cancer prevention measures.
<b>HealthCare Planning</b>	No national conscientious policy for the treatment and prevention of oral cancer	Through various cancer registries around the country, the exact prevalence of oral cancer is now available. However no national policy currently exists regarding treatment regimens for individual sub-sites and stage of disease.

There is an urgent need to increase the number and quality of trained personnel in oral & maxillofacial oncology & reconstructive surgery. Recognized training programs exclusively dedicated to oral maxillofacial oncology & reconstructive surgery are to be established in a few selected institutions with good standards. This will help create a group of well-trained professionals in the comprehensive management of oral cancer.

**The need for sub-specialization in Oral & Maxillofacial oncology:**

There are several reasons why Oral & Maxillofacial oncology cannot be practiced effectively if combined with general surgical oncology or as part of ENT or Maxillofacial surgery. The complexity of the anatomy, the unique biologic behavior and need for multidisciplinary treatment warrants the need for a surgeons with specialization. Unlike other parts of the body, in the oral cavity and PNS region, equal emphasis should be given in both ablative as well as reconstructive surgery. Often these cancers are deemed unresectable because of lack of expertise for reconstruction. Moreover, in most cancer centers around the world, this treatment is coordinated by oral oncosurgeons. Therefore a thorough understanding of all aspects of the management of oral cancer, in addition to both ablative and reconstructive surgery is essential to be an effective Oral & Maxillofacial surgeon. This can be achieved only through a dedicated training program in Oral & Maxillofacial oncology.



In India, there are a limited number of training programs available in surgical oncology, where the focus is on the treatment of cancer of the entire body, without any attempt for regional specialization. The other surgeons with focused interest in the head and neck region (ENT and Maxillofacial surgeons), often lack time to spend any significant time to train in head and neck oncology during their training period. It is therefore essential to have a training program with focus on Oral & Maxillofacial oncology. Considering the high incidence of oral cancer in India, there is an immediate need for a large number of dedicated and well-trained oral surgeons.

The specific roles of the Oral & Maxillofacial oncologist can be summarized as follows:

1. **Clinical Oncology:** This includes clinical evaluation, endoscopy, decision making regarding the appropriate choice and sequence of treatment regimen, counseling and, follow-up of patients after treatment.
2. **Ablative surgery:** The surgeons should have extensive experience in surgical management of all tumors in these sub-sites, including various organ preservation and conservative surgical procedures and anterior skull base surgeries.
3. **Reconstructive surgery:** Reconstruction of complex head and neck defects require extensive training and experience. This includes the use of local, pedicled and microvascular free tissue transfer.
4. **Oral Cancer Screening and Prevention:** In majority of cases, oral cancer is caused by the abuse of tobacco and alcohol which are largely preventable. In addition with the implementation of an effective cancer detection program, it is potentially possible to down-stage the tumors thereby improving the cure rate and reducing the morbidity associated with the treatment.

### **What would a separate training program in Oral & Maxillofacial oncology accomplish?**

A dedicated Oral & Maxillofacial oncology training program is expected to produce well-trained oral & maxillofacial oncologists specialized in the region. They will coordinate the overall management of oral cancer, a major health problem in the Indian subcontinent. In addition to treatment of established patients they will help to initiate community oncology program, with the aim to lower the stage of disease upon diagnosis and initiation of cancer prevention measures. The research component of the course is expected to provide basis for investigative framework to start research projects pertaining to specific problems encountered in India. Overall, this training program is expected to improve the care of oral cancer in India.



## **Candidacy for the Oral and Maxillofacial Oncology and Reconstructive surgery**

### **Minimum Qualifications:**

1. MDS (Oral and Maxillofacial surgery).
2. MS (ENT)

**Duration: 24 months.**

**Grant: Rs 25000 per month**

**Number of Candidates per year: One/100 new cases or Two/175 new cases**

### **Institutional Requirements**

In general, the institution should have a comprehensive cancer center with

1. Linear accelerators or proper MOUs with other institutes (should show 100 cases of radiation therapy proof with the tied up unit during inspection)
2. CT-planning
3. Medical oncology services
4. Tumor registry
5. Pain and palliation service
6. Facilities for rehabilitation.

The oral cancer service should handle no less than 100 new patients every year. The surgical service should undertake full spectrum of ablative surgery including that of anterior skull base and reconstructive surgery including microvascular free tissue transfer, (minimum of 30 per year) and distractions in case of benign tumours, rehabilitation including obturators, guiding flanges.

### **Faculty:**

#### **General Requirements**

#### **Course Director**

A minimum of 13 years of experience in OMFS postgraduate teaching with relevant contribution (2 Publications in Indexed Journal, Course coordinators in International Conferences, Invited speakers in International conferences) to the speciality. Also proof of minimum 250 cases operated in the previous years.

**Or**

Prof in OMFS with Fellowship (minimum of 2 years) in OMF Oncology or Head and Neck Oncology from a recognized university in India or abroad with relevant contributions (2 Publications in Indexed Journal, Course coordinators in



International Conferences, Invited speakers in International conferences) to the speciality.

**Faculties:**

1. MDS – Oral and Maxillofacial surgery – 2 nos.

**Part Time(Desirable)**

2. MDS – Oral Medicine and Radiology – 1nos.
3. MDS – Oral Pathologist – 1nos.
4. MDS – Prosthodontist – 1 no.
5. MD – General Pathologist – 1nos.
6. MS – General Surgeon -1 no.
7. MS/DNB – ENT – 1 no.
8. Mch/DNB – Plastic surgeon – 1no.
9. Mch/DNB – Neurosurgeon – 1 no.
10. MD;DM – Medical Oncology – 1 no.
11. MD – Radiation Oncology – 1no.
12. Pain and palliative Specialist – 1no.
13. MD/DMRD - Radiodiagnosis – 1.
14. Anesthesiologist – 3 nos.
15. BDS – General Dentist – 1no.

**Supportive Staffs:**

1. Speech and swallowing therapist – 1
  2. Medical social worker(MSW) – 1
- All the associated staff proof to be submitted during inspection.

**Infrastructure**

**Out patient clinic:**

The out patient clinic should have the following facilities-

1. Flexible/Rigid laryngoscope with image capture facility
2. Facilities for Fine Needle Aspiration Cytology
3. Speech and swallowing therapy
4. The clinic should be designed for both new and follow up patients. In addition it is desirable to have a combined clinic for the following faculty members.



### **Multidisciplinary tumor board:**

Multidisciplinary tumor board room should contain a minimum of 25 seating capacity with audio visual facilities and an attached library. The Library should contain textbooks on following subjects - Anatomy, Physiology, Biochemistry, Pathology, Oral pathology, Microbiology, pharmacology, Gen. Surgery, Gen. Medicine, Oral and Maxillofacial surgery, Medical Oncology, Radiation Oncology, Surgical Oncology, Head and Neck Oncology, Oral surgical Oncology, Cancer biology, Pain and Palliative medicine etc books.

A multidisciplinary tumor board with participation of Oral and Maxillofacial Oncologist, reconstructive/plastic surgeon, (General pathologist, Oral Pathologist, Prosthodontist, General Surgeon, ENT surgeon, Neurosurgeon, Medical Oncologist, Radiation Oncologist, Pain and palliative therapist, and Radiologist are desirable for effective management of head and neck cancer patients. The fellow trainee should present all new cases in this tumor board and derive at a comprehensive treatment plan after discussing with all the board members.

### **Operating Room**

#### **1. Major Operating Room – 2**

General surgical equipments

- a. Surgical Microscope – 1
- b. Surgical Laser - 1
- c. Fibro Optic Intubation set – 1 adult, 1 paediatric.
- d. Surgical saw – 1 set.
- e. Drill and bone plating system – 2 sets
- f. Pathology service with frozen section
- g. Tracheostomy set – 2 sets
- h. Skin graft set – 1
- defibrillator – 1 no.

#### **2. Minor Operating Room – 1**

**a. General surgical equipments**

- a. Tracheostomy set – 1 no.**
- b. Defibrillator – 1 no.**



### **Inpatient Services:**

1. ICU – 5 Beds and 3 Ventilators( 2 adult vent. and 1 paediatric vent.)
2. Males – 10 Beds/fellow or 15Beds/2 fellows
3. Females – 10beds/fellow or 15Beds/2 fellows
4. Paediatric – 2beds
5. Pain and Palliative – 2beds.
6. general ward should also have one tracheostomy set, and one defibrillator

### **Selection Process:**

The candidates for the fellowship programme can be selected by the centres on their own/AOMSI IBOMS by the method of transparency.

### **Proposed Structure of the Training Program:**

- Practical training: Areas of special emphasis
  - Clinical oral oncology
  - Reconstructive surgery
  - Training in ancillary specialties
  - Cancer prevention and community oncology
- Teaching and Seminars
- Exchange program with other Institutions
- Evaluation at the end of the training



## **Practical Training:**

### **Clinical Oral Oncology:**

#### **Out patient evaluation in the Oral oncology clinic:**

Fellows should evaluate and plan the care and follow-up of patients referred to the clinic for outpatient evaluation. The outpatient evaluation should serve the important purpose of acquisition of clinical skills under the guidance of faculty.

#### **Multidisciplinary Tumor Board**

The fellow should present the patients at the multidisciplinary tumor board and should develop a treatment plans in consultation with other faculty members.

#### **In patient care:**

The fellow should provide care of patients admitted in the wards under the supervision of the faculty. This should also include care of convalescing postoperative patients. The faculty should provide formal teaching and supervision of patient care.

#### **Intensive Care:**

The fellow should be directly responsible for the management of all ICU patients. This requires thorough familiarization with principles of critical care monitoring, management and invasive procedures. Care of ventilated patients should be provided in concert with the anesthesiologist on call. The faculty and the anesthesiologist should provide direct supervision and teaching during daily rounds.



### **Didactic Teaching and Seminars:**

A comprehensive teaching program syllabus should be in place prior to the initiation of the fellowship program in Oral & Maxillofacial oncology. A proposed syllabus and weekly work schedule are attached as appendix. The *core curriculum* should cover all basic and applied areas of the sub specialty. The teaching could be in the form of didactic lectures, seminars and discussions. Regular *journal clubs* should be incorporated into the teaching program once a week, in order to keep abreast with developments in the field. *Seminars* on important basic and applied topics will need to be presented by the fellow every fortnight. The fellow should also present weekly *pre-operative conferences* where the clinical, imaging and pathology data of all prospective surgical patients are discussed. In addition the fellow should present the clinical intraoperative findings at the *clinico-pathology conference*. The fellow should attend at least one head and neck oncology/ oncology *national conference* every year. The fellow should be encouraged to present his/her research data at these meetings.

### **Rotation among institutions:**

The trainees should be encouraged to spend time at other institutions with oral surgical oncology training program to enable maximal benefit from the strengths of each program. In particular, rotation to centers of excellence in microvascular surgery should be encouraged. Specific details will need to be worked out after the individual programs are in place.



### **Evaluation at the end of the training:**

There should be an examination at the end of training period. The evaluation process should be comprehensive and should test theoretical knowledge as well as the practical skills required to practise oral and maxillofacial surgical oncology. The candidates should maintain a logbook of all surgical procedures performed during training.

### **PROPOSED CORE CURRICULUM**

**OBJECTIVES:** The objective of the training program in Oral and Maxillofacial Oncology is to provide a comprehensive training in management of all facets of cancer including ablative and reconstructive surgery, fundamentals of radiation oncology and medical oncology, cancer biology and research methods. This is accomplished by providing outstanding clinical training (including both decision-making and technical expertise), encouraging teaching, and developing a scientific and investigative framework for research. The emphasis will be on providing state-of-the-art multidisciplinary care for patients with head and neck cancer and to provide a rigorous academic experience. At the end of the training period the candidates are expected to have an in-depth knowledge, skills and attitude to take up academic career in Oral and Maxillofacial oncology and leadership positions in the field. The duration of the training period will be for 24 months.

### **SUMMARY:**

The core curriculum includes basic tumor biology, pathology, anatomy, molecular biology and genetics, clinical research methods, radiation oncology, medical oncology and different aspects of Oral and Maxillofacial oncology.

To attend weekly interdisciplinary Tumor Board

Elective rotations (one month) in radiation oncology, medical oncology, pathology, ENT, neurosurgery, speech and swallowing therapy, pain and palliation and prosthetics.



## DETAILED SYLLABUS

The training will have three parts extending over a period of 24months.

Part I: Lectures on basic sciences.

Molecular cell biology of cancer – the cell cycle regulations, oncogenes,chromosomal abnormalities-

1. Genetics
2. Epidemiology of cancer
3. Mechanism of Carcinogenesis
4. Biologic therapy
5. Gene-therapy
6. Principles of radiation therapy.
7. Principles of chemotherapy.
8. Clinical Research Methods
9. Head and neck radiology
10. Applied head and neck anatomy
11. Developing hypothesis and planning research project
12. Designing a clinical research project
13. Data collection and monitoring
14. Biostatistics primer
15. Ethics in biomedical research
16. Securing research grants

Part II: Didactic course in Oral and Maxillofacial oncology

1. Lip and oral cavity
2. Oral mucosa in health and disease
3. Benign cysts and tumors of the jaw
4. Management of Mandible
5. Oropharynx
6. Paranasal sinus
7. Parapharyngeal space
8. Salivary gland
9. Anterior skullbase
10. Management of Neck



**Part III: Didactic and laboratory course in reconstructive surgery**

1. Basic plastic surgery principles
2. Reconstruction of soft tissue defects of face
3. Nose reconstruction
4. Lips reconstruction
5. Oral cavity reconstruction
6. Mandible reconstruction
7. Skull base reconstruction
8. Prosthetic rehabilitation

**Part IV: Didactic and clinical training in pain and palliation**

1. Management of cancer pain
2. Specialized care of the terminally ill.
3. Nutritional support.

**Part V: Rehabilitation**

1. Speech and swallowing therapy
2. Maxillofacial prosthetics

Part III: Clinical work including surgery, daily patient management, management of patients on radiotherapy and chemotherapy and palliative care for advanced head and neck malignancy patients.

1. Once a month inter disciplinary seminar
2. Fortnightly journal club presentation.
3. Tumor board meetings once a week.
4. Attendance to at least one oncology conference every year.
5. Maintenance of a log book reflecting cases worked up, planned, assisted, performed, with details of adjunctive therapy (chemotherapy, RT and palliative care).

**MODEL WEEKLY TRAINING SCHEDULE**

MONDAY		TUESDAY			WEDNESDAY		THURSDAY			FRIDAY		SATURDAY
CLINICS	THEATRE	CLINICS	THEATRE	DIDACTIC	CLINICS	THEATRE	CLINICS	THEATRE	DIDACTICS	CLINCS	THEATRE	DIDACTIC
				JOURNAL CLUB	MULTI DISC.				CLINICO-PATH			CORE CURRICULUM



Surgery – OMFO: Head and Neck oncology; Ablations/PRS: Plastic and Reconstructive Surgery/CRF: Craniofacial Surgery

Multi Disc. Tumor Board followed by Multi Disciplinary Clinic with head and neck surgeon, radiotherapy, medical oncology and rehabilitation

Clinico Path. Joint meeting with pathologists and surgical team

**OUTLINE OF THE TRAINING PROGRAM:**

6 months	1 month each Department	3 months	1 – 3 months	9 months	
Oral and Maxillofacial Oncology /Microvascular surgery and skull base surgery	Rotation in Neurosurgery Radiation oncology/ Medical Oncology	Oral and Maxillofacial Oncology /Microvascular surgery and skull base surgery	Postings in other institutions.	Microvascular surgery and skull base surgery	

Recommended Journals:

1. Journal of Oral oncology.
2. Otolaryngol Head and neck surgery.
3. New England journal of medicine.
4. Journal Of Clinical Oncology.
5. Journal of Head and Neck Oncology.
6. Radiation Oncology.
7. International journal of Oral and Maxillofacial surgery
8. International j Radiation Oncol Biol and physics.
9. Lancet.
10. American J Otolaryngology.



Practical Examination:

Will comprise of Case Presentations and Viva Voce

	Duration in	Distribution	Total number of Marks
Case Presentation	3	1 Long Case 2 Short Cases	100
Viva Voce	1	-----	50
Log Book Assessment		-----	50

**Examiners:**

Two Examiners: One Internal and Two Externals

**Examination results:**

- ‖ The fellow has to satisfy the examiners and score at least fifty percent of the marks in the theory and practical individually.
- ‖ The fellow who shows exceptional merit will be awarded distinction. (More than 75% marks)

References

Head and Neck Surgery and Oncology, Third Edition by Jatin P. Shah

Head and Neck Cancer: A Multidisciplinary Approach by Louis B. Harrison

Cancer of the Head and Neck by Jatin P. Shah

Head and Neck Cancer: Multimodality Management by Jacques Bernier

Radiotherapy for Head and Neck Cancers: Indications and Techniques by K. Kian Ang and Adam Garden

Head and Neck Cancer Imaging (Medical Radiology / Diagnostic Imaging) by Robert Hermans and Albert L. Baert



Radiotherapy for Head and Neck Cancers: Indications and Techniques by K. Kian Ang and Adam S. Garden

Cancer of the Head and Neck  
by Eugene N. Myers and James Y. Suen

Rehabilitation of the Head and Neck Cancer Patient: Psychosocial Aspects  
by Andrew Blitzer

[Grabb and Smith's Plastic Surgery \(GRABB'S PLASTIC SURGERY\)](#) by Charles H. Thorne, Scott P. Bartlett, Robert W. Beasley and Sherrell J. Aston

**Proposed Names of Inspectors for Fellowship Program in Oral & Maxillofacial Oncology & Reconstructive Surgery**

DR. PAUL SEBASTIAN  
REGIONAL CANCER CENTER  
THIRUVANANTHAPURAM

DR SUBRAMANIYA IYER  
HOD DEPARTMENT OF PLASTIC SURGERY  
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