# M.Ch. - HEAD AND NECK SURGERY

# THE TAMIL NADU Dr. MGR MEDICAL UNIVERSITY, CHENNAI

# Syllabus – M.Ch. HEAD AND NECK SURGERY

## 1. Aims and objectives of the course

### a) General

Head and neck cancers are a significant health problem in India and the standard of present day management of these cancers is below the desired level mainly due to the lack of well-trained head and neck surgical oncologists. A structured training programme in this branch of medical science is available only in few centres in India.

### b) Specific

A dedicated head and neck surgical oncology training scheme is expected to produce well-trained surgical oncologists specialized in the head and neck region. They will coordinate the overall management of head and neck 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 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 head and neck cancer in India.

## 2. CORE CURRICULUM

### 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 head and neck oncology.
- Attend weekly interdisciplinary Tumor Board

- Elective rotations (one to two months) with radiation oncology, medical oncology, pathology, ENT, neurosurgery, speech and swallowing therapy, pain and palliation and prosthetics.

- Completion of at least one research projects every year that result in peer-reviewed publications

## DETAILED SYLLABUS

The training will have three parts extending over a period of three years

**Part I: Lectures on basic sciences as relevant to head and neck oncology topics and research methodology:**

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

2. Genetics

3. Epidemiology of cancer

4. Mechanism of Carcinogenesis

5. Biologic therapy

6. Gene-therapy

7. Principles of radiation therapy.

8. Principles of chemotherapy.

9. Clinical Research Methods

10. Head and neck radiology

11. Applied head and neck anatomy

12. Developing hypothesis and planning research project

13. Designing a clinical research project

14. Data collection and monitoring

15. Biostatistics primer

16. Ethics in biomedical research

17. Securing research grants

**Part II: Didactic course in head and neck 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. Hypopharynx
7. Supraglottic Laryng
8. Glottic Larynx
9. Paranasal sinus
10. Parapharyngeal space
11. Salivary gland
12. Anterior skullbase
13. Temporal bone
14. Management of Neck
15. Thyroid and parathyroid

**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. Pharynx reconstruction
8. Skull base reconstruction
9. 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: Head and neck cancer rehabilitation**

1. Speech and swallowing therapy

2. Tracheo-esophageal prosthesis

3. 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 on head and neck oncology (see syllabus).

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 of cases worked up, assisted, performed, planned RT, administered Chemotherapy and palliative care cases

**BIOETHICS:**

1. Respect human life and the dignity of every individual.
2. Refrain from supporting or committing crimes against humanity and condemn all such acts
3. Treat the sick and injured with competence and compassion and without prejudice and apply the knowledge and skills when needed.
4. Protect the privacy and confidentiality of those for whom we care and breach that confidence only when keeping it would seriously threaten their health and
5. Work freely with colleagues to discover, develop, and promote advances in medicine and public health that ameliorate suffering and contribute to human well being.
6. Educate the Public about present and future threats to the Health of Huamanity.
7. Advocate for Social, Economic, Educational and Political changes that ameliorate suffering and contribute to Human well Being.
8. Teach And mentor those who follow us, for they are the future pf our caring profesison.

## 3.Clinical Training Schedule for three years

## Year one

**Head and Neck Surgery - 6 months**

**Rotation postings to**

| | | |
|---|---|---|
| ENT/Surg Oncology | - | 1 month |
| Radiation Oncology | - | 3 weeks |
| Medical Oncology | - | 3 weeks |
| Thoracic Surgery | - | 2 weeks |
| ICU | - | 2 weeks |
| Neurosurgery | - | 1 month |
| Pain and Palliation | - | 1 month |
| Research lab | - | 3 weeks |
| **Reconstructive surgery** | **-** | **2 months** |

## Year two

| | | |
|---|---|---|
| Head and neck surgery | - | 8 months |
| Reconstructive surgery | - | 4 months |

(Part or full of this can be in conjunction with rotation with other institutions as well as in an overseas structured and accredited training programme)

## Year Three

Basic Sciences Research along with taking part in the clinical activities of the department - 6 months

(The candidates will have to involve in a research project as well as spend time in the experimental surgery lab during this time)

Head and neck Surgery/ Reconstructive surgery - 6 months

**Rotation among institutions:**

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

**MODEL WEEKLY TRAINING SCHEDULE DURING HNS/PRS POSTINGS**

| MONDAY | | TUESDAY | | | WEDNESDAY | | THURSDAY | | | FRIDAY | | SATURDAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLINICS | THEATRE | CLINICS | THEATRE | DIDACTIC | CLINICS | THEATRE | CLINICS | THEATRE | DIDACTICS | CLINICS | THEATRE | DIDACTIC |
| HNS | HN/PRS | HNS | HNS/PRS | JOURNAL CLUB | TUMOUR BOARD / CLINIC | CRF | HNS | HNS/PRS | CLINICO-PATH | HNS/PRS | CRF | CORE CURRICULUM |

HNS: Head and neck oncology;

PRS: Plastic and Reconstructive Surgery;

CRF: Craniofacial Surgery

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

## 4.Skill Training:

**OBJECTIVES**: The objective of the M Ch training programme in Head and Neck Surgery and Oncology is to provide a comprehensive training in management of all facets of head and neck 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 in-depth knowledge, skills and attitude to take up academic career in head and neck oncology and leadership positions in the field. The duration of the training period will be for 3 years.

a) Practical training: Areas of special emphasis

i. Clinical head and neck oncology

ii. Reconstructive surgery

iii. Training in ancillary specialties

iv. Cancer prevention and community oncology

b) Research

c) Teaching and Seminars

d) Rotation among institutions

**a) Practical Training:**

**i. Clinical Head and Neck Oncology**

**Out patient evaluation in the head and neck oncology clinic**:

Trainees 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 a consultant head and neck surgeon.

**Multidisciplinary Tumor Board**

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

**ii. In patient care:**

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

**iii. Head and Neck Intensive Care:**

The head and neck trainee should be directly responsible for the management of all head and neck 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 consultant head and neck surgeon and the anesthesiologist should provide direct supervision and teaching during daily rounds.

## 5.Teaching Methodology:

**Didactic Teaching and Seminars:**

A proposed syllabus and weekly work schedule are attached as appendix. The *core curriculum* covers all basic and applied areas of the sub specialty. The teaching will in the form of didactic lectures, seminars and discussions. Regular *journal clubs* will 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 trainee should be encouraged to present his/her research data at these meetings.

## 6.RESEARCH WORK

The candidate is introduced to the field of research in oncopathology including molecular oncopathology.

The candidate will be trained in the ability to

- Frame a research question.
- Plan a study to answer the question.
- Collect the relevant information and
- Evaluate appropriately the collected data to draw a conclusion.

The candidate should become conversant with the reporting of these results as a research paper, in journals, and as a presentation in conferences. The activities would consist of Planning and organizing relevant studies to be submitted as a Research paper at the end of the course.

It is mandatory for the candidate to attend the Research Methodology workshop conducted by the University within the first six months of the D.M Course

## 7.LOGBOOK

Candidate shall maintain a record of skills he/she has acquired during the training period certified by the various Heads of Departments where he / she has undergone training including outside the institution.

The record should have a log of:

- Teaching and training program of post-graduate and intern students.
- Seminars, Journal Clubs, Group Discussions
- Clinical, clinicopathological, and multidisciplinary tumor board conferences.
- Interesting cases
- Competencies gained in peripheral postings

Periodic review of Logbook has to be done in the Department by guide/HOD once in every 6 months.

At the end of the course, the candidate should summarise the contents and get the Log Book certified by the Head of the Department.

The Log Book should be submitted at the time of practical examination for the scrutiny of the Board of Examiners.

## 8. COMPETENCY ASSESSMENT:

Overall :

| | | |
|---|---|---|
| 1. | Communication/commitment/ contribution/ compassion towards the patients and innovation | - 10 marks |
| 2. | Implementation of newly learnt techniques | - 10 marks |
| 3. | Documentation of case sheets/discharge Summary/review | - 10 marks |
| 4. | Number of cases presented in Clinical Meetings/ Journal Clubs/ Seminar/ Papers presented in Conference | - 10 marks |
| 5. | No. of Medals/ Certificates won in the Conference / Quiz competitions and other academic meetings with details. | - 10 marks |
| | | ---------- |
| | **Total** | **- 50 marks** |
| | | ---------- |

| | | | | |
|---|---|---|---|---|
| Assessment I | - | February | - | First year |
| II | - | August | - | First year |
| III | - | February | - | Second year |
| IV | - | August | - | Second year |
| V | - | February | - | Third year |
| VI | - | May | - | Third year |

**VIVA INCLUDING COMPETENCY ASSESSMENT – 100 MARKS (50+50)**

## 9. Theory Examination

## Theory - IV Papers

- **Paper I :** Basic Sciences including Head & Neck and Skull Base Anatomy, Physiology, Pathology, Micro - Biology and Pharmacology. - 100 Marks

- **Paper II :** Clinical Head & Neck Surgical Oncology - 100 Marks

- **Paper III :** Operative Head & Neck Surgery including Reconstruction Surgery. - 100 Marks

- **Paper IV :** Recent advances in Head and Neck Surgery & Oncotherapeautics. - 100 Marks

Question Paper Pattern:

| | | |
|---|---|---|
| 1. Essay questions | (2) - | 2 X 15 = 30 Marks |
| 2. Short Notes | (10) - | 10 X 7 = 70 Marks |
| | | **Total 100 Marks** |

## 10.Practical Examination:

| Cases | No. | Marks | Total Marks |
|---|---|---|---|
| Long Case | 1 case | 1 x 100 Marks | 100 Marks |
| Short Case | 2 cases | 2 x 50 Marks | 100 Marks |
| Ward Rounds | 3 cases | 3 x 10 Marks | 30 Marks |
| Radiology | | 30 Marks | 30 Marks |
| Pathology | | 30 Marks | 30 Marks |
| OSCE | 6 cases | 6 x 5 Marks | 30 Marks |
| Instruments | | 30 Marks | 30 Marks |
| VIVA | | | 100 Marks |
| Log Book | | | 50 Marks |
| **TOTAL** | | | **500 Marks** |
| **Passing Minimum** | | | **250 Marks** |

## 11.Reference Books


1. Comprehensive Management of Head & Neck Tumour Volume I & II – Thawley
2. Cancer of Head & Neck – Eugene N Myers
3. Text book of Head and Neck Surgery and Oncology – Stell & Maran
4. Surgical Anatomy of Head and Neck – Mongomery & Janfaza
5. Atlas of Head & Neck Surgery – Carl E Silver
6. Atlas of Head & Neck Surgery – Byron J Bailey
7. Atlas of Head & Neck Surgery – Lory
8. Skull Base Surgery Volume I & II – Eugene N Meyrs, Carl H Synderman, Paul A Gradner.
9. Head & Neck Surgery – Jatin P Shah
10. Head & Neck Imaging – Peter M Som
11. Imaging of Head & Neck – Valvasori
12. Surgery of Larynx & Hypopharynx – Sultan A Vradhan & Phillipee Monier
13. Surgery of the Thyroid & Para Thyroid – Gregory W Randolph
14. Thieme Atlas of Anatomy Head and Neck Neuro Anatomy – Michael Sehuenke & Erik Schulte.
15. Complications of Head & Neck Surgery – David W Eisele & Richard Smith
16. Atlas of Micro Surgery & Lateral Skull Base – Mario Sanna Essam Salesh

17. Tumours of the Ear & Temporal Bone – Robert K Jackler
18. Comprehensive Management of Swallowing Disorders – Ricardo L Carrou
19. Clinical Voice Disorder – Arnald E Aranson
20. Complex Craniofacial problem – Craig Dufresne
21. Oral Maxillofacial Surgery – Fonseca
22. Aesthetic Plastic Surgery – Recs / Latranta
23. Fundamental techniques of Plastic Surgery - Mc gregor
24. Manual of Aesthetic Surgery – Mang
25. Management of facial lines & wrinkles – Blitzer, Bindis, Boyd
26. Columbia Manual of dermatologic cosmetic surgery
27. Lasers in cutaneous & cosmetic Surgery
28. Hand surgery a clinical atlas – Chase, Hentz
29. Atlas of Cosmetic Surgery – Kaminar / Dover
30. Surgical reconstruction of the face & Anterior skull base
31. Plastic & Reconstructive Surgery – Essentials for students
32. Atlas of Head & Neck Surgery – Carl. E. Silvers, John S Rubin – II Edition
33. Plastic & Reconstructive Surgery of the Nose – Elsaly
34. Aesthetic & functional Rhinoplasty – B.Baser
35. Cleft lip & Palate – Malek
36. Operative Otolaryngology Head & Neck Surgery – Myers
37. Hand surgery -DP Green – Volume I & II
38. Hand diagnosis & indications - Lister

## 12. Journals

i. Head and Neck
ii. Laryngoscope
iii. Journal of Clinical Oncology
iv. Journal of Surgical Oncology
v. Plastic and Reconstructive Surgery
vi. Clinics of Plastic Surgery
vii. Journal of Craniomaxillofacial Surgery
viii. Journal of Oral and Maxillofacial Surgery
ix. Archives of Otolaryngology head and neck surgery
x. Cancer
xi. Cancer Research
xii. New England Journal of Medicine of Experimental Medicine
xiii. JAMA
xiv. BMJ