

**THE TAMIL NADU DR. M.G.R. MEDICAL
UNIVERSITY,
69, ANNA SALAI, GUINDY, CHENNAI - 600 032.**



Regulations & Syllabus

FOR

POST - DOCTORAL FELLOWSHIP PROGRAMME

IN

ONCO RADIOLOGY - DIAGNOSTIC

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The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

REGULATIONS FOR

**POST - DOCTORAL FELLOWSHIP PROGRAMMES IN
ONCO RADIOLOGY - DIAGNOSTIC**

1. PREAMBLE :

In exercise of the powers conferred by Section 44 of the Tamil Nadu Dr. M.G.R. Medical University, Chennai Act 1987 (Tamil Nadu Act 37 of 1987) the Standing Academic Board of the Tamil Nadu Dr. M.G.R. Medical University, Chennai hereby makes the following Regulations for Post - Doctoral Fellowship Programme in Onco Radiology - Diagnostic.

2. SHORT TITLE AND COMMENCEMENT :

The course shall be called as “**POST-DOCTORAL FELLOWSHIP PROGRAMME IN ONCO RADIOLOGY - DIAGNOSTIC**” of the Tamil Nadu Dr. MGR Medical University, Chennai.

This shall come into force from the academic year 2015 - 2016.

The regulations framed are subject to modification from time to time by the Standing Academic Board.

3. AIM AND OBJECTIVES :

Keeping in view the explosion of knowledge in modern medicine, the University introduces a series of Post - Doctoral Fellowship Programmes in different disciplines (speciality or sub - speciality), wherein suitable candidates will be imparted training in the concerned area.

These Post - Doctoral Fellowship Programmes aims that the candidate gets exposure in the concerned disciplines with particular emphasis on their clinical skills. The course is meant to give intensive hands - on clinical training with periodic evaluation by experienced teaching staff.

The Post -Doctoral Fellowship programmes offered by this University cannot be equated with DM / M.Ch.

4. DURATION OF THE COURSE :

The Duration of the Courses is 1 year.

5. ELIGIBILITY FOR ADMISSION :

- a. Candidates who have passed Medical Post Graduate degree Course recognized by the Medical Council of India are eligible to join in **POST-DOCTORAL FELLOWSHIP PROGRAMME IN ONCO RADIOLOGY - DIAGNOSTIC**. This includes M.D.(Radio.) /DNB (Radio.) One year Post - PG experience is not required for admission to this course.
- b. The Ph.D. in the concerned speciality is not considered to be eligible to apply for the Post - Doctoral Fellowship Programme in Onco Radiology - Diagnostic.
- c. Candidates who have obtained P.G. degree from any recognized University, within India, but outside the state of Tamil Nadu will have to produce Migration Certificate from their qualifying University. No Objection Certificate issued by the National Board of Examinations, New Delhi, is equivalent to Migration Certificate.
- d. The candidates shall obtain Eligibility Certificate before the cut off date for admission in that particular Academic year.

6. ELIGIBILITY CRITERIA :

M.D.(Radio.) /DNB (Radio.) candidates are eligible for the Post - Doctoral Fellowship Programme in Onco Radiology - Diagnostic.

7. AGE :

No upper Age limit fixed for admission to Post - Doctoral Fellowship Programme in Onco Radiology - Diagnostic.

8. ELIGIBILITY CERTIFICATE :

Candidates who have passed the qualifying examination as stated in Regulation No.6 above other than the Tamil Nadu Dr. M.G.R. Medical University, Chennai shall obtain an "Eligibility Certificate" from this University by remitting the prescribed fees along with the application form and required documents before seeking admission in any one of the affiliated Medical Institutions. The application form is available in the University website: www.tnmgrmu.ac.in.

9. MIGRATION CERTIFICATE :

On completion of Post – Doctoral Fellowship Programme in Onco Radiology - Diagnostic, Migration Certificate will not be issued.

10. CONDONATION OF BREAK OF STUDY :

The Break of Study for a period of less than 90 days can be condoned by the Course Director and the Break of Study for the period of more than 90 days and less than one year is to be condoned by the University authorities. The application form is available in the University website: www.tnmgrmu.ac.in.

11. RE-ADMISSION OF THE BREAK OF STUDY :

1. The course shall be completed within the period of double the duration from the date of admission.
2. The Regulation for Re-admission are as per the University's common Regulation for Re-admission.

12. NO. OF ATTEMPTS ALLOWED FOR EXAMINATION:

The candidates of 1 year Post – Doctoral Fellowship Programme in Onco Radiology - Diagnostic, shall be allowed for a maximum of three attempts within a period of two years including the first appearance.

13. ADMISSION :

The admission for the Post - Doctoral Fellowship Programme in Onco Radiology - Diagnostic is twice in a year (i.e.,) 1st January and 1st July.

- (a) Admission upto 31st January - 28th February is the last date for Registration.
- (b) Admission upto 31 st July - 31st August is the last date for Registration.

An Institution can admit max. Two (2) students per year for Post-Doctoral Fellowship Programme in Onco Radiology - Diagnostic i.e either in January / July sessions or 1 candidate for each session (January or July). However, the total number of candidates per institution per course shall not exceed Two (2) per year.

14. SELECTION OF CANDIDATES :

The candidates for the Post-Doctoral Fellowship Programme in Onco Radiology - Diagnostic, can be selected by the centers on their own and the selection to be transparent.

- a. The candidates selected by the Institutions will become bonafide student of this University only after registration.
- b. The Post-Doctoral Fellowship Programmes of the Affiliated Institutions will be published in the University website.

15. COMMENCEMENT OF THE COURSE :

The one / two years Post - Doctoral Fellowship Programmes will commence on 1st January & 1st July of every year and the candidates are expected to get registered with this University within 30 days of their selection by the Affiliated Institutions. (i.e. 28th February & 31st August).

16. CURRICULUM :

The Regulation, Guidelines, Curriculum and the Syllabus for the Post – Doctoral Fellowship Programmes is prescribed in these regulations are subject to modification by the Standing Academic Board from time to time.

17. REGISTRATION :

A Candidate admitted into '**POST-DOCTORAL FELLOWSHIP PROGRAMME IN ONCO RADIOLOGY - DIAGNOSTIC**' under any one of the affiliated institutions of this University shall register his / her name with this University by submitting the prescribed application form for registration duly filled in, along with the prescribed fee and a declaration in the format to the Controller of Examination of this University through the affiliated institution within 30 days from the cut-off date prescribed for admission. The application should have the date of admission of the course.

18. SCHEME OF EXAMINATION :

Commencement of examination for the Post – Doctoral Fellowship Programme in Onco Radiology - Diagnostic is on any day within the calendar month of January / July. The examination will be conducted with one internal Examiner i.e. **the Course Director who is the Convener of the examination and Two External Examiner of which One from Government & One from Private Institution.** The maximum age limit for the examiner is 70.

19. EXAMINATION PATTERN :

There is **no theory** examination for the Post Doctoral Fellowship Programme in Onco Radiology - Diagnostic. The Institution must have periodical assessment on the performance of the students by maintaining a log book.

20. ATTENDANCE :

90% attendance is mandatory to become eligible for the examination and will be certified by the Course Director.

21. MINIMUM / MAXIMUM MARKS FOR PRACTICAL / CLINICAL / ORAL & INTERNAL ASSESSMENT :

The Examination pattern is as follows :

Exam	Maximum	Minimum
Practical	100	50
Orals / Viva	100	50
Internal Assessment	100	50
Log Book	50	25

The log book will be assessed by Examiners during the Clinical Examination. Projects presentation is mandatory and 25% of IA is for the project.

22. EXAMINATION :

There is No Theory Examination. Only Clinical Examination & Viva will be conducted.

A candidate who undergoes the Post-Doctoral Fellowship Programme in Onco Radiology - Diagnostic shall satisfy the required eligibility criteria to appear for the Examination.

23. CLINICAL EXAMINATION HOURS :

The Clinical Examination will be conducted between 9 a.m. to 5.00 p.m.

24. PRACTICAL EXAMINATION :

Minimum 10 and Maximum 20 OSCE Stations will be given for examination (Objective Structured Clinical Examination).

Internal Assessment marks and attendance are to be submitted to the University one month before the Examination.

25. EXAMINATION CENTRE :

In case of more than one Centre conducting the same Course, the Examination Centre will be decided by the Controller of Examinations of this University and the Course Director of the Centre will be the Convener of the examination.

26. STIPEND :

The University will not give any stipend to the candidates admitted for Post-Doctoral Fellowship Programme in Onco Radiology - Diagnostic, and the University will not interfere, if the private institutions are willing to give a stipend to the candidates admitted under them.

27. LOG BOOK :

The Log Book shall be verified by the Course Director periodically and should be submitted to the examiners at the time of examination for evaluation and only the marks to be sent to the University for result processing.

Submission of Log Book is compulsory to appear for University examination.

If the examiners suggest minor corrections and resubmission of the Log Book, the results of the candidates shall be with held and the Log Book shall be resubmitted by the candidate within three months. The Log Book shall be revalued by the same set of examiners and after getting approval, the results of the candidate shall be published.

28. Project :

Project should be submitted at the end of the year and it carries 25% of marks in the internal Assessment.

29. PROGRAMME DIRECTOR :

Must have 15 years of work experience with a teaching experience of 10 years and must possess Diploma / Fellowship / Ph.D. in the concerned field.

Programme Director should be responsible for

1. Journal Club
2. C.M.E. Programmes.
3. Internal Assessment
4. Hands on Training
5. Knowledge about complications.

30. VACATION :

There is no vacation.

FELLOWSHIP IN ONCORADIOLOGY DIAGNOSTICS

SYLLABUS

A sound understanding of the basis of oncological imaging including:

- The embryology, anatomy and pathophysiology of the major tumour-bearing organs.
- The various tumour staging methods used for each major organ
- Lymph node notation and routes of lymph node spread from primary tumours.
- Anatomical routes for the spread of common tumours.
- The pathological processes of malignant disease.
- Local, national and where appropriate, international imaging guidelines.
- Methods of analyzing tumour response.

General oncological radiology

- Expertise in plain radiographic assessment for staging and follow-up of tumours.
- Knowledge of the indications for referral for cross-sectional imaging based on the plain film findings.
- Expertise in recommending the most appropriate investigation.

CT

- Detailed knowledge of tumour types appropriate for CT staging and follow-up
- Detailed knowledge of the appropriate techniques for the examination and the assessment of different common cancers.
- Knowledge of patterns of disease spread for common tumour types on CT which will lead to greater diagnostic accuracy and more appropriately tailored examinations.
- Knowledge of the advantages of new developments in CT such as multi-helical techniques in cancer management, eg. three-dimensional imaging, multi-planar reformatting.
- Expertise in biopsy techniques with a particular relevance to cancer, such as retroperitoneal biopsy and pelvic side wall biopsy using PIGA CT.
- Knowledge of requirements for CT planning in radiotherapy and the importance of diagnostic input.

Magnetic Resonance Imaging (3T MRI)

- Knowledge of the indications for MRI for staging, follow-up and reassessment of patients at the time of suspected relapse.
- Knowledge of basic MRI techniques, findings and pitfalls in diagnosis in those cancers frequently referred for imaging, eg. Pelvic cancers, head and neck cancer.
- MR USG fusion technology for Brain Tumours and other malignancy..
- Knowledge of the advances in MRI which are relevant to the diagnosis and treatment of cancer patients.
- Knowledge of imaging in **Functional MRI and diffusion tensor imaging with tractography.**

US

- Knowledge of the indications for US examinations in cancer patients and the relationship of US to CT / MRI / Nuclear Medicine for lesion detection, eg. liver metastases.
- Knowledge of advances in US imaging and techniques that have an application to cancer.
- **USG elastography to evaluate malignancy.**

Nuclear Medicine

- Knowledge of the indications for nuclear medicine techniques as required for staging and expertise in image interpretation, eg. technetium skeletal scintigraphy.
- Understanding of the complementary role of plain radiography, MRI and CT to nuclear medicine in the evaluation of an equivocal diagnosis of metastases.
- Detailed knowledge of indications for functional imaging techniques and expertise in image interpretation, eg. thyroid cancer imaging.
- Knowledge of tumour-specific agents and their application to cancer management, eg. MIBG Scanning.
- Knowledge of advances in nuclear medicine including positron emission tomography (PET/CT PET) & Single photon positron emission tomography (SPECT CT). A basic knowledge of the

technique is required. Knowledge of the current and evolving indications for referral for PET / SPECT.

BASIC SKILLS REQUIRED

INTERVENTIONAL TECHNIQUES

Trainees should acquire experience in the following procedures:

- US – guided biopsy of masses and lymph nodes.
- CT – guided biopsy of masses and lymph nodes.
- Where appropriate and available, MRI-guided biopsy of masses and lymph nodes
- Drainage of collections.

ONCOLOGY

Core knowledge

- Knowledge of oncological pathology and clinical practice relevant to clinical radiology.
- Familiarity with tumour staging nomenclature.
- Familiarity with the application of US, radionuclide investigations, CT and MRI, angiography and interventional techniques in oncological staging, and monitoring the response of tumours to therapy.
- Familiarity with the radiological manifestations of complications which may occur in tumour management.

Core Skills

- Reporting plain radiographs performed to assess tumours
- Performing and reporting US, CT, MRI and radionuclide investigations in oncological staging and monitoring the response of tumours to therapy.
- Performing image-guided biopsy of masses under US and CT guidance.
- Tumour Ablation Therapy.

TRAINING SCHEDULE:

State-of-the-art equipment includes 64-slice CT, 1.5-T and 3-T MRI, PET/CT,PIGA-CT, digital radiography, US, Digital Mammography, Functional MRI & Diffusion Tensor Imaging, Tractography, MR Spectroscopy.

- 64 Slice CT : Three sessions per week
- 3T MRI : One or two sessions per week
- Ultrasound : One session per week
- Nuclear Medicine (PET CT & SPECT CT) : Two sessions per week
- Flexible session for simple imaging-guided interventional procedures
- General oncological radiology (reporting / procedures) : one session per week
- Study / meetings : one session per week
- Research / audit : one session per week
