

CURRICULUM FOR D.M. COURSE

IN

NEPHROLOGY

MAHARASHTRA UNIVERSITY OF HEALTH SCIENCES

NASHIK

SECTION –I

(Goals)

The aim of the course is to develop human resources and personnel in the field of Nephrology who shall

- i) provide the health care to the patients needing renal care
- ii) teach and train future undergraduate and postgraduate medical students and junior doctors in Nephrology in Medical Colleges, Institutions and other Hospitals.
- iii) carry out and guide research to improve the practice of the art and science of nephrology
- iv) have management capabilities to manage personnel and budgets etc. to make health more cost-effective.
- v) organise health teams to provide care during natural or man-made calamities.

(Objectives)

Departmental objectives : At the end of the DM Nephrology course, students shall be able to :

- i) practice the art and science of nephrology in his/her field of practice and seek and provide consultation as required. He will have knowledge, skill and attitude to provide comprehensive renal care.
- ii) conduct researches and communicate the findings, results and conclusion to his fraternity.
- iii) acquire necessary skills of teaching and training his junior colleagues and medical students.
- iv) keep abreast with the latest developments by self-learning and /or participating in continuing Medical Education programmes.
- v) organise and manage administrative responsibilities for routine day to day work as well as new situations including natural and on man-made accidents/calamities etc. and be able to manage situations calling for emergency interventions in the sphere of renal care and also routine problems in their areas.
- vi) exhibit awareness of the importance of audit and the need for considering cost-effectivity in patient management.
- Vii) deliver preventive and rehabilitative care.

SECTION II :

Course content

Since the students are trained with the aim of practicing as independent nephrologists, this course content will be merely a guideline. They have to manage all types of cases and situations and seek and provide consultation. The emphasis shall therefore be more on the practical management of the problem of the individual cases and the community within the available resources.

(Applied basic sciences knowledge relevant to the field of nephrology.

Investigative techniques, selection and interpretation of results

Pathogenesis of renal diseases & Renal histopathology.

Diseases of the urinary tract (glomerular diseases, urinary tract infection, tubulointerstitial

Diseases, inherited diseases, toxic nephropathies, systemic diseases with renal involvement,

Renal stone disease, urinary tract obstruction, Vascular diseases of kidney, hypertension, neoplasia etc)

Renal failure (diagnosis & medical management)

Principles and practice of dialysis, fluid, electrolyte & acid-base balance

Renal transplantation

Recent advances in nephrology

Biostatistics & clinical epidemiology, research methodology)

Preventive nephrology.

Skills : 1) Haemodialysis, Peritoneal dialysis, CAPD, Continuous renal replacement therapy,

Plasmapheresis, Vascular access, Native and graft kidney biopsies.

2)Communication

3)Education/training

4)Self directed learning

5)Research

SECTION – III :

Teaching / Learning Methods And Activities

Throughout the course of training the emphasis shall be on acquiring knowledge, skill and attitudes through first hand experiences as far as possible.

The emphasis will be on self learning rather than on didactic lectures.

The entire period shall be ' in service' training programme based on the concept of ' learn as you work' principle.

The teaching learning activities would consist of -

Participating in rounds – patient management

1) Presentation of cases to the faculty with discussion

2) Preparation and presentation of P.G. lectures on allotted topics

3) Journal clubs

4) Clinicopathological exercise by rotation.

However to reinforce the learning the following methods shall be used to acquire knowledge, skills and attitudes.

1. Lectures prepared and presented by students under supervision.
2. Seminars, symposia, panel discussion of suitable topics, moderated by teachers.
3. Journal clubs moderated by teachers
4. Clinicopathological conferences.
5. Medical audit/fatality case discussion ,meetings.
6. Pedagogic training programmes (intramural & extramural)
7. Inter-departmental meetings/discussions of interesting cases
8. Preparation and presentation of a dissertation
9. Patient care work in OPD, wards and dialysis unit.

The students shall be provided facilities to manage cases of higher and greater complexity by allowing them graded responsibility as the course progresses. Each P.G would have an opportunity to present at least 2 P.G. lectures per year and 8-10 journal clubs per year in addition to about 20-25 cases during the clinical meetings. They shall also be allowed to perform procedures under supervision and /or delegated authority depending on the experience and proficiency gained. The Heads of units and other consultants and guides shall be in-charge of the supervision and delegation of authority and responsibility to work.

10. Attend and participate in conference, workshops, field visits, camps, technical exchange programmes etc., and share knowledge and experience with others.

11) Candidates should be involved in departmental research activities. It is desirable to have at least two research papers in peer reviewed journals.

Dissertation:

A subject for dissertation would be allotted to the P.G. within the first 6 months after joining. The emphasis on dissertation work would be on review of literature, maintaining a record of references, preparation of a plan of study, documentation of aims, planning the methodology, collection, documentation and analysis of data, comparison of data obtained with others in literature, drawing conclusions and writing a summary. The subject of dissertation may be prospective or retrospective. Analysis of less than 25 cases would not be permitted unless it is a rare disease. The dissertation topics would not be discussed in a department meeting prior to completion of 6 months and protocol of study is to be approved by the Department faculty. 4 copies of completed dissertation after appropriate certifications by the guide and co-guide should be submitted at the end of the 2½ years (There will therefore be 2 complete years after submission of protocol and the final dissertation)

LEAVE

Attendance

Since it is a resident in house work as you learn programme, it is desirable that Candidates should have 100% attendance to enable this objective to be achieved. However a minimum of at least 80% attendance would be required before they are allowed to appear for the examination.

ALLIED SPECIALITIES POSTINGS:

There will be a continues interaction between the nephrology department and the allied departments to ensure that the students achieve these skills during their peripheraol postings.

AFFECTIVE DOMAIN

Development of attitude is an very important part of surgical training. It would be the constant endeavor of the faculty to develop desirable attitudes in the P.G.trainees during the course by personal examples, interaction and group discussion. Constant watch will be maintained during their work in the wards to ensure that this objective is being met. Although there will be no formal evaluation of attitude some aspects of this domain would be covered during the formative evaluation as per the enclosed proforma for continued internal assessment.

SECTION IV

Organisation of course

Programme

i) Admission: shall be trough a competitive written examination of the objective variety conducted by state entrance board.

ii) Number of students: Each year students will be enrolled maintaining aTeacher/students ratio of 1:1

iii) Duration of course shall be of 3 years after completion of MD or equivalent degree. A minimum of 80% attendance and achievement of satisfactory standards in both theoretical and clinical nephrology would be mandatory before being sent up for the University examination.

iv) Leave: Residents would be entitled to 30 days leave in the first year and 36 days each in the second and third years of residency.

v) Rotation:

During the training peiod. The resident would be required would be required to rotate through cliiniucal nephrology, dialysis, transplant divisions. In

addition,he/she will spend some time in rotations through allied specialities (pathology, urology,radiology,laboratory medicine etc.) Extramural rotations or elective rotations for a maximum period of 3 months will be possible during the 3rd year of training.

Section V

EVALUATION

Shall consist of formative and summative assessment.

Formative assessment.

The purpose of continuous course assessment is mainly.

- i) To ensure the habits of regularity, punctuality and disciplined working amongst postgraduates.
- ii) To give periodic feedback regarding their performance for med course correction steps to enhance their learning in various area i.e. patient care, research teaching, administration etc.
- iii) To monitor attainment of clinical and technical skills to ensure adequacy of training.
- iv) To be available to the internal examiner at the time of final examinations to discount the possibility of a single adverse performance influencing the pass or fail situation by using it to give an idea of the continued performance of the candidate during the three years of training to the external examiners, so that candidates who have otherwise been rated as satisfactory in their internal evaluation can be given more chances in the final examinations to more questions and overcome the adverse effects of doing badly in any one case. However, internal evaluation marks cannot directly be used for influencing the outcome of the summative assessment in the course of using it to fail a candidate who has otherwise done well in the final examinations or to pass a candidate who has done consistently bad in several cases.

Procedure of formative evaluation.

Formative evaluation will be carried out over 4 activities of the P.G. resident.

(See Annexure)

- 1) Ward work. This will be done by the consultants in the unit concerned at intervals of 6 months.
- 2) Case presentation
- 3) P.G. Lecture
- 4) Journal club
- 5) Theory paper (SAQs) once a year
- 6) General assessment of affective function attitude by medical & paramedical staff.

SUMMATIVE ASSESSMENT

(Final certifying examination)

Eligibility: a) 80% attendance
b) Satisfactory internal assessment
c) Approved dissertation

Summative assessment consists of two parts:

Evaluation of thesis/dissertation prepared by the candidates and
Final examination consisting of 4 papers.

Thesis/dissertation

All candidates on admission will be allotted one of the department faculty who have fulfilled the requirement to be guides for purposes of guiding Dissertation/thesis. The topic for dissertation shall be finalized and discussed in the departmental faculty meeting and allotted to the individual candidates before the completion of 6 months after admission. The purpose of dissertation is to develop in the candidate the ability to perform an independent study keeping the principles and research methodology in mind. The candidate will therefore work on the prospective problem either within the department or in collaboration with other departments. There will be continuous monitoring of the dissertation work by the guides and co-guides and by the other department staff throughout the course. The candidate will present the progress of the dissertation to the faculty on the completion of 1 ½ years for monitoring and feed back. The completed dissertation should be submitted no later than 31st December in the year before or 6 month before final examination. The dissertation shall be evaluated independently by the internal examiners and two external examiners under the following heading :

- 1) Approved
- 2) Not approved

In all cases the approval shall be given before 3 months of the date of appearing for the examination and this will be essential before the candidate is allowed to appear for the written examination.

WRITTEN EXAMINATION:

(As per Direction No. 01/2008 dtd. 26/05/2008 & practical scheme is as per revised practical marksheet.)

Annexure II :

**Proformas for Internal Evaluation
Evaluation form for Postgraduates
Clinical Work**

(To be completed once in 6 months by respective Unit Heads)

Name :

Date:

Points to be considered :

1. Punctuality
2. Regularity of attendance
3. Quality of Ward Work
4. Maintenance of case records
5. Presentation of cases during rounds
6. Investigations work-up
7. Bedside manners
8. Rapport with patients
9. Undergraduate teaching (if applicable)
- 10)Others:

Guidance for Scoring: 1	2	3	4	5
Poor	Below Avg.	Average	Above Avg.	Very Good

Score : ()

Signature :

Proformas for Internal Evaluation

Evaluation form for Postgraduates Clinical Meeting

Name :

Date :

Points to be considered:

1. Completeness of history
2. Whether all relevant points elicited
3. Cogency of presentation
4. Logical order
5. Mentioned all positive and negative points of importance
6. Accuracy of general physical examination
7. Whether all physical signs missed or misinterpreted
8. Whether any major signs missed or misinterpreted
9. Diagnosis: whether it follows logically from history and findings.
10. Investigations required –
 - complete list –
 - relevant order
 - interpretation of investigations
11. Overall
 - Ability to react to questioning – Whether answers relevant and complete
 - Ability to defend diagnosis
 - Ability to justify differential; diagnosis
 - Confidence
 - Others

Guidance for Scoring: 1 2 3 4 5
 Poor Below Average Above Very Good
 Avg. Avg.

Score : ()

Signature :

Log (Performance record book)

Maintenance of performance record Log book is mandatory. Certified and assessed copy should be made available at the time of practical examination for review by examiners

Log Book should contain:

- 1) Certificate duly signed by teacher, head of department, head of institute – stating – Dr.....has worked in department from ---- to ---- for a period of 3 years. This performance record book contain authentic record of work done and assessment for last 3 years.
- 2) Record of training
Name of the trainee
Hospital
Training period
Name of teacher
- 3) Posting in Nephrology
 - 1) Clinical Nephrology
 - 2) Dialysis
 - 3) Transplantation
 - 4) OPD consultation
Critical care etc
- 4) Working schedul
- 5) Teaching programme

6) Journal club

Date	Article	Name of Journal Year vol-	Assessment by faculty Score / grading(1-5) Signature
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7) Seminars

Date	Topic / Subject	Assesment by faculty Signature
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8) Case presentations:

Date	Case	Teacher's signature Assessment score
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Suggested Reading

Text Books:

- 1) Oxford Text book of Clinical Nephrology- Davison, 3rd edition
,Oxford publication
- 2) Diseases of the kidney and urinary tract Robert W. Schrier Seventh
Edition, LWW publication
- 3) The Kidney,Brenner and Rector Seventh edition,W.B. Saunders
- 4) Comprehensive Clinical Nephrology
Johnson and Feehally, Mosby
- 5) Acid-Base and Electrolytes disorders
Rose D. Burton
2nd Edn, W.B. Saunders
- 6) Transplant
Kidney transplantation
Peter Morris----- 5th Edn
Hand book of Kidney Transplantation
Danovitch 4th Edn
- 7) Dialysis:
 - 1) Hand book of dialysis Daugirdas
4th edition
 - 2) Renal replacement therapy
Drecker 2nd Edn

Journals:

- 1) Kidney International
- 2) American Journal of Kidney diseases
- 3) Journal of American Society Of Nephrology
- 4) Nephrology Dialysis and Transplantation
- 5) Seminars in Dialysis
- 6) Clinical Transplantation
- 7) Transplant proceedings
- 8) New England Journal of Medicine
- 9) Journal of Indian Society of Nephrology
- 10) Journal of Association of Physicians of India.

Various website and CD-ROM programme which will help in keeping updated are recommenhded

- 1) Up to Date
- 2) HDCN. Com
- 3) Ndt.edu.org.
- 4) kidney .org