"This prospectus is made under the provisions of the Universities Act, the Postgraduate Institute of Medicine Ordinance, and the General By-Laws No. 1 of 2016 and By-Laws No. 2 of 2016 for Degree of Doctor of Medicine(MD) and Board Certification as a Specialist"

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO, SRI LANKA

PROSPECTUS

MD CLINICAL ONCOLOGY FOLLOWED BY BOARD CERTIFICATION IN CLINICAL ONCOLOGY

OR

BOARD CERTIFICATION IN PAEDIATRIC CLINICAL ONCOLOGY

2012

BOM approved - 05.01.2013 Senate approved - 27.02.2013 Council approved - 12.06.2013

BOARD OF STUDY IN CLINICAL ONCOLOGY

Contents

PROSPECTUS - MD AND BOARD CERTIFICATION IN CLINICAL ONCOLOGY

1. INTRODUCTION

The following is an outline of the in-service programme of training and examination leading to the Degree of MD Clinical Oncology of the Postgraduate Institute of Medicine of the University of Colombo, and towards Board Certification as a Specialist in Clinical Oncology or as a Specialist in Paediatric Clinical Oncology.

The Board of Study in Clinical Oncology reserves the right to change the program from time to time subject to the approval of University of Colombo Senate and Council. However due notice shall be given of such changes.

2. OBJECTIVES

At the end of the training programme the trainee should have acquired adequate knowledge, skills and attitudes to enable him/her

(a) to have a comprehensive knowledge in the field of Clinical Oncology and allied specialities
(b) to be competent in diagnosing and managing Clinical Oncology problems in a global setting with special reference to malignant diseases relevant to Sri Lanka

For this purpose the trainee should:

2.1 Have an understanding of and be competent in the principles and practice of clinical methods in order to be capable of identifying, analyzing and managing patients efficiently and humanely.
2.2 Acquire competence in teaching and training undergraduates, postgraduates, para-medical workers in Clinical Oncology.
2.3 Be motivated to conduct clinical, laboratory and/or health systems research.
2.4 Be able to function as a member of a multidisciplinary team delivering Clinical Oncology services and be competent to assume leadership when required.
2.5 monitor the effectiveness and cost efficiency of Oncological care
2.6 participate in decision making required for Health Care management of the country
2.7 innovate to give good clinical care when ideal facilities may not be available

3. SELECTION FOR TRAINING

3.1.Eligibility criteria to sit the Selection Examination.

A candidate should:

(a) Hold a medical degree registered with the Sri Lanka Medical Council
(b) Complete an internship period of 1 year recognized by the Sri Lanka Medical Council
(c) Complete one year work experience, after internship prior to the closing date of the applications for sitting the Selection Examination.
(d) Produce a medical certificate from a consultant physician, indicating general mental and physical fitness and to comply with any other PGIM regulations.

3.2.Selection Procedure

To enter the training programme in Clinical Oncology a candidate is required to pass the Selection Examination.

3.3.Selection Examination

MCQ Examination

1. Total of 60 questions of multiple true / false type (MTF) This shall consist of MCQs covering basic aspects of all branches of medicine, Duration – 2 hours
2. Total marks for the paper 300
3. Each correct response will be awarded +1 and there will be negative marking within the question

Pass mark 50%.

From the candidates who have passed the Selection Examination, candidates for enrollment into the training course in MD Clinical Oncology will be based on their merit position and the available vacancies indicated in the circular calling for applications.

3.4.Number of trainees to be recruited yearly

This shall be determined by the Board of Study in Clinical Oncology/Board of Management in liaison with the Ministry of Heatlh and is subject to review annually. Board of Study in Clinical Oncology/ Board of Management decision shall be the final.

3.5.Allocation of training slots

Allocation of training slots would be done by a sub committee appointed by the Board of Study in Clinical Oncology with the approval of the Board of Management, according to the available training posts and based on the ranking obtained by the candidate at the Selection Examination and the preference of the candidate. Recommendations and requirements of the Ministry of Health will be taken into account where applicable.

4. MD STAGE 1 OF THE TRAINING PROGRAMME – ONE YEAR DURATION

4.1. Syllabus/Core curriculum-Stage 1 MD Training Programme (Details in Annex C)
During this period the trainee is expected to learn clinical and intellectual skills of understanding and dealing with the problems of cancer patients as a Clinical Oncologist.
The curriculum described in Annex C is the framework document for systematic training in clinical oncology for all clinical oncology Part 1 trainees.

4.2 Training Units: All adult clinical oncology units and the paediatric oncology units at National Cancer Institute Maharagama. New training units may be added in other teaching hospitals using the Postgraduate Institute of Medicine criteria. This is a full time training programme.

4.3 The trainers will be consultants attached to the approved training units, fulfilling the criteria of Postgraduate Institute of Medicine trainers.

4.4 A course of lectures and tutorials will be conducted at approved sites covering identified areas during this one year. Approx. 100 hours.

4.5 Trainees will have to maintain a portfolio from the beginning of the training programme.

4.6 Regular progress reports at 6 monthly intervals have to be forwarded by the trainers to the Director/ Postgraduate Institute of Medicine.

4.7 Satisfactory Peer Team Rating (PTR) forms would have to be completed and returned to the Director/ Postgraduate Institute of Medicine as specified in the General rules of the Postgraduate Institute of Medicine.

5. MD (CLINICAL ONCOLOGY) PART I EXAMNATION

This will be a comprehensive examination to test the basic knowledge, skills and attitudes of the trainees.

5.1 Eligibility Criteria

1. To sit the MD Clinical Oncology Part I examination satisfactory completion of Stage 1 of the training programme (at least one year of In-Service Training), certified by the trainers, in accordance with the requirements of the Board of Study.

2. More than 80% attendance in the lectures/tutorials in scheduled teaching activities. This has to be certified by the Chairperson/Board of Study in Clinical Oncology.

5.2 Subjects of the Examination

There will be separate assessments of 6 subjects. These are:

1. Radiation Physics
2. Medical Statistics
3. Pathology
4. Radiobiology
5. Pharmacology
6. Cancer Biology

In the first attempt at MD Part I Examination the eligible candidate **must sit for all the six subjects.**

5.3 Format of the Examination

1) A written paper (structured essay type) - (Total of 6 Papers)

Radiation Physics : There shall be 7 questions and 6 questions to be answered including one compulsory question. **Each question is allocated 100 marks. Total 600 marks.**
Time allocated shall be 2 hours and 15 minutes.

Each of other 5 subjects: There shall be 3 questions and 2 to be answered. **Each question is allocated 100 marks. Total 200 marks.**
Time allocated for each paper shall be 45 minutes.

AND

2) **A** viva **voce examination** - (Total of 6 vivas, one for each subject)
100 marks for each viva examination.

Duration of each viva voce examination will be 30 minutes. **There shall be a minimum of three examiners in each station out of the** panel of examiners approved by the Board of Study in Clinical Oncology consisting of a foreign examiner, a specialist teacher of the subject concerned and a clinical oncologist.

5.4 Requirements to pass the examination

To pass the MD Part I Examination the candidate:

5.4.1 Should pass all six subjects in one single attempt

5.4.2 To pass each subject the candidate,

a) Should obtain an aggregate of 50% or more from the written and the viva voce components and ,
b) should obtain an aggregate of 50% or more for the written paper of that subject and also
c) should obtain at least a minimum of 45% or more for the viva voce examination of each subject

5.5 Referred candidates

5.5.1 A candidate who has not fulfilled the above requirements to pass the examination will be called as a referred candidate if the following criteria are fulfilled:

1) Should have passed three or more of the subjects as described above.
2) The candidate must have obtained for each of the remaining subjects (these will be referred to as the referred subjects) an aggregate of 35% or more for the written paper and 35% or more for the viva voce examination.

Those who did not pass the examination or get referred will be considered to have failed the MD Part 1 examination, and must sit for all six subjects.

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5.5.2 The Criteria that should be fulfilled by a referred candidate to pass the examination

The candidate should sit all the referred subjects at the next available examination. Such referred candidates will be considered to have passed the MD Part 1 examination when they pass the referred subject(s) within three consecutive attempts of this examination. Inclusive of the first attempt four attempts are allowed to pass the MD part 1 examination.

Those candidates who fail in the first attempt of the MD part 1 examination will have to take all the six subjects in their next attempt at this examination.

If a candidate is unable to pass the entire exam within the four consecutive attempts, the candidate will have to leave the MD oncology training programme. If such a candidate wishes to re-enter the training programme in clinical oncology, that candidate will have to sit for the Selection Examination again.

A candidate who passes all six subjects will be considered to have completed the Stage 1 training.

6. STAGE 11 OF THE TRAINING PROGRAMME

6.1 Eligibility to enter Stage II

Successful completion of Stage I. Until the candidate passes all six subjects of the MD Part 1 examination he/she will not be considered to have entered the Stage II of the training programme.

Note: Successful completion has to be certified in the trainee's logbook by his/her trainers.

6.2 Stage II Programme – 2 years

(a) Continued in-service training at National Cancer Institute Maharagama and/or at other cancer centres decided by the Board of Study in Clinical Oncology, for at least two years. The trainee has to attend lectures and demonstrations in selected clinical subjects to expand the trainee's competence.

(b) Every trainee during this stage should prepare a casebook containing the records of 10 cancer patients managed by the candidate. The casebook has to be submitted 6 months prior to the date of commencement of MD Part 2 examination. This will comprise part of the portfolio assessment. The case should include six cancer patients of curative intent management, and four cancer patients with metastatic disease with palliative intent of management. All candidates should include one case from each of the following areas

1) Breast Cancer
2) Oral Cancer
3) Lung Cancer
4) Colon Cancer
5) Uterine Cervical Cancer
6) Oesophageal Cancer
7) Brain Tumours
8) Thyroid Cancer
9) Prostate Cancer
10) Paediatric Cancer

(c) Progress Reports (Annex E)

To be submitted every six months by the trainers

(d) Peer Team Rating (Annex Q)
To be submitted by the raters every six months

6.3. Introduction to the core curriculum of Stage 11 (Details in Annex D)
The curriculum described in this section is the framework document for systematic training in Clinical Oncology for all Clinical Oncology trainees.
Under each topic, learning objectives are given and the level of performance/ competence to be achieved are described under the domains of

a. Core knowledge and
b. Clinical and Procedural skills

Detailed core curriculum/syllabus for all trainees (Details in Annex D)

(e) In-service assessments and evaluation of trainees (Details in Annex A and B)
During the training period the trainee will be assessed by the consultant of the trainee's unit using assessments forms once every three months. These assessments will be communicated to the Board of Study in Clinical Oncology confidentially, and corrective actions, if necessary, will be arranged by the Board of Study in Clinical Oncology.

7. MD PART II EXAMINATION

7.1 Eligibility criteria to sit the MD Clinical Oncology Part II examination

(a) Successful completion of MD Part I Clinical Oncology Examination.
(b) Participated and satisfactorily completed the Stage II training programmes.
(c) Submission and acceptance of all progress reports and Peer Team Review reports. In case of unsatisfactory report/s from the trainer/s, the BOS/Clinical Oncology would take appropriate actions according to the General PGIM rules and regulations.
(d) Submission of a casebook 6 months prior to the date of commencement of the MD part 2 examination and acceptance of the same by the Board of Study in Clinical Oncology.

7.2 Content areas

The content areas of clinical oncology covered in the MD part 2 examination include Radiation Oncology, Medical Oncology, Paediatric Oncology, Haemato-Oncology, and Palliative Care.

7.3 Examination Format

The examination consists of seven components (labeled C1 to C7) covering the subjects in Clinical Oncology.

C1. Paper I - Short Essay Type Question Paper –
The paper shall consist of 4 questions. All questions should be answered. Allocate 30 minutes for each question. Duration - 2 hours.

C2. Paper II - Structured Essay Type Question Paper
The written paper shall consist of 6 questions. All questions to be answered.

Allocate 30 minutes for each question. Duration - 3 hours.

C3. Paper III - Structured Essay Type Question Paper
The written paper shall consist of 6 questions. All questions to be answered. Allocate 30 minutes for each question. Duration - 3 hours.

All questions of all three written papers shall be marked independently by two examiners

C4. Clinicals (Long Case) - One long case per candidate. Duration shall be 45 minutes for examination and 30 minutes for the discussion. There shall be a minimum of two examiners who will award marks independently.

C5. Clinicals (Short Cases) - In this part of the examination there will be two panels of examiners, Panel 1 and Panel 2. Each Panel will have a minimum of three short cases per candidate. Each Panel examining for 30 minutes totaling to one hour. There shall be a minimum of two examiners who will award marks independently.

C6. Practical Planning - A treatment planning session covering details of radiation planning. Duration shall be one hour. There shall be a minimum of two examiners who will award marks independently.

C7. Viva Voce - In this part of the examination there will be two viva boards. This will be a structured viva. Each Board examining for 30 minutes totaling to one hour. There shall be a minimum of two examiners in each Board who will award marks independently.

7.4 Marking Scheme

1.	Paper I	-	100 Marks
2.	Paper II	-	100 Marks
3.	Paper III	-	100 Marks
4.	Clinical - Long Case	-	100 Marks
5.	Clinical - Short Cases	-	250 Marks
6.	Practical Planning	-	200 Marks
7.	Viva Voce	-	150 Marks
			1000 Marks

7.5 Requirements to pass the MD (Part II) Examination

Pass mark of each component is 50%

1) A mark of 50% or more is obtained in each of the seven components of the examination

OR

2) In the event that a score of 50% is not obtained for any one of the written components of the examination the candidate will be considered to have passed the examination **if <u>all</u> the following criteria are met:**

   a) An aggregate mark of 50% or more is obtained when the marks of all seven components is totaled
   b) has obtained an score of 50% or more in each of the clinical components, C4, C5, C6 and C7, *ie*., long case, short cases, treatment planning and viva voce and,
   c) obtained a minimum mark of 45% in **only one** of the three written papers, C1, C2 and C3 (*ie*., Paper I, II and III). The candidate should have scored 50% or more in the other 2 components.

7.6 Number of attempts

The maximum number of attempts allowed for the MD Part II Examination will be six (6) within eight years from the first attempt. After the fifth attempt the trainee will have to do a compulsory one years training in a unit decided by the Board of Study in Clinical Oncology.

7.7 Dr. H.K.T. Fernando Memorial Gold Medal for Clinical Oncology

The Dr. H.K.T. Fernando Medal will be awarded to the candidate at the MD Clinical Oncology Part II examination, concluded in a given calendar year, provided the candidate has:

a) obtained the highest mark and ,

b) passed the Part I and Part II examination at the first attempt and,

c) obtained a mark of 60% or more in each of the seven components of the examination.

In the event of a tie the candidate obtaining the higher marks in the clinical components (C4,5,6 and 7) will be awarded the medal.

8. STAGE III AND STAGE IV OF THE TRAINING – TWO YEARS

8.1 Eligibility criteria to enter Stage III and Stage IV

Following successful completion of the MD Clinical Oncology Part II examination the trainee is permitted to enter Stages III and IV of training. During Stage III and Stage IV the candidate is expected to widen the knowledge in Clinical Oncology, and improve upon the skills learned during the previous stages. During stage IV the candidate is also

expected to learn the advances in radiation and medical oncology, and to apply relevant developments in the local setup.

8.2 Stage III

One year of in service training as Senior Registrar in Clinical Oncology (as 2 six monthly rotation) in approved training units in Sri Lanka.

8.3 Stage IV

One year period of supervised training to be spent at an overseas centre, approved by the Board of Study. Regular feedback (in writing) of this experience should be submitted from the overseas supervising consultant(s) at regular intervals as per Postgraduate Institute of Medicine requirements.

Note: Stage III and IV may be interchanged with the approval of the Board of Study in Clinical Oncology

8.4 Progress reports

The trainers should submit a progress report every six months. The details of the format is in Annex E

8.5 Research Project leading to a dissertation

During stage III and stage IV of training each trainee should complete a dissertation in the field of Oncology based on a research project conducted by the trainee. This should be done in Sri Lanka and have relevance to problems in Sri Lanka. A project proposal for the dissertation should be submitted to the Board of Study in Clinical Oncology for approval prior to the candidate commencing the study ending up in the dissertation. Format of the dissertation should conform to the approved guidelines. The Board of Study in Clinical Oncology will appoint a supervisor to assist the trainee, and should be submitted within two years of completing MD (Clinical Oncology).

Three copies of the dissertation (typewritten) should be submitted in unbound form for evaluation. The dissertation will be evaluated by two examiners using a marking grid in **Annex K** and a pass mark (40%) is required to be eligible to sit for the Pre Board Certification Assessment. Upon evaluation the unbound copy will be returned to the candidate. Those candidates who have not passed the dissertation will be given feedback to improve the document and re-submit same prior to Pre Board Certification Assessment. The candidate should attend on any corrections and 3 copies in bound form should be submitted to the Director, Postgraduate Institute of Medicine.

Annex F: Guidelines for submission of the Research Proposal
Annex G: Guidelines for submission of the evaluation report
Annex H: Instructions to the supervisor
Annex I.: Progress reports of the dissertation to be sent by the supervisor
Annex J: Guidelines for preparation of the dissertation for submission
Annex K: Marking grid of the dissertation

8.6 Portfolio

The trainee should maintain a portfolio during the local and overseas training periods. The format of the portfolio is given in Annex L.

The Portfolio is an important instrument that is used to comprehensively document the many different components of a training programme and other details of the career in a professional discipline. Often it takes the form of a written document/ book/file. However methods such as compiled photography and videography are sometimes used to document the training obtained during a postgraduate programme. Some maintain them as electronic recordings which can then be submitted as an electronic portfolio (e-Portfolio).

The portfolio will be used as an assessment method in the Training Programmes in the Board of Study in Clinical Oncology. It is a key document in the formative assessment of the trainee performance and learning processes during the training programme. Continuation of the portfolio beyond Board Certification would enable a specialist to maintain a comprehensive record of all aspects of his or her career.

An important component of portfolio maintenance is what is known as "reflective practice". This is the process through which a trainee reflects on his/ her experiences and training in an attempt to identify the positives and negatives which are likely to influence their practice. This is an important attribute in postgraduate training. This "reflective practice" consists of-

a) focused self-assessment

b) reflecting on one's own experience

c) critical pondering on strengths, weaknesses and areas for development

d) design of own strategies that leads to improvement in practice

Using such a process there is improved training by self-identification of strengths and weaknesses. This in turn is expected to promote deep learning. The entire procedure involves documentation of what the trainee already knows and identification of areas for improvement. In that context, it would be a helpful aid in planning further learning. This approach promotes self-directed learning and critical thinking skills.

As far as postgraduate training programmes are concerned, the objectives of maintaining a portfolio are:

1) to comprehensively document the activities undertaken during the training programme.

2) to help the trainee to record his or her training in brief so that the experience acquired can be assessed and deficiencies identified and remedied, and

3) to help supervisors and assessors to evaluate the overall training and provide guidance in areas where it is needed.

The standard portfolio should consist of:

1) Documentation of all aspects of training and learning experienced by the trainee. Documentation of this experience should be with reflective and critical writing. The contents should also include a minimum number of interesting or useful case records, a minimum number of procedures and a minimum number of practical skills.
2) Exposure to new technologies. This should include a critical review of the usefulness in the different regions of the country. A minimum number of such technologies need to be included.
3) Details of continuing professional development activities. A minimum number needs to be specified.
4) Records of scientific presentations made. A minimum number needs to be specified.
5) Experience in teaching i.e. medical students, undergraduates, nurses, midwives etc
6) Research - all forms of research undertaken during the training can be recorded
7) Publications - research publications in the form of journal articles, case reports or as abstracts can be included.
8) Direct Observation of Practical Skills (DOPS). A minimum number needs to be specified.
9) Case Based Discussions (CBD). A minimum number needs to be specified.
10) Mini-Clinical Examination (Mini-CEX). A minimum number needs to be specified.
11) Regular reflective entries on all aspects of patient care and professional training.
12) A record of individual activity-based entries on the trainee's own experience

N.B.

The "minimum number" has to be determined by the Board of Study in Clinical Oncology for each Training Programme. The portfolio should be maintained in separate sections to conform to the above format and in a loose detachable folder.

It is advisable to assemble the contents as a polythene ring binder initially which would allow easy insertions by the trainee. Later this could be compiled into a comprehensive report with permanent binding of all entries made by the trainee.

Entries in the portfolio should be made by the trainee at the time of acquiring the skill and authorized or confirmed by the trainer or supervisor.

It is mandatory that in each sub-section, the entrees are made in chronological order. Separate page numbering should be made in each sub-section. In Continuing Professional Development and other areas in which further developments have taken place, reference may be made to earlier entries via provision of the relevant page numbers.

All documents in the portfolio should be typewritten/computer printed or should be scanned images or photocopies of articles. Completely hand-written documents should not be included due to obvious problems of legibility.

The trainee is expected to keep the portfolio updated regularly. It is not a thing that could be hurriedly put together at the end of the training programme. The trainers and supervisors will use the portfolio to assess the progress of the trainee and to provide a feedback at regular intervals during the training period. The trainers and supervisors are expected to assess the level of competencies in different areas of training and provide

advice and assistance to the trainees to achieve the expected levels of skills empowerment.

It is the responsibility of the trainees, the trainers and the supervisors to ensure that the entries in the portfolio are authentic and made regularly. It is also essential to provide the trainee with accurate feedback on his or her views about his or her performance during the training period. The Board of Study in Clinical Oncology expects the trainees and the trainers to make the very best use of the portfolio in order to achieve the objectives of the training programme.

8.7 Evaluation of the Portfolio

The completed portfolio should be submitted within three months after completion of training and will be assessed at the Pre Board Certification Viva..

9. PRE BOARD CERTIFICATION ASSESSMENT

9.1 Eligibility Criteria

After the completion of the prescribed post MD training programme (Stages III and IV), to be eligible to sit the PBCA, the trainee should provide the following one month before the PBCA:

- Completed Portfolio – on both local and overseas work
- Completion of the dissertation and obtain a pass mark (50% and above)
- Satisfactory progress reports for the local and overseas training components
- Certificate of good attendance

9.2 Pre Board Certification Assessment

The portfolio will be assessed by a panel of two examiners appointed by the BOS. The panel will conduct a *viva voce* examination with the trainee and evaluate the portfolio. At this portfolio *viva voce* evaluation, the performance of the trainee will be marked by the examiners using the following rating scale:

Rating Scale

Grading	Mark
Bad Failure	7
Borderline failure	8
Pass	9
Good pass	10
Excellent pass	11

It is a mandatory requirement to obtain a minimum mark of 9 to pass the evaluation. A trainee who would score a mark of less than 9 will be advised by the panel on how the portfolio could be improved. In such a case, the necessary corrections and amendments have to be made by the trainee and the portfolio resubmitted within three months to the

same panel of examiners for a second evaluation. If a mark of 9 or more is not obtained, a third evaluation by the same panel of examiners will become necessary.

A grading of pass or above is necessary for the trainee to be eligible to consider for recommendation for Board Certification Assessment and Board Certification.

10. BOARD CERTIFICATION

Eligibility criteria for Board Certification in Clinical Oncology

A trainee who has fulfilled the following criteria shall be deemed to be eligible for Board Certification:

- Passed the MD (Part II) Examination
- Satisfactory completion of one year local and one year overseas training
- Submitted satisfactory progress reports from the local supervisor appointed by the Board of Study
- Submitted satisfactory progress reports from the overseas supervisor appointed by the Board of Study
- Passed the Pre-Board Certification Assessment
- In addition the trainee has to make an oral presentation to the Board of Study - Approximately 30 minutes duration oral presentation to the Board of Study in Clinical Oncology regarding his/her post-MD training and future vision regarding improvement of quality of patient care/diagnostic services in Sri Lanka.

11. TRAINERS

Specialists with at least three years experience after Board Certification in the field of clinical oncology or in other specialties such as surgery, urology, medicine, paediatrics/neonatalogy, anesthesiology, will be appointed as trainers by the Board of Study in Clinical Oncology.
The roles and responsibilities of a trainer are identified in **Annex M**

12. TRAINING UNITS

The training will be done in units accredited by the Board of Study in Clinical Oncology /Board of Managment. The units available at present are listed in **Annex N**. New units may be approved from time to time using PGIM criteria.

13. RECOMMENDED BOOKS/JOURNALS/WEBSITES

The books, journals and websites recommended by the Board of Study in Clinical Oncology are listed in **Annex O**. This list may be modified as appropriate by the Board of Study in Clinical Oncology.

14. FINAL NOTES

Trainees are most welcome to request and secure assistance and advice from designated members of the Board of Study in Clinical Oncology in the assembling and maintenance of the portfolio.

All decisions made by the Board of Study in Clinical Oncology/Board of Management would be final subject to the approval of the Senate and the Council of University of Colombo

The trainees could be provided the facility of appealing against any problems that may arise regarding the portfolio or its evaluation. However, the final decision regarding any appeal rests with the Board of Study in Clinical Oncology and the Board of Management.

15. INTERPRETATIONS AND AMENDMENTS

In any matter relating to the information in this Prospectus the decision of the Senate and the Council of University of Colombo shall be final. The Board of Study shall have the right to amend any provision in this prospectus with the approval of the Board of Management of the PGIM from time to time.

16. GENERAL REGULATIONS OF THE PGIM

General regulations of the PGIM, which are applicable to all postgraduate trainees on all courses conducted by the PGIM, are in a separate booklet. All trainees are expected to make themselves familiar with the General Regulations in addition to the specific regulations in this prospectus.

Prospectus – Subspecialty of Paediatric Clinical Oncology

1. Eligibility Requirement and admission process

The trainee will enter at Senior Registrar level after successful completion of the MD (Clinical Oncology) Part 11 examination. The trainee (or trainees) for the approved training slot/s will be selected by the Board of Study in Clinical Oncology based on the applicant's order of merit at the MD Part II examination. The availability of slots and the number for training in paediatric clinical oncology will be indicated in the circular calling for applications for MD Examination. There will be no separate written papers or viva voce examinations to select candidates for training in paediatric clinical oncology.

2. Training programme – The duration will be a further 3 ½ years after MD Part II examination

2.1 One year appointment in General Paediatrics at Lady Ridgeway Hospital for children (LRH) as two 6 monthly appointments at Senior Registrar level. During this period the candidate will be under the supervision of Board of Study in Paediatrics. The choice for training slots will be offered by the Board of Study in Paediatrics to be selected by the trainee.

2.2 After 2.1 the candidate will undergo one year of training in Paediatric Oncology at the National Cancer Institute, (Maharagama). The choice of the training unit will be made by the trainee based on the units offered by the Board of Study in Clinical Oncology in accordance with the availability of trainers at a given time.

2.3 One and half of years of Paediatric Oncology training at an approved overseas centre.

3. Introduction to the core curriculum (Details Annex P)

The curriculum described in this section is the framework document for systematic training in Paediatric Oncology for all trainees.
Under each topic, **learning objectives** are given and the level of performance/competence to be achieved are described under the domains of ,

- **Core knowledge**
- **Clinical skills**
- **Procedural skills**

4. Assessments in the training programme

Details of Assessments and Requirements for Board Certification
The components of the assessments, marks allocations and the pass mark is given below

Components	Marks	Pass mark (%)
a) Assessment in General Paediatrics at the end of year 1	400	60% and above
b) Assessment in Paediatric Oncology at the end of year 2	400	60% and above
c) Pre-board certification assessment (PBCA)	900	60% and above

a) Assessment in General Paediatrics at the end of year one

Format of the evaluation:

End of year viva	- marks 100
SEQ (4 questions, 2hours)	- marks 100
Clinical (1 hour)	- marks 200
Total out of 400	

Pass Mark: To be eligible to proceed to year two of the training programme the required pass mark for the above assessment shall be 240 marks (60%).

1) In the event of unsuccessful performance at the above assessment on General Paediatrics, the trainee should have six more months of training in another unit of Paediatrics, at the end of which a repeat assessment will be done.

2) A total of three attempts will be allowed to pass the General Paediatrics assessment. If still unsuccessful after three consecutive attempts, the trainee will have to leave the sub-specialty training programme in Paediatric Clinical Oncology. Such candidates will have to revert back to the training programme in Clinical Oncology, and complete the training as a Senior Registrar in Clinical Oncology and complete the required training as described in the prospectus leading to Board Certification as a Clinical Oncologist.

b) Assessment in Paediatric Oncology at the end of 2^{nd} year

The objective of the assessment is to ensure that the trainee receives a comprehensive clinical training in the core curriculum in Paediatric Oncology. At the end of this training the candidate is expected to have acquired the fundamental knowledge and skills to become a capable, caring, and committed Paediatric Oncologist with good communication skills to practice in Sri Lanka and in accordance with PGIM training requirements and in keeping with patient/societal expectations.

Format of the assessments/appraisals

i) Three Monthly appraisals by the trainer/s - 200 **marks**
Marks for each appraisal - 50
Total marks for the four appraisals - 200
(The approved assessment form used in Clinical Oncology, to be used as a guide to award marks)

This will be carried out by the appropriate trainer/s and be based on

1) The portfolio to determine the work experience of the trainee in activities on the ward services and out-patient experience devoted to Paediatric Oncology at approved training unit/s.

2) The number of clinical meetings attended and addressed by the trainee for a larger audience of trainers and peers, journal clubs participated and presentations made at

clinical meetings, and case discussions with multi disciplinary inputs; certified by the trainer.

ii) At the end of completion of local training - 200 **marks**

Viva voce examination
Duration 30 minutes
Total marks - 200

There shall be two examiners and at least one to be an Oncologist with special interest in Paediatric Oncology or a Paediatric Oncologist.

The objective of the viva is to assess the trainee's capabilities in rational clinical decision making, investigatory and analytical thinking, and evidence based approach to clinical care of a child diagnosed with malignant disease. It may be one case with history taking and the plan of management with the discussion on rationale of proposed treatment.

At this viva the research project or dissertation planned or conducted by the candidate can also be reviewed.

Pass Mark: The minimum required pass mark to continue with the training programme after the Paediatric Oncology year 2 assessment shall be 240 (60%) for both i) and ii) described above.

1) if scored below 50%
This warrants re-training for a further period of 6 months, this retraining would be decided by the BOS. The candidate has to pass a reassessment after 6 months.

2) If between 50 and 60%
This warrants review by the examination panel to identify specific subject area(s) that require supervised training. A candidate should pass a re-evaluation at the end of next 3 months.

Candidates are expected to complete the 2 year period of local training prior to undertaking the 18 month period of overseas training.

Candidate should do a research as per the guidelines, and present/publish his/her research prior to PBCA. Candidate should also maintain a case book of ten paediatric cancer patients covering major haematological and solid tumours in paediatric oncology.

C) Overseas training

Overseas training would be for 18 months in a Paediatric Oncology Unit in an overseas center acceptable to the BOS/Clinical Oncology. This training should cover both radiation and medical oncology.

5. Progress Reports

These should be submitted by the trainers every six months using the form in Annex E

6. Peer Team Rating Form (PTR)
These should be submitted by the raters every six months using the form in Annex Q

7. Portfolio (details in Annex L).

8. Dissertation (details in Annex F,H,I,J, and K).

9. Pre Board Certification Assessment (PBCA)

9.1 Eligibility criteria to sit for the Examination.

This will be done at the end of the period of training, i.e. after the periods of local and overseas training, prior to Board Certification. Evidence of satisfactory completion of the training period from local and overseas training placements will be made available to the panel of examiners by the PGIM. This panel of examiners should include nominees from the Board of Study in Clinical Oncology, with at least one member with special interest in Paediatric Oncology and at least one nominee from the Board of Study in Paediatrics.

The candidate must provide the following to the Director/PGIM one month before the PBCA.

a) Portfolio - on both local and foreign training. **(details in Annex L)**

b) Case record book (10 cases) - on both local and foreign training.
c) Completed dissertation and a pass mark by the assessor . **(details in Annex F to K)**

d) Evidence of research work undertaken / done / presented / published.

e) Satisfactory progress reports from local and overseas trainers (Annex E)

9.2 Pre Board Certification Assessment (PBCA) – 900 marks

Format of the PBCA

1.10 MCQ (1 hour)	- Marks 100
2.4 SEQ (2 hours) .	- Marks 200
3. Clinical 1 case, 1 hour	- Marks 200
4. Portfolio Viva	- Marks 100
5. Evidence of Research: Dissertations	- Marks 150
(At least 1 paper in an indexed peer reviewed journal or 2 presentations at national or international scientific meetings)	
6. Overseas progress reports (50x3)	- Marks 150
	Total Marks 900

Pass Mark*:* 540 (60% in each of the six components)

If the result of the PBCA is less than 60%, the panel of examiners will recommend remedial action and the trainee will have to sit for a repeat PBCA Examination in 3-6 months.

9.3 Requirements to pass the PBCA
60% or more is scored for PBCA

9.4 PBCA failed candidate

Board certification may be deferred if the candidate is unsuccessful in the above assessment. Such candidates should follow a counseling session/s and sit for the assessment again within a period of three (3) months. If successful at this attempt, the date of Board certification shall be backdated to the date of conduct of the first PBCA viva voce examination.

However if the candidate fails again he/she will have to undergo further training for a minimum period of six months in a unit selected by the BOS prior to taking the PBCA again, and date of Board certification shall be the date of passing the subsequent PBCA.

10. ELIGIBILITY CRITERIA FOR BOARD CERTIFICATION AS A PAEDIATRIC CLINICAL ONCOLOGIST

A trainee who has fulfilled the following criteria shall be deemed to be eligible for Board Certification:

- Passed the MD Clinical Oncology Examination
- Satisfactory completion of two years local and one and half years overseas training in units approved by the Board of Study in Clinical Oncology and Board of Study in Paediatrics
- Passed the General Paediatric Assessment
- Passed the Paediatric Oncology Assessment
- Submitted satisfactory progress reports from the local supervisors appointed by the Board of Study
- Submitted satisfactory progress reports from the overseas supervisors appointed by the Board of Study
- Passed the Pre-Board Certification Assessment
- Made an Oral Presentation to the Board of Study in Clinical Oncology - Approximately 30 minutes duration oral presentation to the BOS regarding his / her post-MD training and future vision regarding improvement of quality of patient care/diagnostic services in Sri Lanka.

ANNEX A

POSTGRADUATE INSTITUTE OF MEDICINE
ASSESSMENT FORM
CLINICAL ONCOLOGY (*Clinical Disciplines*)

Name of the trainee: Name of the trainer:

Institution: Period covered:

(Please tick [√] in appropriate cages)

Training modality ***Comments***	***Excellent***	***Good***	***Average***	***Poor***
Regular attendance				
Punctuality				
Ability to follow instructions				
Attitude				
Commitment				
Motivation				
Self learning capabilities				
Understanding of content				
Performance in discussions				
Presentations				
Striving for improvement				
Overall assessment at the end				
Regular attendance				

General / Specific comments:

Signature of Trainer: - Date :-

Designation:-

ANNEX B

POSTGRADUATE INSTITUTE OF MEDICINE
ASSESSMENT FORM
CLINICAL ONCOLOGY (*Clinical Disciplines*)

Name of the trainee: Name of the trainer:

Institution: Period covered:

(Please tick [√] in appropriate cages)

Training modality *Comments*	***Excellent***	***Good***	***Average***	***Poor***
Clinical skills :- History taking				
Clinical skills :- Examination				
Clinical decision making				
Use of diagnostic tests				
Procedural / Technical skills				
Doctors-patient relationship				
Communication skills				
Staff relationships				
Professional responsibility				
Participation in research activities				
Participation in Seminars, Case presentations/audits etc				
Punctuality				
Attitudes				
Overall assessment at the end				

General / Specific comments:

Signature of Trainer: - Date:-

Designation:-

ANNEX C

POSTGRADUATE INSTITUTE OF MEDICINE
MD (Clinical Oncology) PART 1
Course Syllabus

The six subjects of the examination are:

1) Radiation Physics

A) Basic Physics

1. Structure of Matter
2. Nuclear Transformations
3. Productions of X-Rays
4. Clinical Radiation Generators
5. Interactions of Ionizing Radiation
6. Measurement of Ionizing Radiation
7. Quality of X-Ray Beams
8. Measurement of Absorbed Dose

B) Classic Radiotherapy

9. Dose Distribution and Scatter Analysis
10. A System of Dosimetric Calculations
11. Treatment Planning I: Isodose Distributions
12. Treatment Planning II: Patient Data, Corrections, and Setup
13. Treatment Planning III: Field Shaping, Skin Dose, and Field Separation
14. Electron Beam Therapies
15. Brachytherapy
16. Radiation Protections
17. Quality Assurances
18. Total Body Irradiation

C) Modern Radiotherapy

19. Three-dimensional Conformal Radiotherapy
20. Intensity-modulated Radiotherapy
21. Stereo tactics Radio surgery
22. High Dose Rate Brachytherapy
23. Prostate Implants
24. Intravascular Brachytherapy

D) **Radiation Protection**

2) Medical Statistics

A) Statistics which describe data

1. Percentages

2. Mean
3. Median
4. Mode
5. Standard deviation

B) Statistics which test confidence

1. Confidence intervals
2. *P* values

C) Statistics which test differences

1. *t* tests and other parametric tests
2. Mann-Whitney and other non-parametric tests
3. Chi-squared

D) Statistics which compare risk

1. Risk ratio
2. Odds ratio
3. Risk reduction and numbers needed to treat

E) Statistics which analyze relationships

1. Correlation
2. Regression

F) Statistics which analyze survival

1. Survival analysis: life tables and Kaplan–Meier plots
2. The Cox regression model

G) Statistics which analyze clinical investigations and screening

1. Sensitivity, specificity and predictive value
2. Level of agreement and Kappa

H) Statistics at work

1. Standard deviation, relative risk, confidence
2. Intervals, chi-squared and *P* values
3. Odds ratios and confidence intervals
4. Correlation and regression
5. Survival analysis and risk reduction
6. Sensitivity, specificity and predictive values

3) Pathology

A) Introduction to Pathology
B) Acute and Chronic Inflammation

C) Tissue Repair: Regeneration, Healing, and Fibrosis
D) Diseases of the Immune System
E) Neoplasia
F) Tumours of the Heart and Blood Vessels
G) Malignant Diseases of the Hematopoietic and Lymphoid Systems
H) Tumours of the Lung
I) Tumours of Kidney and Its Collecting System
J) Tumours of the Oral Cavity and the Gastrointestinal Tract
L) Tumours of the Pancreas
M) Tumours of the Male Genital System
N) Tumours of the Female Genital System and Breast
O) Tumours of the Endocrine System
P) Tumours of the Musculoskeletal System
Q) Tumours of the Skin
R) Tumours of the Nervous System

4) Radiobiology

A) Introduction: the significance of radiobiology and radiotherapy for cancer treatment
B) Irradiation-induced damage and the DNA damage response
C) Cell death after irradiation: how, when and why cells die
D) Quantifying cell kill and cell survival
E) Dose–response relationships in radiotherapy
F) Linear energy transfer and relative biological effectiveness
G) Tumour growth and response to radiation
H) Fractionation: the linear-quadratic approach
I) The linear-quadratic approach in clinical practice
J) Modified fractionation
K) Time factors in normal-tissue responses to irradiation
L) The dose-rate effect
M) Pathogenesis of normal-tissue side-effects
N) The volume effect in radiotherapy
O) The oxygen effect and fractionated radiotherapy
P) The tumour microenvironment and cellular hypoxia responses
Q) Therapeutic approaches to tumour hypoxia
R) Combined radiotherapy and chemotherapy
S) Retreatment tolerance of normal tissues
T) Molecular-targeted agents for enhancing tumour response
U) Biological response modifiers: normal tissues
V) Molecular targeting and patient individualization
W) Protons and other ions in radiotherapy
X) Second cancers after radiotherapy

5) Pharmacology

A) Scientific foundation of chemotherapy

1. Scientific Basis of Cancer Chemotherapy
2. Antineoplastic Drug Development

3. Principles of Pharmacology
4. Norton-Simon Hypothesis
5. Drug Resistance
6. Adjuvant Chemotherapy
7. Combination Chemotherapy
8. Combined Modality Therapy
9. Design and Interpretation of Clinical Trials
10. Clinical Trials
11. Hematopoietic Growth Factors
12. Biologic Response Modifiers: Principles of Biotherapy
13. Circadian Timing of Cancer Chemotherapy

B) Routes of administration

1. Intraventricular and Intrathecal Therapy
2. Intraperitoneal Chemotherapy
3. Continuous Intravenous Infusion Chemotherapy
4. Intraarterial Therapy
5. Perfusion Therapy
6. Hematopoietic Stem Cell Transplantation

C) Chemotherapeutic Drugs

1. Covalent DNA-Binding Drugs
2. Antimetabolites
3. Antitumor Antibiotics and Related Compounds
4. Microtubule-Targeting Drugs
5. DNA Topoisomerase II Inhibitors
6. Topoisomerase I–Targeting Drugs
7. Differentiation Agents
8. Hormones
9. L-Asparaginase
10. Investigational Drugs
11. Antibodies

D) Management of Drug Toxicity

1. Hematologic Complications of Cancer Chemotherapy
2. Oral Toxicity
3. Dermatologic Toxicity
4. Extravasation
5. Hypersensitivity Reactions
6. Ocular Side Effects of Chemotherapy
7. Cardiotoxicity of Chemotherapeutic Drugs
8. Chemotherapy-Associated Lung Injury
9. Gastrointestinal Complications of Chemotherapy
10. Hepatotoxicity of Chemotherapeutic Agents
11. Renal and Electrolyte Abnormalities Due to Chemotherapy
12. Neurotoxicity of Chemotherapy Agents
13. Vascular Toxicity

14. Second Malignancies after Chemotherapy
15. Chemotherapy in Pregnancy
16. Gonadal Complications and Teratogenicity of Cancer Therapy

E) Drug Administration

1. Central Venous Access for Chemotherapy
2. Risks of Handling Cytotoxic Drugs
3. Patient Education

F) Current Therapy of Specific Solid Tumors

1. Chemotherapy of Melanoma
2. Chemotherapy of Primary Brain Tumors
3. Chemotherapy of Head and Neck Cancer
4. Chemotherapy of Lung Cancer
5. Chemotherapy of Breast Cancer
6. Chemotherapy of Gastrointestinal Cancer
7. Chemotherapy of Endocrine Tumors
8. Chemotherapy of Genitourinary Cancers
9. Chemotherapy of Gynecologic Cancer
10. Chemotherapy of Sarcomas of Bone and Soft Tissue
11. Chemotherapy of Carcinoma of Unknown Primary Site
12. Chemotherapy of Pediatric Solid Tumors

G) Chemotherapy of Hematologic Malignancies

1. Chemotherapy of Hodgkin's Disease
2. Chemotherapy of Non–Hodgkin's Lymphoma
3. Chemotherapy of Acute Leukemia in Adults
4. Chemotherapy and Immunotherapy of Chronic Lymphocytic Leukemia and Hairy Cell Leukemia
5. Chemotherapy of the Myelodysplastic Syndromes
6. Management of Chronic Myeloproliferative Disorders and Chronic Myelocytic Leukemia
7. Chemotherapy of Multiple Myeloma and Related Plasma Cell Dyscrasias

6) Cancer Biology

A) What is cancer

1. Introduction
2. Carcinogenesis requires several cellular changes
3. Lifestyle and family influences on cancer
4. Changes continue to accumulate after cancer formation
5. Cancers are most common in epithelial cells
6. Cancer results from uncontrolled growth
7. Cancer genes
8. Invasion and metastasis

9. Some cancers are curable
10. Prevention, screening and treatment

B) Natural history: the life of a cancer

1. Introduction
2. Clonal origins of cancer
3. Experimental biology
4. Clinical data
5. Linking laboratory and clinic
6. Further reading

C) Pathology: defining a neoplasm

1. Introduction
2. Classifying cancers
3. Histopathology
4. Cytology
5. Immunohistochemistry
6. Molecular techniques

D) Epidemiology: identifying causes for human cancers

1. Introduction
2. Descriptive epidemiology
3. Epidemiological methods and terminology
4. Analytical epidemiology
5. Criteria required to establish causality
6. Biomarkers
7. Molecular epidemiology
8. Factors that influence human carcinogenesis
9. Cancer prevention

E) Oncogenes, tumour suppressor genes and viruses

1. Introduction
2. Molecular terms relevant to genes and their regulation
3. Oncogenes
4. Tumour suppressor genes
5. Oncogenes and tumour suppressors cooperate

F) Chemical and radiation carcinogenesis

1. Introduction
2. Chemical carcinogenesis
3. Radiation carcinogenesis
4. Consequences of DNA damage
5. Predicting the type of carcinogen by mutational spectrum analysis

G) Mutations, DNA repair and genetic instability

1. Introduction
2. Mutations
3. Genetic instability
4. Types of DNA damage
5. Clinical evidence that links DNA repair and carcinogenesis
6. Repair mechanisms
7. Coordination of DNA repair, proliferation and apoptosis

H) Familial cancers

1. Introduction
2. Chromosome nomenclature and structure
3. Strong familial link
4. Weaker familial link
5. Connection with sporadic cancers

I) Growth: a balance of cell proliferation, death and differentiation

1. Introduction
2. Normal proliferation and its regulation
3. DNA synthesis and telomere length
4. Cancer cells
5. Senescence, cell mortality and telomerase
6. Cell death
7. Apoptosis and cancer
8. Integration of proliferation, apoptosis and DNA repair
9. Differentiation

J) Responding to the environment: growth regulation and signal transduction

1. General features
2. Growth factors
3. Growth factor receptors
4. Growth factors: from membrane to nucleus
5. Nuclear events stimulated by growth factors
6. Cell adhesion molecules
7. How a cell interacts with its environment
8. Hydrophobic growth regulatory molecules
9. Cross-talk between signaling pathways

K) Invasion and metastasis

1. Introduction
2. General features
3. Escape from local control and invasion
4. Intravasation
5. Transport in the bloodstream

6. Extravasation
7. Angiogenesis
8. Gene changes involved in metastasis

L) Principles of cancer treatment

1. Introduction
2. Principles behind the treatment of cancer
3. Chemotherapy
4. Hormone therapy
5. Immunotherapy/biological response modifier therapy
6. Photodynamic therapy
7. New forms of treatment

M) Approaches to cancer prevention

1. Introduction
2. Limitation of exposure to tobacco smoke
3. Statutory regulation of physical and chemical carcinogens
4. Limitation of exposure to solar radiation
5. Control of infective agents
6. Breast cancer, tamoxifen and anastrozole
7. Endometrial/ovarian cancer and the contraceptive pill
8. Colon cancer and non-steriodal anti-inflammatory drugs
9. Diet

ANNEX D

POSTGRADUATE INSTITUTE OF MEDICINE
MD (Clinical Oncology) PART II
Course Syllabus

Training Content and Curriculum
It has been possible to identify certain essential core areas of training for the curriculum.

Core knowledge

This is a general overview of the central nuclear areas that need to be covered in the training programme. All aspects of these connotations have to be addressed during the training programme. Some of these could be done in Sri Lanka while some others may need the facilities of a centre of excellence abroad.

1) Cancer management

A) Skin

1. Skin Cancer
2. Common Skin Carcinomas
3. Squamous cell carcinoma
4. Basal cell Carcinoma
5. Merkel Cell Carcinoma
6. Melanoma

B) Central Nervous System

1. Central Nervous System
2. Malignant Gliomas
3. Low-Grade Glioma
4. Brainstem Glioma
5. Optic Glioma
6. CNS Lymphoma
7. Ependymoma
8. Choroid Plexus Tumors
9. Meningioma
10. Acoustic Neuroma
11. Craniopharyngioma
12. Pituitary Tumors
13. Pineal Tumors
14. Medulloblastoma
15. Primary Spinal Cord Tumors
16. Arteriovenous Malformation
17. Trigeminal Neuralgia

C) Head and Neck

1. Malignant and Benign Diseases of the Eye and Orbit

2. Uveal Melanoma
3. Orbital Lymphoma
4. Intraocular Lymphoma
5. Thyroid Ophthalmopathy
6. Orbital Pseudotumor/Lymphoid Hyperplasia
7. Pseudolymphoma
8. Cancer of the Ear
9. Nasopharyngeal Cancer
10. Nasal Cavity and Paranasal Sinus Cancer
11. Oropharyngeal Cancer
12. Cancer of the Lip and Oral Cavity
13. Larynx and Hypopharynx Cancer
14. Salivary Gland Tumors
15. Thyroid Cancer
16. Unusual Neoplasms of the Head and Neck
17. Management of the Neck and Unknown
18. Primary of the Head and Neck
19. Unknown Primary of the Head and Neck

D) Thorax

1. Small Cell Lung Cancer
2. Non-small Cell Lung Cancer
3. Mesothelioma and Thymic Tumors
4. Mesothelioma
5. Thymic Tumors

E) Breast

1. Breast Cancer
2. In-Situ Disease
3. Invasive Disease
4. Eligible for Upfront Breast Conserving Therapy
5. Advanced Invasive Disease Not Eligible for Upfront Breast Conserving Therapy

F) Digestive System

1. Esophageal Cancer
2. Gastric Cancer
3. Pancreatic Cancer
4. Hepatobiliary Cancer
5. Liver (Hepatocellular)
6. Gallbladder
7. Bile Duct
8. Colorectal Cancer
9. Anal Cancer

G) Genitourinary Sites

1. Renal Cell Carcinoma
2. Bladder Cancer
3. Prostate Cancer
4. Cancer of the Penis
5. Testicular Cancer

H) Gynecologic Sites

1. Cervical Cancer
2. Endometrial Cancer
3. Ovarian Cancer
4. Vaginal Cancer
5. Vulvar Cancer
6. Urethral Cancer

I) Lymphomas and Myeloma

1. Hodgkin's Lymphoma
2. Non-Hodgkin's Lymphoma
3. Cutaneous Lymphomas
4. Multiple Myeloma and Plasmacytoma

J) Musculoskeletal Sites

1. Bone Tumors
2. Soft-Tissue Sarcoma

K) Pediatric (Non-CNS)

1. Pediatric (Non-CNS) Tumors
2. Wilms' tumor
3. Neuroblastoma
4. Rhabdomyosarcoma
5. Ewing's sarcoma
6. Pediatric Hodgkin's Lymphoma
7. Retinoblastoma

L) Palliation

1. Palliation and Benign Conditions
2. Brain Metastases
3. Bone Metastases
4. Spinal Cord Compression
5. Liver Metastases
6. Airway Obstruction
7. Superior Vena Cava Syndrome
8. Gynecologic Bleeding

2) Ethical, emotional, psycho-social, economic and legal aspects of Oncology.

All facets of the ancillary connotations of Oncology, ethics of management modalities, off-label prescribing, use of potentially toxic drugs, cost-effectiveness of treatment modalities, ethical and moral issues in Clinical research in patients, statutory and legal implications in Oncology etc., need to be covered.

3) Skills development

There are some essential skills that need to be acquired during the training programme. These are as follows:-

A) Sampling techniques for infectious material

Techniques of securing biological samples, handling of infectious material, transporting potentially infectious samples, storage of infectious material etc.

B) Brachytherapy-Uterine Cervical and Endometerial cancer – Assist a minimum of 25 and perform a minimum of 50.

Competence in the basics of Brachytherapy and management of complications.

C) Brachytherapy-Oesophageal cancer – Assist a minimum of 10 and perform a minimum of 15.

Competence in the basics of Brachytherapy and management of complications.

D) Brachytherapy-Bronchial Cancer – Assist a minimum of 5 and perform a minimum of 10.

E) Brachytherapy-Oral cancer and soft tissue sarcoma – Assist a minimum of 10 and perform a minimum of 15.

Competence in the basics of Brachytherapy and management of complications.

F) Lumber Puncture and Instillation of intrathecal chemotherapy.

G) Pleural and lung biopsies
Techniques for obtaining specimens.

H) Central and peripheral venous access devices and their management.

I) Pleural, Peritoneal, and pericardial aspiration and instillation of chemotherapy.

J) Cystoscopy and instillation of intravesical chemotherapy.

K) Radiotherapy planning in all cancers-2D, 3D CRT, IMRT, IGRT, Stereotactic RT.

L) Use of radioactive isotopes in the management of cancers

M) Academic dexterity in communication

All relevant competencies in communicating with parents, relatives and colleagues in the different areas of diagnosis and management of cancer.

N) Teaching capabilities

All aspects of teaching with regard to Clinical Oncology with the ability to tone up or down the level at which teaching is conducted with reference to the level of knowledge of the audience.

O) Proficiency in Research

Proven capabilities in research and the ability to lead research teams and guide future research by junior colleagues.

P) Competence in Platform Oral Presentations

Training for Platform Oral Presentations with the use of computer based text, images, real-life photography and real-time videos etc.

Q) Posters and Publications

Ability to design and present posters. Scientific writing for Journal Publications.

ANNEX E

FORMAT FOR PROGRESS REPORT ON POST MD TRAINEES (LOCAL & OVERSEAS)

Name of trainee:
Name of trainer:
Training centre:
Period of report:

Please use the following key to rate your trainee's performance during the period in question, with regard to each of the areas listed below

Outstanding	A
Above average	B
Adequate	C
Below expected	D

PRACTICAL SKILLS	**Rating**	**Specific comments**
A. Clinical judgment		
Assessment of request forms		
Selection of appropriate laboratory investigations		
B. Bench skills		
Preparation of reagents & media		
Hands-on work at the bench		
Interpretation of results		
C. Record keeping		

PROJECTS OR OTHER ACTIVITIES CARRIED OUT DURING THE PERIOD OF TRAINING:

INTERPERSONAL SKILLS	**Rating**	**Specific comments**
1. Communication & working with others in the lab		
2. Communication & working with		

persons of other disciplines		
3. Supervising & helping juniors and willingness to serve when required		
4.Following instructions of senior colleagues		
5.Power of expression (oral and written)		
6. Standard of punctuality, ethics, professional attitudes and reliability		
7. Teaching medical students and juniors		

ACADEMIC SKILLS	**Rating**	**Specific comments**
1. Theoretical background and knowledge		
2. Reads widely in medical literature		
3. Participates actively in academic discussions		
4. Thinks independently and rationally		

GENERAL COMMENTS

Particular strengths

Particular weaknesses

…… …… ……

Signature of trainer **Name** **Date**

ANNEX F

FORMAT OF DETAILED PROJECT PROPOSAL

Section 1

1. **Name of trainee**
2. **Name(s) of supervisor(s)**
3. **Training centre**

Section 2

1. **Project title**
2. **Background and justification**
3. **Objectives of study**
4. **Research plan**
    a. **Design**
    b. **Setting**
    c. **Method**
    d. **Sample size and sampling techniques**
    e. **Outcome measures**
    f. **Statistical analyses and plan of presentation of results**
    g. **Ethical considerations**
    h. **Work plan and time lines**
5. **References**
6. **Funding for study**
7. **Signature of trainee**

Section 3

Recommendation of supervisor(s)

Signature of Supervisor 1 **Signature of Supervisor 2**

Date **Date**

Section 4

Date of submission to PGIM

Date of approval by BOS **Signature of Secretary BOS**

ANNEX G

REPORT OF THE RESEARCH PROJECT REVIEWER

Name of Trainee:

Training Centre:

Supervisor:

Reviewer:

Name:

Designation: Address Official:

Tel//Fax: Email:

Title of Project:

Please comment on each of the following headings.

Introduction : Rationale(Justification) – problem identified and quantified. Hypothesis and expected outcome, impact and relevance of the study.

Comment : …….

Literature Review: Adequacy (evidence of a systematic search for related. similar, relevant studies)

Comment : ……..

Objectives : Clearly defined . relevant and stated in measurable terms .

Comment : ……..

Method: Appropriate study design to address the objectives with clear detailed description of subjects, sampling technique and sample size, interventions , data collection and management. The study should be , internally valid and reproducible. Where specific details

are available in the literature, reference should be made to the original papers, and comments kept to a minimum. If modifications have been made to the published techniques, these should be described in full. Appropriate statistical tests planned should be mentioned and ethical issues addressed

Comment : ……..

Results: Order of presentation and appropriate presentation of tables, figures, graphs. Appropriate statistical analyses and interpretations

Comment :…….

Discussion: The findings of the study should be discussed taking into consideration findings of relevant studies, within and outside the country. The discussion should not be a repetition of the results only. Limitations should be included.

Comment :……

Conclusion and recommendation: Based of the results of the study and to address the objectives

Comment : ……

Limitations: Any inherent and / or inadvertent biases and how they were dealt with.

Comment :……

References: According to the Vancouver system and relevant to the study. Properly documented in the Bibliography and appropriately cited in the text

Comment : ……

Institution(s) where work would be carried out:

6.11 Ethical considerations/institution from where ethical approval will be /has been obtained:

Comment : ……

Overall presentation: Overall presentation of the proposal (grammar, spelling, typographical mistakes etc.

Comment : ……

Recommendation of reviewer:

Comment : ……

Is the dissertation acceptable? Yes / No

If No, What corrections are required? (Attach a separate sheet of paper if necessary)

Signature: **Date:**

Recommendation of the BOS:

Signature of Chairperson/Secretary: **Date:**

ANNEX H

INSTRUCTIONS TO DISSERTATION SUPERVISORS

- The dissertation is based on a 1-2 year research project.
- Acceptance of the dissertation is a requirement for Board Certification in Clinical Oncology.
- The trainee should write up the project work as a dissertation conforming to the format approved by the Board of Study in Clinical Oncology.
- The supervisor should guide the student in planning and designing, carrying out the research and in presentation of the work.
- The supervisor should obtain recommendation of the research proposal from a reviewer.
- The supervisor should forward Progress Report(s) in the prescribed form at the end of 3 months after the trainee commences work on the research project and 3 months after completing the project work.
- The objective of the dissertation is to prove the trainee's capability to plan, carry out and present his / her own research. The purpose of this training is to ensure maturity, discipline and scholarship in research.
- The dissertation should comprise the trainee's own account of his / her research.
- It must contribute to existing knowledge of infective diseases relevant to Sri Lanka and afford evidence of originality as shown by independent, critical assessment and / or discovery of new facts in the area under study.
- It should be satisfactory as regards literary presentation.
- The dissertation should be certified by the supervisor as suitable for submission.
- General Comments on the contents: The objectives should be clearly stated and should be feasible to achieve within the time frame. Other published work relevant to the problem (both international and local) should be comprehensively covered and critically evaluated. An appropriate study design and method should be used to achieve the objectives stated. The results should be appropriately analysed, interpreted and presented effectively. The discussion should include comments on the significance of results, how they agree or differ from published work. If they differ, the probable reasons for these differences need to be discussed. Theoretical / practical applications of the results, if any should be given. The conclusions should be valid and be based on the results obtained on the study.
- Ethics: The candidate should confirm and document that procedures followed were approved by the Ethical Committee of the institution where the work was carried out and ethical approval was obtained by a recognized Ethical Review Committee.
- The trainee is required to make a short (10 min.)presentation of the project proposal in August / September of their year 1 training to obtain a feedback from other trainers and invitees, regarding feasibility, appropriateness of study design and method and statistical considerations, prior to commencement of the project.
- Prior to submission of the dissertation, the trainee will be required to make a short (15 – 20 minutes) presentation of the project once completed, to the Board of Study in Clinical Oncology members and other invitees This will give the trainee an opportunity to discuss his / her work and obtain a feedback from peers and colleagues. It will not be used for evaluation in any form. The supervisors will also be invited for these presentations.
- The trainee will be questioned on the dissertation at the viva-voce examination.
- If at any time the supervisor is not satisfied with the work progress of the trainee, the trainee should be made aware of the deficiencies and corrective measures suggested. This should be conveyed in writing to the trainee with a copy to the Board of Study in Clinical Oncology. In such instances, a follow-up report should be forwarded within three months or earlier if necessary to the BOS.

ANNEX I

DISSERTATION PROGRESS REPORT

To be forwarded by the supervisor to the Board of Study in Clinical Oncology at least once in SIX months

1. **Name of trainee:**
2. **Training Centre:**
3. **Supervisor:**
4. **Title of project:**
5. **Description of work carried out to date:**

To be filled in by trainee: briefly describe progress in lab / field work and dissertation writing

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Supervisor's comments

6. **Is the work on schedule**? Yes / No
7. **Progress in dissertation writing**: satisfactory / unsatisfactory
8. **Constraints** (if any)
9. **Recommendation of supervisor**:

Signature: Date:

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10. Recommendation of the BOS:

Signature of Secretary: Date:

ANNEX J

DISSERTATION SUBMISSION FORMAT

General instructions

It is essential to start writing the dissertation early and in all cases before the data collection is completed . At the same time, you should make arrangements to have your manuscript word-processed. Your supervisor should be consulted before you start to write and thereafter at regular intervals. It is much easier to make corrections if the draft is double-spaced and printed on only one side of the paper.

The past tense should be used . To avoid exceeding the given word limit, it is suggested that an approximate running total is kept. The metric system and the International System (SI) of units should be used whenever possible.

Length

An ideal length of text is approximately 8000 words, which equals to about 20 - 30 pages. With figures, references, etc., the total length is likely to be in the region of 30 - 40 pages.

Number of copies

Three copies should be submitted to the Director/ PGIM, spiral-bound in the first instance. One will be retained in the PGIM, one will be sent to the internal examiner and one to the overseas examiner. After acceptance (and necessary corrections), all three copies should be bound in hard covers (black) with the author's name, degree and year printed in gold on the spine. The front cover should carry the title, author's name and year printed in gold. One copy will be returned to the student, one retained by the supervisor, and the third housed in the PGIM library.

Layout

The dissertation should be word-processed and printed single-side only, on A4-size photocopying paper.

Layout of typescript

There should be 1.5" on left-hand and top margins, and 1.0" on right-hand and bottom margins. It is especially important that the left-hand (binding) margin is of the regulatory size.

Line spacing should not be less than 1.5.

Lettering should be in Times New Roman, font size 12.

All pages should be numbered consecutively throughout, including appendices. Page numbers should be inserted in the bottom right hand corner.

Tables, diagrams, maps and figures

Wherever possible, these should be placed near the appropriate text. Tables should be numbered in continuous sequence throughout the dissertation. Maps, graphs, photographs, etc., should be referred to as Figures. Each of these should also be numbered in a continuous sequence. Colour should be avoided in graphic illustrations (unless it is essential) because of the difficulty of photographic reproduction; symbols or other alternatives should be used instead.

Notes
Notes, if essential, should be inserted, in reduced font, at the foot of the relevant page. If too voluminous for this to be practicable, they should be placed in an Appendix. Notes may be typed in single spacing.

Abbreviations
Where abbreviations are used, a key should be provided.

Preliminaries
The preliminaries precede the text. They should comprise the following:

Title page
Title of dissertation
Author's name
MD (Clinical Oncology)
Post Graduate Institute of Medicine
University of Colombo
Date of submission

1. Statement of originality: The work presented in the dissertation should be the trainee's own and no part of the dissertation should have been submitted earlier or concurrently for any other degree. The statement should be signed by the author, and countersigned by the supervisor.
2. Abstract: Should be structured (introduction, objectives, method, results, conclusions) Should not include figures, tables, graphs or references Should be limited to 500 words or less
3. Table of contents: The table of contents immediately follows the abstract and lists in sequence, with page numbers, all relevant divisions of the dissertation, including the preliminary pages.
4. List of tables: This lists the tables in the order in which they occur in the text, with the page numbers.
5. List of figures: This lists all illustrative material (maps, figures, graphs, photographs etc) in the order in which they occur in the text, with the page numbers.
6. Acknowledgments

Text
The dissertation should be divided into clearly defined chapters. Chapters may be subdivided and a decimal number system can be helpful to identify sections and subsections. Topics of the sections should not be mixed, e.g. Results should not appear in the Materials and Methods.

6.1 Section 1 – Introduction: The current position and the reasons for carrying out the present work (Rationale /Justification and problem/s identified and quantified.) Hypothesis and expected outcome, impact and relevance of the study should be stated. Generally, only a few references should be cited here.

Section 2 – Literature Review: This section should be reasonably comprehensive, and most of the references to be quoted normally occur here. The relevant references dealing with the general problems should be reviewed first and this should be followed by a detailed review

of the specific problem. The review is in many cases approached as a historical record of the development of knowledge of the subject.

Section 3 – Objectives Clearly defined, general, specific and any subsidiary objectives should be stated

Section 4 – Materials and Methods: Appropriate study design to address the objectives with clear detailed description of subjects, sampling technique and sample size, interventions , data collection and management. The study should be , internally valid and reproducible. Where specific details are available in the literature, reference should be made to the original papers, and comments kept to a minimum. If modifications have been made to the published techniques, these should be described in full. Appropriate statistical tests planned should be mentioned and ethical issues addressed.

Section 5 – Results: Presentation of data in a logical sequence commencing with the basic / baseline characteristics of the subjects. Summarize the data with a figure, table or graph when appropriate Present appropriate statistical analyses and interpretations . Each figure, table or graph should be complete and clear without reference to the text. Concise explanations in legends and explanation of abbreviations are needed The text should complement the figure, table or graph not simply describe them but should give valid interpretations of the results. Complete (raw) data should not be included but should be contained in tables in an Appendix if needed. Only data from the present study should be included and in particular no comparison should be made at this stage with results from other studies .

Section 6 – Discussion: Interpret and explain the results so as to provide answers to the study question(s). Comment on the relevance of these answers to the present knowledge of the subject. Consider alternate interpretations. Comment on interesting or unexpected observations and about the method. Critically compare the results with results and conclusions of other published studies within and outside the country, and explain possible reasons for any differences observed. Comment an unexpected outcomes Comment on further follow-up research required on the subject.

Section 7 Limitations Any inherent and / or inadvertent limitations / biases and how they were dealt with should be described

Section 8 Conclusions and recommendations **:** Based of the results of the study and to address the objectives

References

These are given so that the reader can refer to the original papers for further study. Uniformity is essential, but errors and inconsistencies are very common and authors are advised to check the references most carefully. Examiners will mark students down for inconsistencies in their references, either omissions or failure to follow the recommended format as given in the following section.

References are very important and must be complete and accurate. All literature referred to should be listed in a consistent form and style, and must contain sufficient information to enable the reader to identify and retrieve them.

There are different styles of citing sources, listing references and compiling a bibliography. The Vancouver style is widely accepted in scientific writings, and is recommended for MD (Obstetrics and Gynaecology) dissertation.

List all references that are cited in the text, using the Vancouver System
Type the references double - spaced in the Vancouver style (using superscript numbers and listing full references at the end of the paper in the order in which they appear in the text). Online citations should include date of access. Use Index Medicus for journal names. If necessary, cite personal communications in the text but do not include in the reference list. Unpublished work should not be included . References should be listed in the following style:
The arrangement of the references at the end of the dissertation should be in numerical order as they are cited in the text.
The order of the items in each reference should be:
(a) For journal references: name(s) of author(s), title of paper, title of journal, year, volume number, and page numbers.
(b) for book references: name(s) of author(s), , title of book, edition,, volume, , town of publication, publisher. year ,chapter and/or page number
Authors' names should be in roman letters, and arranged thus:
Smith, C.O., James, D.E.Frank, J.D.
Where an author's name is repeated in the next reference it should also be spelt out in full.
The title of the paper is then included, without quotation marks. The journal title should be unabbreviated, *in italics*, and be followed by year; **volume number in bold** (the issue /number): and the first and last page numbers.

Websites
Author's name (if available) must be listed first, followed by the full title of the document in italics ,the date of publication or last revision (if available), the full http address (URL). and the date accessed in parentheses.

ANNEX K

DISSERTATION MARKING SCHEME

The two examiners appointed by the Board of Study in Clinical Oncology shall use the following marking grid to allocate marks for the dissertation.

1. Title (05)
2. Author's name and address
3. Abstract (10)
4. Table of contents
5. List of tables
6. List of figurers
7. Introduction (20)
8. Objectives (15)
9. Review of literature (20)
10. Materials and methods (50)
11. Results (40)
12. Discussion (including limitations) (45)
13. Conclusion and recommendations (if any) (10)
14. Acknowledgements
15. References (15) (Vancouver system should be used)
14. The overall presentation (20 marks)

Two examiners will be appointed by the BOS to assess and award a mark independently out of 100 using the marking system described above. The final mark for the dissertation out of 200 shall be the total of the marks given by each examiner.

To Pass the Dissertation the trainee should score 40 % (80 marks) or more. If it is less than 40% the trainee should resubmit the Dissertation at a prescribed date attending to the recommended amendments and improvement for reassessment by the same pare of examiners. At the repeat assessment the maximum mark to be awarded shall be 40%. This process to be continued in the same manner until the minimum 40% is obtained.

ANNEX L

POST MD PORTFOLIO

Training Portfolio Section II : During years 4-5 (Post MD Examination)

Objectives: To be board certified as a Specialist in Clinical Oncology to practice independently in Sri Lanka, on completion of the in-service training before and after the MD (Clinical Oncology) Part II Examination, the Trainee should:

a) have administrative and organizational skills
b) be able to clearly document and prioritize problems
c) have skills appropriate to a specialist (diagnostic, operative, counseling, risk management, management of medico-legal issues)
d) have appropriate attitudes
e) be able to carry out and also supervise research and clinical audits
f) be committed to Continuous Professional Development
g) be able to disseminate knowledge effectively
h) have adequate knowledge of the English Language and be able to communicate effectively
i) have adequate knowledge and skills in Information Technology

1. Components

1.1Log of Procedures carried out
1.2 Reflective Practice (on significant clinical events experienced by the Trainee)
1.3 Teaching (undergraduates / postgraduates/ nurses / Radiation Theraphy Technicians)
1.4 Research and Audit
1.5 Information Technology
1.6 Ethics and Medico-legal Issues
1.7 Professional Development

ANNEX M

ROLES AND RESPONSIBILITIES OF A TRAINER

The roles and responsibilities of a trainer are multiple:

A. MD trainer
B. Academic Appraiser
C. Supervisor of a research project
D. Reviewer/assessor of a research project
E. Supervisor of the Training Portfolio
F. Role model
G. Examiner

A. As a MD trainer, he/she should

1. be involved in teaching and ensure trainees learn on the job.
2. allocate time for trainees to discuss academic as well as personal issues.
3. in instances of unsatisfactory behavior, attitude or problems of the trainee, first warn the trainee and if the situation persists, inform the academic appraiser of the trainee to sort out the problem at grass root level. As a last resort, inform the Director/Post Graduate Institute of Medicine and Board of Study in Clinical Oncology so that remedial action can be taken. Communications on such issues should be copied to the trainee's academic appraiser.
4. consult the Board of Study and inform the academic appraiser of the trainee, if a trainee is required to repeat any duration of a clinical appointment or any other appointment.
5. send progress reports to the Board of Study in Clinical Oncology , every six months.
6. supervise the leave arrangements of trainees. (Warn the trainees if in excess and remind them that leave is not a right but a privilege, but give their due)
7. encourage trainees to participate in continuing medical and professional development activities such as time to visit the library, participate in other clinical meetings, work shops, critical appraisal of journal articles etc.
8. encourage presentations by the trainees in clinical meetings, CPD activities etc.
9. conduct workplace based assessments – DOPS and Mini Clinicals as indicated in the portfolio guidelines.
10. inform the Board of Study in Clinical Oncology if more than 2 weeks of leave is to be taken by you.
11. arrange for cover up of leave for training purposes (since this may be different from work cover up)
12. inform the Board of Study in Clinical Oncology and give adequate time for the trainee to be moved to another training site if more than 1 month leave is to be taken, since off site cover is not acceptable in such a situation.
13. handover the required letters of release/ attest to the satisfactory completion of portfolio of the trainees on completion of an appointment by the trainee (it might be difficult for them to come later)
14. give constructive feedback continuously, which will help the trainees to improve both academically and professionally. Feedback on negative aspects of a trainee should be dealt with in a confidential manner.
15. provide a pleasant and disciplined environment in your laboratory for the trainee to work.

B. <u>As an academic appraiser</u>, the trainer should

1. have regular meetings with the trainees.
2. be accessible to the trainee and give your contact number and convenient times for meetings.
3. develop an approachable, friendly relationship so that trainees are not hesitant to contact you in times of need.
4. supervise the entries and ensure regular updates of your appraisee's portfolio.

C. <u>As a supervisor of a research project</u>, the trainer should

1. be realistic and ensure the trainee gets hands on experience to do research on his or her own.
2. not have too many goals which will burden the trainee who will find it difficult to finish the project within 4 months.
3. make sure that trainees submit duly filled forms and suggest the name of a reviewer to review the project proposal.
4. assist and advice trainees regarding obtaining funds in time for project commencement.
5. correct the trainee's presentation and writing (including spelling and grammar) before it is presented or sent to the reviewer or submitted for evaluation.
6. encourage them to publish or present in national and international scientific sessions.

D. <u>As a reviewer and assessor of a research project dissertation</u>, the trainer should

1. review the work done in the Sri Lankan context.
2. write a detailed report including the corrections and changes that a trainee has to attend to .
3. complete the review within the allocated time, otherwise trainees will face difficulties in attending to the corrections
4. remember that a delay in submission of your assessor report will delay the procedure of sending all the dissertations to the foreign examiner by the Post Graduate Institute of Medicine.

E. <u>As a role model</u> the trainer should

1. be exemplary in your dealings with colleagues of other disciplines and all personnel in the health care team.
2. always be punctual
3. be sympathetic to the trainees appreciating that they too have problems.
4. avoid criticizing other trainers and training sites.

F. <u>As an examiner</u> the trainer should

read and abide by the guidelines of the PGIM document.

ANNEX N
CURRENT TRAINERS and TRAINING UNITS

TRAINERS

The trainers shall be the Board Certified Consultants who are in charge of accredited Clinical Oncology training units in National Cancer Institute Maharagama.

QUALIFICATIONS

MBBS; MD with Board Certification

TRAINING UNITS

National Cancer Institute Maharagama – All adult and paediatric oncology wards at National Cancer Institute Maharagama.

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ANNEX O

BOOKS/JOURNALS/WEB SITES

Reading Material for Selection Examination

There are several books available. A few examples are listed below.

ANATOMY
Clinical Anatomy for Medical Students (7th / latest edition) *Richard S Snell*
Clinical Anatomy (9th / latest edition) *Harold Ellis*
Last's Anatomy - Regional and Applied (11th / latest edition) *Chummy S Sinnatamby*
BD Chawrasia's Human Anatomy Regional and Applied [Dissection and Clinical]: 3 volumes (4th / Latest Edition)

EMBRYOLOGY
Langman's Medical Embryology (11th / latest edition). *TW Sadler*

GENETICS
ABC of Clinical Genetics (3rd / latest edition). *H Kingston*
Basic Medical Genetics (4th / Latest Edition). *Professor Rohan W. Jayasekera, Clinical Genetics Unit, Medical Faculty, Colombo*

PHYSIOLOGY
Ganong's Review of Medical Physiology (23rd / latest edition). *Kim Barrett, Heddwen Brooks, Scott Boitano and Susan*
Text book of Medical Physiology (11th / latest edition). *Gyton and Hall*
Essential Reproduction (6th / latest edition) *Martin Johnson*

BIOCHEMISTRY
Harper's Illustrated Biochemistry (28th / latest edition) *Robert K Murray, David A Bender, Kathleen M Botharm, Peter J Kennelly, Victor Rodwell and P Anthony Weil*
Lippincott's Illustrated Reviews (4th/latest edition)

ENDOCRINOLOGY
Clinical Gynecologic Endocrinology and Infertility (7th /latest edition) *Leon Speroff and Marc A Fritz*

MICROBIOLOGY
Medical Microbiology (17th / latest edition) *David Greenwood, Richard C B Slack, John F Peutherer* Mims' Medical Microbiology (4th / latest edition) *Richard V Goering, Hazel M Dockrell, Mark Zuckerman, Derek Wakelin, Ivan Roitt, Cedric Mims and Peter Chiodini*

PATHOLOGY
Robbins Basic Pathology (8th / latest edition) *Kumar, Abbas, Fausto and Mitchell*
Muir's Textbook of Pathology (12th / latest edition) General Pathology, (7th / Latest Edition) *Walter & Israel*

IMMUNOLOGY
Roitt's Essential Immunology (11th / latest edition) *Peter Delves, Seamus Martin, Dennis Burton and Ivan Roitt*

PHARMACOLOGY
Clinical Pharmacology (10th / latest edition) *Peter N Bennett and Morris J Brown*
Lecture Notes: Clinical Pharmacology and Therapeutics (7th / latest edition) *John L Reid, Peter Rubin and Matthew Walters*

EPIDEMIOLOGY & STATISTICS
Introduction to Medical Statistics (3rd / latest edition) *M Bland*
Introduction to Research Methodology for Specialists and Trainees(latest edition)
–Edited by *P M Shaughn O'Brien and Fiona Broughton Pipkin* (RCOG Press)

OTHER

Kumar and Clark's Clinical Medicine: 8e/latest edition (Kumar, Kumar and Clark's Clinical Medicine) by Parveen Kumar CBE BSc MD FRCP FRCP(Edin) and Michael L Clark MD FRCP (Sep 17, 2012)

Davidson's Principles and Practice of Medicine: 21e/latest edition (Principles & Practice of Medicine (Davidson's)) by Nicki R. Colledge BSc FRCP(Ed), Brian R. Walker BSc MD FRCP(Ed) and Stuart H. Ralston MB ChB MD FRCP FMedSci FRSE (Mar 25, 2010)

Leaning Resources MD Clinical Oncology Part 1 Examination

There are several books, journals and websites available. A few examples are listed below.

Books
Khan's Lectures: Handbook of the Physics of Radiation Therapy by Faiz M Khan, John Gibbons, Dimitris Mihalidis and Hassaan Alkhatib (Jun 27, 2011/latest edition)

The Physics of Radiation Therapy by Faiz M. Khan (Author) (4th/latest edition)

Radiobiology for the Radiologist by Eric J. Hall (Author), Amato Giaccia (Author) (Jun 6, 2011/Latest Edition)

Medical Statistics from Scratch: An Introduction for Health Professionals by David Bowers (Apr 1, 2008/Latest Edition)

Medical Statistics Made Easy by M. Harris and G. Taylor (Feb 15, 2008/Latest Edition)

Medical Statistics at a Glance by Aviva Petrie and Caroline Sabin (Aug 4, 2009/Latest Edition)

Biology of Cancer (2nd Edition) (Special Topics in Biology Series) by Michael A. Palladino and Dorothy Lobo (Dec 23, 2011/Latest Edition)

Cancer: Basic Science and Clinical Aspects by Craig A. Almeida and Sheila A. Barry (Jan 19, 2010/Latest Edition)

Principles of Cancer Genetics by Fred Bunz (Nov 19, 2010/Latest Edition)

Principles of Clinical Cancer Genetics: A Handbook from the Massachusetts General Hospital by Daniel C. Chung and Daniel A. Haber (May 14, 2010/Latest Edition)

Physicians' Cancer Chemotherapy Drug Manual 2012 (Jones & Bartlett Learning Oncology) by Edward Chu and Vincent T. DeVita Jr. (Dec 29, 2011/Latest Edition)

Handbook of Cancer Chemotherapy (Lippincott Williams & Wilkins Handbook Series) by Roland T. Skeel and Samir Khleif (May 18, 2011/Latest Edition)

Physicians' Cancer Chemotherapy Drug Manual 2012 by Edward, M.D. / DeVita, Vincent T., Jr, M.D. Chu (2011/Latest Edition)

Robbins Basic Pathology: 9e (Robbins Pathology) by Vinay Kumar MBBS MD FRCPath, Abul K. Abbas MBBS and Jon C. Aster MD (May 15, 2012/Latest Edition)

Rosai and Ackerman's Surgical Pathology - 2 Volume Set: Expert Consult:10e (Surgical Pathology (Ackerman's)) by Juan Rosai MD (Jul 7, 2011/Latest Edition)

Leaning Resources MD Clinical Oncology Part 2 Examination

The MD Anderson Manual of Medical Oncology, Second Edition by Hagop M. Kantarjian, Robert A. Wolff and Charles A. Koller (Jun 14, 2011/Latest Edition)

DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology (Cancer: Principles & Practice (DeVita) by Vincent T. DeVita Jr. MD, Theodore S. Lawrence, Steven A. Rosenberg MD PhD and Ronald A. DePinho (May 16, 2011/Latest Edition)

The Washington Manual of Hematology and Oncology Subspecialty Consult (Washington Manual Subspecialty Consult) by Amanda F. Cashen and Brian Van Tine (Mar 19, 2012/Latest Edition)

Harrison's Hematology and Oncology (Harrison's Specialties) by Dan Longo (May 10, 2010/Latest Edition)

Postgraduate Haematology by Anthony R. Green, A. Victor Hoffbrand, Daniel Catovsky and Edward G. D. Tuddenham (Dec 14, 2010/Latest Edition)

CT Teaching Manual: A Systematic Approach to CT Reading by Matthias Hofer (Nov 24, 2010/Latest Edition)

Human Sectional Anatomy: Atlas of body sections, CT and MRI images, Third Edition by Bari M Logan, Adrian Dixon and Harold Ellis (Nov 30, 2007/Latest Edition)

Handbook of Evidence-Based Radiation Oncology by Eric K. Hansen and Mack Roach III (Jul 6, 2010/Latest Edition)

Radiation Oncology: Management Decisions by K.S. Clifford Chao, Carlos A. Perez and Luther W. Brady (May 16, 2011)

Leibel and Phillips Textbook of Radiation Oncology: Expert Consult - Online and Print, 3e by Richard Hoppe MD, Theodore L. Phillips MD and Mack Roach III MD (Sep 23, 2010/Latest Edition)

Treatment Planning in Radiation Oncology by Faiz M. Khan (Oct 13, 2006/Latest Edition)

Perez and Brady's Principles and Practice of Radiation Oncology by Edward C. Halperin, Carlos A. Perez, Luther W. Brady and David E. Wazer (Dec 3, 2007/Latest Edition)

Principles and Practice of Radiation Therapy, 3e by Charles M. Washington MBA RT(T) FASRT and Dennis T. Leaver MS RT(R)(T) FASRT (Feb 16, 2009/Latest Edition)

Radiation Oncology: Management Decisions by K.S. Clifford Chao, Carlos A. Perez and Luther W. Brady (May 16, 2011/Latest Edition)

Journals

Clinical Oncology Journal
American Journal of Clinical Oncology
British Medical Journal
Ceylon Medical Journal
Lancet Oncology

Important Web Sites

www.nccn.org/professionals/physician_gls/f_guidelines.asp
www.asco.org/.Guidelines/Guidelines/Clinical+Practice+Guidelines
www.nice.org.uk/CSGHO
www.esmo.org/
www.cochrane.org
www.nejm.org
www.bmj.com

ANNEX P

POSTGRADUATE INSTITUTE OF MEDICINE

MD (Paediatric Oncology) with Board Certification in Paediatric Oncology
Course Syllabus

A) Details of training in General Paediatrics during the 1st year

1. The one year period of Paediatric Training would be undertaken in two consecutive six month periods in two Paediatric Units. This allocation would be arranged by the Board of Study in Paediatrics on application, forwarded by the Board of Study in Clinical Oncology

2. During this period, the selected trainee would function as a Registrar in Paediatrics and would be placed in the Paediatric on-call Rota. He / She would have the same duties and responsibilities of a trainee in Stage III of the Paediatric Pre-MD program of the Board of Study in Paediatrics. It will NOT be of an "observer" status but would involve hands-on-training and clinical responsibilities, including on-call duties.

3. Arrangements would be made to help the trainee "keep in touch" with Oncology during this period of training. This could take the form of a half-day once-a-week release programme to actively participate in a Paediatric Oncology clinic.

4. The one year training programme in Paediatrics will be specially formulated and approved by the Board of Study in Paediatrics. In addition to General Paediatrics the training will give special emphasis to the following;

i. Differential diagnosis of children in whom malignancy is a possibility
ii. Needs and complications of children with cancers
iii. Psychological complexities of such children and their parents
iv. Genetic issues
v. Acute and late toxic effects including endocrine complications
vi. Care of critically and terminally ill children
vii. Communication skills
viii. Child rights issues
ix. Problems related to siblings of children with cancers
x. Environmental risks and methods of establishing associations

5. Research project:

- It is mandatory that the trainee carries out a Research Project on a Paediatric topic relevant to Oncology during any stage of the training programme. The project protocol must be approved by the Board of Study in Oncology as well as the Board of Study in Paediatrics before embarking on the study proper. Any and every interventional study should have Ethical Clearance and be registered with the Sri Lanka Clinical Trials Registry.
- Once completed, the paper must be presented at a scientific congress listed in Annex A and/or published in an "Indexed" or peer reviewed journal OR submitted as a dissertation with appropriate supervisors.

- The paper/dissertation should be submitted three months before the date of the PBSA to the Board of Study in Oncology and Paediatrics for acceptance before submission for PBSA.

- Once accepted and other requirements are fulfilled the complete research article with a certificate of presentation/publication or dissertation should be submitted to the PGIM three months prior to the date of the Pre Board Certification Assessment.

B) Details of training in Clinical Oncology in the 2nd year

1. The one year period of Paediatric Training would be undertaken in the Paediatric Oncology Unit at Cancer Institute, Maharagama. This allocation would be arranged by the Board of Study in Clinical Oncology after the selection of Trainee.

2. During this period, the selected trainee would function as a Senior Registrar in Paediatric Oncology. He / She would have the same duties and responsibilities of a trainee in step 6 of the MD training program of the Board of Study in Clinical Oncology.

3. Appointment allocation is done at the PGIM in a special meeting. Selections of appointments are done by the trainees themselves considering the merit position.

4. Training would be National Cancer Institute, Maharagama.

5. During the training period Trainees should have hands on job experience in the management of paediatric oncology emergencies, relevant diagnostic and therapeutic procedures. Trainees are expected to have inpatient service responsibilities with patients admitted under the care of a clinical oncologist with special interest in paediatric oncology or a paediatric oncologist. The out-patient experience should include the special care of leukaemic patients. Ability to perform bone marrow aspiration and trephine biopsy and obtaining CSF samples for analysis and knowledge on detailed follow up procedures are essential. These should provide adequate experience in diagnosis, investigation, management and follow up.

6. Trainees should also complete the following:

(a) attend and preferably participate in at least one relevant national or international meeting over the 3 year training period.

(b) be an active member of a journal club

(c) be involved in preparation and presentation of teaching material for tutorials, seminars and grand rounds for undergraduates or postgraduates.

(d) be encouraged to undertake 1 or more research projects during their training and to present their results at one of the annual scientific meetings of the special societies or published in peer reviewed journals.

7. The important areas/content of the course syllabus will include:

1. Biological Basis of Childhood Cancer - Epidemiology, Childhood Cancer and Heredity, Molecular and Genetic Basis, Biology of Childhood Cancer, Tumor Immunology and Paediatric Cancer

II. Diagnosis and Evaluation of the Child with Cancer

III. Clinical Assessment and Differential Diagnosis of the Child with Suspected cancer

IV. Pathology and Molecular Diagnosis of Leukeamias and Lymphomas

V. Diagnostic Pathology of Paediatric Malignancies

VI. Imaging Studies in the Diagnosis and Management of Pediatric Malignancies

VII. Principles of Multimodal Therapy & clinical applications

VIII. Infants and Adolescents with Cancer: Special Considerations

IX. Cancer Clinical Trials: Design, Conduct, Analysis, and Reporting

X. Regulating Patient Safety in Cancer Treatment

XI. Management of Common Cancers of Childhood
- Acute Lymphoblastic Leaukaemia
- Acute Myeloblastic Leaukaemia
- Chronic Leaukemias of Childhood
- Myeloproliferative and Myelodysplastic Disorders
- Hodgkin Lymphoma
- Non-Hodgkin Lymphomas in Children
- Lymphoproliferative Disorders and'Malignancies Related to Immunodeficiencies
- The Histiocytoses
- Tumours of the Central Nervous System
- Retinoblastoma
- Tumors of the Liver
- Renal Tumuors
- Neuroblastoma
- Rhabdomyosarcoma and the Undifferentiated Sarcomas
- Ewing Sarcoma Family of Tumors: Ewing Sarcoma of Bone and Soft Tissue and the Peripheral Primitive Neuroectodermal Tumors
- Non-rhabdomyosarcomatous Soft Tissue Sarcomas
- Osteosarcoma
- Germ Cell Tumours
- Endocrine Tumours
- Management of Infrequent Cancers of Childhood

XII. Supportive Care of Children with Cancer

- Oncologic Emergencies-esp. tumour lysis

- Hematologic Supportive Care for Children with Cancer
- Infectious Complications in Paediatric Cancer Patients
- Nutritional Supportive Care
- Symptom Management in Supportive Care
- Nursing Support of the Child with Cancer
- Rehabilitation of the Child with Cancer
- Psychiatric and Psychosocial Support for the Child and Family
- Ethical Considerations in Paediatric Oncology

XII. Other Issues Arising at Diagnosis, During Treatment, and after Cessation of Therapy

- Late Effects of Childhood Cancer and Its Treatment
- Educational Issues for Children with Cancer
- Palliative Care for the Child with Advanced Cancer
- Financial Issues in Paediatric Cancer
- Preventing Cancer in Adulthood
- Resources for Children with Cancer, Their Families, and Physicians

ANNEX Q

PTR Form of PGIM *Confidential*

PGIM PTR ASSESSMENT OF REGISTRARS/ SENIOR REGISTRARS

(This form is also available in Sinhala and Tamil)

Name of the Trainee **Specialty** **Year training** ○ ○ ○ ○ ○ ○

Name of Rater

(You can remain Anonymous)

We are very grateful for your independent and honest rating of our trainees.

Please indicate your profession by filling in one of the following circles

○ Consultant ○ Registrars ○ SHO or HO ○ Other Specify

○ Allied Health Professional ○ SR ○ Clerical or Secretarial Staff ……

Please mark one of the circles for each component of the exercise on a scale of 1 (extremely poor) to 9 (extremely good). A score of 1-3 is considered unsatisfactory, 4-6 satisfactory and 7-9 is considered above that expected, for a trainee at the same stage of training and level of experience. Please note that your scoring should reflect the performance of the trainee against that which you would reasonably expect at their stage of training and level of experience. You must justify each score of 1-3 with at least one explanation/example in the comments box, failure to do will invalidate the assessment. Please feel free to add any other relevant opinions about this doctor's strengths and weaknesses.

THE PTR IS NOT AN ASSESSMENT OF KNOWLEDGE OR PRACTICAL SKILLS

Attitude to staff: Respects and values contributions of other members of the team			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED
Attitude to patients; Respects the rights, choices, beliefs and confidentiality of patients			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED
Reliability and punctuality			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED

Communication skills: communicates effectively with patients and families			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED
Communication skills: communicates effectively with healthcare professionals			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED
Honesty and Integrity, do you have any concerns? ○ **Yes** ○ **No**			

Team player skills: Supportive and accepts appropriate responsibility; Approachable			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED
Leadership skills: Takes responsibility for own actions and actions of the team			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED
OVERALL PROFESSIONAL COMPETENCE			
○ Don't know	○ ○ ○ UNSATISFACTORY	○ ○ ○ SATISFACTORY	○ ○ ○ ABOVE EXPECTED

Comments about the trainee (BLOCK CAPITALS PLEASE) – Write in English/ Sinhala/ Tamil

Your Signature: (You can remain Anonymous) **Date:** ☐☐ ☐☐ ☐☐☐☐

Please return to the supervising consultant
DO <u>NOT return to the Registrar or Senior Registrar</u>.
To supervising Consultant – Please use this information to give a feedback/counsel the trainee and return this form to Director PGIM under confidential cover.