Appendix A

Training Centre Accreditation Checklist

A. Accreditation of the HOSPITAL

1. Total number of beds in the hospital : **Minimum 500 beds**

2. Occupancy rate of beds in the hospital: **Occupancy rate of at least 60%**

3. Minimum supporting departments that must be available:
   Medicine
   Surgery O&G Orthopaedics A&E
   Blood bank Pathology lab Microbiology lab
   Radiology department with ultrasound and contrast study facilities

4. At least one gazetted specialists/consultants in each of the following specialty in the hospital:
   Internal Medicine
   Orthopaedics
   Pathology
   Otorhinolaryngology
   O&G
   General Surgery
   Radiology

B. Accreditation of the RADIOTHERAPY/ONCOLOGY DEPARTMENT

1. Total number of oncology beds: **Minimum 20 beds**

2. Total number of new cancer cases seen per year: **Minimum 500 cases/yr**

3. Total number of outpatient clinics per week: **Minimum 3 clinics, including multidisciplinary clinics**

4. Chemotherapy facilities must be available either as in-patient or out-patient

5. Radiotherapy facilities:

   a) At least 1 simulator machine
   b) At least 1 linear accelerator machine
   c) At least 1 treatment planning system.
   d) Brachytherapy facilities available at least for gynaecological malignancies

6. Departmental teaching activities

    a) Number of grand ward round per month: **Minimum once/week**
    b) Number of departmental CME programme per month: **Minimum once/month**

C. Accreditation of the ONCOLOGY CONSULTANTS

1. Clinical Oncologist(s) with at least 1 year post gazettement
   (With commitment to teaching/CME and preferably involved in research/publications)

2. Has at least one of the following qualifications:
   • FRCR Clinical Oncology
   • FFRRCSI Clinical Oncology (Ireland)
   • DMRT(UK) before 1.1.1994
   • MMed in Clinical Oncology (UM)

D. Other facilities

(The following are desirable though not mandatory)

a) night duty rooms for doctors

b) b) medical library

c) meeting room with audio-visual aids

d) internet access

Appendix B

Syllabus

PART I – BASIC SCIENCES

In the first year, candidates will be taught basic sciences relevant to the practices of clinical oncology. This will be in the form of formal lectures, tutorials and practical work. Demonstration, where relevant, will be arranged to show various aspects of basic sciences application in the clinical setting. 'In House' tuition with the clinical oncologists would be ongoing throughout the course. Candidates will also be exposed to the full practices of a clinical oncology department and form an integral part of the team to provide oncological care to patients.

The basic sciences subjects are divided into 6 modules :

Pathology
Molecular biology
Radiobiology
Chemotherapy
Medical Statistics
Radiotherapy physics.

<u>Pathology</u>

The emphasis of this teaching is to understand the natural history of neoplasia. Candidates are expected to be able to discuss the demography, aetiology, clinical presentation, typical macroscopic and microscopic features of common cancers. Candidates should be familiar with general management and prognosis of common tumours. Candidates will be given lectures, tutorials and practicals in the first year amounting to 35 hours on cancers affecting the following major areas:

1. Head and neck
2. Nervous system
3. Respiratory system
4. Gastro-intestinal tract
5. Genito-urinary tract
6. Female genital tract
7. Endocrine system
8. Soft tissue and bone
9. Paediatrics
10. Lympho and Myeloproliferative tumours
11. Skin

Basic Oncological Sciences

This encompasses 3 modules : molecular biology, chemotherapy and radiobiology.

In this module candidates will be taught on carcinogenesis, tumour biology, cancer genetics, radiobiology, chemotherapy and principles of treatment. A basic knowledge of cytology, histology and physiology of normal tissues is assumed. Candidates are expected to have an understanding of the biology of malignancy, and the principles underlying the response of cells and normal and malignant tissues to anti-cancer therapies especially radiation and chemotherapy. There would be some overlap with the pathology module.

This module would be covered with lectures and tutorials over 45 hours. The main subject headings would include the following:

1. Introduction to oncology and definition
2. Nomenclature
3. Characteristics of benign and malignant growths
4. Grading and staging of tumours
5. Biology of tumour growth
6. Mechanism of invasion and metastasis
7. Carcinogen and mechanism of oncogenesis
8. Genetic changes predisposing to tumours
9. Oncogene and cancer
10. Tumour suppressor genes
11. Laboratory diagnosis of cancer.
12. Cancer screening
13. Chemotherapy
14. Radiobiology

Medical Statistics and Cancer Epidemiology

This module aims at imparting working statistics knowledge geared towards understanding basic statistics and demography, clinical trials and critical appraisal of publications.

In the first year of Masters of Clinical Oncology, the 25 hours of lectures would include :

1. Introduction to Medical Statistic
2. Data
3. Probability
4. Sampling distribution
5. Significance distribution
6. Types of studies

7. Clinical trials
8. Regression and Correlation
9. Cancer registry
10. Survival data analysis

Radiotherapy Physics

Clinical Oncology includes radiation therapy. Detailed knowledge of radiation physics is required with emphasis on radiotherapy physics and working knowledge of radiotherapy machines. There would be lectures, tutorials and demonstration of relevant equipment and procedures related to radiotherapy practice, amounting to 45 hours.

The syllabus would include the following:

1. Introduction to medical physics
2. Production of X - rays
3. Interaction of x and y - rays and other ionising radiation with matter.
3. Measurement of x and γ-rays
4. Physical basis of radiation teletherapy
5. Beam therapy apparatus.
6. Principles of treatment planning
7. General properties and production of radioactive material
8. Principles and practice of radiation protection
9. Radiation dosimetry
10. Quality assurance in radiotherapy
11. Brachytherapy
12. Nuclear medicine and radionuclides.

PART II – CLINICAL

Training for the final examinations will be on going process from the 1st to the 3rd year. There would be emphasis on radiotherapy and chemotherapy but a good knowledge of general medicine, surgery and gynaecology is expected. At the end of the 3rd year the candidates are expected to have in depth knowledge of management of common cancers and the principles of management of rare tumours. Knowledge of tumours at the following sites include :

HEAD AND NECK
Lip and oral cavity
Oropharynx
Larynx and Hypopharynx
Nasoharynx
External and middle ear
Nose and paranasal sinuses
Salivary gland

GASTROINTESTINAL TRACT
Oesophagus
Stomach
Liver
Pancreas
Small bowel
Colon and rectum
Anal canal and perianal region

CENTRAL NERVOUS SYSTEM
Brain
Meninges
Spinal cord and Peripheral nerves

SOFT TISSUE AND BONE
Adult soft tissue sarcoma
Childhood/adolescent sarcoma
Primary bone sarcomas

CHEST
Pleura
Trachea
Lung
Mediastinum and thymus

PAEDIATRIC TUMOURS
Medulloblastoma
Neuroblastoma
Nephroblastoma
Retinoblastoma

LYMPHO / MYELOPROLIFERATIVE DISORDERS
Hodgkin's lymphoma
Non-Hodgkin's lymphomas
Plasma cell malignancies
Acute and chronic leukaemias

SKIN
Basal cell carcinoma
Squamous cell carcinoma
Melanoma
Cutaneous lymphoma
Kaposi's sarcoma