

MEDICAL ONCOLOGY SENIOR RESIDENCY

TRAINING REQUIREMENTS

(A) INTRODUCTION

Medical Oncology is a specialty within the field of medicine which deals with the medical care of cancer patients.

The objectives of Medical Oncology Training are to train candidates in:

- Treatment of individual malignancies, with an emphasis on a coordinated multidisciplinary approach in both in and outpatient settings.
- Diagnostic and therapeutic procedures for the cancer patient.
- The key tools in basic science that apply to cancer patient management.

The Residency Programme aims to meet specific outcomes in the 6 key competencies of patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and system-based practice.

The total duration of training is 3 years, in which at least 24 months must be devoted to core clinical experience.

(B) PROGRAMME OVERVIEW

- 2 years of ACGMEI-accredited training from R4 to R5
- 1 year of JCST-accredited training in R6

(C) TRAINING REQUIREMENTS R4 – R5 (accredited by ACGME-I)

1. Foundational Requirements

The R4-R5 years must be in compliance with ACGME-I's Foundational Requirements.

Foundational requirements for IM related specialties: <http://www.acgme-i.org/web/requirements/SubspecialtyFoundational.pdf>

2. Specialty Specific Requirements

The training requirements by the various SIs are as follows:

SI	R4	R5
SHS	3 months rotation through the following 4 sub-specialized medical oncology teams that covers the entire spectrum of oncology: <ul style="list-style-type: none">• Gastrointestinal oncology and Neuro-oncology• Thoracic/ Head and Neck cancers and genitourinary cancers• Breast and gynecology oncology• Lymphoma/ Sarcoma/ Transplant Supervision by faculty members and attending physicians in <ol style="list-style-type: none">a) Inpatient clinical services, where residents will be assigned to an attending-led team and be responsible for the care of oncology inpatients under their charge.b) Outpatient clinical services, where residents will assist the attending physician in the provision of ambulatory care to cancer patients	

SI	R4	R5
	<ul style="list-style-type: none"> • Each resident will be responsible for no more than eight-to-12 patients during each half-day outpatient clinic session. • Residents are required to be responsible for no more than for 4-8 patients, on average, during each half day structured continuity ambulatory session (if provided). • Residents will take on new patients, assess, evaluate, counsel and recommend appropriate treatment for patients under close supervision by Attending Physicians. • They will have the opportunity to follow-up on these patients in a longitudinal fashion over time. <p><u>Didactic Sessions</u></p> <p>Weekly 1.5 hours of:</p> <ul style="list-style-type: none"> • Medical Oncology core syllabus lectures • Practice-based learning clinical case discussions <p>Weekly 1 hour of:</p> <ul style="list-style-type: none"> • Cancer multi-disciplinary team discussions • Morbidity and mortality improvement rounds <p>Monthly 1.5 hours of:</p> <ul style="list-style-type: none"> • Sub-specialty journal clubs 	
NUH	<p>Residents will be rotated through various rotations involving different tumour types, the length of each clinical rotation ranging from 2-4 months. Each rotation will be devoted to two main disease sites. Residents will be required to attend diligently the multidisciplinary tumour boards for that particular rotation. They will also be required to have outpatient clinic attachments to the particular oncologist who is specialising in that tumour type 2-3 times a month. They will be required to clerk and present selected cases per month to that particular supervising faculty to which they are attached to and discuss with the supervising faculty the pertinent management issues.</p>	
	<ul style="list-style-type: none"> • 3 months Breast cancer and cancer genetics • 2 months Upper gastrointestinal (GI) cancers • 2 months Lower GI cancers • 2 months Hepatobiliary cancers • 1 month Research training • 2 months mandatory General Medicine /Geriatric Medicine posting as per Ministry of Health requirements 	<ul style="list-style-type: none"> • 4 months Lung and Head and Neck cancers • 2 months Gyneco-oncology and Genitourinary cancers • 3 months Neuro-oncology/ Musculoskeletal / Malignant Hematology including Bone Marrow Transplant exposure (Haematology rotation including the Autologous bone marrow transplant exposure will be a month's duration); • 1 month Research training • 2 months mandatory General Medicine / Geriatric Medicine posting as per Ministry of Health requirements
<p><u>Didactic Session</u></p>		

SI	R4	R5
	<p>The Medical Oncology Department has a weekly schedule of Departmental Teaching Activities involving all faculty as follows:</p> <ol style="list-style-type: none"> 1) Topic Reviews 2) Journal Clubs 3) Post-Clinic Conferences 4) Mortality and Morbidity Rounds 5) Departmental Grand Rounds 6) NCIS Grand Rounds 7) NUH Grand Rounds 8) Clinico-pathological Conference 9) Research Lecture Series 10) Multi-disciplinary Tumour Boards <p><u>Scholarly Activity</u></p> <p>NUHS Oncology senior residents are required to complete at least one scholarly project under the guidance of the Department Director of Research during the three years of Residency training.</p> <p>Examples of scholarly activities include:</p> <ol style="list-style-type: none"> 1) A case report of interest or clinical significance 2) A literature review of a topic relevant to oncology 3) Prospective studies of relevance to oncology 4) Retrospective analyses 5) Clinical observation reports <p>Each senior resident is encouraged to produce at least 1 of the above over 2 years to be published in peer reviewed journals. They must also complete the Collaborative Institutional Training Initiative (CITI) and Good Clinical Practice Programs within the first year of their training.</p>	
NHG	<ul style="list-style-type: none"> • At least 50 percent of the clinical experience must occur in the outpatient setting. • Each fellow should, on average, be responsible for no more than eight-to-12 patients during each half-day ambulatory session. • Residents are strongly suggested to have a structured continuity ambulatory clinic experience that exposes them to the breadth and depth of medical oncology. If provided: <ul style="list-style-type: none"> - This experience should average one half-day each week throughout the 24 months of accredited education; - This experience must include an appropriate distribution of patients of each gender and a diversity of ages; - Continuity patients should not be limited to one disease type, but should expose residents to patients with a broad variety and stage of disease; - Each fellow should, on average, be responsible for four-to-eight patients during each half-day session; and, - The continuing patient care experience should not be interrupted by more than one month, excluding a resident's vacation. • The program must provide at least one month of clinical experience in autologous bone marrow transplantation. • Inpatient assignments should be of sufficient duration to permit continuing care of a majority of the patients throughout their hospitalization. • Procedures and Technical Skills <ul style="list-style-type: none"> - Direct supervision of procedures performed by each fellow must occur until proficiency has been acquired and documented by the program director. 	

SI	R4	R5
	<ul style="list-style-type: none"> - Faculty members must teach and supervise the fellows in the performance and interpretation of procedures, and this must be documented in each fellow's record, including indications, outcomes, diagnoses, and supervisor(s). • Regular weekly didactic sessions to be conducted in the department requiring compulsory attendance. Sessions conducted will be in accordance with ASCO core curriculum outline • Elective rotations in Gyn Oncology, radiation oncology, palliative medicine and hematology to be a part of the 2 year training. • Senior residents should participate in at least one scholarly activity over the 2 year period. They will be expected to engage in projects in which they develop hypotheses or in projects of substantive scholarly exploration and analysis that require critical thinking i.e., basic, clinical, or translational biomedicine; health services; quality improvement; bioethics; education; and public policy. The projects chosen should ideally result in publication or presentation of their work in national/international conferences or peer reviewed journals. • At least 3 procedures performed in each year. 	

3. Resident Competencies¹

	R4	R5
1. Patient Care	<p>Ability to:</p> <ul style="list-style-type: none"> • recognize his/her role as health care provider to patients with cancer and their families; • take a thorough oncologic history and physical examination; • demonstrate the skills of making appropriate cancer management recommendations, including writing appropriate consultation notes and chemotherapy orders on patients she or he has evaluated; • interpret signs and symptoms of an oncologic emergency and recommend appropriate care; • develop a problem list for each patient and make treatment recommendations. 	<p>Competencies in:</p> <ul style="list-style-type: none"> • making appropriate cancer management recommendations which provides optimal care for the patient; • working with other multidisciplinary doctors in designing a care plan which is in the patient's best interest; • independently making and implementing appropriate cancer management recommendations and planning but knowing when to look for advice from faculty if necessary; • managing more complex cases which may require critical thinking and which may deviate from normal presentations or require more complicated work-up and treatment; • supervising the work and orders of R4 residents with the appropriate level of intervention for each trainee's skills.
2. Medical Knowledge	<p>Ability to:</p> <ul style="list-style-type: none"> • integrate the basic clinical sciences underlying the practice 	<p>Ability to:</p> <ul style="list-style-type: none"> • internalize and integrate the various options of cancer

¹ Expected resident competencies attained subject to individual SIs' teaching syllabus at the respective residency year.

	<p>of medical oncology including fundamentals of cancer biology and genetics, carcinogenesis, immunology;</p> <ul style="list-style-type: none"> • evaluate the following for the common malignancies: staging, pertinent investigations, natural history, epidemiology, pathology, pathogenesis, risk factors, diagnosis, treatment by stage, follow-up and screening if applicable; • list the acute toxicities of chemotherapy treatment and their management; • contribute a basic critique of oncology studies using evidence-based methods and develop critical judgment needed of patient care; • recall the basic principles of radiation oncology and the “tolerance” doses of the various organs to radiation treatment; • summarize the basics of pathology for the practising oncologist; • predict anticipated treatment outcomes so that these can be discussed with the patient, family and other involved physicians; • apply the fundamentals of radiology including PET-CT scans, CT scans and MRIs and tumour measurements; • apply the basics of hormonal therapies and biologic/targeted therapies in cancer treatment; • relate the basics of psycho-oncology to patient care; • manage the specific technical skills including intrathecal chemotherapy and Ommaya chemotherapy administration and also care of venous access devices for his/her rotations in the first year; • clinically assess patients and planning of investigation and management. <ul style="list-style-type: none"> • Competency in the palliative management of cancer patients including pain-medication management and delivery of palliative radiation therapy for compression syndromes, 	<p>treatment, including surgery and systemic therapy, as well as combined modality treatment, including their risks and benefits in relation to each individual patient;</p> <ul style="list-style-type: none"> • develop a solid foundation in the biology of cancer; • demonstrate competence with the evaluation of diagnostic studies (pathology and radiology) related to cancer management; • prognosticate malignancies according to their stage confidently; • relate the likelihood of the long-term potential toxicities of chemotherapy to dose and scheduling; • demonstrate a strong working knowledge of all the options, as well as their risks and benefits, in the management of common malignancies; • recall the major clinical studies regarding malignancies, particularly the common tumour types and be able to adapt their knowledge in patient care in a more independent manner; • discuss, plan and institute appropriate therapy within the setting of a multidisciplinary team including accurate assessment of the physical, emotional, psychological and social needs of the patient, ability to plan, implement and interpret appropriate cost effective diagnostic and prognostic investigations, accurate diagnostic reasoning considering the patient’s age, status, cultural and social circumstances when determining treatment. <ul style="list-style-type: none"> • Completion or nearing completion of an original research project.
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	intestinal obstruction and other urgent distressing symptoms.	
3. Practice-based Learning and Improvement	<p>Residents will:</p> <ul style="list-style-type: none"> • demonstrate competence in presenting subject matter, identifying both the critical issues and the pertinent literature bearing on these issues at topic reviews; • present cases in the post clinic conferences over his/her 3 clinical years and this approach to cases will form a key aspect of life-long practice-based learning and improvement; • be able to competently present at Journal Club, Mortality and Morbidity Conferences, and other opportunities for critical literature review; • become familiar with the concepts of quality improvement. • The multidisciplinary tumour boards and Clinico-Pathological Conferences will enable to senior residents to reflect and apply their knowledge to practice-based medicine in oncology cases which involve various degrees of complexity. 	<ul style="list-style-type: none"> • Residents will be able to critically evaluate clinical studies in regard to their design, use of statistics and the validity of their conclusions. The senior resident will be able to translate this knowledge into their patient care. • Know the best practice patterns to facilitate care through clinic operating procedures and patient interactions.
4. Interpersonal and Communication Skills	<p>Ability to:</p> <ul style="list-style-type: none"> • internalize his/her role as a matured clinician, including the preparation of concise and specific consultation notes; • identify with the 'team' aspect of medical oncology, in which the physician works effectively with surgeons, radiation oncologists, nurses, therapists, other health-care providers and administrative and secretarial staff; • develop awareness and respect for different cultural backgrounds and ethnicities in order to provide sensitive and effective care; • provide clear and concise off-service handover notes to facilitate patient care; • interview patients and family members accurately, patiently and compassionately and present information in an understandable and compassionate manner. 	<p>Residents will:</p> <ul style="list-style-type: none"> • function effectively with the 'team' aspect of medical oncology, in which the physician works effectively with surgeons, radiation oncologists, nurses, therapists, other health-care providers and administrative and secretarial staff; • function effectively in dealing with difficult situations common in oncology, such as breaking bad news, the dying patient, the newly relapsed patient and the hostile patient; • effectively communicate with referring physicians; • develop expertise in interviewing patients and family members accurately, patiently and compassionately and present information in an understandable and compassionate manner.

<p>5. Professionalism</p>	<p>Residents will:</p> <ul style="list-style-type: none"> • have the conviction to be a Medical Oncologist; • maintain collegial relations with the other staff during a ward round; • will record duty hours in a timely fashion; • consistently protect patient confidentiality; • treat patients/families with utmost respect and maintain patient confidentiality at all times; • maintain collegial relations with all staff and providers across disciplines; • demonstrate a commitment to providing patients with the best possible care through continuous learning and self-improvement; • follow-up to ensure that all tests and investigations and subsequent actions are carried through in the ward service; • be open to receiving feedback and willing to provide it when appropriate. 	<p>Residents will:</p> <ul style="list-style-type: none"> • The senior resident will be able to acknowledge deficient areas in his knowledge base that require further work and set up a plan to address them; • develop clear and thoughtfully considered career goals; • develop a deep understanding of the ethics of curative therapy and end-of-life care; • enhance understanding and the practice of ethical principles in relation to patient care and confidentiality.
<p>6. Systems-based Practice</p>	<p>Ability to:</p> <ul style="list-style-type: none"> • deliver multidisciplinary cancer care, including effectively communicating with radiation and surgical oncologists to develop a unified and complete treatment plan; • use the Computerized Patient Support System (CPSS) electronic medical record to obtain medical information; • use the electronic medical oncology prescription writing in both inpatient and outpatient settings, including infusional analgesia ordering; • formulate a comprehensive discharge care plan which includes community-based resources such as home hospice services; • initiate management pathways in hospital to streamline the patient care journey such as the care pathway or the end-of-life forms; • utilise an appropriate range of healthcare professionals to assist in patient care, working closely 	<p>Ability to:</p> <ul style="list-style-type: none"> • discern when consultation with social work or psychiatry services, dieticians or other services are needed; • skilfully use databases for research projects; • develop an understanding of the economics of practice, and in particular, with the appropriate use of state of the art technology and biological treatments; • practise cost-effective healthcare and utilize appropriate funding bodies available in the community.

	with appropriate social services to maximise patient care.	
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ACGME-I's advanced specialty requirements can be found here: <http://www.acgme-i.org/web/requirements/specialtypr.html>

(D) TRAINING REQUIREMENTS R6 (accredited by JCST)

1. Specialty Specific Requirements

Residents are required to complete the following core postings in R6:

- a) Core Medical Oncology postings (at least 4 months)
- b) Compulsory GM/GRM postings (2 months)

For the remaining 6 months in R6, the residents have the option to choose between Medical Oncology postings, research postings and/or elective postings at R6. Training at R6 can consist of one or a combination of the following:

- a) Medical Oncology (up to 6 months)
- b) Research postings (up to 6 months)
- c) Radiation Oncology (2 to 4 months)
- d) Hematology, Apheresis and Blood Banking (2 to 4 months)
- e) Palliative Medicine (2 to 4 months)
- f) Pathology (2 to 4 months)
- g) Surgical Oncology (2 to 4 months)
- h) Nuclear Medicine(maximum 3 months)
- i) Others (subject to RAC approval)

2. Resident Competencies

	R6
1. Patient Care	Competencies in: <ul style="list-style-type: none"> • Able to independently make appropriate cancer management recommendations in a multidisciplinary setting/tumour board; • Independently making and implementing appropriate cancer management recommendations and planning for routine cases; • Supervising the work and orders of R4 and R5 residents with the appropriate level of intervention for each trainee's skills.
2. Medical Knowledge	<ul style="list-style-type: none"> • Competence in discussing various options of evidence-based cancer treatment, including surgery and systemic therapy, as well as combined modality treatment, including their risks and benefits in relation to each individual patient; • Complete an original research project.

3. Practice-based Learning and Improvement	Residents will be able to <ul style="list-style-type: none"> critically evaluate clinical studies in regard to their design, use of statistics and the validity of their conclusions. The senior resident will be able to translate this knowledge into their patient care. Know the best practice patterns to facilitate care through clinic operating procedures and patient interactions.
4. Interpersonal and Communication Skills	Residents will: <ul style="list-style-type: none"> function effectively with the 'team' aspect of medical oncology, in which the physician works effectively with surgeons, radiation oncologists, nurses, therapists, other health-care providers and administrative and secretarial staff; function effectively in dealing with difficult situations common in oncology, such as breaking bad news, the dying patient, the newly relapsed patient and the hostile patient; effectively communicate with referring physicians; develop expertise in interviewing patients and family members accurately, patiently and compassionately and present information in an understandable and compassionate manner.
5. Professionalism	Residents will: <ul style="list-style-type: none"> be able to acknowledge deficient areas in his knowledge base that require further work and set up a plan to address them; develop clear and thoughtfully considered career goals; develop a deep understanding of the ethics of curative therapy and end-of-life care; enhance understanding and the practice of ethical principles in relation to patient care and confidentiality.
6. Systems-based Practice	Ability to: <ul style="list-style-type: none"> discern when consultation with social work or psychiatry services, dieticians or other services are needed; skilfully use databases for research projects; develop an understanding of the economics of practice, and in particular, with the appropriate use of state of the art technology and biological treatments; practise cost-effective healthcare and utilize appropriate funding bodies available in the community.

(E) LOG OF OPERATIVE / CLINICAL EXPERIENCE

All residents are to keep a log of their operative / clinical experience in the electronic logging system (R4 – R5) and logbook (R6).

(F) ASSESSMENT AND EXAMINATIONS

I. Supervisors Assessment

A combination of the following assessment tools can be used:

- Rotation competency assessment
- 360 multi-source evaluation
- Mini-clinical evaluation exercise (Mini-CEX)
- In-training evaluation (ITE)
- Fellow evaluation by faculty
- Learning evaluation
- CCC report
- Performance evaluation
- Chart-simulated recall
- Direct observed procedural skills (DOPS)
- Family meeting learning activity
- Practice-based improvement program
- ACGME-I resident competency tracking evaluation

II. Feedback

Residents should perform a yearly evaluation of teaching faculty and the training programme using the designated forms. These forms must be submitted to the RAC and kept absolutely confidential.

III. Examinations

R4	R5	R6
<ul style="list-style-type: none">• Pass in either MRCP or ABIM for commencement of R4• Formative ASCO-ITE	<ul style="list-style-type: none">• Pass in both MRCP and ABIM for progression to R5• Formative ASCO-ITE	

(G) CHANGES IN TRAINEESHIP PERIOD AND LEAVE OF ABSENCE

I. Changes in Training Period

Residency should be continuous. If a training programme is interrupted for any reason whatsoever, the RAC may at its discretion, require the resident to undergo a further period of training in addition to the minimum requirements of the programme or terminate the residency altogether. All residents are required to conform to the residency training plan as approved by the RAC and complete all the exit and training requirements within the maximum candidature.

II. Leave Of Absence

All residents are to comply with the prevailing MOH policy on Leave of Absence.

III. Overseas Postings

Overseas attachment during Senior Residency training is not permitted with the exception of Radiation Oncology and Neurosurgery (refer to JCST Circular 114/14).