

Hematology- Oncology Consult

Legend for Educational Activities

FR – Faculty Rounds DSP – Directly Supervised Procedures FS – Faculty Supervision MR – Morning Report DPC – Direct Patient Care BRL --Board Review Lectures MJ – Medical Jeopardy	RR – Radiology Rounds EBM - Evidence Based Medicine M&M-Morbidity & Mortality DL- Didactic Lectures GR – Grand Rounds JC – Journal Club PC–Professionalism Curriculum
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Legend for Evaluations

FE - Faculty Evaluations DSP – Directly Supervised Procedures IE – In-service Exam PDR–Program Director’s Review (twice annually) PR – Peer Review
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Hematology Oncology Consult is a 4 week rotation for PGY2 residents, offering experience both in the inpatient and sub-specialty clinic. The residents will be supervised by a board certified Hematologist-Oncologist on this rotation while providing consultative care to adult patients on General medicine wards and critical care units. One half day a week will be protected time for resident’s continuity clinic and one half day would be protected for Weekly Didactic lecture series where attendance is mandatory. The educational goals for this rotation are indicated for each of the six ACGME competencies.

A. Patient Care

	Educational Goals	Educational Activities	Evaluation Tools
1.	Ability to take a complete medical history and perform a careful and accurate physical examination with a focus on hematology oncology	DPC, FR	FE
2.	Ability to write concise, accurate and informative	DPC, FR	FE

	histories, physical examinations and progress notes with a focus on hematology oncology		
3.	Ability to formulate comprehensive and accurate problem lists, differential diagnoses and plans of management.	DPC, FR	FE, ITE
4.	Ability to write concise, accurate, informative and helpful consultation notes, clearly outlining the recommendations and explaining their rationale.	DPC, FR	FE
5.	Ability to interpret major abnormalities of bone marrow aspirates and biopsies and peripheral smears.	DPC, FR, DL	FE, ITE

B. Medical Knowledge

	Educational Goals	Educational Activities	Evaluation Tools
1.	Understanding the pathophysiology, clinical manifestations, diagnosis and management of disorders of blood cells and coagulation.	DPC, FR, DL	FE, ITE
2.	Understanding the indications for, principles, complications, bleeding and coagulation disorders/hemoglobinopathies, and interpretation of specialized tests, including coagulation studies, bone marrow aspiration and biopsy, lymph node biopsy, lymphoid cell immunophenotypes and cytogenetic analysis of bone marrow samples and peripheral smears.	DPC, FR, DL	FE, ITE
3.	Understanding the indications for and complications of transfusion of red cells, platelets and clotting factors, and plasmapheresis.	DPC, FR, DL	FE, ITE
4.	Understanding the pharmacology and clinical utility of common chemotherapeutic regimens for treatment of leukemias and lymphomas.	DPC, FR, DL	FE, ITE
5.	Understanding the basic pathophysiology, clinical manifestations, diagnosis and management of complications of cancer and its treatment, including infection and neutropenia, as well as cardiovascular, metabolic, renal and neurological emergencies.	DPC, FR, DL	FE, ITE

C. Interpersonal Skills and Communication

	Educational Goals	Educational Activities	Evaluation Tools
1.	Communicate sensitively and effectively with patients with hematology oncology problems and with their families.	DPC, FR, DL	FE
2.	Communicate effectively with colleagues, staff and other services regarding hematology oncology patients.	DPC, FR, DL	FE

D. Professionalism

	Educational Goals	Educational Activities	Evaluation Tools
1.	Interact professionally toward patients, families, colleagues, and all members of the health care team.	DPC, FR, DL	FE
2.	Appreciation of the social context of illness.	DPC, FR, DL	FE

E. Practice-Based Learning and Improvement

	Educational Goals	Educational Activities	Evaluation Tools
1.	Commitment to professional scholarship, including systematic and critical perusal of relevant print and electronic literature, with emphases on integration of basic science with clinical medicine, and evaluation of information in light of the principles of evidence-based medicine.	DPC, FR, DL, JC,	FE, ITE

F. Systems-Based Practice

	Educational Goals	Educational Activities	Evaluation Tools
1.	Work with the service requesting the consultation to assure that care for the patient’s medical needs is properly coordinated with care being delivered by the primary service.	DPC, FR, DL	FE
2.	Knowing when to consult or refer a patient to hematology oncology	DPC, FR	FE
3.	Willingness and ability to help the requesting physician in a consultative or co-management capacity, according to the needs of the situation.	DPC, FR, DL	FE
4.	Learning by participation in ward rounds, teaching conferences and other educational activities.	DPC, FR, DL	FE
5.	Willingness and ability to teach medical students.	DPC, FR, DL	FE
6.	Consideration of the cost-effectiveness of diagnostic and treatment strategies.	DPC, FR, DL	FE

PG2 Detailed Objectives:		
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Hematology Curriculum		
Physical Diagnosis – it is expected that the resident develops competency in these specific physical exam skills.		
	Splenomegaly	
	Lymph nodes	
Primary Interpretation of Tests – it is expected that the resident understands the indications for ordering these tests and is able to interpret the results without the need for consultation.		
	Peripheral smear	
		Red cell morphology
		Leukocyte morphology
		Platelet number and morphology
		Indices
	Pheresis	
	Staging CT	
	Bone marrow biopsy	
	Coomb's test	
	Prothrombin time	
	Partial thromboplastin time	
	Cryocrit	
	Iron indices (Fe, TIBC, Ferritin)	
	Hemoglobin electrophoresis	
	Protein electrophoresis	
	Immuno electrophoresis	
	B12	
	Folate	
	Flow cytometry	
	DIC screen	
	Bleeding time	
	Platelet aggregation	
	Sucrose hemolysis (Ham's)	
Common Clinical Presentations – it is expected that the resident learns the differential diagnosis and the ability to perform a cost-effective work-up of these conditions.		
	Bruising, bleeding, petachiae	
	Lymphadenopathy	
	Fever/nightsweats/weight loss	
	Leukocytosis	
	Splenomegaly	
	Venous or arterial thrombosis	
ONCOLOGY CURRICULUM		
I. Common Clinical Presentations		Extensive understanding of full differential. Knowledge of the full w/u and ability to carry out a prioritized, cost effective w/u.
	Hoarseness, cough, hemoptysis	
IV. Primary Interpretation of Tests		
	Chest x-ray	

I. Common Clinical Presentations		Extensive understanding of full differential. Knowledge of the full w/u and ability to carry out a prioritized, cost effective w/u.	
	Solitary lung nodule		
	Occult GI bleeding		
	Breast mass		
	Lymphadenopathy		
	Abdominal mass		
	Painless jaundice		
	Hemoptysis/cough		
	Persistent skin lesion		
II. Physical Diagnosis			
	Breast		
	Rectal		
	Lymph node		
	Abdomen (spleen, liver, masses)		
	Pelvic		
	Skin (basal cell, squamous cell, melanoma)		
V. Ordering and Understanding Tests			
	Tissue biopsy		
	Fine needle aspiration		
		Thyroid	
		Breast	
		Lung	
	Abdominal CT, MRI		
	Chest CT, MRI		
	Abdominal ultrasound		
	PET scan for neoplasm		
	Tumor serology		
	Sputum, fluid cytology		
	Tumor markers (estrogen receptor, Her 2 Neu, etc.)		
VI. Clinical Conditions			
	Head and neck		
		Ca mouth (Squamous cell)	
	Lung/mediastinum		
		Non small cell	
		Small cell	
		Squamous cell	
		Bronchial adonoma/carcinoid	
		Thymoma	
		Mesothelioma	
		Superior vena caval syndrome	
	Gastrointestinal		
		Esophageal	
		Gastric Ca	
		Gastric lymphoma	

		Colon Ca	
			Genetics of colon Ca
			Screening recommendations
		Pancreatic	
	Hepatobiliary		
		Hepatoma	
		Biliary	
			Ampulla of Vater
			Cholangiocarcinoma
	Bone		
		Metastatic	
	Breast		
		Screening for breast Ca	
		Primary care of the breast Ca patient	
		Ductal carcinoma in situ	
	Genitourinary		
		Renal cell	
		Prostate	
			Screening recommendations
		Bladder	
		Ovarian	
		Endometrial	
		Cervical	
			Screening recommendations
		Testicular	
			Screening recommendations
	Skin - see Dermatology		
	Hematologic - see Hematology		
	Treatment of pain		
	Paraneoplastic syndromes		
	Tumor lysis		
	Hospice care		
	Chemotherapy		
	Head and neck		
		Ca thyroid	
			Papillary
			Medullar
			Follicular
	Chemotherapy		
		General classes	
		Complications	

Procedural Skills – it is expected that the resident develops competency in these specific procedures.		
Bone marrow aspiration and biopsy		
Clinical Conditions – it is expected that the resident be familiar with all of the conditions listed. These conditions are divided into 3 categories:		
A – these are conditions that the resident is expected to develop competence in the diagnosis and management of without the need for consultation.		
B – these are conditions that the resident is expected to develop a basic understanding of the diagnosis and management to enable him/her to co-manage with a subspecialty consultant.		
C – these are conditions that the resident is expected to recognize and formulate a		

differential diagnosis, but management would almost always be carried out by a			
sub-specialist.			
	Anemias		
		Decreased production	
			Fe deficiency A
			Anemia of chronic disease A
			Myelophthistic A
			Lead toxicity B
			Aplastic anemia C
		Ineffective erythropoiesis	
		Megaloblastic	
			B12 deficiency A
			Folate deficiency A
			Myelodysplasia C
			AZT B
			Cytotoxic chemo B
		Macrocytic	
			Hypothyroidism A
			Hepatic failure A
		Destruction	
		Hemoglobinopathies	
			Thalassemia B
			Sickle cell anemia B
			SS with urea Rx B
			SC disease B
			Heinz body anemia C
		Enzyme defects	
			G-6-PD B
		Membrane defects	
			Spherocytosis B
			Spur cell hemolysis
			(Cirrhosis associated) B
			Paroxysmal nocturnal
			hemoglobinuria C
			Autoimmune hemolysis B
		Vasculopathy	
			Microangiopathic B
			(Valves, TTP, vasc. tumor)
			Hypersplenism A
		Infections	
			Malaria B
			Babesiosis C
			Clostridia C
			Syphilis B
		Dilution	
			CHF A
			Pregnancy A
	Thrombocytosis		
		Essential	B
		Secondary	
			Post-splenectomy
			(Hyposplenism) A
			Iron deficiency A

	Thrombocytopenia			
		Hypoproliferative		
			Post-chemo, RadRx	B
			Drug induced	B
			Marrow invasion	B
		Ineffective production		
			Folate deficiency	A
			B12 deficiency	A
			Myelodysplasia	C
		Peripheral destruction		
		Immunologic		
			ITP	B
			Heparin	A
			SLE	B
			Lymphoma	C
			HIV related	B
			Post-transfusion	C
		Non-immunologic		
			DIC	B
			TTP	B
			Hereditary	B
			Alcohol induced	A
			Blood loss	A
			Hypersplenism	A
	Lymphoma			
		Hodgkins		B
		Non-Hodgkins		B
		Virus-related		C
		B cell lymphoma		B
		Angioimmunoblastic lymphadenopathy with dysproteinemia		C
		Chronic lymphocytic leukemia		B
	Leukemias			
		Acute non-lymphocytic		C
		Hairy cell		C
		T cell		C
	Myelodysplasia			
		Refractory anemia		C
		Sideroblastic		C
	Myeloproliferative			
		Polycythemia vera		B
		Essential thrombocytosis		C
		Myeloid metaplasia (Myelofibrosis)		B
		Chronic myelogenous leukemia		C
	Paraproteinemias			
		Multiple myeloma		B
		Waldenstrom's macroglobinuria		C
		Monoclonal gammopathy		B

	Coagulation disorders		
		Qualitative platelet defect	
			Von Willebrand's B
			Metabolic A
			(Uremia, dysproteinemia)
			Drugs (Penicillins, NSAID's) A
			Congenital C
		Circulating coagulation factor abnormalities	
		Congenital	
			Factor VIII deficiency B
			Factor IX, XI C
			Protein C resistance C
			Antithrombin 3 deficiency C
			Protein C, protein S deficiency C
			Homocystinuria C
		Acquired	
			DIC A
			Factor X deficiency C
			Drugs A
			Liver disease A
			Anti-phospholipid syndrome B
	Transfusion medicine		
		Blood products	
			Indications A
			Risks/complications A
			Product selection A
			Work-up of complications A
			Histocompatibility A
		Bone marrow/stem cell	
		Transplantation	
			Indications A
			Risks/complications A

Heme / Onc Additional Objectives:	
Determine duration of anticoagulation in a patient with a pulmonary embolism.	
Diagnose hemophilia.	
Diagnose Hodgkin lymphoma.	
Diagnose iron deficiency anemia.	
Diagnose myelodysplastic syndrome.	
Diagnose myelofibrosis.	
Diagnose porphyria cutanea tarda.	
Diagnose primary amyloidosis.	
Diagnose radiation-induced hypothyroidism.	
Diagnose secondary erythrocytosis.	
Diagnose the cause of a prolonged activated partial thromboplastin time.	
Diagnose the cause of microcytic anemia.	
Manage familial adenomatous polyposis.	
Manage fertility in adults receiving chemotherapy.	
Manage testicular cancer.	
Prescribe hospice care appropriately.**	
Recognize prognostic factors for breast cancer.	
Screen for heart failure in patients receiving trastuzumab.	

Stage non-Hodgkin lymphoma.		
Treat a patient with a family history of deep venous thrombosis.**		
Treat acute leukemia with leukapheresis.		
Treat acute promyelocytic leukemia.		
Treat chronic lymphocytic leukemia.**		
Treat cold agglutinin disease in a patient with mononucleosis.**		
Treat colon cancer in a patient with positive lymph nodes.		
Treat essential thrombocytosis.		
Treat estrogen receptor–positive breast cancer in postmenopausal women.		
Treat immune thrombocytopenia.		
Treat neutropenic fever.		
Treat newly diagnosed breast cancer.		
Treat ovarian cancer.		
Treat postchemotherapy cytopenia.**		
Treat prostate cancer.		
Treat resected stage II-III lung cancer with adjuvant chemotherapy.		
Treat small cell lung cancer with prophylactic cranial irradiation in patients who enter remission.		