

Hematology LKA with Malignant Focus

Purpose

The Hematology LKA: Malignant focused assessment is based on the <u>Hematology General LKA</u>, but includes a larger proportion of questions covering topics related to hematologic neoplastic disorders. Overall, there is about a 70% overlap with the current general Hematology blueprint. This overlap allows the focused assessment to better represent physicians with a focus in classical hematology while ensuring the focused assessment is comparable enough to uphold the same certification. Physicians taking the Hematology LKA with Malignant Focus assessment will continue to be reported as certified in Hematology.

ABIM assessments are designed to evaluate whether a certified hematologist has maintained competence and currency in the knowledge and judgment required for practice. The MOC assessments emphasize diagnosis and management of prevalent conditions, particularly in areas where practice has changed in recent years. As a result of the blueprint review by ABIM diplomates, MOC assessments place less emphasis on rare conditions and focus more on situations in which physician intervention can have important consequences for patients. For conditions that are usually managed by other specialists, the focus is on recognition rather than on management.

Longitudinal Knowledge Assessment Format

The Hematology LKA with Malignant Focus assessment is only available as a Longitudinal Knowledge Assessment. ABIM's Longitudinal Knowledge Assessment (LKA TM) is a five-year cycle in which physicians answer questions on an ongoing basis and receive feedback on how they are performing along the way. More information about this assessment can be found here: https://www.abim.org/maintenance-of-certification/assessment-information/assessment-options/longitudinal-knowledge-assessment/. More information on how assessments are developed can be found at abim.org/about/exam-information/exam-development.aspx.

Most questions describe patient scenarios and ask about the work done (that is, tasks performed) by physicians in the course of practice:

- **Diagnosis**: making a diagnosis or identifying an underlying condition
- Testing: ordering tests for diagnosis, staging, or follow-up
- Treatment/Care Decisions: recommending treatment or other patient care

- Risk Assessment/Prognosis/Epidemiology: assessing risk, determining prognosis, and applying principles from epidemiologic studies
- Pathophysiology/Basic Science: understanding the pathophysiology of disease and basic science knowledge applicable to patient care

Clinical scenarios presented take place in outpatient or inpatient settings as appropriate to a typical hematology practice. Clinical information presented may include patient photographs, radiographs, photomicrographs, and other media to illustrate relevant patient findings. Exam tutorials, including examples of question format, can be found at abim.org/maintenance-of-certification/exam-information/hematology/exam-tutorial.aspx.

Content distribution Listed below are the major medical content categories that define the domain for the Hematology traditional, 10-year MOC exam and LKA. The relative distribution of content is expressed as a percentage of the total assessment. The Hematology Approval Committee and Specialty Board have determined the Hematology LKA: Malignant focused assessment medical content category targets are appropriate, as shown below.

Medical Content Category	% of Exam
Hematopoietic System	24%
Coagulation	19%
Hematologic Neoplastic Disorders	47%
Transfusion Medicine	4%
Cellular Therapy	6%
	100%

ABIM is committed to working toward health equity and believes that board-certified physicians should have an understanding of healthcare disparities. Therefore, health equity content that is clinically important to each discipline will be included in assessments, and the use of gender, race, and ethnicity identifiers will be re-evaluated.



Hematopoietic System 24% of Exam Normal hematopoiesis <2% Disorders of red blood cells or iron 20% Red blood cell production disorders **Nutritional deficiencies** Iron deficiency Nutritional anemia, non-iron deficiency Anemia of chronic inflammation Red cell aplasia and hypoplasia Sideroblastic anemia Red blood cell destruction disorders Thalassemias Alpha thalassemia Beta thalassemia Hemoglobin E disorders Sickle cell disorders Sickle cell trait Sickle cell anemia (hemoglobin SS disease) Hemoglobin SC disease Sickle cell- β^0 and sickle cell- β^+ -thalassemias Non-sickle hemoglobinopathies Autoimmune hemolytic anemias (AIHA) Warm antibody-mediated autoimmune hemolytic anemia Cold antibody-mediated autoimmune hemolytic anemia Drug-induced hemolysis Metabolic abnormalities and enzyme deficiency hemolytic anemias Oxidant hemolysis, including glucose-6-phosphate dehydrogenase (G6PD) deficiency Pyruvate kinase deficiency and other metabolic deficiencies Paroxysmal nocturnal hemoglobinuria Red blood cell membrane disorders

Microangiopathic hemolytic anemias

(other than TTP, HUS, or DIC)

Non-autoimmune, acquired hemolytic anemias

Erythrocytosis

Porphyrias

Hemochromatosis



White blood cell disorders <2% Granulocyte disorders Quantitative granulocyte disorders Qualitative granulocyte disorders Lymphocytopenia and lymphocyte dysfunction syndromes Leukocytosis Eosinophilia Hemophagocytic syndromes Bone marrow failure syndromes 2% Aplastic anemia Inherited aplastic anemia Acquired aplastic anemia Pancytopenia Coagulation **19%** of Exam Platelet and megakaryocyte disorders 5% Inherited disorders of platelet function Acquired disorders of platelet function Drug-induced disorders Non-drug-induced disorders Thrombocytopenia Inherited thrombocytopenia Acquired thrombocytopenia Immune thrombocytopenic purpura (ITP) Drug-induced thrombocytopenia Thrombotic thrombocytopenic purpura (TTP) Hemolytic uremic syndrome (HUS) Thrombocytopenia secondary to liver Disease and splenic disorders **Thrombocytosis** Hemostasis 7% Molecular basis of coagulation and hemostatic agents Normal hemostasis



Types 1, 2A, 2M, 2N, and 3

Laboratory evaluation

Type 2B

Inherited bleeding disorders (non-platelet)

Von Willebrand disease

Hemostatic drugs

Modifiers of von Willebrand factor levels Hemophilias A and B

> Hemophilia A Hemophilia B

Factor XI deficiency

Factor deficiencies other than factor XI

Inherited vascular abnormalities

Acquired bleeding disorders (non-platelet)

Factor inhibitors

Disseminated intravascular coagulation (DIC)

Acquired vascular abnormalities

Secondary acquired factor deficiencies

Thrombosis 7%

Molecular basis of natural anticoagulants, fibrinolytic

pathway, and anticoagulant therapy

Normal anticoagulant and fibrinolytic mechanisms

Laboratory evaluation

Anticoagulant drugs

Thrombotic disorders

Inherited thrombotic disorders

Factor V Leiden and prothrombin G20210A

Deficiencies of natural anticoagulants

(antithrombin, proteins C and S)

Hyperhomocysteinemia

Acquired thrombotic disorders

Heparin-induced thrombocytopenia (HIT)

Anti-phospholipid antibody syndrome (APS)

Cancer-related thrombotic disorders

Thromboembolism at unusual sites

Thrombosis management (non-disease-specific)

Complications of thrombotic disorders

Hematologic Neoplastic Disorders

47% of Exam

6%

Myeloproliferative neoplasms

Chronic myeloid leukemia

Polycythemia vera and secondary erythrocytosis

Primary myelofibrosis

Essential thrombocythemia

Mastocytosis



Chronic neutrophilic leukemia

Acute leukemias and myelodysplasia

11%

Acute promyelocytic leukemia

Acute myeloid leukemia (non-promyelocytic)

Therapy-related myeloid neoplasms

Myeloid sarcoma/extramedullary leukemia

Myelodysplastic syndromes

Chronic myelomonocytic leukemia and

myelodysplastic/myeloproliferative

neoplasm overlap syndromes

B-cell acute lymphoblastic leukemia/lymphoma (B-ALL)

T-cell acute lymphoblastic leukemia/lymphoma (T-ALL)

B-cell neoplasms

17%

Chronic lymphoid leukemias

Chronic lymphocytic leukemia/small lymphocytic

lymphoma

Monoclonal B-cell lymphocytosis

Hairy cell leukemia

Plasma cell neoplasms

Multiple myeloma

Plasmacytomas

Amyloidosis

Castleman disease and POEMS syndrome

(polyneuropathy, organ enlargement, endocrinopathy,

Monoclonal plasma-proliferative disorder, skin changes)

Monoclonal gammopathy of undetermined

significance (MGUS)

Non-Hodgkin lymphomas, B-cell

Diffuse large B-cell lymphoma

Follicular lymphoma

Mantle cell lymphoma

Marginal zone B-cell and mucosa-associated

lymphoid tissue (MALT) lymphomas

Burkitt lymphoma

Primary central nervous system lymphoma

Lymphoplasmacytic lymphoma (including Waldenström

macroglobulinemia)

General lymphoma issues (not specific to lymphoma type)



Immunodeficiency-associated lymphoproliferative disorders	<2%
Post-transplantation lymphoproliferative disorders (solid or	gan transplant)
Lymphomas associated with human immunodeficiency	
virus (HIV) infection or primary immune disorders	
Lymphoproliferative disorders associated with iatrogenic	
immunodeficiency	
T-cell and NK-cell neoplasms	2%
Cutaneous T-cell lymphoma (mycosis fungoides and	
Sézary syndrome)	
T-cell lymphomas	
Adult T-cell leukemia/lymphoma	
Large granular lymphocyte leukemia	
Prolymphocytic leukemia	
Hodgkin lymphoma	3%
Classical Hodgkin lymphoma	
Nodular lymphocyte-predominant Hodgkin lymphoma	
Histiocytic and dendritic cell neoplasms	<2%
Myeloid and lymphoid neoplasms with eosinophilia and	
Abnormalities of PDGFRA, PDGFRB, or FGFR1	<2%
Complications of hematologic malignancies	2%
Tumor lysis syndrome	
Spinal cord compression	
Paraneoplastic disorders	
Pharmacology	3%
Toxicities and complications, including	
cytopenic complications	
Drug dosing and dose modifications	
Clinical trial design and interpretation	<2%
Transfusion Medicine	4% of Exam
	,20 /
Clinical indications for the use of blood products	<2%
Red blood cell preparations	
Platelet preparations	
Fresh frozen plasma	
Cryoprecipitate	20/
Risks associated with blood products	3%
Risks associated with administration	
Allergic reactions	



Nonanaphylactic allergic reactions

IgA deficiency

Anaphylactic reactions

Graft-versus-host disease

Electrolyte disturbances

Infectious organisms

Alloimmunizations

Transfusion reactions

Hemolytic reactions

Febrile reactions

Transfusion-related acute lung injury (TRALI)

Transfusion-associated circulatory overload (TACO)

Post-transfusion purpura and other risks associated

with administration

Risks associated with therapeutic apheresis procedures

Management of patients who refuse transfusion

<2%

Cellular Therapy	6% of Exam
Hematopoietic cell biology and engraftment	<2%
Biology of hematopoietic cell transplantation	
Biologic and immunologic relationship between	
donor and host	
Hematopoietic cell transplantation in the management of	
hematologic diseases	<2%
Autologous HCT	
Allogeneic HCT	
Conditioning regimens	<2%
Regimen intensity	
Toxicities	
Supportive care	<2%
Preventing infectious disease	
Transfusion support, including graft compatibility and	
blood product issues	
Graft-versus-host disease (GVHD)	<2%
Acute GVHD	
Chronic GVHD	
Other complications after hematopoietic cell transplantation	<2%
Engraftment failure or rejection	



Infections	
Organ toxicity	
Transplant-associated thrombotic microangiopathy	
Post-transplant lymphoproliferative disorder	
Late effects	
Disease relapse	<2%
Chimeric antigen receptor (CAR) T-cell therapy and	
other genetically modified cell therapy	<2%



