ASPHO 2021 Review Course
ABP Content Outline Topics by Speaker

Survivorship (45 minutes)
Karen Effinger, MD

Domain 7: General Oncology Issues

D. Survivorship and adolescent and young adult (AYA) oncology
    1. Biologic, epidemiologic, and psychosocial considerations of the AYA
    2. Late effects of therapy
    3. Fertility preservation

(All other topics in this domain will be covered by other speakers.)

Immunology and Immunodeficiency for the Hematologists-Oncologist (60 minutes)
Sung-Yun Pai, MD

Domain 2: Leukocytes

A. Normal leukocytes: morphology, development, function
    4. Lymphocytes

C. Disorders of lymphocytes
    1. Mononucleosis
    2. Immunodeficiencies with hematologic or oncologic implications
    3. Autoimmune lymphoproliferative syndrome and other immunoregulatory diseases

(All other topics in this domain will be covered by other speakers.)

Domain 7: General Oncology Issues

B. Supportive Care
    3. Infections in the immunocompromised host

(All other topics in this domain will be covered by other speakers.)

Domain 8: Hematologic Malignancies

E. Lymphoma
    3. Lymphoproliferative disorders

(All other topics in this domain will be covered by other speakers.)

Domain 10: Hematopoietic Stem-Cell Transplant (HSCT)

C. Complications
    3. Infections

D. Disease-specific indications and outcomes
    4. Immunodeficiency

Include disease-specific late effects and indications and outcomes for BMT.

Stem Cell Transplantation (60 minutes)
Michael A. Pulsipher, MD, PhD

Domain 7: General Oncology Issues

A. Anti-neoplastic therapy
    7. Immunotherapy and adoptive cellular therapies (Mike to cover adoptive cellular therapies; Mignon will cover Immunotherapy)

Domain 10: Hematopoietic Stem-Cell Transplant (HSCT)

A. Principles and products
    1. Collection, processing, and storage
    2. Stem-cell source and dose
    3. Donor selection
    4. Contraindications

B. Conditioning therapy
    1. Autologous HSCT
    2. Allogeneic HSCT

C. Complications
    1. Graft failure
    2. Graft-versus-host disease (GVHD)
    4. Non-infectious complications

(Domain 10 - C3: Infections will be covered by Sung-Yun Pai)

Lymphoma (60 minutes)
Paul D. Harker-Murray, MD

Domain 8: Hematologic Malignancies

B. Acute lymphoblastic leukemia (ALL)
    4. Burkitt leukemia

E. Lymphoma
    1. Hodgkin lymphoma
    2. Non-Hodgkin lymphoma (NHL)

Include disease-specific late effects and indications and outcomes for BMT.

Acute Lymphoblastic Leukemia (60 minutes)
Mignon Loh, MD

Domain 7: General Oncology Issues

A. Anti-neoplastic therapy
    7. Immunotherapy and adoptive cellular therapies (Mignon to cover Immunotherapy; Mike Pulsipher will cover adoptive cellular therapies)

Domain 8: Hematologic Malignancies

A. General considerations: diagnostic tests
    2. Imaging
    3. Cerebrospinal fluid analysis
    4. Immunological markers
    5. Cytogenetics and molecular markers

B. Acute lymphoblastic leukemia (ALL)
    1. Pre-B cell
    2. Infant ALL
    3. T-cell
    5. Bi-phenotypic leukemia
    6. Sanctuary sites
    7. Relapsed ALL

Include disease-specific late effects and indications and outcomes for BMT.

(Domain 8 - A1 will be covered by Mark Fleming and B4 will be covered by Paul Harker-Murray)

Vascular Malformations (60 minutes)
Denise Adams, MD

Domain 4: Hemostasis/Thrombosis

C. Acquired disorders of coagulation
    3. Coagulopathy associated with vascular malformations

(The rest of this domain is covered in other talks)

Domain 9: Solid Tumors

G. Rare tumors
    3. Vascular tumors and malformation

(The rest of this domain is covered in other talks)

Acute and Chronic Myelogenous Leukemia (60 minutes)
Patrick A. Brown, MD

Domain 8: Hematologic Malignancies

A. General considerations: diagnostic tests
    2. Imaging
    3. Cerebrospinal fluid analysis
    4. Immunological markers
    5. Cytogenetics and molecular markers

C. Acute myelogenous leukemia (AML)
    1. Myeloid leukemias
    2. Promyelocytic leukemia (M3)
    3. Megakaryocytic leukemia (M7)
    4. Extramedullary disease
    5. Relapsed AML

D. Myelodysplastic syndrome (MDS) and myeloproliferative disorders
    2. Myeloproliferative neoplasms (MPN), including CML

Please include disease-specific late effects and indications and outcomes for BMT.

(Domain 8 - A1 will be covered by Mark Fleming; Domain 8 – D2: Myeloproliferative neoplasms (MPN), including JMML will be covered by Ken McClain)

Myeloproliferative, Myelodysplastic, and Histiocytic Disorders (60 minutes)
Ken McClain, MD

Domain 8: Hematologic Malignancies

D. Myelodysplastic syndrome (MDS) and myeloproliferative disorders
    1. MDS
    2. Myeloproliferative neoplasms (MPN), including JMML (Pat Brown will cover CML)
    3. Transient abnormal myelopoiesis (TAM)

(All other topics in this domain will be presented by other speakers.)

Please include Disease-specific late effects and indications and outcomes for BMT.

Sarcomas (60 minutes)
David O. Walterhouse, MD

Domain 9: Solid Tumors

A. General considerations
    1. Clinical presentations
    2. Diagnostic imaging
    3. Pathology
    4. Other laboratory tests

B. Sarcomas
    1. Osteosarcoma
    2. Ewing sarcoma and Ewing family of tumors
    3. Rhabdomyosarcoma
    4. Non-rhabdomyosarcoma soft-tissue sarcomas

Include disease-specific late effects and indications and outcomes for BMT.

Retinoblastoma, Germ Cell Tumors, and Hepatoblastoma (60 minutes)
Carlos Rodriguez-Galindo, MD

Domain 9: Solid Tumors

A. General considerations
    1. Clinical presentations
    2. Diagnostic imaging
    3. Pathology
    4. Other laboratory tests

E. Liver tumors
    1. Hepatoblastoma
    2. Hepatocellular carcinoma

G. Rare tumors
    1. Germ-cell tumors
    2. Retinoblastoma
    4. Other rare tumors in childhood and adolescence

Include Disease-specific late effects and indications and outcomes for BMT

(Domain 9 - G3: Vascular tumors and malformation as well as all other topics in this domain will be presented by other speakers.)

Review of Peripheral Blood and Bone Marrow Morphology: Malignant Diseases (45 minutes)
Mark Fleming, MD

Domain 8: Hematologic Malignancies

A. General considerations: diagnostic tests
    1. Peripheral blood smears and bone marrow aspirate/biopsy

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Brain Tumors (60 minutes)
Jason Fangusaro, MD

Domain 9: Solid Tumors

A. General considerations
    1. Clinical presentations
    2. Diagnostic imaging
    3. Pathology
    4. Other laboratory tests

F. Brain tumors
    1. Medulloblastoma
    2. Low-grade glioma
    3. High-grade glioma
    4. Ependymoma
    5. Central nervous system germ-cell tumors
    6. Rare brain tumors

Include disease-specific late effects and indications and outcomes for BMT.

Neuroblastoma (45 minutes)
Emily Greengard, MD

Domain 7: General Oncology Issues

A. Anti-neoplastic therapy
    10. Radioisotope therapy

Domain 9: Solid Tumors

A. General considerations
    1. Clinical presentations
    2. Diagnostic imaging
    3. Pathology
    4. Other laboratory tests

C. Neuroblastoma and related tumors
    1. Neuroblastoma
    2. Ganglioneuroma
    3. Paraganglioma/pheochromocytoma

Please include disease-specific late effects and indications and outcomes for BMT.

(All other topics in this domain will be presented by other speakers.)

Renal Tumors (20-30 minutes)
Elizabeth Mullen, MD

Domain 9: Solid Tumors

D. Renal tumors
    1. Wilms tumor

2. Other primary renal tumors

Bone Marrow Failure (60 minutes)
Zora Rogers, MD

Domain 5: Bone Marrow Failure

A. Hematopoiesis
   1. Normal hematopoiesis
   2. Abnormal hematopoiesis
   3. Approaches to pancytopenia

B. Acquired bone marrow failure
   1. Idiopathic aplastic anemia
   2. Secondary marrow suppression

C. Inherited bone marrow failure
   1. Fanconi anemia
   2. Dyskeratosis congénita
   3. Shwachman-Diamond síndrome
   4. Congenital neutropenia
   5. Diamond-Blackfan anemia
   6. Congenital thrombocytopenia
   7. Other inherited bone marrow failure syndromes

Please include disease-specific late effects and indications and outcomes for BMT.

Transfusion Medicine (75 minutes)
Rachel Bercovitz, MD

Domain 6: Transfusion Medicine

A. Collection and storage characteristics
   1. Erythrocytes
   2. Platelets
   3. Granulocytes
   4. Plasma and cryoprecipitate

B. Typing and crossmatching for transfusion
   1. Erythrocytes
   2. Platelets

C. Indications for and administration of transfusion
   1. Erythrocytes
   2. Platelets
   3. Granulocytes
   4. Plasma and cryoprecipitate
   5. Therapeutic apheresis
   6. Directed donors

D. Attributes/special processing
   1. Irradiation
   2. 2. Leukoreduction
   3. Plasma reduction

E. Complications of blood and blood product transfusions
   1. Transfusion-transmitted disease

2. Transfusion reactions
3. Rh-incompatible transfusion

Nutritional Anemias (60 minutes)
Jackie Powers, MD

Domain 1: Erythrocytes

A. The erythron
    1. Developmental changes of the erythron
    2. Normal erythrocytes
    3. Erythrocyte physiology
    4. Approach to anemia

F. Iron disorders
    1. Iron deficiency anemia
    2. Anemia of chronic disease and disorders of iron metabolism
    3. Transfusional and congenital iron overload

G. Megaloblastic anemia
    1. Nutritional deficiencies: folate and B12
    2. Metabolic disorders and drugs

H. Erythrocytosis
    1. Primary or secondary

(All other topics in this domain will be presented by other speakers.)

Congenital and Acquired Hemolytic Anemias (60 minutes)
Rachael Grace, MD

Domain 1: Erythrocytes

B. Hemolytic anemias
    1. General features
    2. Antibody/complement-mediated
    3. Membrane/cytoskeleton/ion channel
    4. Enzymopathies
    5. Unstable hemoglobin
    6. Fragmentation

(All other topics in this domain will be presented by other speakers.)

Hemoglobinopathies (60 minutes)
Melissa Frei-Jones, MD

Domain 1: Erythrocytes

C. Hemoglobin S and sickling syndromes
    1. General features of sickle cell anemia (HbSS), sickle-hemoglobin C disease (HbSC), sickle-β thalassemia, and sickle cell trait
    2. Central nervous system complications
    3. Other acute complications
    4. Chronic complications
    5. Treatment, including supportive care

D. Other disorders of hemoglobin
    1. Hemoglobin E

2. Other hemoglobin disorders e.g. methemoglobinemia

E. Thalassemia syndromes
    1. General features
    2. α-Thalassemia
    3. β-Thalassemia

(All other topics in this domain will be presented by other speakers.)

Disorders of Leukocytes (60 minutes)
Carl Allen, MD, PhD

Domain 2: Leukocytes

A. Normal leukocytes: morphology, development, function
    1. Neutrophils
    2. Eosinophils/basophils/mast cells
    3. Monocytes/macrophages/dendritic cells

B. Disorders of granulocytes
    1. Acquired neutropenia
    2. Morphologic abnormalities
    3. Neutrophilia
    4. Neutrophil dysfunction
    5. Eosinophilia

D. Disorders of the reticuloendothelial system
    1. Splenomegaly
    2. Hemophagocytic lymphohistiocytosis (HLH)

Domain 8: Hematologic Malignancies

F. Histiocytic neoplasms
    1. Langerhans cell histiocytosis (LCH)

(All other topics in these domains will be presented by other speakers.)

Review of Peripheral Blood and Bone Marrow Morphology: Non-malignant (45 minutes)
Matt Oberley, MD, PhD

Blood Coagulation Overview and Acquired Hemorrhagic Disorders (60 minutes)
Guy Young, MD

Domain 4: Hemostasis/Thrombosis

A. Normal physiology of coagulation factors and vessel wall
    1. Procoagulant factors
    2. Anticoagulant factors
    3. Fibrinolytic system
    4. Role of vessel wall in regulation of hemostasis

C. Acquired disorders of coagulation
    1. Disseminated intravascular coagulation (DIC), vitamin K deficiency, and liver disease
    3. Coagulopathy associated with vascular malformations
    4. Other acquired coagulopathies

(Domain 4: C2 - Lupus anticoagulants and coagulation inhibitors will be covered by Sarah O'Brien)

Inherited Coagulation Disorders (60 minutes)
Guy Young, MD

Domain 4: Hemostasis/Thrombosis

B. Inherited disorders of coagulation
    1. Approach to bleeding
    2. Congenital Factor VIII and Factor IX deficiency
    3. von Willebrand disease
    4. Abnormalities of other proteins, circulating and vascular

(Domain 4 – D. Thrombotic Disorders will be covered by Sarah O'Brien)

Thrombotic Disorders (60 minutes)
Sarah O'Brien, MD

Domain 4: Hemostasis/Thrombosis

C. Acquired disorders of coagulation
    2. Lupus anticoagulants and coagulation inhibitors

D. Thrombotic disorders
    1. Approach to thrombosis
    2. Inherited thrombophilia
    3. Acquired risk factors for thrombosis
    4. Anticoagulation: unfractionated heparin, low molecular-weight heparin, vitamin K antagonists, direct thrombin inhibitors, and other anticoagulants
    5. Thrombolysis
    6. Post-thrombotic syndrome

(All other topics in this domain will be presented by other speakers.)

Platelet Disorders (60 minutes)
Cindy E. Neunert

Domain 3: Platelets

A. Normal physiology of platelets
    1. Platelet production, kinetics, and function
    2. Thrombocytopenia: general considerations

B. Disorders of platelet number and function
    1. Thrombocytopenia in the newborn period
    2. Immune thrombocytopenia
    3. Other acquired thrombocytopenic states
    4. Inherited disorders of platelet function and/or number
    5. Acquired disorders of platelet function
    6. Thrombocytosis

Biostatistics and Epidemiology (60 minutes)
Michael Anderson, PhD

Domain 11: Core Knowledge in Scholarly Activities

A. Principles of biostatistics in research
    1. Types of variables
    2. Distribution of data
    3. Hypothesis testing

4. Common statistical tests
5. Measurement of association and effect
6. Regression
7. Diagnostic tests
8. Systematic review and meta-analysis

B. Principles of epidemiology and clinical research design
    1. Study design, performance, and analysis (internal validity)
    2. Generalizability (external validity)
    3. Bias and confounding
    4. Causation
    5. Incidence and prevalence
    6. Screening
    7. Cost benefit, cost effectiveness, and outcomes
    8. Measurement

(All other topics in this domain will be cover by other speakers.)

Research in Ethics and Quality Improvement (45 minutes)
Jennifer Kesselheim, MD Med

Domain 11: Core Knowledge in Scholarly Activities

C. Ethics in research
    1. Professionalism and misconduct in research
    2. Principles of research involving human subjects
    3. Principles of consent and assent

D. Quality improvement
    1. Project design
    2. Data and measurement

(All other topics in this domain will be cover by other speakers.)

Clinical Pharmacology and Molecular and Targeted Therapies (90 minutes)
Beth Fox, MD

Domain 7: General Oncology Issues

A. Anti-neoplastic therapy
    1. Principles of chemotherapy
    2. Principles of radiation therapy
    3. Cytotoxic chemotherapy, including alkylating agents, anti-metabolites, intercalating agents, DNA-breaking agents, mitotic inhibitors, and glucocorticoids

    4. Differentiating agents
    5. Targeted therapies
    6. Epigenetic modifiers
    8. Immune checkpoint inhibitors
    9. Anti-angiogenic agents

(All other topics in this domain will be cover by other speakers.)

Supportive and Palliative Care (30 minutes)
Katharine Brock, MD

Domain 7: General Oncology Issues

B. Supportive Care
    2. Anti-emetic management
    4. Pain Management
    5. Palliative and end-of-life care

Oncologic Emergencies (30 minutes)
Lauren Pommert, MD MS

Domain 7: General Oncology Issues

B. Supportive Care
    1. Oncologic emergencies

Cancer Predispositions (20-30 minutes)
Julia Meade, MD

A. Cancer predisposition
    1. Genetic disorders predisposing to malignancy