

Preparing for the American Board
of Pathology (ABPath)
Examination of Fundamental
Knowledge and Skills

Pediatric Pathology

Content Specifications



Overview:

Pediatric Pathology Content Specifications

This guide outlines the content that may appear on the American Board of Pathology’s Pediatric Pathology Subspecialty exam. It provides a framework based on the knowledge and skills typically covered in Fellow-level training, along with applicable Core and Advanced Resident topics from residency training that the trainee is expected to know or be able to perform.

Key to Designations:

C = Core/Foundational Knowledge

AR = Advanced Resident Knowledge

F = Fellow/Advanced Practitioner Knowledge

The exam assesses the knowledge, judgment, skills, and abilities necessary to identify specific entities, properly process specimens, and diagnose and monitor diseases using methods common in the practice of Pediatric Pathology. The specific diseases, tests, and concepts listed in this document are important for candidates to know, but it is not possible to create a fully comprehensive list of all the material needed for certification and effective practice. Candidates should use this guide as a reference when preparing for certification and professional practice.

Table of Contents

Contents

1. Perinatal Pathology: Placental-Maternal-Fetal Relationships in Pregnancy	2
2. Perinatal Pathology: Fetal/Neonatal Pathophysiology	4
3. General Pathologic Principles and Syndromes	5
4. The Cardiovascular System	6
5. The Respiratory System and Mediastinum	7
6. The Central Nervous System	8
7. The Skin	9
8. The Special Senses – Eye and Ear	10
9. The Alimentary Tract	11
10. The Hepatobiliary System and Pancreas	13
11. The Kidney and Urinary System	14
12. The Endocrine System (Excluding Ovary and Testis)	16
13. The Hematopoietic and Lymphoid Systems	16
14. The Breast	18

15.	The Female Reproductive System.....	18
16.	Disorders of Sexual Development (Intersex Disorders).....	19
17.	The Male Reproductive System	19
18.	Soft Tissue, Peripheral Nerve, and Muscle	20
19.	The Skeletal System	21
20.	Diagnostic/Technical Procedures & Laboratory Management.....	21
21.	Administration & Management	24
22.	Forensic Pathology: Pediatric Issues.....	25

1. Perinatal Pathology: Placental-Maternal-Fetal Relationships in Pregnancy

a.	Conception	
i.	Implantation	AR
b.	Normal Embryonic and Fetal Development	
i.	Normal Histology of Fetal Organs	AR
ii.	Embryologic Processes	F
c.	Pregnancy Physiology	
i.	Amniotic Fluid	
1.	Oligohydramnios	AR
2.	Polyhydramnios	AR
d.	Placenta: Normal and Pathology	
i.	Normal Anatomy and Histology	
1.	Membranes	C
2.	Umbilical Cord	C
3.	Fetal Vessels	C
4.	Chorionic Villi	C
5.	Maternal Intervillous Space	C
6.	Basal Plate	C
ii.	Pathologic Conditions of the Placenta	
1.	Membrane Pathology	
a)	Meconium	C
b)	Chorioamnionitis	C
c)	Amnion Nodosum	AR
d)	Squamous Metaplasia	AR
e)	Amniotic Bands	F
2.	Umbilical Cord Pathology	
a)	Coiling Abnormalities	C
b)	Knots	C
c)	Velamentous Insertion/Furcate Insertion	C

	d) Rupture	C
	e) Funisitis	C
	f) Single Umbilical Artery	C
	g) Abnormal Length	AR
	h) Vasa Previa	AR
	i) Meconium Injury	AR
3.	Villous Pathology	
	a) Infarct	C
	b) Infectious Villitis	C
	c) Chronic Villitis	C
	d) Hydrops	C
	e) Villous Maturation Abnormalities (Immature, Hypermature, and Dysmature)	
	f) Chorangiomas	F
	g) Acute Villitis	F
	h) Placental Mesenchymal Dysplasia	F
4.	Maternal Intervillous Space Pathology	
	a) Sickle Cell Disease	C
	b) Massive Subchorionic Hematoma	AR
	c) Massive Perivillous Fibrin Deposition/Maternal Floor Infarction	AR
	d) Intervillositis	AR
5.	Basal Plate Pathology	
	a) Placental Abruption/Retroplacental Hematoma	C
	b) Maternal Vasculopathy	AR
6.	Implantation Pathology	
	a) Ectopic Pregnancy	C
	b) Placenta Previa	C
	c) Placenta Accreta Spectrum	C
7.	Fetal Vessel Pathology	
	a) Thrombi	AR
	b) Avascular Villi	AR
	c) Fetal Vascular Malperfusion	AR
8.	Placental Tumors	
	a) Chorangioma	AR
	b) Other Including Metastases	AR
e.	Multifetal Pregnancy	
	i. Zygosity	C
	ii. Placentation	C
	iii. Twin-Twin Transfusion Syndrome	AR
	iv. Intrauterine Fetal Loss	AR
	v. Acardiac Twin/Twin Reversed Arterial Perfusion	F
	vi. Conjoined Twins	F
	vii. Fetus In fetu	F

- f. Gestational Trophoblastic Disease
 - i. Partial Hydatidiform Mole/Non-Molar Triploidy C
 - ii. Complete Hydatidiform Mole C
 - iii. Invasive Mole AR
 - iv. Choriocarcinoma AR
- g. Maternal Disorders Affecting Pregnancy
 - i. Hypertension C
 - 1. Maternal Vascular Malperfusion AR
 - ii. Diabetes C
 - iii. Coagulation and Thrombosis C
 - iv. Illicit Drug Use and Alcohol AR
 - v. Therapeutic Drug Use AR
 - vi. Systemic Disorders AR
 - vii. Endocrine Implications AR
 - viii. Liver Disease / Cholestasis AR
 - ix. Anemia AR
 - x. Autoimmune/Autoinflammatory Diseases (e.g., SLE) AR
 - xi. Malignancy AR
 - xii. Nutritional / Vitamin Deficiencies AR
 - xiii. Trauma F
 - xiv. Cardiac Disease F
- h. Maternal Complications of Pregnancy AR

2. Perinatal Pathology: Fetal/Neonatal Pathophysiology

- a. Fetal Loss / Intrauterine Fetal Demise
 - i. Early (First Trimester) C
 - ii. Late (Second and Third Trimester) Post-Term Pregnancy C
 - iii. Changes in Fetal Tissues after Fetal Death C
- b. Fetal Growth and Development
 - i. Abnormal Growth / Maturation / Ossification C
 - ii. Intrauterine Growth Restriction C
 - iii. Large for Gestation Age C
- c. Hydrops
 - i. Immune C
 - ii. Non-Immune C
- d. Congenital Anomalies
 - i. Syndromes C
 - ii. Associations C
 - iii. Sequence C
 - iv. Malformations C
 - v. Deformations/Disruptions C
- e. Congenital Infections
 - i. Bacterial AR

ii.	Viral	AR
iii.	Parasitic	AR
iv.	Fungal	AR
f.	Congenital Neoplasms	
i.	Teratomas (e.g., Sacrococcygeal Teratoma)	AR
g.	Complications of Prematurity	
i.	Lung	
1.	Bronchopulmonary Dysplasia	AR
2.	Persistent Pulmonary Hypertension of the Newborn	AR
ii.	Gastrointestinal (e.g., Necrotizing Enterocolitis)	C
iii.	CNS and Eye	
1.	Intraventricular Hemorrhage	C
2.	Retinopathy of Prematurity	F
iv.	Iatrogenic Complications	F
h.	Genetic / Nutritional Disorders	F
i.	Nutritional Disorders	F
i.	Birth Trauma	F
j.	Teratogenesis	F

3. General Pathologic Principles and Syndromes

a.	Normal Development, Structure, and Function	C
b.	Genetic and Chromosomal Disorders	
i.	Trisomy 21	C
ii.	Trisomy 13	AR
iii.	Trisomy 18	AR
c.	Inflammation, Repair, and Infections	C
d.	Neoplasia	C
e.	Autoimmune / Immune Dysregulation Disorders (e.g., SLE)	C
f.	Dystrophic Calcification	C
g.	Cystic Fibrosis	AR
h.	Metabolic Disorders	
i.	Metal Metabolism Disorders	
1.	Wilson Disease	AR
2.	Neonatal Hemochromatosis	F
3.	Menkes Disease	F
ii.	Endoplasmic Reticulin Storage Disorders	
1.	Alpha-1-Antitrypsin Deficiency	AR
iii.	Diagnostic Methodologies	F
iv.	Metabolic Autopsy	F
v.	Lysosomal Storage Disorders	
1.	Gaucher Disease	F
2.	Fabry Disease	F
3.	Neuronal Ceroid Lipofuscinosis	F

- 4. Mucopolysaccharidoses/Mucopolipidoses F
- 5. Gangliosidosis F
- 6. Metachromatic Leukodystrophy F
- 7. Wolman and Cholesterol Ester Storage Disease F
- vi. Amino Acidopathies
 - 1. PKU F
 - 2. Tyrosinemia F
- vii. Carbohydrate Metabolism Abnormalities
 - Glycogen Storage Disease F
- viii. Fatty Acid Oxidation Disorders F
- ix. Mitochondriopathies F
- x. Urea Cycle Disorders F
- xi. Organic Acidemias F
- xii. Peroxisomal Disorders, including Zellweger Syndrome F
- i. Nutritional Disorders F

4. The Cardiovascular System

- a. Normal Development, Structure, and Function C
 - i. Normal Circulation of the Embryo and Fetus C
- b. Genetic Disorders
 - i. Monosomy X C
 - ii. Trisomy 21 C
 - iii. 22q Deletion Syndrome (diGeorge) C
 - iv. Marfan and Related Syndromes C
 - v. Trisomy 18 AR
 - vi. Trisomy 13 AR
 - vii. Tuberous Sclerosis AR
 - viii. Williams-Beuren Syndrome F
- c. Malformation
 - i. Right-to-Left Shunts C
 - ii. Left-to-Right Shunts C
 - iii. Valve Atresia, Stenosis, and Related Pathology (e.g., Epstein) C
 - iv. Aortic Coarctation C
 - v. Ductus Arteriosus Abnormality C
 - vi. Aberrant or Anomalous Systemic or Coronary Vessel C
 - vii. Hypoplastic Left Heart Syndrome AR
 - viii. Anomalous Pulmonary Venous Connection AR
 - ix. Abnormal Situs and Visceral Heterotaxy F
 - x. Cardiac Surgical Procedures F
- d. Cardiomyopathy
 - i. Hypertrophic Cardiomyopathy C
 - ii. Dilated Cardiomyopathy C
 - iii. Cor Pulmonale AR
 - iv. Non-Compaction of the Left Ventricle F
 - v. Arrhythmogenic Right Ventricular Cardiomyopathy F

- vi. Mitochondrial Cardiomyopathy F
 - vii. Storage Disorder Cardiomyopathy F
 - e. Myocardial Ischemic Injury C
 - f. Inflammatory, Infectious, and Autoimmune Disorders
 - i. Myocarditis C
 - ii. Endocarditis C
 - iii. Rheumatic Heart Disease AR
 - iv. Kawasaki Disease AR
 - v. Transplant Rejection F
 - g. Primary Neoplasms
 - i. Rhabdomyoma AR
 - ii. Fibroma AR
 - iii. Teratoma AR
 - iv. Cardiac Myxoma AR
 - v. Papillary Fibroelastoma AR
 - h. The Aorta and Great Vessels AR
 - i. Peripheral Vascular Disorders
 - i. Vascular Tumors AR
 - ii. Vascular Malformations AR
 - iii. Idiopathic Infantile Arterial Calcification F
 - j. Other Cardiac Conditions (e.g., Endocardial Fibroelastosis) AR

5. The Respiratory System and Mediastinum

- a. Normal Development, Structure, and Function C
 - i. Surfactant Production and Function C
- b. Tracheobronchial and Pulmonary Disorders of the Newborn
 - i. Meconium Aspiration Syndrome C
 - ii. Hyaline Membrane Disease C
 - iii. Bronchopulmonary Dysplasia AR
 - iv. Pulmonary Interstitial Emphysema AR
 - v. Necrotizing Tracheobronchitis AR
- c. Inflammatory, Infectious, and Autoimmune Disorders
 - i. Congenital Pneumonia C
 - ii. Bacterial Infections C
 - iii. Fungal Infections C
 - iv. Viral Infections C
 - v. Mycobacterial Infections C
 - vi. Anti-Basement Membrane Disease AR
 - vii. Immune Dysregulation Disorders F
 - viii. Transplant Rejection F
- d. Childhood Interstitial Lung Disease
 - i. Pulmonary Hemosiderosis AR
 - ii. Neuroendocrine Cell Hyperplasia of Infancy F

- iii. Pulmonary Interstitial Glycogenosis F
 - e. Metabolic and Nutritional Disorders AR
 - f. Cysts and Neoplasms
 - i. Congenital Pulmonary Airway Malformation AR
 - ii. Lobar Sequestration AR
 - iii. Bronchogenic Cysts and Other Developmental Cysts AR
 - iv. Inflammatory Myofibroblastic Tumor AR
 - v. Metastatic Tumors AR
 - vi. Tracheobronchial Neoplasia AR
 - vii. Pleuropulmonary Blastoma F
 - g. Pulmonary Vascular Diseases
 - i. Pulmonary Hypertensive Arteriopathy AR
 - ii. Lymphangiectasis F
 - iii. Alveolar Capillary Dysplasia F
 - iv. Pulmonary Veno-Occlusive Disease F
 - h. Lesions of the Nasopharynx
 - i. Nasopharyngeal Carcinoma AR
 - ii. Polyps and Papillomas AR
 - iii. Juvenile Nasopharyngeal Angiofibroma F
 - iv. Glial Heterotopia F
 - v. Nasal Chondromesenchymal Hamartoma F
 - i. Malformations
 - i. Tracheoesophageal Fistula AR
 - ii. Congenital Diaphragmatic Hernia AR
 - iii. Pulmonary Agenesis and Hypoplasia F
 - iv. Abnormal Lung Lobation F
 - v. Congenital Acinar Dysplasia F
 - j. Genetic Disorders (e.g., Surfactant System Disorders) F

6. The Central Nervous System

- a. Normal Development, Structure, and Function C
- b. Genetic Disorders
 - i. Trisomy 21 C
 - ii. Trisomy 13 AR
- c. Malformations
 - i. Anencephaly AR
 - ii. Holoprosencephaly AR
 - iii. Microcephaly AR
 - iv. Encephalocele AR
 - v. Neural Tube Defect AR
 - vi. Lissencephaly F
 - vii. Arnold Chiari Malformation F
 - viii. Dandy-Walker Malformation F

ix.	Neuronal Migration Disorder (e.g., Tuber)	F
d.	Hypoxic Encephalopathy	
i.	Infarction	C
ii.	Germinal Matrix Hemorrhage	AR
iii.	Leukomalacia	F
e.	Vascular Disorders	
i.	Arteriovenous Malformation	C
ii.	Stroke	C
iii.	Embolism	C
iv.	Subgaleal/Intracranial Hemorrhage	C
v.	Vein of Galen	F
f.	Infectious (e.g., Meningitis / Encephalitis)	
i.	Viral	C
ii.	Bacterial/Mycobacterial	C
iii.	Fungal	C
iv.	Parasitic	C
g.	Demyelinating Disorders	AR
h.	Metabolic, Nutritional, and Toxic Disorders	
i.	Kernicterus	AR
ii.	Mitochondrial Encephalopathy	F
i.	Cysts and Neoplasms	
i.	Medulloblastoma	AR
ii.	Pilocytic Astrocytoma	AR
iii.	Ependymoma	AR
iv.	Teratoma and Germ Cell Tumor	AR
v.	Glial Tumors	AR
vi.	Atypical Rhabdoid Teratoid Tumors	AR
vii.	Meningeal Neoplasms	AR
viii.	Pituitary Lesions	AR
ix.	Pineal Lesions	AR

7. The Skin

a.	Normal Development, Structure, and Function	C
b.	Genetic Disorders	
i.	Neurofibromatosis	C
ii.	Genodermatoses	F
iii.	Epidermolysis Bullosa	F
iv.	Ehlers-Danlos Syndrome	F
v.	Incontinentia Pigmenti	F
c.	Inflammatory, Infectious, and Autoimmune Disorders	
i.	Dermatophytoses	AR
ii.	Viral Exanthems	AR
iii.	Eosinophilic and Neutrophilic Dermatoses	AR

iv.	Lichenoid Dermatoses	AR
v.	Vesicular-Bullous Dermatoses	AR
vi.	Lupus Erythematosus	AR
vii.	Dermatitis Herpetiformis	AR
viii.	Linear IgA Dermatitis	AR
ix.	Leukocytoclastic Vasculitis	AR
x.	Polyarteritis Nodosa	AR
xi.	GVHD	AR
d.	Metabolic, Nutritional, Degenerative, and Toxic Disorders	
i.	Calcinosis Cutis	AR
ii.	Granuloma Annulare	AR
e.	Cyst and Neoplasms	
i.	Langerhans Cell Histiocytosis	AR
ii.	Mast Cell Proliferations	AR
iii.	Spitz Tumor	AR
iv.	Congenital and Acquired Melanocytic Nevi (Non-Spitz)	AR
v.	Dermal Hamartomas	AR
vi.	Nevus Sebaceous	AR
vii.	Adnexal Tumors	AR
viii.	Mycosis Fungoides and Cutaneous Lymphomas	AR
ix.	Dermatofibroma and Dermatofibrosarcoma Protuberans	AR
x.	Congenital Cutaneous Cysts	AR
xi.	Juvenile Xanthogranuloma	AR
xii.	Fibrous Hamartoma of Infancy	F
f.	Vascular Disorders	
i.	Vascular Malformations	AR
ii.	Vascular Tumors	AR
g.	Malformations	F

8. The Special Senses – Eye and Ear

a.	Normal Development, Structure, and Function	C
b.	Inflammatory, Infectious, and Autoimmune Disorders	
i.	Otitis Media / Cholesteatoma	C
ii.	Ophthalmitis	C
iii.	Sclerosing Orbital Pseudotumor	F
c.	Cysts and Neoplasms	
iv.	Retinoblastoma	AR
v.	Periorbital Neoplasms (e.g., Embryonal Rhabdomyosarcoma)	F
d.	Vascular Disorders	
i.	Vascular Malformations	AR
ii.	Vascular Tumors	AR
e.	Genetic Disorders (e.g., Trisomy 13)	F
f.	Malformations	F

g. Degenerative Conditions (e.g., Cataracts)	F
9. The Alimentary Tract	
a. Normal Development, Structure, and Function	C
b. Oral Cavity	
i. Mucocele	C
ii. Neoplasm, Benign and Malignant	AR
iii. Inflammatory and Infectious Disorders	AR
iv. Hamartoma	F
v. Congenital / Developmental Anomalie	F
c. Odontogenic	
i. Congenital / Developmental Anomalies	AR
ii. Metabolic / Syndromic Disorders	AR
iii. Odontogenic Cysts	
1. Dentigerous Cyst	AR
2. Odontogenic Keratocyst	AR
iv. Odontogenic Tumors, Benign & Malignant	
d. Salivary Gland	
i. Sialadenitis (Infectious/Inflammatory/Autoimmune)	AR
ii. Tumors and Tumor-Like Conditions	
1. Pleomorphic Adenoma	C
2. Vascular Malformations	AR
3. Mucoepidermoid Carcinoma	AR
4. Other Salivary Gland Tumors, Benign and Malignant	AR
e. Malformations of the Gastrointestinal Tract	
i. Remnant / Heterotopia (e.g., Meckel Diverticulum)	C
ii. Atresia / Stenosis	AR
iii. Fistula	AR
iv. Duplication	AR
v. Remnant / Heterotopia	AR
vi. Malrotation / Abnormal Fixation	AR
vii. Omphalocele / Gastroschisis	AR
f. Congenital Diarrheal/Enteropathic Syndromes	
i. Microvillous Inclusion Disease	F
ii. Tufting Enteropathy	F
iii. Malabsorption due to Transport or Enzyme Disorders	F
g. Immune-Mediated Disorders	
i. Celiac Sprue	C
ii. Eosinophilic / Allergic Gastroenteritis	C
iii. Lymphocytic / Collagenous Enteritis	AR
iv. Graft-Versus-Host Disease	AR
v. Autoimmune Enteropathy	F
vi. Immunodeficiency / Immune Dysregulation	F

vii.	Bullous Diseases	F
h.	Inflammatory and Infectious Disorders	
i.	Reflux/Barrett esophagitis	C
ii.	Infectious Gastroenteritis	C
1.	Viral Gastroenteritis	C
2.	Fungal Gastroenteritis	C
3.	Bacterial Gastroenteritis	C
a)	Helicobacter Gastritis	C
b)	Clostridioides difficile colitis	C
4.	Parasitic Gastroenteritis	AR
iii.	Necrotizing Enterocolitis	C
iv.	Acute Appendicitis	C
v.	Drug/Caustic Injury	AR
vi.	Bowel Perforation/Meconium and Other Causes of Peritonitis	AR
i.	Inflammatory Bowel Disease	
i.	Ulcerative Colitis	C
ii.	Crohn Disease	C
iii.	Intermediate Enteritis	C
j.	Metabolic, Systemic, and Nutritional Disorders	
i.	Cystic Fibrosis	AR
ii.	Vasculitis	AR
k.	Pseudo-Obstruction	
i.	Dysmotility Disorders	
1.	Aganglionosis/Hirschsprung Disease	C
2.	Other Dysmotility Disorders	F
ii.	Enteric Myopathies	F
l.	Obstruction, Acquired	
i.	Intussusception	C
ii.	Volvulus	C
iii.	Bezoar	C
m.	Tumor-Like Conditions	
i.	Lymphangiectasis	AR
n.	Polyps and Polyposis Syndromes	
i.	Juvenile	C
ii.	Hamartomatous	C
iii.	Hyperplastic	C
iv.	Adenomatous	C
v.	Inflammatory	C
o.	Neoplasms, Benign and Malignant	
i.	Epithelial	AR
ii.	Mesenchymal	AR
iii.	Lymphoid/Hematopoietic	AR

10. The Hepatobiliary System and Pancreas

- a. Normal Anatomy and Development C
- b. Developmental Anomalies of the Liver & Extrahepatic Biliary Tree F
 - i. Congenital Hepatic Fibrosis F
 - ii. Caroli Disease F
- c. Cholestatic Disorders of Infancy
 - i. Extrahepatic Biliary Atresia F
 - ii. Syndromic and Non-Syndromic Paucity F
 - iii. Disorders of Intrahepatic Bile Transport F
 - iv. Progressive Familial Intrahepatic Cholestasis F
 - v. Disorders of Bile Acid Synthesis F
- d. Metabolic Disorders
 - i. Alpha-1 Antitrypsin C
 - ii. Cystic Fibrosis C
 - iii. Wilson Disease C
 - iv. Carbohydrate Disorders including Pompe F
 - v. Lysosomal Storage Disease F
 - vi. Tyrosinemia F
 - vii. Mitochondrial Disorders F
 - viii. Urea Cycle Disorders F
 - ix. Lipid and Lipoprotein Disorders F
- e. Nutritional Disorders
 - i. Steatosis, Steatohepatitis, Metabolic Syndrome C
 - ii. Hyperalimentation (TPN) Hepatopathy AR
- f. Infectious, Inflammatory, and Autoimmune Disorders
 - i. Viral Hepatitis C
 - ii. Drug/Toxin Induced C
 - iii. Non-Viral Causes of Infectious Hepatitis AR
 - iv. Autoimmune Hepatitis AR
 - v. Cholangitis (e.g., Primary Sclerosis Cholangitis) AR
 - vi. Neonatal Giant Cell Hepatitis F
 - vii. Neonatal Hemochromatosis F
- g. Liver Transplantation Pathology
 - i. Cellular or Humoral Rejections AR
 - ii. Perfusion Injury AR
 - iii. Complications of Biliary Drainage AR
 - iv. Immunosuppression Complications, Infections & PTLD AR
- h. Vascular Disorders
 - i. Portal Hypertension C
 - ii. Subcapsular Hematoma C
 - iii. Veno-Occlusive Disease / Budd-Chiari AR
- i. Neoplasms, Cysts, and Tumor-Like Disorders
 - i. Bile Duct Hamartoma C
 - ii. Subcapsular Hematoma C

iii.	Hepatoblastoma	AR
iv.	Hepatocellular Carcinoma	AR
v.	Focal Nodular Hyperplasia	AR
vi.	Nodular Regenerative Hyperplasia	AR
vii.	Vascular Malformations and Neoplasms	AR
viii.	Hepatic Adenoma	AR
ix.	Secondary Liver Involvement (e.g., AML, Neuroblastoma)	AR
x.	Extramedullary Hematopoiesis	AR
xi.	Ciliated Foregut Cyst	F
xii.	Undifferentiated / Embryonal Sarcoma	F
xiii.	Mesenchymal Hamartoma	F
j.	Systemic Disorders	
i.	Hemophagocytic Lymphohistiocytosis	AR
ii.	Hereditary Fibrocystic Disease (e.g., Ciliopathies)	F
k.	Gallbladder	
i.	Normal Anatomy and Histology	C
ii.	Common Pathologic Conditions (e.g., Cholecystitis)	C
l.	Pancreas	
i.	Systemic Disorders Involving the Pancreas	
1.	Cystic Fibrosis	C
2.	Diabetes Mellitus	C
3.	Shwachman-Diamond	F
4.	Neonatal Hemochromatosis	F
ii.	Non-Neoplastic	
1.	Inflammatory Conditions	C
2.	Cyst/Pseudocyst	C
3.	Neonatal Hyperinsulinism/Neonatal Diabetic Ketoacidosis	F
iii.	Neoplasia	
1.	Solid Pseudopapillary Neoplasm	AR
2.	Acinar Cell Carcinoma	AR
3.	Endocrine Tumors	AR
4.	Pancreatoblastoma	F
iv.	Malformations (e.g., Annular Pancreas)	F

11. The Kidney and Urinary System

a.	Normal Anatomy, Histology, and Development	C
b.	Malformations	
i.	Ureteral Ectopia including Vesicoureteral Reflux and Duplex Collecting System	AR
ii.	Fused / Ectopic Kidney	AR
iii.	Renal Hypoplasia	AR
iv.	Exstrophy	F
v.	Bladder / Kidney Outlet Obstruction (e.g., Prune Belly Syndrome)	F

vi.	Renal Tubular Dysgenesis	F
c.	Metabolic and Nutritional Disorders	
i.	Lipid and Peroxisomal Disorders	F
ii.	Lysosomal Storage Disorders	F
iii.	Purine Metabolism and Associated Disorders	F
iv.	Diabetic nephropathy	AR
d.	Renal Dysplasia	
i.	Multicystic Renal Dysplasia	C
ii.	Medullary Dysplasia	F
iii.	Segmental, Hypoplastic, or Dysplastic Conditions	F
e.	Cystic Disease	
i.	AD- or AR- PKD	AR
ii.	Glomerulocystic Diseases, NOS	F
iii.	Other Ciliopathies	F
f.	Hydronephrosis / Obstructive Nephropathy	AR
g.	Glomerular Disease	
i.	Podocytopathy (FSGS, MCNS, CNS)	AR
ii.	Immune Complex Disease	AR
iii.	Crescentic Disease, excluding Immune Complex (e.g., ANCA)	AR
iv.	Glomerular Basement Membrane Disorders	AR
h.	Tubulointerstitial Disease	
i.	Acute Tubular Necrosis	C
ii.	Tubulointerstitial Nephritis	AR
	1. Infectious	AR
	2. Drug-Induced	AR
	3. Immune-Mediated (e.g., TINU, Sarcoidosis)	AR
	4. Antibody-Mediated	AR
i.	Renal Vascular Diseases	
i.	Renal Artery Dysplasia	AR
ii.	Vasculitis, Medium and Large Vessel	AR
j.	Renal Transplantation Pathology	
i.	Cellular and/or Humoral Rejection	AR
ii.	Complications of Immunosuppression	AR
iii.	Other Infectious/Inflammatory Conditions	AR
k.	Renal Neoplasms	
i.	Wilms Tumor and Related Nephroblastic Variants	C
ii.	Congenital Mesoblastic Nephroma	C
iii.	Clear Cell Sarcoma	AR
iv.	Rhabdoid Tumor	AR
v.	Renal Cell Carcinoma	AR
vi.	Angiomyolipoma	AR
vii.	Other Renal Neoplasms	AR
l.	Lower Urinary Tract Neoplasms and Tumor-Like Lesions	
i.	Nephrogenic Adenoma	AR

- ii. Inflammatory Myofibroblastic Tumor AR
 - iii. Rhabdomyosarcoma AR
 - m. Systemic Disorders Involving the Kidney
 - i. Hypertension C
 - ii. Diabetes Mellitus C
 - iii. Thrombotic Microangiopathy (e.g., HUS) AR
 - n. Urinary Calculi F

12. The Endocrine System (Excluding Ovary and Testis)

- a. Normal Anatomy, Histology, and Development C
- b. Parathyroid Pathology
 - i. Hyperplasia AR
 - ii. Adenoma AR
- c. Thyroid, Non-Neoplastic
 - i. Thyroiditis AR
 - ii. Nodular / Diffuse Hyperplasia AR
 - iii. Malformation / Ectopia AR
- d. Thyroid, Neoplastic
 - i. Adenoma AR
 - ii. Carcinoma AR
 - 1. Follicular AR
 - 2. Papillary AR
 - 3. Medullary, including C-cell Hyperplasia AR
- e. Adrenal, Non-Neoplastic
 - i. Adrenal Cortical Rests C
 - ii. Hemorrhage AR
 - iii. Cysts and Pseudocysts AR
 - iv. Malformation F
 - v. Hypoplasia F
 - vi. Cytomegaly F
 - vii. Disorders of Hormonal Synthesis (e.g., Congenital Adrenal Hyperplasia) F
- f. Adrenal, Neoplastic
 - i. Neuroblastic Tumor C
 - ii. Adrenal Cortical Neoplasm C
 - iii. Pheochromocytoma C
- g. Infectious Diseases C
- h. Metabolic Disorders (e.g., Adrenoleukodystrophy & Wolman Disease) F

13. The Hematopoietic and Lymphoid Systems

- a. Normal Anatomy, Histology, and Development C
- b. Non-Neoplastic Disorders of Lymphoid Tissue

i.	Infectious Diseases	
1.	Granulomatous	C
2.	Viral	C
3.	Bacterial	C
4.	Fungal	C
5.	Parasitic	C
ii.	Inflammatory Conditions	
1.	Kikuchi-Fujimoto Disease	AR
2.	Castleman Disease	AR
3.	Rosai-Dorfman	AR
4.	Dermatopathic Lymphadenitis	AR
5.	Drug-Related	AR
6.	Macrophage Activation Disorders/ Hemophagocytic Syndrome	AR
c.	Autoimmune/Immune Dysregulation Disorders	
i.	Primary	AR
ii.	Secondary	AR
1.	Iatrogenic	AR
2.	Post-Transplant Lymphoproliferative Disorder (PTLD)	AR
3.	Viral-Associated Conditions, including HIV	AR
d.	Histiocytic Disorders	
i.	Langerhans Cell Histiocytosis	AR
ii.	Non-Langerhans Cell Histiocytosis	AR
iii.	Rosai Dorfman Disease	AR
e.	Thymus	
i.	Thymic Hyperplasia	AR
ii.	Other Conditions (Involution, Thymoma, Ectopia, Cysts, Aplasia)	AR
f.	Spleen	
i.	Lymphoid Hyperplasia	AR
ii.	Splenic Cysts and Other Non-Hematopoietic Proliferations	AR
g.	Neoplasms involving the Reticuloendothelial System	
i.	Mature B-cell Neoplasms	
1.	Burkitt Lymphoma	C
2.	Diffuse Large B-cell Lymphoma	C
3.	Pediatric-Type Follicular Lymphoma	AR
ii.	Mature T- and NK-cell Neoplasms	
1.	NK/T-cell Lymphoma, Nasal Type	AR
2.	Anaplastic Large Cell Lymphoma	AR
iii.	Hodgkin Lymphoma	
1.	Lymphocyte Predominant	AR
2.	Classic	AR
iv.	Acute Lymphoblastic Leukemia/Lymphoma	
1.	B-cell	C
2.	T-cell	C

v.	Myeloproliferative/Myelodysplasia Disorders	
1.	CML (BCL-ABL+)	C
2.	JMML	F
3.	Myelodysplastic Syndromes	F
vi.	Acute Myeloid Leukemia / Myeloid Sarcoma	
1.	Myeloid Proliferations Related to Trisomy 21	AR
h.	Bone Marrow and Peripheral Blood, Non-Neoplastic	
i.	Normal Hematopoiesis	C
ii.	Non-Neoplastic Disorders of RBCs, WBCs, and Platelets	C
iii.	Storage Disorders	AR
iv.	Macrophage Activation Disorders / Hemophagocytic Syndrome	AR
v.	Therapy-Related Effects	AR
vi.	Infectious Disorders	AR
vii.	Hb S Disorders	AR
viii.	Other Hemoglobinopathies	AR
ix.	Thalassemias	AR
x.	Platelets Function Disorders	AR
xi.	Other Constitutional / Hereditary Disorders	AR

14. The Breast

a.	Normal Anatomy, History, and Development	C
b.	Developmental Malformations	F
c.	Benign Lesions	
i.	Fibrocystic Changes	AR
ii.	Juvenile Papillomatosis	AR
iii.	Gynecomastia	AR
iv.	Fibroadenoma	AR
d.	Intermediate and Malignant Lesions	
i.	Phyllodes Tumors	AR
ii.	Secretory Carcinoma	AR

15. The Female Reproductive System

a.	Normal Anatomy, Histology, and Development	C
b.	Developmental Anomalies and Malformations	AR
c.	Infections	
i.	Viral (e.g., HPV / Condyloma)	C
ii.	Bacterial	C
d.	Inflammatory Conditions, Non-Infectious (e.g., Lichen Sclerosus)	AR
e.	Vascular Disorders	
i.	Ovarian Torsion	AR
f.	Lower Genital Tract Neoplasms (e.g., Rhabdomyosarcoma)	AR
g.	Ovarian Disorders and Neoplasms	

- i. Benign Cysts C
- ii. Germ Cell Tumors including Gonadoblastoma AR
- iii. Sex Cord Stromal Tumors
 - 1. Granulosa Cell Tumor AR
 - 2. Sex Cord Tumor with Annular Tubules AR
 - 3. Sertoli, Leydig, and Sertoli-Leydig Tumors AR
- iv. Epithelial Neoplasms
 - 1. Serous and Mucinous Epithelial Tumors AR
 - 2. Small Cell Carcinoma AR
- h. Uterus and Vagina, Disorders & Neoplasms AR
- i. Fallopian Tube Disorders & Neoplasms AR

16. Disorders of Sexual Development (Intersex Disorders)

- a. Mixed Gonadal Dysgenesis (45X/46XY) AR
- b. Ovotesticular Syndrome AR
- c. Pure Gonadal Dysgenesis AR
- d. Klinefelter Syndrome AR
- e. Turner Syndrome AR
- f. Androgen Insensitivity Syndrome AR
- g. Congenital Adrenal Hyperplasia
(e.g., 21 Hydroxylase, 11 β Hydroxylase Deficiency) F
- h. Gonadotropin – Leydig Cell Defects F
- i. Steroid Enzymatic Deficiency (Testosterone, Dihydrotestosterone) F
- j. Persistent Müllerian Duct Syndrome F

17. The Male Reproductive System

- a. Normal Anatomy, Histology and Development C
- b. Testis
 - i. Developmental Anomalies and Malformations (e.g., Cryptorchidism) C
 - ii. Infections
 - 1. Bacterial C
 - 2. Viral C
 - iii. Vascular Disorders
 - 1. Torsion C
 - 2. Testicular Regression Syndrome AR
 - iv. Cysts and Neoplasms
 - 1. Germ Cell Tumors including Gonadoblastoma AR
 - 2. Gonadal Stromal Tumors
 - a) Sertoli, Leydig, and Sertoli-Leydig Cell Tumors AR
 - b) Granulosa Cell Tumor AR
 - v. Inflammatory Conditions, Non-Infectious
(e.g., Meconium Periorchitis) F

- vi. Acquired Abnormalities (e.g., Microlithiasis) F
- c. Epididymis, Spermatic Cord, and Paratesticular Tissues
 - i. Congenital and Developmental Disorders
 - 1. Embryonal Remnants AR
 - 2. Heterotopias AR
 - 3. Cystic Fibrosis AR
 - ii. Acquired Abnormalities
 - 1. Neoplasms (e.g., Rhabdomyosarcoma) AR
- d. Penis (e.g., Balanitis) AR
- e. Prostate (e.g., Rhabdomyosarcoma) AR

18. Soft Tissue, Peripheral Nerve, and Muscle

- a. Normal Anatomy, Histology, and Development C
- b. Infectious, Inflammatory, and Autoimmune Disorders (e.g., Myositis) AR
- c. Neoplasms and Malformations
 - i. Fibrous, Fibrohistiocytic, and Myofibroblastic Lesions
 - 1. Nodular Fasciitis C
 - 2. Fibromatosis C
 - 3. Dermatofibrosarcoma Protuberans C
 - 4. Myofibromatosis AR
 - 5. Inflammatory Myofibroblastic Tumor AR
 - 6. Fibrosarcoma including LGFMS & Infantile Fibrosarcoma AR
 - 7. Angiomatoid Fibrous Histiocytoma AR
 - 8. Plexiform Fibrohistiocytic Tumor AR
 - 9. NTRK-Rearranged Spindle Cell Neoplasm F
 - ii. Peripheral Nerve
 - 1. Neuroma C
 - 2. Neurofibroma and Neurofibromatosis C
 - 3. Schwannoma C
 - 4. Granular Cell Tumor C
 - 5. Perineuroma AR
 - 6. Neurothekeoma AR
 - 7. Malignant Peripheral Nerve Sheath Tumor AR
 - 8. Extra-Adrenal Neuroblastic Tumor AR
 - iii. Adipocytic Lesions
 - 1. Lipoma C
 - 2. Lipoblastoma C
 - 3. Liposarcoma C
 - iv. Vascular Tumors and Malformations
 - 1. Vascular and Lymphatic Malformations AR
 - 2. Hemangiomas AR
 - 3. Hemangioendotheliomas AR
 - 4. Angiosarcoma AR

- v. Soft Tissue Tumors of Uncertain Derivations
 - 1. Ewing Sarcoma AR
 - 2. Desmoplastic Small Round Cell Tumor AR
 - 3. Clear Cell Sarcoma of Soft Tissue AR
 - 4. Extraskeletal Myxoid Chondrosarcoma AR
 - 5. Mesenchymal Chondrosarcoma AR
 - 6. Synovial Sarcoma AR
 - 7. Epithelioid Sarcoma AR
 - 8. Malignant Rhabdoid Tumor AR
 - 9. Alveolar Soft Part Sarcoma AR
 - 10. Other Sarcomas (e.g., CIC- and BCOR-altered) AR
- d. Metabolic, Nutritional, and Degenerative Disorders (e.g., Mitochondrial Disorders) F

19. The Skeletal System

- a. Normal Anatomy, Histology, and Development C
- b. Infections (e.g., Osteomyelitis) C
- c. Synovial and Joint Disorders (e.g., Tenosynovial Giant Cell Tumor) AR
- d. Neoplasms and Malformations of Bone
 - i. Osteogenic Tumors
 - 1. Osteosarcoma C
 - 2. Benign AR
 - a. Osteoid Osteoma AR
 - b. Osteoblastoma AR
 - 3. Post-Treatment Osteosarcoma AR
 - 4. Surface Osteosarcoma (Paraosteal, Periosteal) AR
 - ii. Ewing / Undifferentiated Small Cell Sarcoma C
 - iii. Fibrous & Fibrohistiocytic Tumors, including Non-Ossifying Fibroma AR
 - iv. Chondroblastic Tumors
 - 1. Benign AR
 - 2. Malignant AR
 - v. Primary Lymphoma of Bone AR
 - vi. Vascular Neoplasms and Malformations AR
 - vii. Tumors of Undefined Neoplastic Nature
 - 1. Bone Cysts (UBC and ABC) AR
 - 2. Fibrous and Osteofibrous Dysplasia AR
 - 3. Langerhans Cell Histiocytosis AR
- e. Skeletal Dysplasia (e.g., Thanatophoric Dysplasia, Osteogenesis Imperfecta)AR

20. Diagnostic/Technical Procedures & Laboratory Management

- a. Special Anatomic Procedures
 - i. Histochemical Stains AR

ii.	Enzyme Histochemistry	AR
iii.	Fluorescence Microscopy	AR
iv.	Immunohistochemistry	AR
v.	Electron Microscopy	AR
vi.	Special Dissection Techniques (e.g., Conduction System)	AR
vii.	Specimen Radiography	AR
viii.	Frozen Section and Touch Preparation	AR
ix.	Vascular Injection Studies	F
x.	Ciliary Biopsy Evaluation	F
b.	Isoimmune Disorders	
i.	Hemolytic Disease of the Newborn	AR
ii.	Neonatal Alloimmune Thrombocytopenia	AR
c.	Prenatal Diagnostic Tests	
i.	Amniocentesis	AR
ii.	Chorionic Villous Sampling	AR
iii.	Quad Screen	AR
iv.	Non-Invasive Prenatal Testing (Cell-Free DNA)	AR
d.	Cytogenetics	
i.	Constitutional Karyotypes	AR
ii.	Neoplastic Karyotypes	AR
iii.	Constitutional FISH	AR
iv.	Neoplastic FISH	AR
v.	Comparative Genomic Hybridization (Microarrays)	AR
e.	Family Tree / Inheritance Pattern	AR
f.	Cytology	
i.	Urine	AR
ii.	Cerebrospinal Fluid	AR
iii.	Bronchoalveolar Lavage	AR
iv.	Other Body Fluids	AR
v.	Fine Needle Aspiration Cytology	AR
vi.	Intraoperative Neuropathology Cytology	AR
vii.	Intraoperative Cytology from Other Sites	AR
viii.	Infectious Disease Cytology	AR
g.	Special Clinical Pathology Tests	
i.	Immunologic Tests	
1.	Serology for Infectious Diseases	AR
2.	Serology for Autoimmune Diseases	AR
3.	Serology for Gastrointestinal Diseases (e.g., Celiac, IBD)	AR
4.	Cellular Immunodeficiency Diseases	AR
5.	Humoral Immunodeficiency Diseases	AR
6.	Granulocyte/Phagocytosis Disorders	AR
7.	Transplantation	AR
ii.	Metabolic Test	
1.	Glucose and Carbohydrates	AR

	2. Lipids and Respiratory Chain	AR
	3. Urea Cycle	AR
	4. Liver Function and Bile Acids	AR
	5. Porphyrins	AR
	6. Drug Metabolism Testing	AR
	7. Tandem Mass Spectroscopy, Principles & Applications	AR
	8. Collection & Preservation of Tissues for Metabolic Testing	AR
	9. Amino Acids and Proteins	F
	10. Organic Acids	F
	11. Newborn Screening	F
iii.	Tumor Markers (e.g., AFP, HCG, Catecholamines)	AR
iv.	Endocrine Tests	
	1. Pituitary Hormones	AR
	2. Thyroid Hormones	AR
	3. Parathyroid Hormones	AR
	4. Adrenal Cortical Hormones	AR
	5. Adrenal Medullary Hormones	AR
	6. Pancreatic Hormones	AR
	7. Vitamin D	AR
	8. Female Sex Hormones	AR
	9. Male Sex Hormones	AR
	10. Endocrine Tumors	AR
	11. Tests for Congenital Hormone Disorders (e.g., CAH, Congenital Hyperinsulinemia)	AR
v.	Hematology and Bone Marrow Tests	
	1. Coagulation Tests, including Factor Assays	AR
	2. Thrombophilia	AR
	3. Platelet Function Tests	AR
	4. Hemoglobin Electrophoresis	AR
	5. Red Cell Enzyme Disorder Tests	AR
	6. Red Cell Membrane Disorder Test	AR
	7. Complete Blood Count	AR
	8. Peripheral Blood Smear Morphology	AR
	9. Immunophenotyping (Flow Cytometry)	AR
	a) Non-Neoplastic (e.g., Lymphocyte Subsets)	AR
	b) Neoplastic (e.g., Leukemia/Lymphoma)	AR
	10. Nutritional Anemias	AR
vi.	Microbiology Tests	
	1. Stains including fluorescent stains	AR
	2. Cultures	AR
	3. Molecular Detection of Bacteria and Mycobacteria	AR
	4. Molecular Detection of Fungi and Parasites	AR
	5. Molecular Detection of Viruses	AR
vii.	Blood Bank/Transfusion Medicine Tests	

	1. Blood Groups and Blood Typing	AR
	2. Antibody Screening and Identification	AR
	3. Autoimmune Hemolytic Disorders	AR
	4. Apheresis Indications and Practices	AR
	5. Transfusion Reactions and Complications	AR
	6. Intrauterine and Neonatal Transfusion Practices	F
	7. Child and Adolescent Transfusion Practices	F
viii.	CSF	
	1. Chemistry	AR
	2. Cell Counts and Morphology	AR
	3. Immunologic Testing	
ix.	Urine Analysis	
	1. Dip-Stick and Point-of-Card Testing	AR
	2. Other Chemical Analysis	AR
	3. Crystals, Casts, and Cells	AR
x.	Fecal Tests	AR
h.	Molecular Analysis	
	i. DNA Amplification Techniques	AR
	ii. RNA RT-PCR and Gene Expression Analytic Techniques	AR
	iii. Single Nucleotide Polymorphism Chip Arrays	AR
	iv. Loss of Heterozygosity Studies	AR
	v. Use in Syndromic Diagnosis	AR
	vi. Use in Solid Tumor Diagnosis	AR
	vii. Use in Hematolymphoid Disorders	AR
	viii. Use in Metabolic Disease Diagnosis	F
i.	DNA Ploidy Analysis	AR
j.	Unique Aspects of Pediatric References Ranges	AR
	i. Development of Reference Ranges/Assay Validation	AR

21. Administration & Management

a.	Quality Control Procedures	AR
b.	Quality Management Programs	AR
c.	Proficiency Testing	AR
d.	Laboratory Design	AR
e.	Strategic Planning	AR
f.	Budgeting and Financial	AR
g.	Compliance Programs and Billing	AR
h.	Confidentiality / HIPAA	AR
i.	Research Content and IRB	AR
j.	Licensure	AR
k.	Accreditation; Different Accrediting Agencies	AR
l.	Personnel	AR
m.	Safety	AR

n. Informatics AR

22. Forensic Pathology: Pediatric Issues

- a. Forensic Autopsy Procedures AR
- b. Live Birth versus Stillbirth AR
- c. Sudden Infant Death Syndrome (SIDS / SUDI) AR
- d. Sudden Unexpected Natural Deaths (Not SIDS) AR
- e. Child Abuse and Neglect AR
 - i. Munchausen Syndrome; Munchausen Syndrome by Proxy AR
- f. Trauma AR
 - i. Subdural and Intracranial Hemorrhages AR
 - ii. Skull Fractures AR
 - iii. Resuscitation-Associated Trauma AR
- g. Toxicology AR
 - i. Poisoning AR
 - ii. Medical Overdose AR
 - iii. Adverse Pharmacogenetics / Pharmacogenomics AR
- h. Therapeutic Misadventure / Complications of Treatment AR