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

Anatomic Pathology

Content Specifications

Overview

Anatomic Pathology Content Specifications

This guide outlines the content that may appear on an American Board of Pathology Primary Certification examination.

Guidance: Residents are expected to have a mastery of material designated as Core/Foundational and at least achieved competence for material designated as Advanced Resident. This document also includes content that would be covered in Fellow-level training (shaded in blue) with which Residents should be superficially familiar.

Key to Designations:

C = Core/Foundational Knowledge

AR = Advanced Resident

F = Fellow/Advanced Practitioner

The exam assesses the knowledge, judgment, skills, and abilities needed to identify particular entities, appropriately process specimens (i.e., work-up), and diagnose and/or characterize disease by methods used in anatomic pathology, including molecular methods. Residents are also referred to the Molecular Genetic Pathology Content Specifications document for an in-depth outline of content related to Molecular Pathology, in addition to that presented here.

The specific diseases listed in this document are important for trainees to know, but it is not possible to create a fully comprehensive list of all the material needed for certification and effective practice. This document should be used as a guide.

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1. Breast

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
3.	Congenital, Developmental, and Familial Conditions	
	a. Hamartoma	AR
4.	Inflammatory Conditions, Infectious & Non-Infectious	
	a. Fat necrosis	C
	b. Silicone reaction	AR
	c. Granulomatous mastitis	AR
5.	Diabetic mastopathy	AR
6.	Neoplastic	
	a. Benign	
	b. Apocrine Metaplasia	C
	c. Cysts	C
	d. Adenosis (e.g., sclerosing adenosis, tubular adenosis, microglandular adenosis, columnar cell alteration)	C
	e. Radial Scar	C
	f. Usual ductal hyperplasia	C
	g. Lipoma	C
	h. Hemangioma	C
	i. Leiomyoma	C
	j. Fibroadenoma	C
	k. Lactating adenoma	C
	l. Intraductal papilloma	C
	m. Flat epithelial hyperplasia and atypia	AR
	n. Nipple adenoma	AR
	o. Syringomatous adenoma	AR
	p. Fibromatosis	AR
	q. Adenomyoepithelioma	AR
	r. Myofibroblastoma	AR
	s. Galactocele	AR
	t. Mucocele-like lesions	AR
7.	Premalignant, Malignant, and Borderline	
	a. Ductal carcinoma in situ (DCIS)	C
	b. Invasive ductal carcinoma, NOS	C
	c. Lobular carcinoma in situ (LCIS)	C

d.	Invasive lobular carcinoma	C
e.	Atypical ductal hyperplasia	AR
f.	Atypical lobular hyperplasia	AR
g.	Tubular carcinoma	AR
h.	Mucinous carcinoma	AR
i.	Cribiform carcinoma	AR
j.	Invasive micropapillary carcinoma	AR
k.	Apocrine carcinoma	AR
l.	Basal-like carcinoma	AR
m.	Inflammatory carcinoma	AR
n.	Metastatic carcinoma involving the breast	AR
o.	Paget disease of the nipple	AR
p.	Angiosarcoma	AR
q.	Phyllodes tumor	AR
r.	Encapsulated papillary carcinoma	AR
s.	Solid papillary carcinoma	AR
t.	Radiation-induced sarcoma	AR
u.	Adenoid cystic carcinoma	F
v.	Secretory carcinoma	F
w.	Metaplastic carcinoma	F
x.	Other uncommon carcinomas	F
8. Additional Topics		
a.	Assessment of axillary lymph nodes	C
b.	Biomarkers	C
c.	Gynecomastia	C
d.	Pseudoangiomatous stromal (mesenchymal) hyperplasia	C
e.	Intrinsic subtypes	F
9. Male & transgender breast pathology		AR
a.	Therapy-induced changes	AR
b.	Collagenous spherulosis	AR
c.	Carcinoma	AR
10. Hematopoietic lesions		
a.	Lymphoma	AR
b.	Rosai-Dorfman disease	AR

2. The Genitourinary System

A. Kidney

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
	Congenital, Developmental, and Familial Conditions	
3.	Medical Kidney Disease	
a.	Proliferative glomerulonephritides	
i.	Acute diffuse intracapillary proliferative glomerulonephritis	AR
ii.	Membranoproliferative glomerulonephritis	AR

- iii. Diffuse extracapillary proliferative (crescentic) glomerulonephritis AR
- iv. Other proliferative glomerulonephritides AR

b. Non-proliferative glomerulonephropathies
- i. Minimal change nephrotic syndrome C
- ii. Diabetic nephropathy C
- iii. Focal segmental glomerular sclerosis AR
- iv. Membranous glomerulonephritis AR
- v. Other non-glomerulonephritic glomerulonephropathies AR

c. Glomerular diseases associated with isolated hematuria
- i. IgA nephropathy AR
- ii. Henoch-Schonlein purpura AR
- iii. Thin basement membrane disease AR
- iv. Alport syndrome AR
- v. Other glomerular diseases AR

d. Diseases associated with acellular closure of glomerular capillaries
- i. Amyloidosis C

e. Thrombotic microangiopathy AR

f. Cryoglobulinemic glomerulonephritis AR

g. Fibrillary glomerulonephritis AR

h. Other diseases of acellular closure AR

i. Lupus nephropathies AR

j. Monoclonal gammopathy associated renal disease AR
- i. Light chain deposition disease AR
- ii. Cast nephropathy AR
- iii. Light chain tubulopathy AR

k. Tubulointerstitial Disease
- i. Acute tubular necrosis C
- ii. Pyelonephritis C
- iii. Interstitial nephritis AR
- iv. Other tubulointerstitial disease AR

l. Vascular lesions
- i. Arterial and arteriolar nephrosclerosis C
- ii. Renal artery stenosis C
- iii. Renal atheroembolic disease C
- iv. Vasculitis AR

k. End Stage Renal Disease C

l. Renal transplantation, donor assessment AR

4. Renal transplantation, rejection F
5. Other medical renal disease F
6. Inflammatory Conditions, Infectious and Non-Infectious
   a. Pyelonephritis C
   b. BK Nephropathy AR
7. Neoplastic
   a. Benign
      - i. Oncocytoma C
      - ii. Mixed Epithelial and Stromal Tumor of the Kidney (MEST) AR
      - iii. Metanephric adenoma AR

iv.	Angiomyolipoma	F
c.	Premalignant, Malignant, and Borderline	
i.	Clear cell renal carcinoma	C
ii.	Clear cell papillary tumor	C
iii.	Papillary renal cell carcinoma	C
iv.	Chromophobe renal cell carcinoma	C
v.	Collecting duct carcinoma	AR
vi.	Mucinous tubular and spindle cell carcinoma	AR
vii.	Translocation related renal cell carcinoma	AR
viii.	Adult Wilms	AR
ix.	Lymphoma	AR
8.	Additional Topics	
a.	Tissue processing of renal biopsies	C

B. The Urothelial Tract and Bladder

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
a.	Cystic glandularis	C
b.	Radiation Changes	AR
c.	Nephrogenic metaplasia	AR
3.	Congenital, Developmental, and Familial Conditions	
a.	Diverticula	C
b.	Urachal Remnant	AR
c.	Other Congenital, Developmental, and Familial Conditions	AR
4.	Inflammatory Conditions, Infectious and Non-Infectious	
a.	Urethral polyp	C
b.	BCG effects	C
5.	Neoplastic	
a.	Benign	
i.	Urothelial papilloma	C
ii.	Villous adenoma	AR
b.	Premalignant, Malignant, and Borderline	
i.	Papillary urothelial carcinoma	C
ii.	Urothelial carcinoma in situ	C
iii.	Invasive urothelial carcinoma and variants	C
iv.	Squamous cell carcinoma	C
v.	Papillary urothelial neoplasm of low malignant potential	AR
vi.	Adenocarcinoma	AR
vii.	Urachal carcinoma	AR
viii.	Neuroendocrine carcinoma	AR
ix.	Mesenchymal lesions of the urothelial tract	AR

3. Male Reproductive System

A. Prostate and Seminal Vesicles

1. Normal Anatomy and Histology including Cowper glands and paraganglion	C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
a. Benign prostatic hyperplasia	C
b. Atrophy	AR
c. Post-atrophic hyperplasia	AR
d. Nephrogenic adenoma (metaplasia)	AR
e. Veromontanum hyperplasia	AR
f. Clear cell cribiform hyperplasia	AR
g. Basal cell hyperplasia	AR
3. Congenital, Developmental, and Familial Conditions	C
4. Inflammatory Conditions, Infectious and Non-Infectious	
a. Amyloid	C
b. Granulomatous prostatitis	C
c. Malakoplakia	C
d. Post-biopsy changes	AR
5. Neoplastic	
a. Benign	
i. Adenosis	C
ii. Xanthoma	C
iii. Prostatic urethral polyps	F
b. Premalignant, Malignant, and Borderline	
i. Adenocarcinoma, usual acinar type	C
ii. Prostatic intraepithelial neoplasia (PIN)	AR
iii. Neuroendocrine carcinoma	AR
iv. Variants of prostatic adenocarcinoma	AR
v. Prostatic duct adenocarcinoma	AR
vi. Intraductal carcinoma	AR
vii. Mucinous adenocarcinoma	F
viii. Basal cell carcinoma	F
6. Additional Topics	
a. Gleason grading and grade groups	C
b. Extraprostatic extension	C
c. Lymph node metastasis	C
d. Margins	C
e. Immunohistochemistry	C
f. Estimation of tumor volume	AR
g. Lymphoma/leukemia occurring in the prostate	AR
h. Therapy effects	AR
i. Radiation	AR
ii. Anti-androgen	AR

B. Testis

1. Normal Anatomy and Histology	C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C

3.	Torsion/infarction	C
4.	Varicocele, Hydrocele, and Spermatocele	C
5.	Congenital, Developmental, and Familial Conditions	
	a. Cryptorchidism	C
6.	Non-neoplastic vascular pathology	C
7.	Inflammatory Conditions, Non-Infectious & Infectious	
8.	Neoplastic	
	a. Benign	
	i. Cysts	C
	ii. Lipoma	C
	iii. Adenomatoid tumor	AR
	b. Premalignant, Malignant, and Borderline	
	i. Germ cell tumors	
	1. Intratubular germ cell neoplasia	C
	2. Seminoma	C
	3. Teratoma	C
	4. Epidermoid cyst and dermoid cyst	C
	5. Spermatocytic tumor	AR
	6. Embryonal carcinoma	AR
	7. Yolk sac tumor	AR
	8. Carcinoid	AR
	9. Mixed germ cell tumor	AR
	10. Choriocarcinoma	AR
	ii. Sex cord-Mesenchymal tumors	
	1. Leydig cell tumor	AR
	2. Sertoli cell tumor	AR
	3. Granulosa cell tumor	AR
	4. Fibroma	AR
	b. Additional Topics	
	i. Radiation effects	AR
	ii. Intersex syndromes	F
	iii. Chemotherapy effects	F
	iv. Hematopoietic tumors	
	1. Lymphoma	C
	2. Leukemia	AR
	3. Plasmacytoma	AR
	v. Metastatic tumors to the testis	AR
	vi. Tumors of the tunica albuginea and mesothelium	AR
	vii. Spermatic cord/paratesticular tumors	AR
	viii. Gonadoblastoma	F
	ix. Mesenchymal tumors testis	F
	x. Rete testis tumors	F
	xi. Epididymal tumors	F
9.	Infertility Issues	
	a. Hypospermatogenesis	F
	b. Sertoli cell only syndrome	F
10.	Maturation arrest	F
11.	Germinal cell aplasia	AR

12. Karyotypic abnormalities F
13. Duct obstruction, vasitis nodosum F

C. Penis

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions C
4. Inflammatory Conditions, Non-Infectious & Infectious
    a. Lichen sclerosis AR
5. Neoplastic
    a. Benign
    b. Premalignant, Malignant, and Borderline
        i. Penile intraepithelial neoplasia C
        ii. Bowenoid papulosis C
        iii. Squamous cell carcinoma C
        iv. Paget Disease AR

4. Cardiovascular

1. Normal Anatomy and Histology C

2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
    a. Ischemic heart disease C
        i. Myocardial infarction C
    b. Hypertensive heart disease C
    c. Peripheral aneurysms and dissections C
    d. Medial calcification (i.e., Monckeberg) C
    e. Atherosclerosis C
    f. Vascular Thrombosis C
    g. Fibromuscular dysplasia AR
    h. Primary cardiomyopathy
        i. Dilated cardiomyopathy C
        ii. Hypertrophic cardiomyopathy C
        iii. Restrictive cardiomyopathy AR
    i. Secondary cardiomyopathy
        i. Anthracycline cardiotoxicity F

3. Congenital, Developmental, and Familial Conditions AR
    a. Congenital heart disease F
    b. Valvulare anomalies C
    c. Hereditary diseases of blood vessels
        i. Marfan syndrome AR
        ii. Non-Marfan familial aortic dissection AR
        iii. Ehlers-Danlos syndrome AR
        iv. Other hereditary diseases of blood vessels F
    d. Primary cardiomyopathy
        i. Hypertrophic cardiomyopathy C

ii.	Arrhythmogenic right ventricular cardiomyopathy/dysplasia	F
e.	Secondary cardiomyopathy	
i.	Hemochromatosis	C
ii.	Dilated cardiomyopathy	C
iii.	Alcohol-related cardiomyopathy	C
iv.	Glycogen storage disease	F
v.	Fabry disease	F
vi.	Anthracycline cardiotoxicity	F

4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Vasculitis	
i.	Giant cell arteritis	C
ii.	Takayasu disease	AR
iii.	Polyarteritis nodosa	AR
iv.	Kawasaki disease	AR
v.	Granulomatosis with polyaniitis	AR
vi.	Churg-Strauss angiitis	AR
vii.	Microscopic polyangiitis	AR
viii.	Immune complex mediated small vessel vasculitis	AR
ix.	Buerger disease	F
b.	Infectious endocarditis	C
c.	Non-infectious endocarditis	AR
d.	Inflammatory cardiomyopathy	
i.	Lymphocytic myocarditis	C
ii.	Rheumatic fever	C
iii.	Sarcoidosis	C
iv.	Infectious myocarditis	AR
v.	Drug-related myocarditis	AR
vi.	Toxic myocarditis	AR
vii.	Giant cell myocarditis	AR
viii.	Collagen vascular disease	F
ix.	Peripartum myocarditis	F

5.	Secondary cardiomyopathy	
a.	Amyloidosis	C

6.	Neoplastic	
a.	Benign	
i.	Cardiac myxoma	C
ii.	Rhabdomyoma	AR
b.	Premalignant, Malignant, and Borderline	
i.	Angiosarcoma	AR
7.	Additional Topics	
a.	Cardiac Transplantation	
i.	Cardiac allograft rejection	AR
b.	Pericardial diseases	AR

5. Head and Neck

A. Jaws, Oral Cavity, and Oropharynx

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
3.	Congenital, Developmental, and Familial Conditions	AR
4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Pyogenic granuloma	C
b.	Infections of the Jaws & Oral Cavity	C
c.	Lichen planus	AR
d.	Peripheral giant cell granuloma	AR
5.	Neoplastic	
a.	Benign	
i.	Fibrous dysplasia	C
ii.	Oral papilloma	C
iii.	Odontogenic cysts and tumors	AR
iv.	Central giant cell granuloma	AR
b.	Premalignant, Malignant, and Borderline	
i.	Squamous cell carcinoma, HPV-associated	C
ii.	Squamous cell carcinoma, conventional	C
iii.	Squamous dysplasia	AR
iv.	Variants of squamous cell carcinoma	AR
v.	Granular cell tumor	AR

B. Salivary Glands

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
3.	Congenital, Developmental, Familial Conditions and Cysts	C
a.	Mucocele and ranula	C
4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Necrotizing sialometaplasia	C
b.	Sjogren syndrome & minor salivary gland biopsy	AR
5.	Neoplastic	
a.	Benign	
i.	Lymphoepithelial cyst	C
ii.	Pleomorphic adenoma & myoepithelioma	C
iii.	Warthin tumor	C
iv.	Oncocytoma	C
v.	Canalicular adenoma	C
vi.	Basal cell adenoma	AR
vii.	Benign lymphoepithelial lesion	AR
viii.	Sebaceous adenoma & lymph adenoma	F
b.	Borderline and Malignant	

i.	Adenoid cystic carcinoma	C
ii.	Mucoepidermoid carcinoma	C
iii.	Acinic cell adenocarcinoma	AR
iv.	Polymorphous adenocarcinoma	AR
v.	Salivary duct carcinoma	AR
vi.	Basal cell adenocarcinoma	AR
vii.	Lymphomas	AR
viii.	Epithelial-myoepithelial carcinoma	F
ix.	Lymphoepithelioma-like undifferentiated carcinoma	F

C. Nose, Paranasal Sinuses, and Nasopharynx

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
3.	Congenital, Developmental, and Familial Conditions	AR
a.	Respiratory epithelial adenomatoid hamartoma	AR
b.	Glial heterotopia	AR
4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Nasal polyps	C
b.	Granulomatosis with polyangiitis	AR
c.	Infectious	C
5.	Neoplastic	
a.	Benign	
i.	Squamous papilloma	C
ii.	Sinonasal (formerly Schneiderian) papilloma	C
iii.	Juvenile nasopharyngeal angiofibroma	C
iv.	Lobular capillary hemangioma (pyogenic granuloma)	C
v.	Pituitary adenoma	AR
b.	Premalignant, Malignant, and Borderline	
i.	Squamous cell carcinoma including nasopharyngeal carcinoma	AR
ii.	Adenocarcinoma	AR
iii.	Sinonasal undifferentiated carcinoma	AR
iv.	Neural, neuroectodermal, and neuroendocrine tumors including:	
1.	Olfactory neuroblastoma	AR
2.	Small cell undifferentiated carcinoma	AR
3.	Melanoma	AR
4.	Paraganglioma	AR
v.	Craniopharyngioma	AR
vi.	Lymphoma, including NK/T cell lymphoma	AR

D. Larynx

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
3.	Congenital, Developmental, and Familial Conditions	AR
4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Contact ulcer	C
b.	Vocal fold (cord) polyp	C

c.	Cysts	AR
d.	Infections	AR
5.	Neoplastic	
a.	Benign	
i.	Squamous papilloma	C
ii.	Paraganglioma	AR
iii.	Nerve sheath tumors	AR
b.	Premalignant, Malignant, and Borderline	
i.	Squamous dysplasia	C
ii.	Squamous cell carcinoma	C
iii.	Salivary gland tumors (as above)	AR
iv.	Neuroendocrine carcinoma	AR
v.	Melanoma	AR
vi.	Lymphomas/Leukemias	AR
vii.	Cartilaginous tumors	F

E. Ear and Temporal Bone

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
a.	Keloid	C
3.	Congenital, Developmental, and Familial Conditions	AR
a.	Branchial cleft anomalies	C
4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Cholesteatoma	C
b.	Otic polyp	C
c.	Infections	C
d.	Chondrodermatitis nodularis	AR
e.	Auricular pseudocyst	AR
f.	Kimura disease	F
5.	Neoplastic	
a.	Benign	
i.	Paraganglioma, jugulotypanic	AR
ii.	Schwannoma	AR
iii.	Ceruminous gland adenoma	F
iv.	Middle ear adenoma	F
v.	Endolymphatic sac tumor	F
vi.	Epithelioid hemangioma	F
b.	Premalignant, Malignant, and Borderline	
i.	Squamous cell carcinoma	C

F. Eye and Ocular Adnexa

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
3.	Congenital, Developmental, and Familial Conditions	AR
4.	Non-Neoplastic Disorders	F
5.	Neoplastic	
a.	Benign	F

b. Premalignant, Malignant, and Borderline	F

6. The Digestive System

A. The Gastrointestinal Tract

The Esophagus

1. Normal Anatomy and Histology	C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
a. Barrett esophagus, non-dysplasia (i.e., metaplasia)	C
3. Congenital, Developmental, and Familial Conditions	AR
4. Inflammatory Conditions, Non-Infectious and Infectious	
a. Reflux esophagitis	C
b. Eosinophilic esophagitis	C
c. Esophagitis dissecans superficialis	AR
d. Other causes of esophagitis	AR
e. Infections	C
5. Neoplastic	
a. Benign	
i. Squamous papilloma	C
ii. Mesenchymal tumors	C
b. Premalignant, Malignant, and Borderline	
i. Squamous cell carcinoma	C
ii. Adenocarcinoma	C
- Barrett esophagus, dysplasia	AR
c. Squamous dysplasia	AR

The Stomach

1. Normal Anatomy and Histology	C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
3. Congenital, Developmental, and Familial Conditions	AR
a. Hamartomas	AR
b. Pancreatic heterotopia	AR
c. Zollinger-Ellison Syndrome	AR
d. Menetrier Disease	AR
4. Inflammatory Conditions, Non-Infectious & Infectious	
a. Hemorrhagic erosive gastritis	C
b. Autoimmune gastritis	C
c. Chemical gastritis	C
d. Helicobacter gastritis	C
e. Lymphocytic gastritis	AR
f. Collagenous gastritis	AR
g. Other causes of gastritis	AR
h. Inflammatory fibroid polyp	AR
i. Other polyps	AR
5. Neoplastic	

a. Benign
    i. Fundic gland polyp C
    ii. Hyperplastic polyp C
    iii. Adenomas AR
b. Premalignant, Malignant, and Borderline
    i. Adenocarcinoma C
    ii. Gastric dysplasia AR
    iii. Neuroendocrine tumors AR
    iv. Lymphomas AR
    v. Gastrointestinal stromal tumors (GIST) AR

The Small Intestine

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions
    a. Small intestinal duplication cyst C
    b. Meckel diverticulum C
    c. Gastric heterotopia C
    d. Ectopic pancreas C
    e. Hamartomatous polyp AR
    f. Autoimmune enteropathy F
4. Inflammatory Conditions, Non-Infectious & Infectious
    a. Celiac disease and tropical sprue C
    b. Peptic duodenitis / ulcer C
    c. Crohn disease C
    d. Necrotizing enterocolitis C
    e. Pouchitis AR
    f. Other non-neoplastic, non-infectious inflammatory conditions AR
    g. Infectious AR
    h. Whipple disease AR
5. Neoplastic
    a. Benign
        i. Adenoma C
    b. Premalignant, Malignant, and Borderline
        i. Adenocarcinoma C
        ii. Neuroendocrine tumors C
        iii. Lymphomas AR

The Colon

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
    a. Melanosis coli C
    b. Ischemic colitis C
3. Congenital, Developmental, and Familial Conditions AR
    a. Hirschsprung disease C
    b. Colonic duplication cysts C

- c. Hamartomatous polyps — AR

4. Familial Colorectal Cancer Syndromes
   - a. Familial adenomatous polyposis — C
   - b. Lynch syndrome — C
   - c. Other polyposis syndromes — AR
5. Inflammatory Conditions, Non-Infectious & Infectious
   - a. Diverticular disease — C
   - b. Idiopathic inflammatory bowel disease
     - i. Ulcerative colitis — C
     - ii. Crohn's disease — C
   - c. Pneumatosis coli — C
   - d. Acute infectious colitis (acute self-limited colitis) — C
   - e. Focal active colitis — C
   - f. Pseudomembranous colitis (C. *difficile* colitis) — C
   - g. Amebic colitis — C
   - h. Medication-induced enterocolitis — AR
   - i. Mucosal prolapse / solitary rectal ulcer — AR
   - j. Other colonic infections — AR
6. Neoplastic
   - a. Benign
     - i. Tubular and Tubulovillous adenomas — C
     - ii. Serrated polyps — C
   - b. Premalignant, Malignant, and Borderline
     - i. Adenocarcinoma arising in an adenoma — C
     - ii. Adenocarcinoma — C
     - iii. Neuroendocrine tumors — C
     - iv. Dysplasia and IBD-Related Adenocarcinoma — AR
     - v. Mesenchymal tumors — AR

The Appendix

1. Normal Anatomy and Histology — C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct — C
3. Congenital, Developmental, and Familial Conditions — AR
4. Inflammatory Conditions, Non-Infectious & Infectious
   - a. Appendicitis — C
   - b. *Enterobius vermicularis* — C
5. Neoplastic
   - a. Benign
     - i. Polyps — C
   - b. Premalignant, Malignant, and Borderline
     - i. Neuroendocrine tumors — C
     - ii. Mucinous neoplasms — AR
     - iii. Adenocarcinoma — AR
     - iv. Pseudomyxoma peritonei — AR
     - v. Goblet cell adenocarcinoma — AR

The Anus

1. Normal Anatomy and Histology — C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct — C
3. Congenital, Developmental, and Familial Conditions — AR
    a. Tailgut cyst — AR
4. Inflammatory Conditions, Non-Infectious & Infectious
    a. Hemorrhoids — C
    b. Condyloma — C
    c. Fibroepithelial polyp — C
    d. Other infections of the anal canal — AR
5. Neoplastic
    a. Premalignant, Malignant, and Borderline
        i. Squamous cell carcinoma — C
        ii. Anal intraepithelial neoplasia — AR
        iii. Paget Disease — AR
        iv. Anal Duct Carcinoma — AR

B. The Liver and Biliary Tract

The Liver

1. Normal Anatomy and Histology — C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct — C
    a. Vascular disorders of the Liver — AR
    b. Nodular regenerative hyperplasia — AR
    c. Macroregenerative nodules in cirrhosis — AR
3. Congenital, Developmental, and Familial Conditions — AR
    a. Bile duct hamartoma (Von Meyenburg complex) — C
    b. Hemochromatosis — AR
    c. Wilson Disease — AR
    d. Alpha-1-Antitrypsin Deficiency — AR
    e. Polycystic liver disease and congenital hepatic fibrosis — AR
    f. Other genetic metabolic conditions — F
4. Inflammatory Conditions, Non-Infectious & Infectious
    a. Steatohepatitis — C
    b. Alcoholic liver disease — C
    c. NASH (Non-alcoholic steatohepatitis) — C
    d. Cirrhosis — C
    e. Pyogenic abscess — C
    f. Amebic abscess — AR
    g. Echinococcosis — AR
    h. Primary biliary cholangitis — AR
    i. Primary sclerosing cholangitis — AR
    j. Transplant-associated Pathology
        i. GVHD — AR
        ii. Rejection — F
        iii. Surgical anastomosis complications — F

- k. Drug induced liver disease AR
- l. Autoimmune hepatitis including overlap syndromes AR
- m. Viral hepatitis (Hepatitis A, B, & C) AR
- n. EBV, CMV, and Herpes hepatitis AR
- o. Bacterial, fungal, and parasitic liver disease AR
- p. Other bacterial, fungal, and parasitic liver disease AR

5. Neoplastic
   - a. Benign
     - i. Solitary (Simple) cyst C
     - ii. Focal nodular hyperplasia C
     - iii. Bile duct adenoma AR
   - b. Hemangioma C
   - c. Benign cystic neoplasms AR
     - i. Hepatocellular adenoma AR
     - ii. Angiomyolipoma AR
6. Premalignant, Malignant, and Borderline
   - a. Hepatocellular carcinoma AR
     - i. Fibrolamellar hepatocellular carcinoma AR
   - b. Hepatoblastoma AR
   - c. Cholangiocarcinoma AR
   - d. Malignant cystic neoplasms AR
   - e. Lymphoma/Leukemia AR
   - f. Metastases to the Liver AR
   - g. Epithelioid hemangioendothelioma F
   - h. Other mesenchymal tumors of the liver F

The Gallbladder and Associated Ducts

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions AR
4. Inflammatory Conditions, Non-Infectious and Infectious
   - a. Cholecystitis and cholelithiasis C
   - b. Sclerosing cholangitis AR
   - c. Large Duct Obstruction AR
   - d. IgG4-related disease F
5. Neoplastic
   - a. Benign
     - i. Polyps and adenomas AR
   - b. Premalignant, Malignant, and Borderline
     - i. Adenocarcinoma of the gallbladder and bile ducts C
     - ii. Neuroendocrine tumors C
     - iii. Dysplasia AR
     - iv. Cholangiocarcinoma AR

C. The Pancreas

1. Normal Anatomy and Histology C

2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions AR
4. Inflammatory Conditions, Non-Infectious & Infectious
    a. Acute and chronic pancreatitis C
    b. Pseudocyst C
    c. Autoimmune pancreatitis AR
    d. Infections AR
5. Neoplastic
    a. Benign
        i. Serous cystadenoma C
    b. Premalignant, Malignant, and Borderline
        i. Ductal adenocarcinoma C
        ii. Mucinous cystic neoplasm AR
        iii. Intraductal papillary mucinous neoplasia AR
        iv. Pancreatic intraepithelial neoplasia AR
        v. Acinar cell carcinoma AR
        vi. Pancreatoblastoma AR
        vii. Solid pseudopapillary neoplasm AR
        viii. Pancreatic neuroendocrine tumors AR
        ix. Other malignancies of the pancreas F

7. The Endocrine System

A. The Pituitary

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions AR
    a. Multiple Endocrine Neoplasia AR
    b. Pituitary cysts AR
4. Inflammatory Conditions, Non-Infectious & Infectious
    a. Hypophysitis AR
    b. Infectious AR
5. Neoplastic
    a. Benign
        i. Pituitary Adenomas C
        ii. Pituitary Oncocytoma F
    b. Premalignant, Malignant, and Borderline
        i. Craniopharyngioma C
        ii. Invasive and atypical adenomas AR
6. Additional Topics
    a. Other pituitary lesions and lesions of the sella turcica F

B. The Thyroid

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C

- a. Follicular Nodular Disease (Nodular goiter) C
  - i. Pigmentary alteration AR
3. Congenital, Developmental, and Familial Conditions AR
4. Inflammatory, Metabolic, Non-Infectious & Infectious
   - a. Thyroiditis C
   - b. Graves Disease C
   - c. Other Non-neoplastic thyroid disease AR
   - d. Infections AR
5. Neoplastic
   - a. Benign
     - i. Follicular adenoma C
     - ii. Oncocytic neoplasms AR
   - b. Premalignant, Malignant, and Borderline
     - i. Papillary carcinoma C
     - ii. Follicular carcinoma C
     - iii. Medullary carcinoma C
     - iv. Noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) AR
     - v. Poorly differentiated carcinoma AR
     - vi. Anaplastic carcinoma AR
     - vii. Lymphoma AR
     - viii. Other malignancies involving the thyroid AR

C. The Parathyroid

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
   - a. Parathyroid hyperplasia C
3. Congenital, Developmental, and Familial Conditions AR
4. Inflammatory Conditions, Non-Infectious & Infectious
5. Neoplastic
   - a. Benign
     - i. Parathyroid adenoma C
   - b. Premalignant, Malignant, and Borderline
     - i. Parathyroid carcinoma AR

D. The Adrenal Glands

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
   - a. Adrenocortical hyperplasia AR
   - b. Hemorrhage C
3. Congenital, Developmental, and Familial Conditions AR
4. Inflammatory Conditions, Non-Infectious & Infectious
   - a. Autoimmune adrenalitis AR
   - b. Infections AR
5. Neoplastic
   - a. Benign

i.	Adrenocortical adenoma	C
ii.	Myelolipoma	C
iii.	Paraganglioma	C
iv.	Adrenal cysts	AR

b. Premalignant, Malignant, and Borderline

i.	Metastatic carcinoma	C
ii.	Pheochromocytoma	C
iii.	Adrenocortical carcinoma	AR
iv.	Neuroblastoma	AR

8. Female Reproductive System

A. The Vulva

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
3.	Congenital, Developmental, and Familial Conditions	AR
4.	Inflammatory Conditions, Non-Infectious and Infectious (Non-Neoplastic)	
a.	Lichen sclerosus	C
b.	Lichen simplex chronicus	C
c.	Infections	C
d.	Fibroepithelial stromal polyp	C
e.	Bartholin gland cyst	AR
f.	Cysts (Other than Bartholin gland cyst)	AR
5.	Neoplastic	
a.	Benign	
i.	Cysts	AR
ii.	Hidradenoma papilliferum	AR
iii.	Granular cell tumor	AR
iv.	Cellular angiofibroma	F
v.	Angiofibromyoblastoma	F
b.	Premalignant/intrepithelial, Malignant, and Borderline	
i.	Vulvar intraepithelial neoplasia (VIN)	C
a.	HPV-Associated VIN (LSIL and HSIL)	C
b.	HPV-Independent, p53-mutated VIN (dVIN)	C
c.	HPV-Independent, p53-wild-type VIN (vaVIN)	F
ii.	Squamous cell carcinoma	C
iii.	Melanoma	C
iv.	Extramammary Paget disease	C
v.	Verrucous carcinoma	AR
vi.	Bartholin gland carcinoma/adenocarcinoma	AR
vii.	Aggressive angiomyxoma	F

B. The Vagina

1.	Normal Anatomy and Histology	C

2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions AR
    a. Adenosis and DES effect F
4. Inflammatory Conditions, Non-Infectious and Infectious
    a. Infections AR
    b. Cysts AR
5. Neoplastic
    a. Benign
        i. Fibroepithelial stromal polyp C
        ii. Myofibroblastoma AR
    b. Premalignant, Malignant, and Borderline
        i. HPV-related vaginal intraepithelial neoplasia (LSIL, HSIL) C
        ii. Squamous cell carcinoma C
        iii. Clear cell carcinoma AR
        iv. Melanoma AR
        v. Embryonal rhabdomyosarcoma/sarcoma botryoides F
        vi. Mesonephric adenocarcinoma F

C. The Uterine Cervix

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
    a. Tubal metaplasia C
    b. Nabothian cysts and tunnel clusters C
    c. Microglandular hyperplasia C
3. Congenital, Developmental, and Familial Conditions AR
    a. Mesonephric rests and hyperplasia AR
    b. Peutz-Jeghers syndrome AR
4. Inflammatory Conditions, Non-Infectious & Infectious
    a. Endometriosis C
    b. Infections C
5. Neoplastic
    a. Benign
        i. Polyps C
    b. Premalignant, Malignant, and Borderline
        i. Squamous intraepithelial lesions (LSIL, HSIL, and patterns) C
        ii. Squamous cell carcinoma C
        iii. Adenocarcinoma in situ (HPV associated & independent) AR
        iv. Endocervical adenocarcinoma AR
        v. Adenosquamous carcinoma AR
        vi. Clear cell carcinoma AR
        vii. Small cell carcinoma and neuroendocrine tumors AR
        viii. Gastric-type endocervical carcinoma AR
        ix. Mesonephric adenocarcinoma F
        x. Adenoid basal carcinoma F
        xi. Adenoid cystic carcinoma F
        xii. Mesenchymal tumors of the cervix F

D. The Uterine Corpus

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
a.	Normal endometrial patterns and endometrial cycle	C
b.	Features of pregnancy	C
c.	Arias-Stella reaction	C
d.	Exogenous hormonal alteration	C
e.	Atrophy	C
f.	Disordered proliferative endometrium	C
g.	Hyperplasia	C
h.	Metaplasia	C
i.	Adenomyosis	C
j.	Placental site nodule	AR
3.	Congenital, Developmental, and Familial Conditions	
a.	Lynch syndrome/Hereditary polyposis colon cancer	C
b.	Hereditary leiomyomatosis and renal cell carcinoma	AR
4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Endometritis	AR
5.	Neoplastic	
a.	Benign	
i.	Endometrial polyp	C
ii.	Adenomyoma	C
iii.	Leiomyoma including patterns	C
iv.	Adenomatoid tumor	AR
v.	Endometrial stromal nodule	AR
b.	Premalignant, Malignant, and Borderline	
i.	Atypical hyperplasia/EIN	C
ii.	Endometrioid adenocarcinoma	C
iii.	Serous carcinoma	C
iv.	Leiomyosarcoma	C
v.	DNA mismatch repair testing in endometrial cancer	C
vi.	Molecular classification of endometrial cancer	AR
vii.	Clear cell carcinoma	AR
viii.	Smooth muscle tumor of uncertain malignant potential	AR
ix.	Atypical polypoid adenomyoma	AR
x.	Carcinosarcoma	AR
xi.	Low grade endometrial stromal sarcoma	AR
xii.	Undifferentiated/dedifferentiated carcinoma	AR
xiii.	Lymphoma	AR
xiv.	Mesonephric-like adenocarcinoma	F
xv.	Uterine tumors with resembling ovarian sex cord tumors	F
xvi.	Undifferentiated uterine sarcoma	F
xvii.	Inflammatory myofibroblastic tumor	F
xviii.	PEComa	F

E. The Ovaries

1. Normal Anatomy and Histology	C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	
a. Follicular cysts	C
b. Corpus luteum cyst	
c. Hyperreactio luteinalis	AR
d. Stromal hyperplasia and hyperthecosis	AR
e. Pregnancy luteoma	AR
3. Congenital, Developmental, and Familial Conditions	AR
a. Polycystic ovaries	C
b. Hereditary breast-ovarian cancer	C
c. Lynch syndrome/Hereditary non-polyposis colon cancer	C
d. Peutz-Jegher syndrome	AR
e. DICER1 syndrome	F
4. Inflammatory Conditions, Non-Infectious & Infectious	
a. Endometriosis	C
b. Endosalpingiosis	C
c. Endocervicosis	C
d. Inclusion cyst	C
5. Neoplastic	
a. Benign	
i. Fibrothecoma	AR
f. Premalignant, Malignant, and Borderline	
i. Surface epithelial-stromal tumors	
1. Serous tumors	C
2. Mucinous tumors	C
3. Seromucinous tumors	AR
4. Endometrioid tumors	AR
5. Clear cell tumors	AR
6. Brenner tumors	AR
ii. Sex-cord-stromal tumors	
1. Granulosa cell tumors (adult & juvenile)	C
2. Sertoli cell tumors	AR
3. Leydig cell tumor	AR
4. Steroid cell tumors	AR
5. Sex-cord tumor with annular tubules	AR
6. Sclerosing stromal tumors	F
7. Microcystic stromal tumor	F
8. Gynandroblastoma	F
iii. Germ cell tumors	
1. Mature Teratoma	C
a. Somatic-type arising in teratoma	AR
b. Stuma ovarii	AR
c. Thyroid carcinoma arising in struma ovarii	AR
d. Struma carcinoid	AR
2. Immature Teratoma	C
a. Gliomatosis peritonei	AR

3.	Dysgerminoma	C
4.	Yolk sac tumor	AR
5.	Embryonal cell carcinoma	AR
6.	Choriocarcinoma	AR
7.	Mixed germ cell tumor	AR
8.	Gonadoblastoma	F
iv.	Miscellaneous Ovarian Tumors	
1.	Metastases to the ovary	C
2.	Lymphomas/Leukemia	AR
3.	Small cell carcinoma of hypercalcemic type	F

F. The Fallopian Tubes and Broad Ligaments

1.	Normal Anatomy and Histology	C
a.	Walthard cell rests	C
b.	Paratubal cyst	AR
2.	Physiologic Changes, Metabolic Conditions & Trauma/Infarct	C
a.	Torsion	C
b.	Salpingitis isthmica nodosa	C
c.	Endometriosis	C
d.	Hydrosalpinx	AR
e.	Pseudoxanthomatous salpingitis	AR
3.	Congenital, Developmental, and Familial Conditions	AR
a.	Ectopic pregnancy	C
b.	Papillary cystadenoma	AR
4.	Inflammatory Conditions, Non-Infectious & Infectious	
a.	Infectious	C
5.	Neoplastic	
a.	Benign	
i.	Adenomatoid tumor	AR
b.	Premalignant, Malignant, and Borderline	
i.	Serous tubal intraepithelial carcinomas	C
ii.	High-grade serous carcinoma and precursor	AR
iii.	Wolffian tumor	F
iv.	STK11 adnexal tumor	

G. The Peritoneum

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
a.	Mesothelial hyperplasia	C
b.	Peritoneal inclusion cyst	C
c.	Endometriosis	C
d.	Endosalpingiosis	C
3.	Congenital, Developmental, and Familial Conditions	C
4.	Inflammatory Conditions, Non-Infectious & Infectious	C
a.	Non-Infectious	C
b.	Infectious	C
5.	Neoplastic	

a. Benign
    i. Adenomatoid tumor C
    ii. Well-differentiated papillary mesothelial tumor AR
    iii. Peritoneal leiomyomatosis AR
b. Premalignant, Malignant, and Borderline
    i. Primary peritoneal high-grade serous carcinoma AR
    ii. Primary peritoneal borderline serous tumor and low-grade serous carcinoma AR
    iii. Solitary fibrous tumor AR
    iv. Malignant mesothelioma AR
    v. Desmoplastic small round cell tumor AR
    vi. Inflammatory myofibroblastic tumor F
    vii. Distinction of primary peritoneal from ovarian cancer F
    viii. Pseudomyxoma peritonei, metastatic, vs. ovarian cancer F

9. The Placenta

1. Normal Anatomy and Histology
    a. Normal maturation C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
    a. Delayed and accelerated villous maturation C
    b. Abruption C
    c. Infarcts C
3. Umbilical Cord Abnormalities
    a. Blood vessel abnormalities C
    b. Funisitis C
    c. Abnormal insertion (e.g., velamentous, marginal) C
    d. Knots C
    e. Hyper/hypocoiling AR
4. Fetal Membrane Abnormalities
    a. Amnion nodosum C
    b. Chorioamnionitis C
5. Placental Disc Abnormalities
    a. Intervillous thrombi C
    b. Chorangiosis C
    c. Placenta accreta spectrum C
    d. Massive perivillous fibrin deposition (Maternal floor infarction) AR
    e. Villitis of unknown etiology AR
    f. Infectious villitis AR
    g. Fetal thrombotic vasculopathy (hemorrhagic endovasculitis) AR
6. Maternal Disease and Impact on the Placenta
    a. Pre-eclampsia C
    b. Eclampsia and maternal vascular malperfusion C
7. Multiple pregnancy C
    a. Determination of zygosity C
    b. Complications AR

8. Tumors
    a. Chorangioma C
9. Gestational Trophoblastic Disease
    a. Hydatidiform mole (partial and complete) C
    b. Invasive hydatidiform mole C
    c. Choriocarcinoma C
10. Exaggerated placental site AR
11. Placental site nodule and atypical PSN AR
12. Placental site trophoblastic tumor F
13. Epithelioid trophoblastic tumor F

10. The Respiratory Tract, Pleura, and Mediastinum

A. The Respiratory Tract

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions AR
    a. Hamartoma C
    b. Congenital cystic lesion AR
4. Inflammatory Conditions, Non-Infectious and Infectious Causes
    a. Emphysema C
    b. Diffuse alveolar damage C
    c. Bronchiolitis obliterans with organizing pneumonia C
    d. Sarcoidosis C
    e. Pulmonary alveolar proteinosis C
    f. Hypersensitivity pneumonitis AR
    g. Eosinophilic pneumonia AR
    h. Interstitial Inflammatory Disease
        i. Usual interstitial pneumonia AR
        ii. Desquamative interstitial pneumonia AR
        iii. Nonspecific interstitial pneumonia AR
    i. Infections AR
        i. Allergic bronchopulmonary aspergillosis AR
    j. Small airway disease
        i. Respiratory bronchiolitis C
        ii. Bronchiolocentric interstitial lung disease AR
        iii. Constrictive bronchiolitis F
    k. Eosinophilic granuloma (Langerhans cell granulomatosis) AR
    l. Lymphocytic infiltrations
        i. Follicular bronchitis AR
        ii. Lymphoid interstitial pneumonia F
    m. Wegener granulomatosis AR
    n. Pulmonary hypertension AR
    o. Mesothelioma AR
    p. Churg-Strass F

- q. Polyarteritis nodosa F
- r. Pulmonary Transplant Pathology F

5. Neoplastic
   - a. Benign
     - i. Carcinoid tumorlet C
     - ii. Meningothelial-like nodule C
     - iii. Sclerosing pneumocytoma AR
     - iv. PEComa AR
     - v. Other benign neoplastic pulmonary tumors AR
   - b. Premalignant, Malignant, and Borderline
     - i. Squamous cell carcinoma C
     - ii. Adenocarcinoma C
     - iii. Small cell carcinoma C
     - iv. Carcinoid C
     - v. Atypical Carcinoid C
     - vi. Metastatic tumor, lung C
     - vii. Large cell carcinoma (Other than neuroendocrine) AR
     - viii. Sarcomatoid carcinoma AR
     - ix. Lymphoepithlioma-like carcinoma AR
     - x. Carcinosarcoma/pulmonary blastoma AR
     - xi. Large cell neuroendocrine carcinoma AR
     - xii. Lymphomas, including MALTomas and lymphomatoid granulomatosis AR
     - xiii. Bronchial gland tumors F

B. The Pleura

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
3. Congenital, Developmental, and Familial Conditions AR
4. Inflammatory Conditions, Infectious and Non-Infectious
   - a. Pleuritis and pleural plaques C
5. Neoplastic
   - a. Benign
     - i. Solitary fibrous tumor C
   - b. Premalignant, Malignant, and Borderline
     - i. Metastatic carcinoma to the pleura C
     - ii. Mesothelioma AR

C. The Mediastinum

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions & Trauma/Infarct C
   - a. Thymic hyperplasia AR
3. Congenital, Developmental, and Familial Conditions AR
4. Cysts (Other than thymic) AR
5. Inflammatory Conditions, Infectious and Non-Infectious
   - a. Mediastinitis AR
   - b. Immunodeficiency AR

6. Neoplastic
    a. Benign
    b. Paragangliomas — C
        i. Thymoma, including myasthenia gravis — AR
        ii. Neurogenic tumors — AR
7. Premalignant, Malignant, and Borderline
    a. Thymic carcinoma — AR
    b. Neuroendocrine tumors — AR
    c. Germ cell tumors — AR
    d. Lymphomas — AR
    e. Mesenchymal tumors of the mediastinum — AR

11. Soft Tissue, Bones, and Joints

A. Soft Tissue

1. Normal Anatomy and Histology — C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct — C
    a. Reactive lesions simulating sarcomas — AR
3. Congenital, Developmental, and Familial Conditions — AR
    a. Fibromatosis — C
    b. Fibrous tumors of infancy/childhood — AR
4. Inflammatory Conditions, Infectious and Non-Infectious
5. Neoplastic
    a. Benign
        i. Lipoma and variants — C
        ii. Leiomyoma and variants — C
        iii. Hemangioma and variants — C
        iv. Lymphatic tumor — C
        v. Benign tumors of the synovium — C
        vi. Solitary fibrous tumor — C
        vii. Benign fibrous/myofibroblastic lesions — AR
        viii. Benign fibrohistiocytic tumors — AR
        ix. Fibrohistiocytic tumors of intermediate malignancy — AR
        x. Rhabdomyoma — AR
        xi. Perivascular tumors — AR
        xii. Benign cartilaginous tumors — AR
        xiii. Benign osseous soft tissue tumors — AR
        xiv. Benign soft tissue tumors of uncertain type — F
6. Premalignant, Malignant, and Borderline
    a. Liposarcoma — C
    b. Leiomyosarcoma — C
    c. Synovial sarcoma — C
    d. Ewing sarcoma — C
    e. Undifferentiated pleomorphic sarcoma — C
    f. Fibrosarcoma — AR
    g. Rhabdomyosarcoma and variants — AR

h.	Malignant vascular tumors, including Kaposi sarcoma	AR
i.	Malignant cartilaginous soft tissue tumors	AR
j.	Malignant osseous soft tissue tumors	AR
k.	Alveolar soft parts sarcoma	AR
l.	Epithelioid sarcoma	AR
m.	Desmoplastic small round cell tumor	AR
n.	Clear cell sarcoma	AR
o.	Vascular tumors of intermediate malignancy	F
p.	Benign soft tissue tumors of intermediate malignancy of uncertain type	F
q.	Other malignant soft tissue tumors of uncertain differentiation	F

B. Bones

1.	Normal Anatomy and Histology	C
2.	Physiologic Changes, Metabolic Conditions, & Trauma/Infarct	C
a.	Paget Disease	C
b.	Hyperparathyroidism	C
c.	Osteoporosis	C
d.	Fracture	C
e.	Bone infarct	C
f.	Fibrous dysplasia	C
g.	Osteomalacia/Rickets	AR
h.	Other Metabolic disorders	F
3.	Congenital, Developmental, and Familial Conditions	AR
a.	Osteogenesis imperfecta	AR
4.	Inflammatory Conditions, Infectious and Non-Infectious	
a.	Osteomyelitis	C
5.	Neoplastic	
a.	Benign	
i.	Benign bone cysts	C
ii.	Osteochondroma	C
iii.	Enchondroma	C
iv.	Giant cell Tumor	C
v.	Hemangioma variants	C
vi.	Chordoma	C
vii.	Metastatic lesions to the bone	C
viii.	Aneurysmal bone cyst	AR
ix.	Adamantinoma	AR
x.	Osteoid osteoma/osteoblastoma	AR
xi.	Nonossifying fibroma	AR
xii.	Desmoplastic fibroma	F
6.	Premalignant, Malignant, and Borderline	
a.	Osteosarcoma	C
b.	Chondrosarcoma	C
c.	Ewing sarcoma	C
d.	Myeloma	C
e.	Lymphomas	AR
f.	Angiosarcoma	AR

g. Chondroblastoma AR
h. Other chondroid tumors of bone AR
i. Undifferentiated pleomorphic sarcoma AR

C. Joints

1. Normal Anatomy and Histology C
2. Physiologic Changes, Metabolic Conditions, & Trauma/Infarct C
   a. Osteonecrosis C
   b. Gout C
   c. Calcium pyrophosphate crystal deposition C
   d. Wear debris arthropathy C
3. Congenital, Developmental, and Familial Conditions AR
4. Inflammatory Conditions, Infectious and Non-Infectious
   a. Osteoarthritis C
   b. Septic arthritis, including tuberculosis C
5. Neoplastic
   a. Benign
      i. Ganglion cyst C
      ii. Tenosynovial giant cell tumor C
      iii. Synovial chrondromatosis C
6. Premalignant, Malignant, and Borderline AR

12. Cytopathology Topics for Anatomic Pathology Residents

1. Cervical/Vaginal Cytology

a. Screening, Indications, and Techniques
   i. Screening Guidelines – Resources AR
   ii. Ancillary Testing Techniques (e.g., HPV, p16) AR
   iii. Screening Guidelines – Specifics F
   iv. Specific Sampling Techniques F
   v. Liquid Cytology Techniques for Cervical / Vaginal F
b. Specimen Adequacy
   i. Unsatisfactory C
c. Normal, NILM, Including Hormonal Changes and Normal Microbiota C
   i. Contaminants, Starch, etc. AR
d. Infections
   i. Bacterial (e.g., Vaginosis, *Actinomyces*) C
   ii. Fungi (e.g., *Candida*) C
   iii. Parasitic (e.g., *Trichomonas*) AR
   iv. Viral (e.g., Herpes)
e. Reactive/Reparative
   i. Atrophic Vaginitis & Atrophy AR

ii.	Metaplastic Processes (Transitional)	AR
iii.	Lymphocytic / Follicular Cervicitis	AR
iv.	Reactive Glandular Processes	AR
v.	Tubal Metaplasia	AR
vi.	IUD Changes	F
vii.	Radiation and Chemotherapy Changes	F
f.	Endometrial Cells	
i.	Shed Endometrial Cells	AR
ii.	Directly Sampled Lower Uterine Segment	F
iii.	Endometriosis	F
g.	HPV Biology and Cancer Pathogenesis	
i.	HPV Vaccine	F
h.	Atypical Squamous Cells	
i.	ASC-US	AR
ii.	ASC-H	AR
i.	Squamous Intraepithelial Lesions (SIL)	
i.	LSIL (i.e., Low Grade Squamous Intraepithelial Lesion)	C
ii.	HSIL (i.e., High Grade Squamous Intraepithelial Lesion)	AR
j.	Squamous Carcinoma	AR
k.	Adenocarcinoma: Endometrial & Endocervical	AR
l.	Reporting Guidelines	AR
m.	Endocervical AIS	AR
n.	Atypical Glandular Cells	F
o.	Metastatic & Rare Malignancies	F
p.	Patient Management Guidelines	F

2. Other Lower Anogenital Tract, Men & Women (e.g., Anal, Vulvar)

a.	Specimen Adequacy	AR
b.	Normal, NILM	AR
c.	Infections (i.e., Bacterial, Fungal, Parasitic, and Viral)	AR
d.	Reactive/Reparative	AR
e.	Atypical Squamous Cells	
i.	ASC-US	AR
ii.	ASC-H	AR
f.	SIL	
i.	LSIL	AR
ii.	HSIL	AR
g.	Squamous Carcinoma	AR
h.	Reporting Guidelines	AR
i.	Contaminants	AR
j.	Screening, Indications and Techniques	
i.	Screening Guidelines	F
ii.	Specific Sampling Techniques	F
iii.	Liquid Cytology Techniques	F
iv.	Ancillary Testing Techniques (e.g., HPV, p16)	F

k.	Adenocarcinoma	F
l.	Metastatic and Other Malignancies (e.g., Melanoma)	F
m.	Management of Abnormalities	F

3. Upper Female Genital Tract (e.g., Endometrium, Upper Tract Genital Tract)

a.	Ovarian Cysts	
i.	Benign (e.g., Corpus luteal, Endometriotic)	F
ii.	Malignant	F

4. Pleural and Pericardial Effusions

a.	Processing / Techniques	
i.	Ancillary Studies (e.g., IHC, Stains, Flow Cytometry, Molecular Studies)	AR
ii.	Storage / Preservation	F
iii.	Preparation Techniques (e.g., Cytospin, Liquid-Based Preparations, Cell Blocks)	F
iv.	Cultures and Microorganism Stains	F
b.	Specimen Adequacy	F
c.	Normal Cytology	
i.	Non-Neoplastic Mesothelial Cells	AR
ii.	White Cells and Macrophages	AR
iii.	Contaminants	AR
d.	Reactive	
i.	Inflammatory	AR
ii.	Effusions (e.g., Metabolic: Cirrhosis and Renal Failure-Associated)	AR
iii.	Autoimmune (e.g., Rheumatoid, Lupus)	F
e.	Malignancies	
i.	Primary Pleural (e.g., Mesothelioma)	AR
ii.	Metastatic Adenocarcinoma (e.g., Breast, Lung, GI, and Ovarian/Endometrial Primaries)	AR
iii.	Squamous Cell Carcinoma	AR
iv.	Small Cell Carcinoma	F
v.	Hematopoietic including Primary Effusion Lymphoma	F
vi.	Other Metastatic Malignancies (e.g., Sarcomas, Germ Cell Tumors)	F
f.	Reporting	F

5. Peritoneal Effusions

a.	Processing / Techniques	
i.	Ancillary Testing (e.g., IHC, Cytochemical Stains, Flow Cytometry, Molecular Studies)	AR
ii.	Storage / Preservation	F

iii.	Preparation Techniques (e.g., Cytospin, Liquid-Based Preparations, Cell Blocks)	F
iv.	Cultures and Microorganism Stains	F
b.	Specimen Adequacy	F
c.	Normal Cytology	
i.	Non-Neoplastic Mesothelial Cells	AR
ii.	Leukocytes and Macrophages	AR
iii.	Contaminants	AR
d.	Reactive	
i.	Inflammatory Cells	F
ii.	Effusions (e.g., Metabolic: Cirrhosis and Renal Failure-Associated)	F
iii.	Autoimmune (e.g., Rheumatoid, Lupus)	F
iv.	Endometriosis and Endosalpingiosis	F
e.	Malignant	
i.	Primary Pleural (e.g., Mesothelioma)	AR
ii.	Small Cell Carcinoma	F
iii.	Metastatic Adenocarcinoma	
1.	Breast Primary	AR
2.	Lung Primary	AR
3.	GI Primary	AR
4.	Gynecologic Primary	AR
5.	Pseudomyxoma Peritonei	F
iv.	Squamous Cell Carcinoma	F
v.	Hematopoietic including Primary Effusion Lymphoma	F
vi.	Other Metastatic Malignancies (e.g., Sarcomas, Germ Cell Tumors)	F
f.	Reporting	F

6. Pelvic Washings

a.	Processing / Techniques	
i.	Ancillary Testing (e.g., IHC, Cytochemical Stains, Flow Cytometry, Molecular Studies)	AR
ii.	Storage / Preservation	F
iii.	Preparation Techniques (e.g., Cytospin,Liquid-Based Preparations, Cell Blocks)	F
iv.	Cultures and Microorganism Stains	F
b.	Specimen Adequacy	F
c.	Normal Cytology	
i.	Non-Neoplastic Mesothelial Cells	AR
ii.	Leukocytes and Macrophages	AR
iii.	Collagen Balls	AR
iv.	Contaminants	AR
d.	Reactive	
i.	Inflammatory Cells	F

ii.	Endometriosis	F
iii.	Endosalpingiosis	F
e.	Malignant	
i.	Metastatic Adenocarcinoma	
1.	Endometrial Primary	AR
2.	Ovarian / Müllerian/Tubal Primary	AR
3.	Pseudomyxoma Peritonei	F
f.	Reporting	F

7. Synovial Fluid

a.	Processing / Techniques / Indication (e.g., Crystal Analysis)	F
b.	Normal Cytology	AR
c.	Non-Neoplastic and Inflammatory Conditions	
i.	Infectious	AR
ii.	Gout	AR
iii.	Pseudogout	AR
iv.	Villonodular Synovitis	F
v.	Trauma Associated	F
vi.	Rheumatoid Arthritis	F

8. Cerebrospinal Fluid (CSF)

a.	Normal Constituents and Contaminants	
i.	Leukocytes (e.g., Lymphocytes and Macrophages)	AR
ii.	Bone Marrow Contamination	AR
iii.	Choroid Plexus and Ependymal Cells	F
iv.	Neural and Germinal Matrix Elements	F
v.	Other Elements (e.g., Cartilage, Starch)	F
b.	Infections	
i.	Bacterial & Mycobacterial	AR
ii.	Fungal (e.g., *Cryptococcus, Candida*)	AR
iii.	Parasitic (e.g., *Toxoplasma,* Trypanosomiasis)	F
c.	Hematopoietic Malignancies	
i.	Precursor Lymphoid (e.g., ALL, Lymphoblastic)	AR
ii.	Large Cell Lymphoma	AR
iii.	Plasma Cell Neoplasms	AR
iv.	Other Lymphomas	F
v.	Myeloid Neoplasms	F
d.	Metastatic Malignancies, Other than Hematopoietic	
i.	Carcinomas	AR
ii.	Melanoma	AR
e.	Indications / Techniques	
i.	Sampling (e.g., Lumbar Puncture, Ventricular-Peritoneal (VP) Shunt	F

ii.	Prion Disease Handling	F
iii.	Other Ancillary Testing (e.g., Flow Cytometry, Molecular Diagnostics)	F
f.	Reactive / Reparative	
i.	Drug and Therapy Changes	F
ii.	Shunt and Foreign Body Reactions	F
iii.	Reactive Pleocytosis (e.g., Mollaret)	F
g.	Ependymoma	F
h.	Glioblastoma	F
i.	Neural Tumors (e.g., Medulloblastoma, Neuroblastoma, Retinoblastoma)	F

9. CNS and Eye (i.e., Other Than CSF)

a.	Normal Elements	F
b.	Meningioma & Hemangiopericytoma	F
c.	Glioblastoma	F
d.	Hematopoietic Malignancies	
i.	CNS Large Cell Lymphoma	F
ii.	Vitreous Hematopoietic Neoplasms	F
e.	Melanoma	
i.	CNS	F
ii.	Eye	F
f.	Metastatic Carcinomas	F

10. The Urinary Tract

a.	Normal Cytology & Contamination Elements	
i.	Urothelial Cells	C
ii.	Normal Voided Urine	C
iii.	Normal Bladder Wash	C
iv.	Normal Upper Urinary Tract	C
v.	Squamous Cell Contamination	C
vi.	Intestinal Epithelium (e.g., Ileal Bladder)	AR
vii.	Contaminants	AR
b.	Indications / Techniques	
i.	Indications for Evaluation	AR
ii.	Other Ancillary Testing Techniques (e.g., Flow Cytometry, FISH, Molecular Studies)	AR
iii.	Sampling (e.g., void, instrumentation, ileal conduit)	F
c.	Specimen Adequacy	AR
d.	Infections	
i.	Fungal (e.g., *Candida*)	C
ii.	Parasitic (e.g., *Schistosoma*)	AR
iii.	Viral (e.g., Polyoma)	AR
iv.	Drug and Therapy Changes	AR
v.	Cast and Crystals	AR
vi.	Cystitis Cystica and Metaplasia	AR

e.	Primary Malignancy of the Urinary Tract (Paris System)	
i.	Negative for High Grade Urothelial Carcinoma (NHGUC)	AR
ii.	Atypical Urothelial Cells (AUC)	AR
iii.	Suspicious for High Grade Urothelial Carcinoma (SHGUC)	AR
iv.	High Grade Urothelial Carcinoma	AR
v.	Squamous Cell Carcinoma	AR
vi.	Small Cell Carcinoma	F
vii.	Low Grade Urothelial Neoplasm (LGUN)	F
viii.	Adenocarcinoma	F
f.	Metastatic Tumors	
i.	Carcinoma	F
ii.	Melanoma	F
g.	Reporting and Management Guidelines	AR

11. Respiratory Exfoliative (Sputum, Brushing, Washing)

a.	Normal / Negative / Contamination Elements	
i.	Bronchial (e.g., Ciliated Cells, Goblet Cells)	C
ii.	Alveolar Macrophages	C
iii.	Squamous Cells	C
iv.	Other Elements	
	(e.g., Food, Plant Cells, Ferruginous Bodies, Starch/Talc)	AR
b.	Specimen Adequacy	AR
c.	Infections	
i.	Bacterial / Mycobacterial	AR
ii.	Fungal (e.g., *Pneumocystis, Histoplasma, Aspergillus*)	AR
iii.	Parasitic	AR
iv.	Viral (e.g., CMV, Herpes)	AR
d.	Reactive / Reparative	
i.	Squamous Metaplasia	AR
ii.	Reserve Cell Hyperplasia	AR
iii.	Radiation and Chemotherapy Effects	F
e.	Benign Pulmonary Disease	
i.	Asthma Changes (e.g., Creola Bodies)	AR
ii.	Lipoid Pneumonia	AR
iii.	Pulmonary Alveolar Proteinosis	AR
iv.	Pneumoconioses (e.g., Asbestosis)	F
v.	Storage Diseases (e.g., Gaucher)	F
f.	Malignancies	
i.	Adenocarcinoma	AR
ii.	Squamous Cell Carcinoma	AR
iii.	Small Cell Carcinoma	AR
iv.	Carcinoid Tumor	AR
v.	Large Cell Neuroendocrine Carcinoma	AR

vi.	Salivary Gland-Type Carcinoma (e.g., Adenoid Cystic, Mucoepidermoid)	F
g.	Indications / Techniques	
i.	Indications for Evaluation	F
ii.	Specific Sampling Techniques	F
iii.	Preparatory Techniques (e.g., Liquid-Based Preparations)	F

12. Lung FNA

a.	Normal / Negative / Contamination Elements	
i.	Bronchial (e.g., Ciliated Cells, Goblet Cells)	C
ii.	Alveolar Macrophages	C
iii.	Other (e.g., Mesothelial Cells, Cartilage)	AR
b.	Indications / Techniques	
i.	Indications for Evaluation and Complications	AR
ii.	Specific Sampling Techniques (e.g. Transthoracic, Transbronchial, EBUS, ENB)	
iii.	Microorganism Stains	AR
iv.	IHC and Flow Cytometry	AR
v.	Molecular Studies (e.g., FISH testing)	AR
c.	Specimen Adequacy (e.g., Immediate Evaluation Techniques)	AR
d.	Infections	
i.	Bacterial (e.g., abscess) and Mycobacterial	AR
ii.	Fungal (e.g., *Histoplasma, Aspergillus, Mucor, Cryptococcus*)	AR
iii.	Viral (e.g., CMV, Herpes)	AR
iv.	Parasitic	F
e.	Benign Lung Diseases, Reactive/Reparative/Inflammatory	
i.	Granulomas (e.g., Sarcoid)	AR
ii.	Radiation and Chemotherapy Effects	F
iii.	Pneumoconiosis	F
iv.	Amyloidosis	F
f.	Benign Neoplasms	
i.	Hamartoma	AR
ii.	Inflammatory Pseudotumor	F
iii.	Benign Mixed Tumor	F
g.	Malignancies	
i.	Epithelial	
1.	Adenocarcinoma	AR
2.	Squamous Cell Carcinoma	AR
3.	Small Cell Carcinoma	AR
4.	Carcinoid Tumor	AR
5.	Large Cell Neuroendocrine Carcinoma	AR
6.	Mixed Carcinomas	F
7.	Salivary Gland-Type Carcinomas (e.g., Adenoid Cystic, Mucoepidermoid)	F

ii.	Hematopoietic	
1.	Non-Hodgkin Lymphoma	AR
2.	Myeloid Neoplasms	AR
3.	Plasma Cell Neoplasms	AR
4.	Langerhans Cell Histiocytosis	F
iii.	Metastatic	
1.	Carcinoma	AR
2.	Lymphoma	AR
3.	Melanoma	AR
4.	Sarcoma	F
iv.	Mesothelioma	AR
v.	Sarcomas	
1.	Epithelioid Hemangioendothelioma	F
2.	Angiosarcoma	F
3.	Synovial Sarcoma	F
h.	Reporting and Management Guidelines	F

13. Esophageal Cytopathology

a.	Indications / Techniques	
i.	Endoscopic Brushings	AR
ii.	Endoscopic FNA	AR
b.	Infections	
i.	Fungal (e.g., *Candida*)	AR
ii.	Viral (e.g., Herpes, CMV)	AR
c.	Primary Neoplasms	
i.	Squamous Cell Carcinoma	AR
ii.	Adenocarcinoma	AR
iii.	Smooth Muscle Tumors	AR
d.	Metaplastic and Preneoplastic Changes (e.g., Dysplasia, Barrett Esophagus)	F

14. Gastric Cytopathology

a.	Normal Cytology	AR
b.	Indications	AR
i.	Endoscopic -FNA	AR
ii.	Ancillary Testing (e.g., IHC, Molecular, Flow Cytometry)	AR
c.	Primary Neoplasms	
i.	Adenocarcinoma	AR
1.	Intestinal Type	AR
2.	Diffuse (e.g., Signet Ring, Linitis Plastica)	AR
ii.	Gastrointestinal Stromal Tumor	AR
iii.	Smooth Muscle Tumors	AR
iv.	Lymphoma	AR

15. Liver Cytopathology

a.	Normal Cytology	C
b.	Indications / Techniques	AR
i.	Indications for Evaluation	AR
ii.	Sampling Techniques (e.g., FNA)	AR
iii.	Ancillary Testing (e.g., IHC, Molecular Studies, Stains)	AR
c.	Infections	AR
i.	Abscess	AR
ii.	Fungal Infections	AR
iii.	Parasitic Infections (e.g., Amoeba and *Echinococcus*)	AR
d.	Liver Neoplasms	
i.	Hepatic Adenoma	F
ii.	Hemangioma	F
iii.	Primary Liver Carcinomas	
1.	Hepatocellular Carcinoma	AR
2.	Cholangiocarcinoma	AR
3.	Fibrolamellar Carcinoma	F
iv.	Hepatoblastoma	F
v.	Angiosarcoma	F
e.	Hematopoietic Neoplasms and Lymphoma	AR
f.	Metastatic Neoplasms	AR
i.	Carcinoma	AR
ii.	Melanoma	AR
iii.	Sarcoma	AR
g.	Reactive and Non-Neoplastic Disorders	F

16. Biliary Cytopathology

a.	Normal Cytology	C
b.	Infections (e.g., Bacterial, Fungal)	AR
c.	Indications / Techniques	F
i.	Indications for Evaluation	F
ii.	Ancillary Testing (e.g., IHC, Molecular Studies, FISH)	F
d.	Reactive Changes	F
e.	Malignancy	
i.	Adenocarcinoma	AR

17. Pancreatic Cytopathology

a.	Normal Cytology	C
b.	Indications / Techniques	AR
i.	Indications for Evaluation	AR

ii.	Sampling Techniques	AR
iii.	Cyst Fluid Chemical Analysis	AR
iv.	Ancillary Testing (e.g., Stains, IHC, Molecular Studies)	AR
c.	Specimen Adequacy	F
d.	Reactive and Non-Neoplastic Cysts	
i.	Pseudocyst	AR
ii.	Acute Pancreatitis	F
iii.	Chronic Pancreatitis, including Autoimmune	F
iv.	Lymphoepithelial Cyst	F
v.	Splenule / Accessory Spleen	F
e.	Benign / Borderline Neoplasms	
i.	Pancreatic Neuroendocrine Tumors (PanNet), Well and Poorly Differentiated	AR
ii.	Solid Pseudopapillary Neoplasms	AR
iii.	Mucin-Producing Neoplasms	
1.	Mucinous Cystic Neoplasm (MCN)	AR
2.	Intraductal Papillary Mucinous Neoplasm (IPMN)	AR
iv.	Serous Cystadenoma	F
f.	Malignant Neoplasms	
i.	Pancreatic Ductal Adenocarcinoma	AR
ii.	Acinar Cell Carcinoma	AR
g.	Hematopoietic Neoplasms and Lymphoma	AR
h.	Metastatic Neoplasms	AR
i.	Reporting and Management Guidelines	F

18. Salivary Gland FNA

a.	Normal Cytology	C
b.	Indications / Techniques	AR
i.	Indications for Evaluation	AR
ii.	Specific FNA Techniques	AR
iii.	Ancillary Testing (e.g., Stains, IHC, Flow Cytometry, Molecular)	AR
c.	Specimen Adequacy	F
d.	Reactive and/or Inflammatory Diseases	
i.	Acute and Chronic Sialadenitis, Sialolithiasis	AR
ii.	Granulomatous	AR
iii.	Sialadenosis	F
e.	Non-Neoplastic Tumor-Like Conditions	
i.	Intraparotid Lymph Node	AR
ii.	Lymphoepithelial Cyst	F
f.	Primary Epithelial/Myoepithelial Tumors XXX	
i.	Adenoid Cystic Carcinoma	AR
ii.	Mucoepidermoid Carcinoma	AR
iii.	Onchocytoma / Onchocytosis	AR

iv.	Pleomorphic Adenoma	AR
v.	Squamous Cell Carcinoma	AR
vi.	Warthin Tumor	AR
vii.	Acinic Cell Carcinoma	F
viii.	Basal Cell Adenoma/ Basal Cell Adenocarcinoma	F
ix.	Epithelial Myoepithelial Carcinoma	F
x.	Myoepithelioma/ Myoepithelial Carcinoma	F
xi.	Carcinoma Ex Pleomorphic Adenoma	F
xii.	Salivary Duct Carcinoma	F
xiii.	Secretory Carcinoma	F
g.	Hematopoietic Diseases and Lymphoma	AR
h.	Metastatic Neoplasms (e.g., Carcinoma, Melanoma)	AR
i.	Reporting Guidelines	AR
j.	Mesenchymal Tumors (e.g., Angiosarcoma, Nerve Sheath Tumors)	F
k.	Management	F

19. Thyroid & Parathyroid FNA

a.	Specimen Adequacy	C
b.	Normal Cytology and Needle Contaminants	
i.	Benign Thyroid	C
ii.	Benign Parathyroid	F
c.	Indications / Techniques	
i.	Indications for Evaluation, including Imaging Findings	AR
ii.	Ancillary Studies (e.g., IHC, Stains, Flow Cytometry, Molecular)	AR
iii.	Developmental Anomaly (e.g., Thyroglossal Duct Cyst)	AR
d.	Reactive and Non-Neoplastic	
i.	Follicular Nodular Disease	AR
ii.	Chronic Lymphocytic Thyroiditis/Hashimoto Thyroiditis	AR
iii.	Amyloidoma	F
iv.	Black/Pigmented Thyroid	F
v.	Parathyroid Lesions	F
vi.	Riedel Thyroiditis	F
vii.	Subacute Granulomatous Thyroiditis (de Quervain)	F
e.	Primary Epithelial Tumors	
i.	Anaplastic / Undifferentiated Carcinoma	AR
ii.	Follicular Neoplasm	AR
iii.	Oncocytic Neoplasm	AR
iv.	Medullary Carcinoma	AR
v.	Papillary Thyroid Carcinoma and Variants	AR
vi.	Hyalinizing Trabecular Tumor	F
vii.	Parathyroid Neoplasm	F
viii.	Poorly Differentiated Thyroid Carcinoma	F
f.	Hematopoietic and Lymphoma	AR

g.	Metastatic Neoplasms	
i.	Carcinomas	AR
ii.	Melanoma	F
h.	The Bethesda System Reporting and Management Guidelines	AR

20. Lymph Node FNA

a.	Normal Cytology	C
b.	Indications / Techniques	
i.	Indications for Evaluation	AR
ii.	Ancillary Studies (Stains, IHC, Flow Cytometry, Molecular)	AR
c.	Infections, Reactive Changes, Inflammatory	
i.	Bacterial and Mycobacterial	AR
ii.	Fungal	AR
iii.	Granulomatous	AR
d.	Hodgkin Lymphoma	AR
e.	Non-Hodgkin Lymphoma	AR
i.	Burkitt Lymphoma	AR
ii.	Follicular Lymphoma	AR
iii.	Large Cell (i.e., Diffuse Large B-Cell)	AR
iv.	Lymphoplasmacytic	AR
v.	Marginal Zone Lymphoma	AR
vi.	Mantle Cell Lymphoma	AR
vii.	Precursor Lymphoid (i.e., Lymphoblastic), Both T- and B-Cell	AR
viii.	Small Lymphocytic/Chronic Lymphocytic	AR
ix.	T-Cell and NK Cell	AR
f.	Metastatic Neoplasms	
i.	Carcinomas	AR
ii.	Melanoma	AR
iii.	Sarcomas	F
g.	Histiocytic and Dendritic Cells (e.g., Rosai-Dorfman Disease)	F
h.	Myeloid Neoplasms (e.g., Myeloid Sarcoma)	F
i.	Vascular Neoplasms (e.g., Kaposi Sarcoma)	F

21. Head & Neck, Intraoral (Also See Other Categories)

a.	Normal Cytology	C
b.	Indications / Techniques	AR
i.	Indications for Evaluation	AR
ii.	Ancillary Testing (e.g., Stains, IHC, Flow Cytometry, Molecular)	AR
c.	Infections	
i.	Bacterial	AR
ii.	Fungal	AR
d.	Developmental Anomalies	

i.	Branchial Cleft Cyst	AR
ii.	Thyroglossal Duct Cyst	AR
iii.	Ectopic Tissue (e.g., Thyroid, Parathyroid, Thymus)	F
e.	Epithelial Tumors	
i.	Squamous Cell Carcinoma and Variants	AR
1.	HPV-Related	AR
2.	Non-HPV Related	AR
ii.	Nasopharyngeal Carcinoma	F
f.	Mesenchymal Tumors (Also See Soft Tissue Section)	
i.	Granular Cell Tumor	AR
ii.	Nerve Sheath Tumor	AR
iii.	Ameloblastoma	F
iv.	Meningioma	F
v.	Paraganglioma	F
g.	Metastatic Neoplasms (e.g., Carcinomas, Melanoma)	AR

22. Breast and Nipple

a.	Normal Cytology	C
i.	Pregnancy and Lactational Changes	AR
b.	Indications and Sampling	
i.	Ancillary Testing (e.g., IHC, ER/PR, Her2, Molecular)	AR
ii.	FNA Sampling	F
iii.	Nipple Fluids and Smears	F
iv.	Sentinel Node Sampling	F
c.	Inflammatory and Reactive Changes	
i.	Acute Mastitis and Abscesses	AR
ii.	Fat Necrosis	AR
iii.	Granulomatous Inflammation	AR
iv.	Gynecomastia	F
v.	Foreign Body Reaction (e.g., Silicone)	F
d.	Fibroepithelial Lesions	
i.	Fibroadenomas	AR
ii.	Phyllodes Tumors	F
e.	Adenocarcinomas	
i.	Ductal Carcinoma	AR
ii.	Lobular Carcinoma	F
f.	Fibrocystic Changes, Cysts and Adenomas	F
g.	Papillary Lesions	F
h.	Mesenchymal Neoplasms	F
i.	Metastatic Neoplasms	F
j.	Hematopoietic Neoplasms	F
k.	Reporting and Management Guidelines	F

23. Mediastinum and Retroperitoneum

a. Normal Cytology	C
i. Ectopic Tissue (e.g., Thyroid, Thymus, Ganglion Cells)	AR
b. Indications / Techniques	AR
i. Indications for Evaluation	AR
ii. Ancillary Studies (e.g., Stains, IHC, Flow Cytometry, Molecular)	AR
c. Infections	
i. Bacterial and Mycobacterial	AR
ii. Fungal	AR
d. Cysts, including Developmental Cysts	F
e. Thymic Neoplasms	F
i. Thymoma	F
ii. Thymic Carcinoma	F
f. Neural Tumors	F
i. Neuroblastoma and Ganglioneuroma	F
ii. Nerve Sheath Tumors (e.g., Schwannoma, Neurofibroma)	F
g. Paraganglioma	F
h. Germ Cell Tumors	
i. Seminomas	AR
ii. Teratomas	F
iii. Mixed and Other Germ Cell Tumors	F
i. Metastatic Tumors	
i. Carcinomas	AR
ii. Melanoma	AR
iii. Sarcomas	F

24. Kidneys

a. Normal Cytology	AR
b. Indications / Techniques	
i. Ancillary Studies (e.g., Stains, IHC, Flow Cytometry, Molecular)	AR
ii. Indications for Evaluation	F
c. Infections	
i. Bacterial (e.g., Renal Abscess, Malakoplakia)	AR
ii. Mycobacterial	AR
d. Non-Neoplastic Inflammatory Lesions (e.g., Xanthogranulomatous pyelonephritis)	F
e. Benign Neoplasms	
i. Oncocytoma	F
ii. Angiomyolipoma	F
f. Malignant Tumors of the Renal Parenchyma	
i. Clear Cell Renal Cell Carcinoma	AR
ii. Papillary Renal Cell Carcinoma	F
iii. Chromophobe Renal Cell Carcinoma	F

iv.	Medullary Carcinoma	F
g.	Urothelial Carcinoma of the Renal Pelvis	AR
h.	Metastatic Tumors (e.g., Carcinomas, Melanoma)	AR
i.	Hematopoietic Neoplasms	AR
j.	Malignant Pediatric Renal Tumors (e.g., Wilms Tumor [Nephroblastoma])	F

25. Adrenal Glands

a.	Normal Cytology	C
b.	Myelolipoma	AR
c.	Hematopoietic Neoplasms and Lymphoma	AR
d.	Metastatic Tumors (e.g., Carcinomas, Melanoma)	AR
e.	Indications / Techniques	
i.	Indications for Evaluation	F
ii.	Ancillary Testing (Stains, IHC, Flow Cytometry, Molecular)	F
f.	Benign Adrenal Cortical Processes	F
g.	Adrenal Cortical Carcinoma	F
h.	Tumors of the Adrenal Medulla	
i.	Pheochromocytoma	F
ii.	Neuroblastoma	F
iii.	Ganglioneuroma	F

26. Soft Tissue, Subcutaneous, and Skin

a.	Normal Cytology	C
b.	Indications / Techniques	
i.	Ancillary Testing (e.g., Stains, IHC, Flow Cytometry, Molecular)	AR
ii.	Indications for Evaluation	F
c.	Infections	
i.	Bacterial and Mycobacterial	AR
ii.	Fungal	AR
d.	Reactive / Inflammatory (Non-Infectious)	
i.	Abscess	AR
ii.	Fat Necrosis	AR
iii.	Foreign-Body Reaction	AR
iv.	Epidermal Inclusion Cysts	AR
v.	Ganglion Cyst	F
vi.	Endometriosis	F
vii.	Neuroma	F
viii.	Myositis Ossificans	F
ix.	Amyloidoma	F
x.	Nodular Fasciitis	F
xi.	Tumoral Calcinosis	F
xii.	Extramedullary Hematopoiesis	F

e.	Benign Neoplasms	
i.	Granular Cell Tumor	AR
ii.	Lipomas	AR
iii.	Pilomatrixoma	AR
iv.	Schwannoma	AR
v.	Solitary Fibrous Tumor	AR
vi.	Intramuscular Myxoma	F
vii.	Giant Cell Tumor of Tendon Sheath	F
viii.	Neurofibroma	F
ix.	Ganglioneuroma	F
x.	Leiomyoma	F
xi.	Rhabdomyoma	F
f.	Malignant and Atypical/Borderline Neoplasms	
i.	Melanoma	AR
ii.	Merkel Cell Carcinoma	AR
iii.	Liposarcomas	
1.	Well-Differentiated / Atypical Lipomatous Tumors	AR
2.	Myxoid Liposarcoma	AR
3.	Round Cell Liposarcoma	F
4.	Pleomorphic Liposarcoma	F
iv.	Rhabdomyosarcoma	AR
v.	Undifferentiated Sarcoma	AR
vi.	Synovial Sarcoma	F
vii.	Extraskeletal Myxoid Chondrosarcoma	F
viii.	Hematopoietic Neoplasms and Lymphoma	AR
ix.	Metastatic Carcinoma	AR

27. Bone

a.	Normal Cytology	C
b.	Indications / Techniques	
i.	Indications for Evaluation, including Imaging Findings	F
ii.	Ancillary Testing (e.g., Stains, IHC, Flow Cytometry, Molecular)	F
c.	Benign Neoplasms	
i.	Giant Cell Tumor	F
ii.	Aneurysmal Bone Cyst	F
d.	Malignant Neoplasms	
i.	Chordoma	AR
ii.	Chondrosarcoma	F
iii.	Ewings/PNET	F
iv.	Osteosarcoma	F
e.	Hematopoietic Neoplasms	
i.	Non-Hodgkin Lymphoma	AR
ii.	Plasma Cell Neoplasm	AR

iii.	Langerhans Cell Histiocytosis / Eosinophilic Granuloma	F
iv.	Myeloid Neoplasms	F
f.	Metastases	AR

28. Cytopathology Laboratory Administration, Management, and Procedures

a.	Safety	AR
i.	FNA Performance-Related Safety Measures	AR
b.	Specimen Collection and Processing	
i.	Specimen Requisition, Collection, and Acceptance	AR
ii.	Specimen Processing	
1.	Fixation	AR
2.	Slide Preparation	AR
3.	FNA Indications and Techniques	AR
4.	Immediate Evaluation Techniques	AR
c.	Cytopathology Billing and Coding	AR
d.	Cytopathology QC/QA, CLIA, Regulatory	
i.	Cytologic-Histologic Correlation and Discrepancies	AR
ii.	Record and Slide Retention	AR
iii.	Proficiency Testing	AR
iv.	Five-Year Retrospective Review (i.e. Look Back)	AR
v.	Rescreening, Prospective and Retrospective	F
vi.	Workload Limits	F
vii.	Reporting Rates	F
viii.	Quality Statistics	F
e.	Test Development and Validation	AR
f.	Instrumentation, Computers, Capital Equipment	
i.	Acquisition	F
ii.	Automated Processing (Also See Screening)	F
iii.	Processing Methods (Also See Screening)	F
g.	Technical Aspects and Test Utilization	
i.	Routine and Histo/Cytochemistry	F
ii.	Immunohistochemistry	F
iii.	Molecular Testing	F
iv.	Flow Cytometry	F
h.	Screening and Review Methods	
i.	Automated Screening	F
ii.	Digital Cytology/Pathology	F
iii.	Telecytology	F
i.	Cytopathology Laboratory Accreditation	F
j.	Cytopathology Personnel Qualifications and Management	F
k.	Risk Management / Medical-Legal Issues	F

13. Dermatopathology Topics for Anatomic Pathology Residents

1. Inflammatory Reaction Patterns

a. Interface Dermatitis (Lichenoid Reaction Pattern)

i.	Pattern Recognition	C
ii.	Lichen Planus	AR
iii.	Lichen Planus-Like Keratosis (Benign Lichenoid Keratosis)	AR
iv.	Lichenoid Drug Eruptions	AR
v.	Lichen Sclerosis	AR
vi.	Erythema Multiforme	AR
vii.	Toxic Epidermal Necrolysis/Stevens-Johnson Syndrome	AR
viii.	Graft-versus-Host Disease	AR
	1. Eruption of lymphocyte recovery	F
ix.	Lupus Erythematosus	
	1. Discoid Lupus Erythematosus	AR
	2. Subacute Lupus Erythematosus	AR
	3. Hypertrophic Lupus Erythematosus	AR
	4. Acute Lupus Erythematosus	F
	5. Systemic Lupus Erythematosus	F
	6. Neonatal Lupus Erythematosus	F
	7. Bullous Lupus Erythematosus	F
	8. Tumid Lupus Erythematosus	F
	9. Lupus Panniculitis	F
x.	Lichenoid and Granulomatous Dermatitis	F
xi.	Erythema Dyschromicum Perstans	F
xii.	Lichen Nitidus	F
xiii.	Lichen Striatus	F
xiv.	Fixed Drug Eruptions	F
xv.	Dermatomyositis	F
xvi.	Pityriasis Lichenoides	F
xvii.	Poikilodermas	F
	1. Dyskeratosis Congenita	F
	2. Poikiloderma of Civatte	F

b. Psoriasiform Reaction Pattern

i.	Pattern Recognition	C
ii.	Psoriasis	AR
iii.	Lichen Simplex Chronicus	AR
iv.	Prurigo Nodularis	AR
v.	Reactive Arthritis (Reiter Syndrome)	F
vi.	Pityriasis Rubra Pilaris	F
vii.	Psoriasiform Keratosis	F

c. Spongiotic Reaction Pattern

i.	Pattern Recognition	C

ii.	Stasis Dermatitis	AR
iii.	Allergic Contact Dermatitis	F
iv.	Incontinentia Pigmenti	F
v.	Pityriasis Rosea	F
vi.	Irritant Contact Dermatitis	F
vii.	Nummular Dermatitis	F
viii.	Seborrheic Dermatitis	F
ix.	Atopic Dermatitis	F
x.	Id Reaction	F
xi.	Pompholyx	F
xii.	Juvenile Plantar Dermatosis	F
xiii.	Papular Acrodermatitis of Childhood (Gianotti-Crosti Syndrome)	F

d. Vesiculobullous Reaction Pattern

i.	Intracorneal / Subcorneal Blisters & Pustules	C
1.	Pemphigus Foliaceus	AR
2.	Pemphigus Erythematosus	F
3.	Subcorneal Pustular Dermatosis (Sneddon-Wilkinson)	F
4.	IgA Pemphigus	F
5.	Infantile Acropustulosis	F
6.	Erythema Toxicum Neonatorium	F
7.	Transient Neonatal Pustular Melanosis	F
8.	Acute Generalized Exanthematous Pustulosis	F
9.	Miliaria Crystallina	F
10.	Halogenoderma	F
ii.	Suprabasilar Blisters/Intraepidermal Blisters	C
1.	Acantholysis	C
2.	Acantholytic Dyskeratosis	C
3.	Pemphigus Vulgaris	AR
4.	Hailey-Hailey Disease	F
5.	Darier Disease	F
6.	Grover Disease	F
7.	Pemphigus Vegetans	F
8.	Paraneoplastic Pemphigus	F
iii.	Subepidermal Blisters	C
1.	Bullous Pemphigoid	AR
2.	Dermatitis Herpetiformis	AR
3.	Epidermolysis Bullosa	F
a)	Epidermolysis Bullosa Simplex	F
b)	Junctional Epidermolysis Bullosa	F
c)	Dystrophic Epidermolysis Bullosa	F
4.	Epidermolysis Bullosa Acquisita	F
5.	Pemphigoid Gestationis	F
6.	Linear IgA Bullous Dermatosis	F
7.	Cicatricial Pemphigoid	F

8. Bullous Diabeticorum F

e. The Granulomatous Reaction Pattern, Non-Infectious

i. Sarcoidal / Tuberculoid (Non-Infectious) C

1. Reactions to Foreign Materials C
2. Sarcoidosis AR
3. Melkersson-Rosenthal Syndrome (Cheilitis Granulomatosis) F
4. Cutaneous Crohn Disease F

ii. Necrobiotic Palisading Granulomas C

1. Granuloma Annulare AR
2. Necrobiosis Lipoidica AR
3. Rheumatoid Nodules AR
4. Palisaded and Neutrophilic Granulomatous Dermatitis F
5. Elastolytic Granuloma F
6. Necrobiotic Xanthogranuloma F

iii. Suppurative Granulomas C

1. Ruptured Cysts and Follicles C
2. Foreign Body Granulomas C

iv. Miscellaneous Granulomas

1. Chalazion AR
2. Lupus Miliaris Disseminatus Faciei F
3. Interstitial Granulomatous Reaction F

f. The Vasculopathic Reaction Pattern

i. General Considerations / Pattern Recognition C

ii. Non-Inflammatory Purpuras, including Solar Purpura F

iii. Vascular Occlusive Diseases C

1. Disseminated Intravascular Coagulation AR
2. Cholesterol and Other Types of Embolism AR
3. Livedo Reticularis F
4. Protein C and Protein S Deficiencies F
5. Warfarin Necrosis F
6. Atrophie Blanche (Livedoid Vasculopathy) F
7. Thrombotic Thrombocytopenic Purpura F
8. Cryoglobulinemia, Monoclonal F
9. Antiphospholipid Syndrome F
10. Factor V Leiden Mutation F
11. Sneddon Syndrome F
12. Levamisole-Induced Vasculitis / Vasculopathy F

iv. Urticaria AR

v. Acute & Chronic Vasculitis

1. Leukocytoclastic (Hypersensitivity) Vasculitis AR
2. Henoch-Schönlein Purpura/IgA AR
3. Polyarteritis Nodosa AR
4. Urticarial Vasculitis F
5. Mixed Cryoglobulinemia F

6. Septic Vasculitis F
7. Erythema Elevatum Diutinum F
8. Granuloma Faciale F
9. Microscopic Polyangiitis (Polyarteritis) F
10. Superficial Thrombophlebitis F

vi. Neutrophilic Dermatoses
1. Sweet Syndrome AR
2. Pyoderma Gangrenosum AR
3. Neutrophilic Dermatosis of the Hand (Pustular Vasculitis) F
4. Bowel-Associated Dermatosis-Arthritis Syndrome F
5. Rheumatoid Neutrophilic Dermatosis F
6. Behçet Disease F

vii. Lymphocytic Dermatoses
1. Polymorphic Eruption of Pregnancy (PEP) F
2. Gyrate and Annular Erythemas F
3. Erythema Annulare Centrifugum F
4. Erythema Marginatum F
5. Pigmented Purpuric Dermatoses F

viii. Chronic Lymphocytic Vasculitis
1. Malignant Atrophic Papulosis (Degos Disease) F
2. Perniosis F

ix. Vasculitis with Granulomatosis C
1. Granulomatosis with Polyangiitis AR
2. Lymphomatoid Granulomatosis AR
3. Eosinophilic Granulomatosis with Polyangiitis AR
4. Giant Cell (Temporal) Arteritis AR
5. Takayasu Arteritis AR

2. The Epidermis

a. Disorders of Epidermal Maturation and Keratinization

i. Porokeratosis and Variants AR
ii. Acanthosis Nigricans AR
iii. Ichthyoses F
1. Ichthyosis Vulgaris F
2. X-Linked Ichthyosis F
3. Lamellar Ichthyosis F
4. Epidermolytic Ichthyosis F
5. Harlequin Ichthyosis F
6. Acquired Ichthyosis F

iv. Palmoplantar Keratodermas
1. Punctate Palmoplantar Keratoderma F
2. Acquired Keratoderma F
3. Pachyonychia Congenita F

v. Hyperkeratosis Lenticularis Perstans F
vi. Xeroderma Pigmentosum F
vii. Ectodermal Dysplasia F
1. Anhidrotic (Hypohidrotic) Ectodermal Dysplasia F
2. Hidrotic Ectodermal Dysplasia F
viii. Granular Parakeratosis F
ix. Circumscribed Acral Hypokeratosis F
x. Confluent & Reticulated Papillomatosis F

b. Disorders of Pigmentation
i. Disorders Characterized by Hypopigmentation
1. Vitiligo AR
2. Oculocutaneous Albinism F
3. Tuberous Sclerosis (Ash Leaf Spots) F
4. Idiopathic Guttate Hypomelanosis F
5. Hypomelanosis of Ito F
ii. Disorders Characterized by Hyperpigmentation
1. Postinflammatory Melanosis AR
2. Melasma F
3. Ephelis (Freckle) F
4. Café-au-lait Spots F
5. Laugier-Hunziker Syndrome F
6. Peutz-Jeghers Syndrome F
7. Becker Nevus F
8. Dowling-Degos Disease F
9. Notalgia Paresthetica F

3. The Dermis

a. Disorders of Collagen
i. Hypertrophic Scars and Keloids C
ii. Morphea AR
iii. Eosinophilic Fasciitis AR
iv. Radiation Dermatitis AR
v. Chondrodermatitis Nodularis Helicis AR
vi. Scleroderma F
vii. Mixed Connective Tissue Disease F
viii. Atrophoderma F
ix. Sclerodermoid Disorders F
x. Sclerodermoid Graft-versus-Host Disease F
xi. Chemical and Drug Related Disorders F
xii. Nephrogenic Systemic Fibrosis F
xiii. Connective Tissue Nevi F
xiv. Weathering Nodules of the Ear F
xv. Aplasia Cutis Congentia F

xvi. Focal Dermal Hypoplasia F
xvii. Corticosteroid Atrophy F
xviii. Reactive Perforating Collagenosis F

b. Disorders of Elastic Tissue
   i. Increased Elastic Tissue
      1. Solar Elastosis C
      2. Elastofibroma AR
      3. Elastoderma F
      4. Elastoma F
      5. Elastosis Perforans Serpiginosa F
      6. Pseudoxanthoma Elasticum F
      7. Nodular Elastosis with Cysts and Comedones (Favre-Racouche) F
      8. Elastotic Nodules of the Ears F
      9. Collagenous and Elastotic Plaques of the Hands F
      10. Penicillamine Induced Alteration F
   ii. Decreased Elastic Tissue
      1. General Considerations
      2. Anetoderma F
      3. Cutis Laxa F
      4. Mid-Dermal Elastolysis F
      5. Acrokeratoelastoidosis F
      6. PXE-like Papillary Dermal Elastolysis F
      7. Nevus Anelasticus F

c. Cutaneous Mucinoses
   i. Pretibial Myxedema AR
   ii. Digital Mucous (Myxoid) Cyst AR
   iii. Mucocele of the Lip AR
   iv. Generalized Myxedema F
   v. Papular Mucinosis and Scleromyxedema F
   vi. Reticular Erythematous Mucinosis (REM) F
   vii. Scleredema F
   viii. Focal Mucinosis F
   ix. Follicular Mucinosis F

d. Cutaneous Deposits
   i. Calcinosis Cutis C
      1. Idiopathic Scrotal Calcinosis AR
      2. Tumoral Calcinosis AR
      3. Dystrophic Calcification AR
      4. Calciphylaxis AR
      5. Subepidermal Calcified Nodule F
      6. Metastatic Calcification F
   ii. Cutaneous Ossification C
      1. Osteoma Cutis AR

2. Multiple Osteomas F
3. Albright Hereditary Osteodystrophy F

iii. Hyaline Deposits

1. Gout AR
2. Amyloidosis AR
   a) Systemic Amyloidosis F
   b) Lichen, Macular F
   c) Nodular Amyloidosis F
3. Lipoid Proteinosis F
4. Waldenström Macroglobulinemia F
5. Colloid Milium and Colloid Degeneration F

iv. Pigment and Related Deposits

1. Recognition of a Pigment/Deposit as Abnormal C
2. Tattoos AR
3. Monsel Solution AR
4. Aluminum Chloride AR
5. Ochronosis F
6. Silver Deposition (Argyria) F
7. Gold Deposition (Chrysiasis) F
8. Arsenic F
9. Aluminum F

v. Drug Deposits and Pigmentation

1. Antimalarial Drugs F
2. Phenothiazines F
3. Tetracycline F
4. Minocycline F
5. Amiodarone F
6. Clofazimine F
7. Chemotherapeutic Agents F

vi. Miscellaneous Deposits

1. Injected Fillers F
2. Oxalate Crystals F
3. Myospherulosis F
4. Gelfoam F
5. Medication F

4. Normal Skin and Mucosa

a. Normal Skin from Diverse Anatomic Sites
   i. Face, Acral, Mucosa, Trunk, Axillary, Genital, Scalp, and Eyelid/Conjunctiva. C

b. Normal Microanatomy (e.g., Adnexal Structures, Nerve versus Muscle) C

c. Incidental Findings
   i. Pagetoid Dyskeratosis F
   ii. Focal Acantholytic Dyskeratosis F

iii. Epidermolytic Hyperkeratosis F
iv. Accessory Nipple F

5. Artifacts

a. Freeze, Electrocautery, Formalin Pigment, Floaters/Tissue Carry Over, Poor Fixation, Tissue Folding, Microtomy Artifact, and Crush Artifact AR

6. Diseases of Cutaneous Appendages

a. Inflammatory Diseases of the Pilosebaceous Apparatus
i. Acneiform Lesions AR
ii. Rosacea AR
iii. Furuncle AR
iv. Folliculitis (Acne) Keloidalis Nuchae AR
v. Hidradenitis Suppurativa AR
vi. Superficial Folliculitides (General Features) AR
1. Acne Necrotica F
2. Eosinophilic Folliculitis F
3. Infundibulofolliculitis F
vii. Eosinophilic (Pustular) Folliculitis F
viii. Keratosis Pilaris F
ix. Dissecting Cellulitis of the Scalp F

b. Hair Shaft Abnormalities
i. Trichorrhexis Nodosa F
ii. Trichoschisis F
iii. Trichorrhexis Invaginata F
iv. Trichostasis Spinulosa F
v. Pili Annulati F
vi. Monilethrix F
vii. Tapered Hairs F
viii. Bubble Hair F
ix. Pili Torti F

c. Alopecias (General Features)
i. Non-Scarring Alopecias
1. Psoriatic Alopecia F
2. Trichotillomania F
3. Telogen Effluvium F
4. Alopecia Areata F
5. Androgenetic Alopecia F
6. Temporal Triangular Alopecia F
7. Follicular Mucinosis F
8. TNF-alpha Induced Alopecia F
9. Lupus Alopecia, Non-Scarring F

10. Syphilitic Alopecia F
11. Traction Alopecia F

ii. Scarring Alopecias

1. End-Stage Scarring Alopecia F
2. Lichen Planopilaris F
3. Frontal Fibrosing Alopecia F
4. Folliculitis Decalvans F
5. Central Centrifugal Cicatricial Alopecia F
6. Discoid Lupus Erythematosus (Scarring) F
7. Dissecting Cellulitis F

iii. Apocrine Disorders

1. Apocrine Miliaria (Fox-Fordyce Disease) F

iv. Eccrine Disorders

1. Syringolymphoid Hyperplasia F
2. Neutrophilic Eccrine Hidradenitis F
3. Palmoplantar Eccrine Hidradenitis F
4. Sweat Gland Necrosis F

7. Cysts, Sinuses, and Pits

a. Epidermal (Infundibular) Cyst C
   i. Gardner Syndrome F
b. Trichilemmal (Pilar, Isthmus-Catagen) Cyst C
c. Proliferating Pilar Tumor AR
d. Steatocystoma AR
e. Developmental Cysts
   i. Bronchogenic Cysts AR
   ii. Branchial Cleft Cysts AR
   iii. Thyroglossal Duct Cysts AR
   iv. Thymic Cysts AR
   v. Median Raphe Cysts AR
   vi. Dermoid Cysts AR
   vii. Cutaneous Ciliated Cyst F
   viii. Cystic Teratoma F
   ix. Omphalomesenteric Duct Cyst F
f. Miscellaneous Cysts
   i. Pilonidal Cyst AR
   ii. Accessory Tragus AR
   iii. Ganglion Cyst/Metaplastic Synovial Cyst AR
   iv. Pseudocyst of the Auricle F
g. Onycholemmal Cyst F
h. Vellus Hair Cyst F

8. Panniculitis

- a. Septal Panniculitis — AR
  - i. Erythema Nodosum — AR
- b. Lipodermatosclerosis — AR
- c. Factitial Panniculitis — AR
- d. Traumatic Fat Necrosis — AR
- e. Encapsulated Fat Necrosis — AR
- f. Lobular Panniculitis (General Features) — AR
  - i. Erythema Induratum-Nodular Vasculitis — F
  - ii. Subcutaneous Fat Necrosis of the Newborn — F
  - iii. Sclerema Neonatorum — F
  - iv. Cold Panniculitis — F
  - v. Alpha-1-Antitrypsin Deficiency — F
  - vi. Pancreatic Panniculitis — F
  - vii. Connective Tissue Panniculitis — F
  - viii. Lupus Panniculitis — F
- g. Lipodystrophy Syndromes — F

9. Metabolic and Storage Diseases

- a. Vitamin and Dietary Disturbances
  - i. Scurvy — F
  - ii. Pellagra — F
  - iii. Necrolytic Erythemas — F
  - iv. Acrodermatitis Enteropathica — F
  - v. Glucagonoma Syndrome — F
  - vi. Necrolytic Acral Erythema — F
- b. Porphyria
  - i. Erythropoietic Protoporphyria — F
  - ii. Porphyria Cutanea Tarda — F
  - iii. Pseudoporphyria — F
- c. Reactions to Physical Agents
  - i. Electrocautery — AR
  - ii. Cryotherapy Effects — AR
  - iii. Traumatic/Factitial — AR
  - iv. Friction Blisters — F
  - v. Thermal Burns — F
  - vi. Electrical Burns — F
  - vii. Frostbite — F
  - viii. Erythema Ab Igne — F
  - ix. Pressure Blister/Coma Blister — F
  - x. Suction Blister — F
- d. Reactions to Light
  - i. Photoallergic — F

ii. Phototoxic F
iii. Hydroa Vacciniforme F
iv. Polymorphic Light Eruption F
v. Actinic Prurigo F
vi. Chronic Actinic Dermatitis F

10. Infections and Infestations

a. Bacterial Infections
   i. Superficial Pyogenic Infections
      1. Impetigo AR
      2. Staphylococcal "Scalded Skin" Syndrome (SSSS) AR
      3. Toxic Shock Syndrome (Staphylococcal/Streptococcal) F
      4. Ecthyma F
      5. Erosive Pustular Dermatosis F
   ii. Deep Pyogenic Infections (Cellulitis)
      1. Cellulitis AR
      2. Necrotizing Fasciitis AR
      3. Erysipelas F
      4. Erysipeloid F
      5. *Pseudomonas* Folliculitis F
      6. Ecthyma Gangrenosum F
   iii. Mycobacterial Infections (General Features) AR
      1. Tuberculosis F
      2. Leprosy F
      3. Atypical Mycobacteria F
   iv. Botryomycosis and Filamentous Bacteria
      1. Actinomycosis AR
      2. Nocardiosis F
      3. Botryomycosis F
   v. Miscellaneous Bacteria
      1. Cat-Scratch Disease AR
      2. Granuloma Inguinale F
      3. Chancroid F
      4. Rhinoscleroma F
      5. Tularemia F
      6. Bacillary Angiomatosis F
      7. Verruga Peruana F
      8. Anthrax F
   vi. Spirochetal Infections
      1. Syphilis AR
      2. Pinta F
      3. Yaws F
      4. Borrelioses/Lyme Disease/Erythema Migrans F
   vii. Corynebacterial Infections
      1. Erythrasma F

2. Trichomycosis Axillaris F
3. Pitted Keratolysis F

viii. *Neisseria* Infections

1. Meningococcal Infections F
2. Gonococcal Infections F

ix. Rickettsial Infections

1. Spotted Fever Group F
2. Typhus Group F
3. Scrub Typhus Group F

b. Fungi and Algae

i. Superficial Filamentous Fungal Infections

1. Dermatophytoses AR
2. Tinea Capitis AR
3. Majocchi Granuloma AR
4. Onychomycosis AR
5. Favus F

ii. Yeast Infections

1. Candidiasis AR
2. Cryptococcosis AR
3. Pityriasis versicolor AR
4. Sporotrichosis F
5. Pityrosporum Folliculitis F
6. Trichosporonosis and White Piedra F

iii. Systemic Mycoses

1. Blastomycosis AR
2. Coccidioidomycosis AR
3. Histoplasmosis AR
4. Paracoccidioidomycosis F

iv. Infections by Dematiaceous Fungi

1. Chromoblastomycosis AR
2. Phaeohyphomycosis AR
3. Tinea Nigra F
4. Black Piedra F

v. Mycetoma and Related Disorders

1. Eumycetoma AR
2. Actinomycetoma AR

vi. Mucorales Infections AR

vii. Hyalohyphomycosis

1. Aspergillosis AR
2. Fusariosis AR

viii. Lobomycosis (Lobo Disease) F

ix. Rhinosporidiosis F

x. Protothecosis F

c. Viral Diseases

- i. Poxviridae
  - 1. Molluscum contagiosum C
  - 2. Vaccinia F
  - 3. Variola (Smallpox) F
  - 4. Monkeypox F
  - 5. Milker's Nodule F
  - 6. Orf F
- ii. Herpesviridae
  - 1. Herpes Simplex Virus C
  - 2. Herpes Zoster Virus C
  - 3. Cytomegalovirus AR
  - 4. Eczema Herpeticum F
  - 5. Epstein-Barr Virus / Mucocutaneous Ulcer F
- iii. Papillomaviridae
  - 1. Verruca Vulgaris C
  - 2. Condyloma acuminatum C
  - 3. Palmoplantar Warts AR
  - 4. Verruca Plana AR
  - 5. Bowenoid Papulosis AR
  - 6. Epidermodysplasia Verruciformis F
  - 7. Focal Epithelial Hyperplasia F
- iv. Parvoviridae
  - 1. Parvovirus B19 F
- v. Picornaviridae
  - 1. Hand, Foot, and Mouth Disease F
- vi. Retroviridae
  - 1. Human Immunodeficiency Virus (HIV) F
  - 2. Human T-Lymphotropic Virus (HTLV1) F

d. Parasitic Infections

- i. Protozoal Infections
  - 1. Amebae
    - a) Amebiasis Cutis F
    - b) Acanthamebiasis F
    - c) Balamuthia F
  - 2. Flagellates
    - a) Leishmaniasis AR
    - b) Trypanosomiasis F
- ii. Helminth Infections
  - 1. Trematode Infections
    - a) Schistosomiasis F
  - 2. Cestode Infections
    - a) Cysticercosis F
    - b) Sparganosis F
  - 3. Nematode Infections

a) Onchocerciasis F
b) Gnathostomiasis F
c) Dirofilariasis F
d) Larva Migrans F

iii. Arthropod-Induced Disease

1. Arthropod Bite Reaction AR
2. Ticks
   a) *Ixodes,* Gross Identification AR
   b) *Dermacentor,* Gross Identification AR
   c) *Amblyomma,* Gross Identification AR
3. Demodex Mites AR
4. Scabies AR
5. Scorpion and Spider Bites F
6. Demodicosis F
7. Human Lice (Pediculosis) F
8. Bedbugs F
9. Myiasis F
10. Tungiasis F

11. Tumors

a. Tumors of the Epidermis

i. Benign

1. Acanthomas
   a) Seborrheic Keratosis C
   b) Warty Dyskeratoma AR
   c) Epidermolytic Acanthoma F
   d) Acantholytic Acanthoma F
   e) Clear Cell Acanthoma F
   f) Large Cell Acanthoma F
2. Epidermal Nevus AR
3. Clavus (Corn)/Callus AR
4. Inflammatory Linear Verrucous Epidermal Nevus (ILVEN) F
5. Nevus Comedonicus F
6. Miscellaneous Benign Tumors of the Epidermis
   a) Verrucous Keratosis (*BRAF*-Inhibitor Induced) F

ii. Epidermal Dysplasias

1. Actinic Keratosis C
2. Actinic Cheilitis F
3. Arsenical Keratosis F
4. PUVA Keratosis F

iii. Malignant Tumors

1. Basal Cell Carcinoma
   a) Basal Cell Carcinoma, Nodular C

b) Basal Cell Carcinoma, Superficial C
c) Basal Cell Carcinoma, Infiltrative/Morpheaform AR
d) Basal Cell Carcinoma, Micronodular AR
e) Fibroepithelioma of Pinkus AR
f) Basal Cell Carcinoma, Other Variants F

2. Nevoid Basal Cell Carcinoma Syndrome F
3. Squamous Cell Carcinoma (SCC)
   a) Squamous Cell Carcinoma in situ/Bowen Disease C
   b) Keratoacanthoma C
   c) Conventional C
   d) Spindle-Cell/Sarcomatoid SCC AR
   e) Other Variants of Squamous Cell Carcinoma F
4. Verrucous Carcinoma AR
5. Primary Mammary Paget Disease AR
6. Carcinosarcoma (Metaplastic Carcinoma) F
7. Lymphoeptihelioma-Like Carcinoma F

b. Lentigines, Nevi, and Melanomas
   i. Benign
      1. Lesions with Basal Hyperpigmentation and/or Melanocyte Proliferation C
         a) Labial, Genial, and Other Melanotic Macules AR
         b) Solar (Senile) Lentigo AR
         c) Multiple Lentigines F
         d) Speckled Lentiginous Nevus (Nevus Spilus) F
         e) PUVA Lentigo F
      2. Melanocytic Nevi
         a) Junctional, Compound, and Intradermal Nevi C
         b) Congenital Nevus C
         c) Blue Nevus C
         d) Recurrent Nevus AR
         e) Nevus on a Special Site AR
         f) Ancient Change AR
         g) Halo Nevus AR
         h) Pigmented Spindle-Cell Nevus AR
         i) Nodal Nevus AR
         j) Combined Nevus F
         k) Balloon Cell Nevus F
         l) Desmoplastic Nevus F
         m) Blue Nevus Variants F
         n) Benign Nevus Variants F
      3. Dermal Melanocytic Lesions
         a) Spitz Nevus AR
         b) Dermal Melanocytosis AR
         c) Nevus of Ota and Nevus of Ito AR

4. Dysplastic (Atypical Nevus with Architectural Disorder) C

ii. Melanocytoma

1. Deep Penetrating Nevus/Melanocytoma AR
2. BAP-1 Inactivated Melanocytic Tumor F
3. Pigmented Epithelioid Melanocytoma F
   a) Atypical Spitz Tumor F

iii. Malignant Melanocytic Lesions

1. Malignant Melanoma AR
   a) Superficial Spreading AR
   b) Lentigo Maligna AR
   c) Desmoplastic AR
   d) Nodular AR
   e) Metastatic Melanoma AR
   f) Acral Lentiginous F
   g) Nevoid Melanoma F
   h) Spitzoid Melanoma F
   i) Blue Nevus-Like Melanoma F
   j) Spindle Cell Melanoma F

c. Tumors of Cutaneous Appendages

i. Hair Follicle Tumor

1. Benign
   a) Trichofolliculoma AR
   b) Fibrofolliculoma/Trichodiscoma AR
   c) Birt-Hogg-Dube Syndrome AR
   d) Trichilemmoma AR
   e) Cowden Disease AR
   f) Trichoepithelioma AR
   g) Desmoplastic Trichoepithelioma AR
   h) Trichoblastoma AR
   i) Pilomatrixoma AR
   j) Hair Follicle Nevus F
   k) Trichoadenoma F
   l) Dilated Pore of Winer F
   m) Pilar Sheath Acanthoma F
   n) Tumor of the Follicular Infundibulum F
   o) Basaloid Follicular Hamartoma F
   p) Cutaneous Lymphadenoma (Trichoblastoma Variant) F
   q) Inverted Follicular Keratosis F
   r) Melanocytic Matricoma F
2. Malignant (General Considerations)
   a) Trichilemmal Carcinoma F
   b) Trichoblastic Carcinoma/Sarcoma/Carcinosarcoma F
   c) Pilomatrical Carcinoma F

d. Sebaceous Tumors
    i. Benign
        1. Sebacaous Hyperplasia C
        2. Organoid Nevus (Nevus Sebaceus) AR
        3. Sebaceous Adenoma AR
        4. Muir-Torre Syndrome AR
        5. Sebaceoma AR
        6. Fordyce Spots and Related Ectopias F
        7. Folliculosebaceous Cystic Hamartoma F
    ii. Malignant
        1. Sebaceous Carcinoma AR
e. Adnexal Tumors of Glandular Origin
    i. Benign
        1. Hidrocystoma AR
        2. Erosive Adenomatosis of the Nipple/Nipple Adenoma AR
        3. Hidradenoma Papilliferum AR
        4. Chondroid Syringoma (Cutaneous Mixed Tumor) AR
        5. Cylindroma AR
        6. Spiradenoma AR
        7. Syringoma AR
        8. Eccrine Poroma AR
        9. Hidradenoma (Nodular, Clear Cell, Eccrine, Acrospiroma) AR
        10. Syringocystadenoma Papilliferum AR
        11. Apocrine Nevus F
        12. Tubular Adenoma (Apocrine Adenoma) F
        13. Papillary Eccrine Adenoma F
        14. Eccrine Hamartomas F
        15. Hidroacanthoma Simplex F
        16. Dermal Duct Tumor F
        17. Syringofibroadenoma F
    ii. Malignant
        1. Microcystic Adnexal Carcinoma AR
        2. Digital Papillary Adenocarcinoma AR
        3. Extramammary Paget Disease AR
        4. Adenoid Cystic Carcinoma AR
        5. Mucinous Carcinoma AR
        6. Endocrine Mucin Producing Sweat Gland Carcinoma AR
        7. Eccrine Carcinoma (Syringoid Carcinoma) F
        8. Porocarcinoma F
        9. Hidradenocarcinoma F
        10. Malignant Mixed Tumor (Myoepithelial Carcinoma) F
        11. Malignant Cylindroma F
        12. Malignant Spiradenoma (Spiradenocarcinoma) F
        13. Squamoid Eccrine Ductal Carcinoma F

14. Primary Cutaneous Cribriform Carcinoma/Tumor F

f. Fibrous and Fibrohistiocytic Tumors

i. Benign

1. Skin Tags/Fibroepithelial Polyp/ Acrochoron C
2. Benign Fibrous Histiocytoma
   a) Dermatofibroma C
   b) Dermatofibroma Variants F
3. Angiofibromas
   a) Fibrous Papule of the Face AR
   b) Pearly Penile Papules F
   c) Periungual Fibroma/Koenen Tumor F
   d) Fibrous Papule Variants F
4. Acral Fibrokeratoma (Acquired Digital Fibrokeratoma) AR
5. Fibromatosis AR
6. Desmoid Tumors AR
7. Fibroma of Tendon Sheath AR
8. Giant Cell Tumor of Tendon Sheath AR
9. Digital Fibromatosis of Childhood AR
10. Superficial Angiomyxoma/Cutaneous Myxoma AR
11. Calcifying Aponeurotic Fibroma AR
12. Fasciitis (Nodular, Proliferative, Ischemic, Intravascular) AR
13. Pericytic Tumors
    a) Myofibroma AR
    b) Glomus Tumor AR
    c) Glomuvenous Malformation (Glomangiomyoma) AR
    d) Myopericytoma F
14. Atypical Fibrous Histiocytoma F
    a) Epitheliod Fibrous Histiocytoma F
15. Nuchal Fibroma / Gardner-Associated Fibroma F
16. Pleomorphic Fibroma F
17. Sclerotic Fibroma (Storiform Collagenoma) F
18. Collagenous Fibroma (Desmoplastic Fibroblastoma) F
19. Knuckle Pad F
20. Dermatomyofibroma F
21. Inflammatory Myofibroblastic Tumor F
22. Superficial Acral Fibromyxoma F
23. Cellular Digital Fibroma F
24. Cellular Neurothekeoma F

ii. Fibrohistiocytic Tumors of Intermediate Malignant Potential

1. Dermatofibrosarcoma Protuberans AR
2. Plexiform Fibrohistiocytic Tumor F
3. Giant Cell Fibroblastoma F
4. Soft Tissue Giant Cell Tumor F
5. Angiomatoid Fibrous Histiocytoma F

6. Solitary Fibrous Tumor F

iii. Malignant

1. Pleomorphic Dermal Sarcoma AR
2. Atypical Fibroxanthoma AR
3. Undifferentiated Pleomorphic Sarcoma
   a) (Malignant Fibrous Histiocytoma) AR
4. Soft Tissue of Uncertain Histogenesis
   a) Clear Cell Sarcoma AR
   b) Epithelioid Sarcoma AR
   c) PEComa F
   d) Ossifying Fibromyxoid Tumor F
   e) Pleomorphic Hyalinizing Angiectatic Tumor of Soft Parts F
   f) Synovial Sarcoma F
   g) Malignant Rhabdoid Tumor F
   h) Ewing and Ewing-Like Tumors F
   i) Chordoma F

g. Adipose Tumors

i. Benign

1. Nevus Lipomatosus C
2. Hibernoma AR
3. Piezogenic Pedal Papules F
4. Lipoblastoma F
5. Lipofibromatosis F
6. Lipoma and Lipomatous Lesions
   a) Lipoma C
   b) Angiolipoma AR
   c) Spindle-Cell Lipoma AR
   d) Pleomorphic Lipoma AR
   e) Adenolipoma F
   f) Chondroid Lipoma F
   g) Ossifying Lipoma F
   h) Sclerotic (Fibroma-Like) Lipoma F

ii. Malignant

1. Atypical Lipomatous Tumor (Well Differentiated Liposarcoma) AR
2. Dedifferentiated Liposarcoma AR
3. Myxoid Liposarcoma AR
4. Pleomorphic Liposarcoma AR

h. Tumors of Muscle, Cartilage, and Bone

i. Benign Tumors of Smooth Muscle

1. Leiomyoma AR
2. Angioleiomyoma AR

3. Smooth Muscle Hamartoma F
4. Hereditary Leiomyomatosis and Renal Cell Carcinoma F

ii. Malignant Tumor of Smooth Muscle
1. Leiomyosarcoma AR
2. Atypical Intradermal Smooth Muscle Neoplasm F

iii. Tumors of Striated Muscle
1. Rhabdomyoma F
2. Rhabdomyosarcoma F

iv. Tumors of Cartilage
1. Chondroma F
2. Subungual Osteochondroma F

v. Tumors of Bone
1. Extraskeletal Osteosarcoma F

i. Neural and Neuroendocrine Tumors

i. Benign
1. Neurofibroma and Neurofibromatosis
a) Neurofibroma C
b) Plexiform AR
c) Diffuse F
d) Pacinioma and Pacinian Neurofibroma F
2. Neuromas
a) Traumatic Neuroma AR
b) Rudimentary Polydactyly AR
c) Solitary Circumscribed Neuroma (Palisaded Encapsulated Neuroma) AR
d) Neuromas and Multiple Endocrine Neoplasia Syndromes AR
e) Ganglioneuroma F
3. Schwannoma (Neurilemmoma) C
4. Granular Cell Tumor AR
5. Perineurioma F
6. Psammomatous Melanotic Schwannoma F
7. Dermal Nerve Sheath Myxoma F
8. Herniations and Ectopias
a) Nasal Glioma and Neural Heterotopias F
b) Cutaneous Meningioma F
9. Other “Hybrid” Nerve Sheath Tumors F

ii. Malignant
1. Merkel Cell Carcinoma AR
2. Malignant Peripheral Nerve Sheath Tumor F
3. Malignant Granular Cell Tumor F
4. Neuroendocrine Tumors F

j. Vascular Tumors

i. Benign

1. Hamartomas and Malformations (General) AR
    a) Eccrine Angiomatous Hamartoma F
    b) Capillary Malformations (Nevus Flammeus) F
    c) Sturge-Weber Syndrome F
    d) Klippel-Trenaunay Syndrome F
    e) Cobb Syndrome F
2. Venous Malformations (General) AR
    a) “Blue Rubber Bleb” Nevus Syndrome F
    b) Maffucci Syndrome F
    c) Cutis Marmorata Telangiectatica Congenita F
3. Lymphangioma (Cystic Lymphatic Malformation)
    a) Superficial Lymphangioma AR
    b) Deep Lymphangioma/Cystic Hygroma F
    c) Lymphangiomatosis F
4. Verrucous Hemangioma AR
5. Vascular Dilatations (Telangiectases) (General) AR
    a) Venous Lake AR
    b) Angiokeratoma AR
    c) Hereditary Hemorrhagic Telangiectasia F
    d) General Essential Telangiectasia F
    e) Cutaneous Collagenous Vasculopathy F
    f) Hereditary Benign Telangiectasia F
    g) Unilateral Nevoid Telangiectasia F
    h) Ataxia-Telangiectasia F
    i) Spider Angioma F
6. Vascular Proliferations (Benign and Hyperplasia)
    a) “Cherry” Angioma C
    b) Pyogenic Granuloma and Variants C
    c) Infantile Hemangioma AR
    d) Arteriovenous Hemangioma AR
    e) Angiolymphoid Hyperplasia with Eosinophilia, (Epithelioid Hemangioma) AR
    f) Rapidly Involuting Congenital Hemangioma F
    g) Noninvoluting Congenital Hemangioma F
    h) Diffuse Neonatal Hemangiomatosis F
    i) Glomeruloid Hemangioma F
    j) Microvenular Hemangioma F
    k) Targetoid Hemosiderotic (Hobnail) “Hemangioma” F
    l) Spindle-Cell Hemangioma (Spindle Cell Hemangioendothelioma) F
    m) Acquired Tufted Angioma (Angioblastoma) F
    n) Papillary Hemangioma F
7. Radiation Associated Atypical Vascular Lesion AR
8. Intravascular Papillary Endothelial Hyperplasia AR

9. Multinucleate Cell Angiohistiocytoma F
10. Reactive Angioendotheliomatosis F
11. Diffuse Dermal Angiomatosis F
12. Acroangiodermatitis F
13. Lymphangioendothelioma (Acquired Progressive Lymphangioma) F

ii. Intermediate Malignancy (General Considerations)

1. Kaposi Sarcoma AR
2. Kaposiform Hemangioendothelioma F
3. Hobnail Hemangioendothelioma F
   a) Retiform Hemangioendothelioma F
   b) Papillary Intralymphatic Angioendothelioma (Dabska Tumors) F
4. Epithelioid Hemangioendothelioma F
5. Epithelioid Sarcoma-Like Hemangioendothelioma (Pseudomyogenic Hemangioendothelioma) F
6. Composite Hemangioendothelioma F

iii. Malignant

1. Angiosarcoma and Lymphangiosarcoma AR
2. Malignant and Atypical Glomus Tumors F

k. Cutaneous Metastases

i. Breast, Lung, Oral Cavity, and Gastrointestinal System AR
ii. Liver, Pancreas, Gallbladder, and Genitourinary AR
iii. Male and Female Reproductive System, including Endometriosis AR
iv. Thyroid, Carcinoid, Neuroblastoma, Melanoma AR
v. Metastasis from Cutaneous Neoplasms AR
vi. Lymph Node Evaluation AR

l. Cutaneous Infiltrates, Non-Lymphoid

i. Eosinophilic Infiltrates

1. Dermal Hypersensitivity Reaction AR
2. Wells Syndrome (Eosinophilic Cellulitis) F
3. Hypereosinophilic Syndrome F
4. Eosinophilic Pustulosis/Erythema Toxicum Neonatorum F

ii. Plasma Cell Infiltrates

1. Plasmacytosis Mucosae, including Zoon Balanitis/Vulvitis AR
2. Castleman Disease AR
3. Cutaneous and Systemic Plasmacytosis F
4. IgG4-Related Disease F

iii. Mast Cell Infiltrates (General) AR

1. Mastocytoma F
2. Urticaria Pigmentosa F
3. Telangiectasia Macularis Eruptiva Perstans (TMEP) F
4. Systemic Mastocytosis F
5. Malignant Mast Cell Disease F

iv. Histiocytic Infiltrates (Non-Langerhans Cell)
1. Xanthogranuloma C
2. Rosai-Dorfman Disease AR
3. Benign Cephalic Histiocytosis F
4. Progressive Nodular Histiocytosis F
5. Xanthoma Disseminatum F
6. Generalized Eruptive Histiocytoma F
7. Multicentric Reticulohistiocytosis F
8. Reticulohistiocytoma F
9. Necrobiotic Xanthogranuloma F
10. Erdheim-Chester Disease F

v. Xanthomatous Infiltrates
1. Xanthelasma AR
2. Verruciform Xanthoma AR
3. Eruptive Xanthoma F
4. Tuberous Xanthoma F
5. Tendinous Xanthoma F
6. Planar Xanthoma F

vi. Langerhans Cell Histiocytosis AR
vii. Congenital Self-Healing Histiocytosis F
viii. Indeterminate Cell Histiocytosis F
ix. Crystal-Storing Histiocytosis F

m. Lymphomatous and Leukemic Infiltrates
i. Cutaneous T-cell and NK-cell Lymphomas
1. Mycosis Fungoides AR
2. Primary Cutaneous CD30+ Lymphoproliferative Disorders AR
a) Primary Cutaneous Anaplastic Large Cell Lymphoma F
b) Lymphomatoid Papulosis F
3. Mycosis Fungoides Variants F
4. Folliculotropic Mycosis Fungoides F
5. Pagetoid Reticulosis F
6. Granulomatous Slack Skin F
7. Sézary Syndrome F
8. Adult T-cell Leukemia/Lymphoma F
9. Subcutaneous Panniculitis-Like T-cell Lymphoma F
10. Extranodal NK/T-cell Lymphoma, Nasal Type F
11. Hydroa Vacciniforme-like T-cell Lymphoma F
12. Primary Cutaneous Peripheral T-cell Lymphoma, Unspecified F
13. Primary Cutaneous Aggressive Epidermotropic, CD8+ Cytotoxic T-cell Lymphoma F
14. Cutaneous Gamma-Delta T-cell Lymphoma F
15. Primary Cutaneous CD4+ Small/Medium Pleomorphic T-cell Lymphoproliferative Disorders F

ii. Cutaneous B-cell Lymphomas
    1. Marginal Zone B-cell Lymphoma AR
    2. Follicle Center Lymphoma AR
    3. Primary Cutaneous Diffuse Large B-cell Lymphoma, Leg Type F
    4. Intravascular Large B-cell Lymphoma F
    5. Plasmablastic Lymphoma F
    6. Lymphomatoid Granulomatosis F
    7. CD30+ Large B-cell Lymphoma Associated with EBV F
    8. Post-Transplant Lymphoproliferative Disorder F
    9. EBV-Positive Mucocutaneous Ulcer F
iii. Other B-cell Lymphomas that may involve the Skin
    1. Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma (B-CLL) AR
    2. Mantle Cell Lymphoma AR
    3. Precursor B-Lymphoblastic Leukemia/Lymphoma F
    4. Burkitt and Burkitt-Like Lymphoma F
    5. Plasmacytoma and Myeloma F
iv. Cutaneous Infiltrates from Leukemias
    1. Myeloid Leukemias, Myeloproliferative Diseases, and Myelodysplastic Syndromes AR
v. Lymphoid Hyperplasias Mimicking Primary Lymphoma
    1. Cutaneous Lymphoid Hyperplasia AR
    2. Lymphomatoid Drug Reactions F
    3. T-cell Rich Angiomatoid Polyp Pseudolymphoma F
vi. Precursor Hematologic Neoplasm
    1. Blastic Plasmacytoid Dendritic Cell Neoplasm F
    2. Extramedullary Hematopoiesis F
vii. Precursor T-Lymphoblastic Lymphoma/Leukemia
    1. T-cell Prolymphocytic Lymphoma/Leukemia F
    2. Angioimmunoblastic T-cell Lymphoma (AITL) F
    3. Primary Systemic Anaplastic Large Cell Lymphoma F
    4. Intravascular T- and NK-cell Lymphoma F
    5. Aggressive NK-cell Leukemia F
    6. Other T/NK-cell Lymphoma and Leukemias F

12. Laboratory Techniques and Management

a. Special Staining Procedures
    i. Immunohistochemical Stains AR
    ii. Chromogenic in situ hybridization AR
    iii. Histochemistry/Special Stains AR
    iv. Fluorescent Microscopy AR
b. Other Techniques
    i. Plane Polarization AR

ii. Fluorescence in situ Hybridization AR
iii. T-cell/B-cell Gene Rearrangement AR
iv. Electron Microscopy F
v. Comparative Genomic Hybridization F
vi. Next Generation Sequencing F
vii. SNP Array F
viii. Mutational Analysis F
ix. Gene Expression Profiling / RT-PCR F
x. Mohs Micrographic Surgery F

c. Laboratory Management
i. Coding and Billing AR
ii. CLIA and CAP Regulations AR
iii. Slide and Block Retention AR
iv. Quality Assurance Principles AR
v. Quality Control AR
vi. Root Cause Analysis AR
vii. Appropriate Utilization AR

13. Clinical Pathologic Correlation

a. Clinical Appearance of Common Skin Lesions
i. Inflammatory
1. Lichen Planus AR
2. Psoriasis AR
3. Allergic Contact Dermatitis AR
4. Bullous Pemphigoid AR
5. Pemphigus Vulgaris AR
6. Leukocytoclastic Vasculitis AR
7. Toxic Epidermal Necrolysis, Stevens-Johnson Syndrome, and Erythema Multiforme AR

ii. Infections
1. Herpes Virus Infection AR
2. Molluscum contagiosum AR
3. Verruca Vulgaris AR
4. Condyloma AR
5. Tinea Corporis AR

iii. Neoplasms
1. Basal Cell Carcinoma AR
2. Squamous Cell Carcinoma AR
3. Melanoma AR
4. Congenital Nevus AR
5. Seborrheic Keratosis AR

b. Dermoscopy F

14. Diseases of the Nail Unit

a. Inflammatory and Infectious

i.	Onychomycosis	AR
ii.	Psoriasis	F
iii.	Lichen Planus	F

b. Lesions and Tumors

i.	Subungual Hematoma (Talon Noir)	AR
ii.	Nail Melanoma	F
iii.	Melanocytic Activation/Functional Melanonychia	F
iv.	Subungual Lentigo	F
v.	Subungual Onycholemmal (Epidermoid) Cysts	F
vi.	Onychocytic Acanthoma/Onychocytic Matricoma	F
vii.	Onychopapilloma	F
viii.	Subungual Keratoacanthoma	F
ix.	Subungual Tumors of Incontinentia Pigmenti	F
x.	Onychomatricoma	F
xi.	Onychocytic Matricoma	F
xii.	Carcinoma Cuniculatum	F
xiii.	Oncholemmal Carcinoma	F
xiv.	Subungual Exostosis	F
xv.	Osteochondroma	F

15. Diseases of the Mucosa (Oral, Ocular, & Anogenital)

a. Ocular

i.	Oncocytoma	F
ii.	Congenital Nevus	F
iii.	Congenital Primary Acquired Melanosis with/without Atypia	F
iv.	Pinguecula/Pterygium	F
v.	Conjunctival Papilloma	F
vi.	Sebaceous Carcinoma In Situ	F

b. Anogenital

i.	Genital Melanosis	AR
ii.	HPV-Dependent Squamous Dysplasia and Neoplasia	AR
iii.	HPV-Independent Squamous Dysplasia and Neoplasia	AR
iv.	Vestibular Papillomatosis	F
v.	Genital Papular Acantholytic Dyskeratosis	F
vi.	Sclerosing Lymphangitis of the Penis	F
vii.	Crohn Disease	F
viii.	Malakoplakia	F
ix.	Sclerosing Lipogranuloma/Paraffinoma	F
x.	Mammary-Like Gland Adenoma of the Vulva/Papillary Hidradenoma	F
xi.	Bartholin Gland Cyst	F
xii.	Fibroepithelial Stromal Polyp	F

xiii.	Angiomyofibroblastoma	F
xiv.	Aggressive Angiomyxoma	F
xv.	Cellular Angiofibroma	F

c. Oral

i.	Oral Fibroma	AR
ii.	Actinic Cheilitis	AR
iii.	Oral Lichen Planus	AR
iv.	White Sponge Nevus	F
v.	Oral Lymphoepithelial Cyst	F
vi.	Congenital Granular Cell Tumor / Epulis	F
vii.	Oral Hairy Leukoplakia	F
viii.	Focal Epithelial Hyperplasia	F
ix.	Necrotizing Sialometaplasia	F
x.	Nicotinic Stomatitis	F
xi.	Cheilitis Granulomatosis	F
xii.	Morsicatio Mucosaea Oris	F
xiii.	Benign Migratory Glossitis	F
xiv.	Median Rhomboid Glossitis	F
xv.	Pyostomatitis Vegetans	F
xvi.	Smokeless Tobacco Keratosis	F
xvii.	Traumatic Ulcerative Granuloma	F
xviii.	Plasma Cell Gingivostomatitis	F
xix.	Amalgam Tattoo	F
xx.	Melanoacanthoma	F
xxi.	Oral Lichen Planus	F
xxii.	Squamous Dysplasia	F
xxiii.	Squamous Papilloma	F

14. Forensic Pathology Topics for Anatomic Pathology Residents

1. Natural Deaths — C

2. Pediatric Deaths

a.	Deaths Associated with Prematurity	C
b.	Congenital Anomalies, Common	C
c.	Placental Disorders Associated with Intrauterine Fetal Demise	C
d.	Estimation of Gestational Maturity	AR
e.	Birth-related Injuries	AR
f.	Congenital Anomalies, Complex	AR
g.	Central Nervous System, Normal Anatomy & Variations	AR
h.	Cardiovascular System, Normal Anatomy & Variations	AR
i.	Respiratory System	AR
j.	Hepatic, Gastrointestinal, Pancreatic System	AR

k.	Hematopoietic / Lymphatic System	AR
l.	Genitourinary System	AR
m.	Endocrine System	AR
n.	Skin	AR
o.	Bones and Joints, Normal Anatomy & Variations	AR
p.	Bleeding Diathesis / Thrombotic Disorders	AR
q.	Immune Deficiency Disorders	AR
r.	Nutritional Deficiencies	AR
s.	Infectious Disease/ Microbiology	AR
t.	Neoplastic Conditions	AR
u.	Genetic Diseases	AR
v.	Stillbirth versus Livebirth	F
w.	Placental Injuries	F
x.	Fluid and Electrolyte Disturbances	F
y.	Unnatural Deaths in Childhood	
i.	Estimation of Gestational Maturity	AR
ii.	Birth -related Injuries	AR
iii.	Feticide	F
iv.	Neonaticide	F
v.	Child Abuse / Non-accidental Injuries	F
vi.	Blunt Trauma	F
vii.	Retinal hemorrhages	F
viii.	Patterned Injuries	F
ix.	Bite Marks	F
x.	Thermal Injuries	F
xi.	Poisoning	F
xii.	Forensic Imaging	F
xiii.	Neglect	F
xiv.	Malnourishment	F
xv.	Asphyxia, including smothering suffocation, choking, wedging)	F

3. The Cardiovascular System

a.	Normal Anatomy	C
b.	Atherosclerosis	C
c.	Myocardial Infarction	C
d.	Hypertensive Cardiovascular Disease	C
e.	Valvular Diseases	C
f.	Aortic Dissection	C
g.	Aortic Aneurysm	C
h.	Vasculitides	AR
i.	Myocarditis	AR
j.	Sarcoidosis	AR
k.	Dilated Cardiomyopathy	AR
l.	Hypertrophic Cardiomyopathy	AR
m.	Tumors	AR
n.	Congenital Diseases	AR

o.	Amyloid	AR
p.	Pericardial Diseases	AR
q.	Nonatherosclerotic Coronary Artery Diseases/Anomalies	F
r.	Arrhythmogenic Cardiomyopathy	F
s.	Aortopathy	F
t.	Sudden Cardiac Death	F
u.	Cardiac Dysrhythmias	F

4. Chronic Alcoholism

a.	Steatosis	C
b.	Cirrhosis	C
c.	Esophageal Varies	C
d.	Steatohepatitis	AR
e.	Cardiomyopathy	AR
f.	Coagulopathy	AR
g.	Infectious Complications	AR
h.	Mallory Weiss Tear	F
i.	Cerebellar Vermal Atrophy	F
j.	Alcohol Withdrawal and Sudden Death	F
k.	Nutritional Complication	F
l.	Fluid / Electrolyte Disturbances	F

5. The Central Nervous System

a.	Cerebrovascular Disease	C
b.	Aneurysms	C
c.	Hypertensive Intracerebral Hemorrhage	C
d.	Meningitis	C
e.	Normal Anatomy and Variations	AR
f.	Malformations	AR
g.	Neoplasms	AR
h.	Vascular Malformations	AR
i.	Encephalitis	AR
j.	Pituitary Disorders	AR
k.	Transmissible Spongiform Encephalopathies	AR
l.	Demyelinating Diseases	AR
m.	Degenerative Diseases	AR
n.	Phakomatoses	AR
o.	Toxic and Acquired Metabolic Diseases	F
p.	Seizure Disorders	F

6. The Respiratory System

a.	Pulmonary Infections	C
b.	Pulmonary Thromboembolism	C
c.	Diffuse Alveolar Damage	C
d.	Tobacco & Vaping-Induced Lung Damage	C
e.	Emphysema	C

f.	Pneumothoraces	AR
g.	Pneumoconioses	AR
h.	Hypersensitivity Pneumonitis	AR
i.	Pulmonary Hypertension	AR
j.	Sarcoidosis	AR
k.	Pulmonary Hemorrhage Syndromes	AR
l.	Neoplasms	AR
m.	Interstitial Lung Disease	AR
n.	Asthma	F
o.	Drug-Induced Lung Disease	F

7. The Genitourinary System

a.	Obstructive Uropathy, including Prostate and Calculi	C
b.	Congenital Anomalies	AR
c.	Glomerular Diseases	AR
d.	Tubulointerstitial and Renal Cystic Diseases	AR
e.	Thrombotic Microangiopathies	AR
f.	Neoplasms	AR
g.	Genital Tract Disorders	AR
h.	Bladder Diseases	AR
i.	Infections	AR

8. The Hematopoietic/Lymphatic System

a.	Leukemia / Lymphoma	AR
b.	Hemoglobinopathies	AR
c.	Bleeding Diathesis / Thrombotic Disorders	AR
d.	Amyloidosis	AR

9. The Hepatic, Gastrointestinal, and Pancreatic System

a.	Gastric / Duodenal Ulcers	C
b.	Bile Duct / Gallbladder Disorders	C
c.	Pancreatitis	C
d.	Diabetes Mellitus	C
e.	Enterocolitis	AR
f.	Vascular Disorders	AR
g.	Inflammatory Bowel Disease	AR
h.	Neoplasms	AR
i.	Hepatitis	AR
j.	Inborn Errors of Metabolism	AR

10. The Endocrine System

a.	Pituitary Disorders	AR
b.	Thyroid Disorders	AR
c.	Parathyroid Disorders	AR
d.	Adrenal Diseases	AR

11. The Skin and Nails

a.	Stasis Changes and Pressure Ulcers	C
b.	Cutaneous Manifestations of Therapy	AR
c.	Cutaneous Manifestations of Systemic Disease	AR
d.	Common Neoplasms	AR
e.	Common Infections	AR
f.	Cutaneous Manifestations of Substance Abuse	F

12. Bones, Joints, and Soft Tissue

a.	Degenerative Diseases	AR
b.	Metabolic Diseases	AR
c.	Pathologic Fractures	AR
d.	Primary and Metastatic Neoplasms	AR
e.	Common Infections	AR
f.	Common Inflammatory Conditions	AR

13. Peripheral Nerve and Skeletal System

a.	Specimen Procurement and Preparation	C

14. Infectious Disease / Microbiology

a.	Specimen Procurement and Preparation	C
b.	Bacterial Infections	C
c.	Mycobacterial Infections	C
d.	Viral Infections	C
e.	Fungal Infections	C
f.	Parasitic Infections	AR
g.	Zoonoses	AR

15. Immune Deficiency Disorders (Primary & Secondary) AR

16. Obesity C

17. Medicolegal Investigation of Natural Deaths F

18. Mechanisms of Traumatic Death F

(e.g., Types of Shock, Blood Loss, Neurogenic, Embolic)

19. Blunt Trauma

a.	Abrasions, Contusions, and Lacerations	AR
b.	Epidural Hematoma	AR
c.	Subdural Hematoma	AR
d.	Subarachnoid Hemorrhage	AR
e.	Herniation	AR
f.	Fat Emboli	AR

g.	Dating of Injuries	F
h.	Patterned Injuries	F
i.	Defensive Injuries	F
j.	Skull Fractures	F
k.	Cerebral Contusion	F
l.	Cerebral Laceration	F
m.	Traumatic Brain Injury	F
n.	Sequelae of Traumatic Brain Injury	F
o.	Neck Injury	F
p.	Vascular Injury	F
q.	Spinal Cord Injury	F
r.	Commotio Cordis	F
s.	Visceral Injures	F
t.	Fractures	F
u.	Healing of Fractures	F
v.	Medical Complications of Injuries	F
w.	Fat Embolization Syndrome	F
x.	Human Bite Marks	F
y.	Animal Bite Marks	F

20. Asphyxia

a.	Hanging	AR
b.	Suffocation	F
c.	Choking	F
d.	Manual Strangulation	F
e.	Ligature Strangulation	F
f.	Positional, Mechanical, and Traumatic Asphyxia	F
g.	Asphyxia by Gases	F
h.	Petechiae	F

21. Firearm Related Injuries

a.	Entrance Wounds	AR
b.	Exit Wounds	AR
c.	Contact Wounds	AR
d.	Wound Ballistics	F
e.	Atypical Entrance Wounds	F
f.	Graze Wounds	F
g.	Shored Exit Wounds	F
h.	Range of Fire Estimation	F
i.	Intermediate Target Ballistics	F
j.	Near-Contact Wounds	F
k.	Close/Intermediate Wounds	F
l.	Cylinder Gap	F
m.	Soot/Stippling/Bullet Wipe	F
n.	Intermediate (Distant) Wounds	F
o.	Ricochet Wounds	F
p.	Handgun-Related Injuries	F

q.	Rifle-Related Injuries	F
r.	Shotgun-Related Injuries	F
s.	Airgun-Related Injuries	F
t.	Delayed Firearm-Related Deaths	F
u.	Ammunition	F
v.	DNA of Tissue on Bullets	F
w.	Retained Bullets	F
x.	Lead Poisoning	F
y.	Less Lethal Ammunition	F
z.	Nail Gun Injuries	F
aa.	Privately Made Firearms (e.g., Zip guns, 3D printed guns, etc.)	F
bb.	Detection of Gunshot Residue	F
cc.	Radiography of Gunshot Wounds	F

22. Bombs and Explosions

a.	Mechanical Injuries	F
b.	Atmospheric Blast Injuries	F
c.	Classification of Blast Injuries	F

23. Sharp Injuries (Cutting & Stabbing)

a.	Stab Wounds	AR
b.	Incised Wounds	AR
c.	Incised Wounds of the Neck	F
d.	Defensive and Hesitation Injuries	F
e.	Chop Wounds	F
f.	Sharp Injury caused by objects other than a knife	F
g.	Patterned Injuries-Sharp	F
h.	Toolmark Identification	F
i.	Antemortem versus Postmortem Wounds	F
j.	Dismemberment	F

24. Electrical and Lightning Injuries

a.	Basic Concepts of Electricity	F
b.	Alternating Current Related Deaths	F
c.	Direct Current Related Deaths	F
d.	Low and High Voltage Electrocution	F
e.	Lightning Related Deaths	F
f.	Cutaneous Manifestations	F
g.	Conducted Energy Device (e.g., TASER)	F

25. Anaphylaxis Related Deaths

a.	Gross and Microscopic Findings	F
b.	Laboratory Diagnostics	F

26. Deaths due to Change in Atmosphere (i.e., Barotrauma) F

27. Environmental Exposure Deaths

a.	Hypothermia	F
b.	Hyperthermia	F
c.	Heat Stroke	F

28. Fire / Thermal/ Burn Injuries

a.	Carbon Monoxide	AR
b.	Identification of Fire Victims	F
c.	Smoke and Fume Inhalation	F
d.	Thermal Burns	F
e.	Scalding Injuries	F
f.	Thermal Artifacts	F
g.	Arson Investigation	F
h.	Self Immolation	F
i.	Flash Fires	F
j.	Chemical Burns	F

29. Radiation Exposure F

30. Forensic Toxicology and Postmortem Chemistry

a.	Specimen Types, Collection, and Storage	AR
b.	Ethanol	AR
c.	Common Illicit Drugs (e.g., heroin, fentanyl, cocaine, methamphetamine)	AR
d.	Alcohols other than Ethanol	F
e.	Body Packing	F
f.	Stimulants	F
g.	Hallucinogens	F
h.	Novel Psychoactive Substances	F
i.	Over the Counter Drugs	F
j.	Prescription Drugs (e.g., Insulin, Digoxin)	F
k.	Opioides/Opiates	F
l.	Sedatives/Hypnotics	F
m.	Synthetic Cannabinoids	F
n.	Mixed Drug Toxicity	F
o.	Herbal Remedies	F
p.	Inhalants	F
q.	Carbon Monoxide	F
r.	Ethylene Glycol	F
s.	Poisons (e.g., Arsenic, Cyanide)	F
t.	Anesthetics	F
u.	Acids and Bases	F
v.	Vitreous Chemistry	F
w.	Entomotoxicology	F

31. Toxicologic Analytic Methods

a.	Methodology	F

b.	Screening Tests	F
c.	Confirmatory Tests	F

32. Interpretive Toxicology

a.	Postmortem Redistribution	F
b.	Drug Interactions	F
c.	Metabolism and Pharmacogenetics	F

33. Environmental and Industrial Toxicology

a.	Organophosphate Toxicity	F
b.	Volatile Organic Compounds	F
c.	Aromatic Halogenated Compounds	F
d.	Metals	F
e.	Agricultural Poisons (e.g., pesticides, fungicides, herbicides	F

34. Identification of Human Remains

a.	Fingerprints	F
b.	Tattoos	F
c.	Forensic Radiology	F
d.	Dental Identification	F
e.	Disaster Victim Identification	F
f.	Missing and Unidentifed Persons	F
g.	Dental Age Estimation	F
h.	DNA Identification	F
i.	Unique Physical Characteristics	F

35. Postmortem Changes and Artifacts

a.	Rigor Mortis	C
b.	Livor Mortis	C
c.	Algor Mortis	C
d.	Common Postmortem Artifacts	AR
e.	Time of Death/Postmortem Interval	F
f.	Postmortem Insect Activity	F
g.	Postmortem Animal Activity	F
h.	Postmortem Trauma	F
i.	Chemical Changes in Body Fluids	F
j.	Forensic Entomology	F
k.	Collection of Entomological Evidence	F
l.	Embalming	F
m.	Exhumation	F
n.	Cremations	F
o.	Decomposition, including but not limited to:	F
i.	Putrefaction	F
ii.	Adipocere	F
iii.	Mummification	F
iv.	Skeletonization	F

36. Forensic Anthropology

a.	Human Osteology	F
b.	Gender Determination	F
c.	Age Estimation	F
d.	Ancestry Assessment	F
e.	Stature Estimation	F
f.	Trauma Effects and Tool Mark Analysis	F
g.	Taphonomy of Fire	F
h.	Animal Scavenging	F
i.	Nonhuman Remains	F

37. Elder Abuse

a.	Neglect	F
b.	Blunt Trauma	F
c.	Drug Toxicity	F
d.	Malnutrition	F
e.	Dehydration	F
f.	Pressure Ulcers	F
g.	Sexual Abuse	F

38. Pregnancy-Related Deaths

a.	Pulmonary Artery Thromboembolism	AR
b.	Amniotic Fluid Embolism	AR
c.	Coronary Artery Dissection	AR
d.	Preeclampsia/Eclampsia/HELLP Syndrome	AR
e.	Coagulation Disorders	AR
f.	Utero-Placental Hemorrhage	AR
g.	Infection	AR
h.	Venous Air Embolism	F
i.	Peripartum Cardiomyopathy	F
j.	Acute Fatty Liver of Pregnancy	F

39. Sex-Related Deaths

a.	Sexual Assault	F
b.	Trace Evidence	F
c.	Bite Marks	F
d.	DNA Analysis	F
e.	Criminal Abortion	F
f.	Autoerotic Deaths	F
g.	Special Procedures (e.g., Dissection & Evidence Collection)	F
h.	Drug-Facilitated	F

40. Complications of Diagnostic and Therapeutic Procedures

a.	Resuscitation Artifacts	AR
b.	Surgical/Medical Complications / Intervention Artifact	AR

41. Water-Related Deaths

a.	Natural Deaths while in Water	F
b.	Drowning	F
c.	Near Drowning	F
d.	S.C.U.B.A related	F
e.	Injuries Sustained in the Water	F
f.	Dangerous Aquatic Life	F
g.	Bodies Found in Water	F

42. Acute Stress Related Deaths

a.	Acute Psychotic Episodes	F
b.	Excited/Agitated States	F
c.	Stimulant Drug Toxicity	F
d.	Physical Altercations/Restraint Related	F
e.	Stress Related Sudden Death	F

43. Mental Illness Related Mortality

a.	Schizophrenia	F
b.	Depression/Bipolar	F
c.	Eating Disorders	F
d.	Medical Management Complications	F
e.	Substance Use Disorder	F

44. Jurisprudence and Certification of Death

a.	Death Certification	C
b.	Immediate Cause of Death	C
c.	Proximate Cause of Death	C
d.	Contributory Conditions	C
e.	Mechanisms of Death	AR
f.	Manner of Death	AR
g.	Death from Remote Events	F
h.	Undetermined Manner of Death	F
i.	Forensic Pathologist as Expert Witness	F
j.	Degrees of Certainty for Manner Determination	F

45. Criminalistics

a.	Chain of Custody	AR
b.	Crime Scene	F
c.	Scene Integrity	F
d.	Blood Stain Pattern Interpretation	F
e.	Biological Evidence on the Body	F
f.	Trace Evidence	F

46. Bioterrorism and Chemical Agents F

47. Molecular Pathology

a.	Thrombophilias	AR
b.	Hemoglobinopathies	AR
c.	DNA for Identification	F
d.	Sudden Unexplained Deaths	F
e.	Preservation of Samples	F

48. Transportation Related Deaths

a.	Scene Investigation	F
b.	Pedestrian Deaths	F
c.	Motor Vehicle Deaths	F
d.	Determination of the Driver	F
e.	Ejected or Entrapped Occupant	F
f.	Run Over by Vehicle	F
g.	Seat Belt and Airbag Related Injuries	F
h.	Motor Vehicle Fires	F
i.	Motorcycle Related Deaths	F
j.	Bicycle Related Deaths	F
k.	Train Related Deaths	F
l.	Aircraft	F
m.	Aircraft Crash Scene	F

49. In-Custody Deaths F

50. Postmortem Radiology

a.	Plain Film Radiography	F
b.	Computed Tomography	F
c.	Documentation of Injuries	F
d.	Decedent Identification	F
e.	Foreign Body Identification	F
f.	Pediatric Skeletal Surveys	F
g.	Stillborn versus Live Born Imaging	F

51. Selected Topics/Management in Forensic Pathology

a.	Medicolegal Autopsy Report	F
b.	Administration and Management	F
c.	Quality Assurance	F
d.	Autopsy Hazards	F
e.	Regulations and Safety	F
f.	Mass Disasters	F
g.	Organ/Tissue Procurement	F

52. Autopsy Procedures

a.	Evisceration Techniques	AR
b.	Leg Vein Dissection	AR
c.	Spinal Cord Removal, Anterior and Posterior	AR

d.	Layered Anterior and Posterior Neck	F
e.	Orbital Exenteration	F
f.	Vertebral Artery	F
g.	Facial Tissue Dissection	F
h.	Posterior Subcutaneous Examination	F
i.	Middle Ear Dissection	F
j.	Cardiac Conduction System	F
k.	Medical Device Evaluation	F

16. Hematopathology Topics for Anatomic Pathology Residents

This section is directed toward AP/CP residents. AP-only candidates (i.e., AP single certificate) are expected to focus less on Clinical Pathology components, while CP-only candidates (i.e., CP single certificate) will focus less on tissue-based diagnostics.

1. Testing in Hematology and Hematopathology

a.	General Hematology Testing and Hematology Instruments		
	i.	General Consideration	C
	ii.	RBC Analysis	C
	iii.	WBC Analysis	C
	iv.	Platelet Analysis	C
b.	Hemoglobinopathy Analysis		
	i.	Alkaline & Acid Electrophoresis	AR
	ii.	High Performance Liquid Chromatography (HPLC)	AR
	iii.	Capillary Electrophoresis	AR
	iv.	Isoelectric Focusing	AR
	v.	Advance Hemoglobinopathy Analysis	F
c.	Specimen Handling & Morphologic Methods		
	i.	Bone Marrow Specimen Collection and Processing	C
	ii.	Lymph Node Triage and Handling	C
	iii.	Staining Methods	
		1. Romanovsky Type Stains	C
		2. Routine and Special Histologic Stains	C
		3. Cytochemical and Advanced Hematology Stains	F
	iv.	Peripheral Blood Smear Review	C
	v.	Fluid Review	C
	vi.	Bone Marrow Review	C
	vii.	Review of Other Tissues in Hematopathology	C
d.	Hemostasis and Thrombosis Testing		
	i.	Sample Collection and Processing	C
	ii.	Coagulation and Fibrinolysis	AR
	iii.	Platelet Testing, including von Willebrand Disease	AR
	iv.	Thrombophilia Testing	AR
e.	Immunohistochemistry		
	i.	Basic Methods	AR
	ii.	Pitfalls	AR

f. Flow Cytometry
    i. Basic Methodology C
    ii. PNH & Other Non-Neoplastic Disease Testing C
    iii. Lymphoid Testing C
    iv. Myeloid Testing C
    v. Advanced Flow Cytometry F
g. Cytogenetic Testing
    i. Classical AR
    ii. FISH AR
    iii. Other Cytogenetic Techniques (e.g., aCGH, SNP) AR
h. Molecular Testing
    i. Clonality/Lineage AR
    ii. Translocations/Mutations AR
    iii. Other Molecular Assays (e.g., Gene Expression Arrays) AR
    iv. Coagulation-Related Molecular Testing AR

2. Normal Anatomy, Histology, Hematopoiesis and Hemostasis

a. Erythrocytes (RBCs) C
b. Leukocytes (WBCs) C
    i. Myeloid C
        1. Granulocytes C
        2. Monocytes/Dendritic Cells C
        3. Eosinophils/Basophils/Mast Cells C
        4. Other Myeloid Cells C
    ii. Lymphoid C
        1. B-Cells C
        2. T-Cells C
        3. NK-Cells C
        4. Other Lymphoid Cells C
c. Plasma Cells C
d. Normal Hemostasis & Thrombosis C
    i. Platelets & Megakaryocytes C
    ii. Coagulation and Fibrinolysis C
e. General Hematopoiesis C
f. Peripheral Blood C
g. Bone Marrow C
h. Lymph Nodes C
i. Spleen C
j. Thymus C
k. Other Lymphoid Tissues (e.g., Tonsils) C
l. Pediatric Issues, Including Fetal Hematopoiesis AR

3. Non-Neoplastic Disorders of Erythrocytes

a. Anemias
    i. Iron Deficiency and Related Disorders C
    ii. Sideroblastic Anemias
        1. Acquired AR

2. Inherited F

iii. Erythrocyte Membrane Disorders
1. Hereditary Spherocytosis AR
2. Hereditary Elliptocytosis AR
3. Other Erythrocyte Membrane Disorders (e.g., Spur Cell) AR

iv. Erythrocyte Enzyme Disorders
1. G6PD AR
2. Pyruvate Kinase Deficiency AR
3. Other Erythrocyte Enzyme Disorders AR

v. Other Hemolytic Anemias
1. Immune C
2. Non-Immune (e.g., Thermal Injury) C
3. Microangiopathic Hemolytic Anemia C

vi. Megaloblastic Anemias C
vii. Aplastic Anemias C
viii. Anemia Related to Chronic Disease & Other Disorders C
ix. Congenital Dyserythropoietic Anemia F
x. Hemoglobinopathies
1. Hb S and Related Disorders C
2. Hb C Disorders AR
3. Hb E Disorders AR
4. Other Hemoglobinopathies F

xi. Thalassemias C
xii. PNH C
xiii. Porphyrias AR
xiv. Other Causes of Anemia
1. Drugs and Toxins AR
2. Diamond-Blackfan Anemia F
3. Other Nuutritional Deficiencies F

b. Erythrocytosis AR
c. Cold Agglutinin Disease AR
d. Advanced Erythrocyte Abnormalities AR

4. Non-Neoplastic Disorders of Leukocytes

a. Inherited Disorders with Morphologic Correlates
i. Pelger-Huet Anomaly C
ii. Alder-Reilly Anomaly AR
iii. Chediak-Higashi Syndrome AR

b. Neutrophils – Quantitative & Qualitative Aspects C
c. Monocytes – Quantitative & Qualitative Aspects C
d. Histiocytic and Dendritic Disorders
i. HLH/Macrophage Activation Disorders/Hemophagocytic Disorders C
ii. Storage Disorders AR
iii. Other Histocytic and Dendritic Disorders F

e. Plasmacytoid Dendritic Cells F
f. Lymphocytes – Including Quantitative Aspects C
g. Eosinophils and Basophils C

h. Plasma Cells C

5. Multilineage Benign Hematopoietic Disorders

a. Inherited Disorders (e.g., May-Hegglin Anomaly) AR
b. Other Benign Hematopoietic Disorders F

6. Infections with Manifestation in the Peripheral Blood

a. Erythrocyte & Plasma Infections
    i. Malaria C
    ii. Babesia C
    iii. Other Erythrocyte & Plasma Infections AR
b. Leukocyte Infections
    i. Infectious Mononucleosis C
    ii. Anaplasma & Ehrlichia AR
    iii. Other Infections of Leukocytes (e.g., Fungi including Histoplasma, Pertussis) AR

7. Benign Hematologic Disorders of the Bone Marrow Not Otherwise Classified

a. Infectious Disorders (e.g., Parvovirus) C
b. Therapy Related Effects AR
c. Bone Abnormalities
    i. Paget Disease AR
    ii. Renal Osteodystrophy AR
d. Other Benign Disorders of Bone Marrow F

8. Benign Disorders of the Lymphoid Tissues

a. Lymph Node
    i. Dermatopathic Lymphadenopathy C
    ii. Cat Scratch Disease AR
    iii. Toxoplasmosis AR
    iv. Infectious Mononucleosis AR
    v. Other Infectious Disorders AR
    vi. Kikuchi-Fujimoto Disease (i.e., Histiocytic Necrotizing Lymphadenitis) AR
    vii. Rosai-Dorfman Disease AR
    viii. Castleman Disease AR
    ix. Autoimmune Disorders AR
    x. Non-Lymphoid Inclusions (e.g., Mesothelial) AR
    xi. Syphilis F
    xii. Drug-Related (e.g., Phenytoin) F
    xiii. Other Benign Disorders of the Lymph Nodes F
b. Spleen
    i. Lymphoid Hyperplasias AR
    ii. Splenic Cysts & Other Non-Neoplastic Proliferations (e.g., Hamartomas) AR
c. Thymus
    i. Thymic Hyperplasia AR
    ii. Other Benign Thymus Disorders (e.g., Thymoma) AR

d. Extranodal AR

9. Fluid Specimens

a. CSF C
b. Other Body Fluids C

10. Immunodeficiency Disorders

a. Primary Immunodeficiencies F
b. Secondary Immunodeficiencies
    i. Viral-Associated F
    ii. Iatrogenic F
c. Immunodeficiency-Associated Lymphoproliferative Disorders
    i. HIV-Associated AR
    ii. PTLD AR
    iii. Other Iatrogenic Lymphoproliferative Disorders F

11. Hemostasis and Thrombosis

a. Coagulation Specimen Collection and Handling C
b. Coagulation and Fibrinolytic Disorders
    i. Factor Deficiency or Functional Abnormalities C
    ii. Factor Inhibitors AR
    iii. Fibrinolysis AR
c. Platelet Disorders and von Willebrand Disease
    i. Qualitative Issues with Normal Platelet Counts C
    ii. Thrombocytosis C
    iii. Thrombocytopenia
        1. Immune C
        2. Inherited AR
        3. Other Causes of Thrombocytopenia AR
    iv. von Willebrand Disease C
    v. Abnormal Platelet Morphology, Not Otherwise Specified AR
d. Thrombophilic Disorders
    i. Heparin Induced Thrombocytopenia C
    ii. TTP/HUS C
    iii. DIC C
    iv. Thrombophilia Testing AR
    v. Antiphospholipid Syndrome AR
e. Antiplatelet and Anticoagulant Drugs
    i. Warfarin and Warfarin Monitoring C
    ii. Heparin and Heparinoid Monitoring C
    iii. Direct Thrombin and Factor Xa Inhibitor Measuring AR
    iv. Antiplatelet Agent Monitoring AR

12. Myeloid Neoplasms

a. Acquired Myeloid Neoplasm Precursor Conditions (e.g., CHIP, CCUS, VEXAS) AR

b. Myeloproliferative Neoplasms

- i. CML (BCR-ABL1+) C
- ii. Polycythemia Vera AR
- iii. Primary Myelofibrosis AR
- iv. Essential Thrombocythemia AR
- v. Chronic Eosinophilic Leukemia, Not Otherwise Specified AR
- vi. Other Myeloproliferative Neoplasms (e.g., CNL) F

c. Mastocytosis AR

d. Myeloid & Lymphoid Neoplasms with Eosinophilia and Tyrosine Kinase Fusions AR

e. Myelodysplastic/Myeloproliferative Neoplasms
- i. CMML C
- ii. Other MDS/MPN Disorders AR

f. Juvenile Myelomonocytic Leukemia F

g. Myelodysplastic Syndromes AR

h. AML and Related Precursor Neoplasms
- i. AML with Recurrent Genetic Abnormalities
  1. AML with t(8;21) AR
  2. AML with inv(16) or t(16;16) AR
  3. APL with t(15;17) C
  4. Other AML with Recurrent Genetic Abnormalities F
- ii. AML with Myelodysplasia-Related Changes AR
- iii. Therapy-Related Myeloid Neoplasms AR
- iv. AML, Not Otherwise Specified
  1. Acute Monoblastic/Monocytic Leukemia AR
  2. Acute Erythroid Leukemia F
  3. Acute Megakaryoblastic Leukemia F
  4. Other AML, Not Otherwise Specified F
- v. Myeloid Sarcoma AR
- vi. Myeloid Proliferations Associated with Down Syndrome AR
- vii. Blastic Plasmacytoid Dendritic Cell Neoplasm AR
- viii. Germline Predisposition to Myeloid Neoplasia F

13. Acute Leukemias of Ambiguous Lineage F

14. Lymphoid Neoplasms

a. B Lymphoblastic Leukemia/Lymphoma
- i. B Lymphoblastic Leukemia/Lymphoma, Not Otherwise Specified AR
  1. B Lymphoblastic Leukemia/Lymphoma with Recurrent Genetic Abnormalities AR
- ii. Other B Lymphoblastic Leukemias & Lymphomas F

b. T Lymphoblastic Leukemia/Lymphoma C

c. Mature B-cell Neoplasms
- i. CLL/SLL including Monoclonal B-cell Lymphocytosis C
- ii. MALT Lymphoma C
- iii. Follicular Lymphoma C
- iv. Mantle cell Lymphoma C
- v. Large cell Lymphomas

1.	Diffuse Large B-cell Lymphoma, Not Otherwise Specified	C
2.	Primary Mediastinal Large B-cell Lymphoma	AR
3.	Other Large B-cell Lymphomas	F
vi.	Burkitt Lymphoma	C
vii.	SMZL	AR
viii.	HCL	AR
ix.	LPL	AR
x.	Nodal MZL	AR
xi.	In situ Lymphoid Neoplasia	F
d.	Mature T- and NK-cell Neoplasms	
i.	T-cell and NK-cell LGL	C
ii.	Extranodal NK/T-cell Lymphoma, Nasal Type	C
iii.	Anaplastic Large Cell Lymphoma (ALK + and ALK -)	C
iv.	T-cell PLL	AR
v.	Adult T-cell Leukemia/Lymphoma	AR
vi.	Hepatosplenic T-cell Lymphoma	AR
vii.	Mycosis Fungoides & Sézary Syndrome	AR
viii.	PTCL, Not Otherwise Specified	AR
ix.	Angioimmunoblastic T-cell Lymphoma	AR
x.	Enteropathy-Associated T-cell Lymphoma and Other Intestinal T-cell Lymphomas	F
xi.	CD30+ Cutaneous Lymphoproliferative Disorders	F
xii.	Other Cutaneous T-cell Lymphomas	F
xiii.	Other Mature T- and NK-cell Neoplasms	F
e.	Hodgkin Lymphoma	
i.	Nodular Lymphocyte Predominant	C
ii.	Classic	C

15. Plasma Cell Neoplasms, Paraprotein Disorders, & Amyloidosis

a.	Plasma cell Myeloma, MGUS	C
b.	Amyloidosis	C
c.	Cryoglobulinemia	AR
d.	POEMS	AR

16. Histiocytic/Dendritic Cell Neoplasms

a.	Langerhans cell Histiocytosis/Sarcoma	AR
b.	Follicular Dendritic Cell Sarcoma	F
c.	Histiocytic Sarcoma	F
d.	Other Histiocytic/Dendritic Neoplasms	F

17. Metastatic Neoplasms

a.	Metastases to the Bone Marrow	C
b.	Metastases to the Lymph Nodes	C
c.	Metastases to Other Lymphoid Tissue	C

18. Hematology & Hematopathology-Specific Administration & Laboratory Management

a. Laboratory Management F
b. Rules and Regulations F
c. Laboratory Inspections F
d. QA/QC Issue F
e. Other Administration/Laboratory Management Issues F

17. Neuropathology Topics for Anatomic Pathology Residents

1. General: Neuroanatomy, Histology, Pathologic Responses, and Diagnostic Considerations

a. Neuroanatomy
    i. Neocortex, White Matter, and Entorhinal Cortex/Hippocampus C
    ii. Deep (Basal) Nuclei, Brain Stem, and Cerebellum C
    iii. Spinal Cord and Vascular Supply C
    iv. Pituitary, Pineal, and Tracts AR
b. Cell Types
    i. Neurons, Astrocytes, Oligodendroglia, and Blood Vessels C
    ii. Ependyma, Microglia and Mononuclear Cells AR
    iii. Choroid Plexus and Meninges AR
c. Cerebrospinal Fluid C
d. Pathologic Responses in Neurons and Axons
    i. Acute Ischemic (Hypoxic) Cell Change AR
    ii. Apoptosis AR
    iii. Axonal Degeneration/Spheroid Reaction F
    iv. Central Chromatolysis F
    v. Tract Degeneration F
    vi. Swollen / Ballooned Neurons F
    vii. Trans-synaptic Neuronal Degeneration F
    viii. Olivary Hypertrophy F
    ix. Protein Aggregation F
    x. Protein Degradation / Ubiquitin Pathway F
e. Neuronal Nuclear Inclusions
    i. Cowdry Type A (e.g., CMV) AR
    ii. Marinesco Bodies F
    iii. Other Viral Inclusions F
    iv. Inclusions due to Neurodegenerative Disorders F
f. Neuronal Cytoplasmic Inclusions
    i. Cytoskeleton and Filamentous Inclusions
        1. Neurofibrillary Tangles AR
        2. Hirano Bodies, Lewy Bodies, and Pick Bodies F
        3. Eosinophilic Thalamic Inclusions F
        4. Rod-Like Cytoplasmic Inclusions F
        5. Filamentous Inclusions F
        6. Motor Neuron Disease Inclusions F

ii. Cytosolic Inclusions
1. Lafora Bodies F
2. Eosinophilic Inclusions in Inferior Olives F
3. Storage Products in Neurometabolic Disease F
iii. Membrane Bound Inclusions
1. Lipofuscin AR
2. Colloid Inclusions and Bunina Bodies F
3. Inclusions from the Acid Vesicle System F
4. Granulovacuolar Degeneration F
5. Storage Products in Neurometabolic Disease F

g. Pathologic Reactions of Astrocytes
i. Reactive Gliosis AR
ii. Rosenthal Fibers AR
iii. Corpora amylacea AR
iv. Astrocyte swelling F
v. Eosinophilic Granular Bodies F
vi. Alzheimer's Type II Gliosis F

h. Pathologic Reactions of Oligodendrocytes
i. Demyelination / Remyelination AR
ii. Dysmyelination F
iii. Intramyelinic Vacuolization F

i. Pathologic Reactions of Ependymal Cells
i. Subventricular gliosis
(Granular ependymitis/ependymal granulations) F
ii. Subependymal rosettes/tubules F

j. Pathologic Reactions of Microglia
i. Microglial Activation F
ii. Microglial (Babes) Nodule F

k. Mineralization in the Brain
i. Dystrophic Calcification (e.g., "egg shell" leptomeningeal) F
ii. Secondary mineralization associated with other disorders
(e.g., calcium metabolism, infection, ischemia, etc.) F

l. Edema and Herniation C
m. Artifacts of Tissue Handling and Foreign Material AR
n. Staining Methods and Special Microscopy AR
o. Molecular Techniques AR

2. Developmental Neuropathology

a. Fetal and Neonatal Hypoxic-Ischemic Lesions (General Considerations)
i. Hydranencephaly, Basket Brain, and Porencephaly F
ii. Schizencephaly and Multicystic Encephalopathy F
iii. Acute / Subacute White Matter Lesions
1. Diffuse White Matter Gliosis F
2. Periventricular Leukomalacia F

- iv. Acute Gray Matter Lesions (General Considerations)
  - 1. Cerebral Cortical Necrosis and Pontosubicular Necrosis F
  - 2. Basal Ganglia and Thalamic Lesions F
  - 3. Cerebellar, Brain Stem, and Spinal Cord Lesions F

b. Perinatal Hemorrhages
- i. Subependymal Germinal Plate / Matrix Hemorrhage AR
- ii. Subdural, Subarachnoid, and Supial Hemorrhages AR
- iii. Cerebral parenchymal hemorrhage AR
- iv. Periventricular hemorrhagic infarct AR
- v. Cerebellar hemorrhage AR
- vi. Choroid and Intraventricular hemorrhage AR

c. Chronic Lesions
- i. Laminar necrosis AR
- ii. Post-hemorrhagic lesions F
- iii. Periventricular cysts and/or gliosis F
- iv. Ulegyria F
- v. Status marmoratus F
- vi. Unilateral hypertrophy of the pyramidal tract F
- vii. Post-hypoxic / ischemic brainstem injury F

d. Malformations
- i. Defects of Neural Tube Closure
  - 1. Anencephaly AR
  - 2. Myelomeningocele AR
  - 3. Rachischisis F
- ii. Herniation of Neural Tube through Mesodermal Defects
  - 1. Encephalocele AR
  - 2. Meningocele AR
  - 3. Occult Spina Bifida AR
- iii. Chiari Malformations
  - 1. Chiari Type I Malformation AR
  - 2. Chiari Type II (Arnold-Chiari) Malformation F
  - 3. Chiari Type III Malformation F
- iv. Disorders of Forebrain Induction
  - 1. Holoprosencephaly (Alobar, Semilobar, Lobar) F
  - 2. Olfactory Aplasia F
  - 3. Atelencephaly and Aprosencephaly F
  - 4. Agenesis of the Corpus Callosum F
  - 5. Anomalies of the Septum Pellucidum F
  - 6. Septo-optic Dysplasia F
  - 7. Cavum septi pelludici and cavum vergae F
- v. Neural Migration Defects
  - 1. Agyria F
  - 2. Lissencephaly Type I F
  - 3. Lissencephaly Type II (Cobblestone Lissencephaly) F
  - 4. Pachygyria F

5.	Polymicrogyria	F
6.	Neuronal Heterotopias	F
7.	Cortical Microdysgenesis	F
8.	Focal Cortical Dysplasias, ILAE Classification	F
vi.	Microcephaly	F
vii.	Chromosomal and Single Gene Defects	
1.	Down Syndrome	AR
2.	Fragile X Syndrome	F
3.	Adult Polyglucosan Body Disease (*GBE1* mutation)	F
viii.	Megalencephaly	F
ix.	Malformations of the Cerebellum	
1.	Cerebellar Agenesis	F
2.	Dandy-Walker Syndrome	F
3.	Joubert Syndrome	F
4.	Pontocerebellar Hypoplasia	F
5.	Cerebellar Hypoplasia in Other Contexts	F
6.	Granule Cell Aplasia	F
7.	Cerebellar Heterotopias	F
8.	Cerebellar Cortical Dysplasia	F
9.	Chiari Type I Malformation	AR
10.	Lhermitte-Duclos Disease	F
x.	Malformations of the Spinal Cord	
1.	Tethered Cord	AR
2.	Diastematomyelia	F
3.	Syringomyelia/Hydromyelia	F
e.	Arthrogryposis Multiplex Congenita	F
f.	Dysgenetic Syndromes	
i.	Sturge-Weber Syndromes	AR
ii.	Tuberous Sclerosis (Bourneville Disease)	AR
iii.	Neurofibromatosis Type 1 (NF1)	AR
iv.	Neurofibromatosis Type 2 (NF2)	AR
v.	Schwannomatosis	F
g.	Hydrocephalus	AR
h.	Metabolic/Environmental/Iatrogenic Factors	
i.	Maternal Infection (e.g., CMV, HSV)	AR
ii.	Kernicterus	F
i.	Disorders that Primarily Affect White Matter	
i.	Pelizaeus-Merzbacher Disease	F
ii.	Canavan Disease	F
iii.	Alexander Disease	F
j.	Cerebellum	
i.	Menkes Disease	F
ii.	Ataxia-Telangiectasia	F
k.	Spinal Muscular Atrophy	F
l.	Pediatric Trauma	F

m. Sudden Infant Death Syndrome F

3. Epilepsy

a. Hippocampal (Mesial Temporal) Sclerosis F
b. Rasmussen encephalitis F

4. Vascular Disorders

a. Adult Hypoxic and Ischemic Lesions
    i. Cerebral Blood Flow C
    ii. Hypoxic Insult AR
    iii. Ischemic Insult AR
    iv. Hypoxic-Ischemic Encephalopathy (Acute/Subacute/Chronic) AR
    v. Borderzone Hypoxic-Ischemic Damage AR
    vi. Laminar Necrosis AR
    vii. Hippocampal Ischemic Injury AR
b. Vascular Disease and Infarcts
    i. Atherosclerosis C
    ii. Arteriolosclerosis C
    iii. Arterial Dissection AR
    iv. Hypertensive Vascular Changes AR
    v. Moyamoya Disease F
    vi. Ischemic Leukoencephalopathy F
    vii. Siderocalcinosis/Ferrugination of Microvessels (Fahr Disease) F
    viii. Binswanger Disease F
    ix. CADASIL F
    x. CARASIL F
    xi. COL4A1 F
    xii. Retinocochleocerebral Vasculopathy (Susac Syndrome) F
    xiii. TTP F
c. Angiitis and Vasculitis
    i. Giant Cell/Temporal Arteritis AR
    ii. Primary Angiitis of the CNS F
    iii. Secondary Angiitis due to Systemic Vasculitides F
    iv. Vasculitis of the Peripheral Nervous System F
    v. A-beta-related Angiitis (ABRA) F
d. Embolic Disorders
    i. Non-Infectious (Atheroemboli, Air, Fat, and Iatrogenic) C
    ii. Infectious AR
e. Cerebral Venous Thrombosis F
f. CNS Infarct (Acute/Subacute/Chronic)
    i. Infarcts caused by Thromboembolic Occlusion of Large Arteries AR
    ii. Watershed or Borderzone Infarcts AR

iii.	Lacunar Infarcts	AR
iv.	Hemorrhagic Infarcts	AR
v.	Iatrogenic Infarcts	AR
vi.	Spinal Cord Infarcts	F
g.	Spontaneous Hemorrhage	
i.	Spontaneous Subdural Hemorrhage	AR
ii.	Spontaneous Subarachnoid Hemorrhage	AR
iii.	Hypertensive Brain Hemorrhage	AR
iv.	Brain Hemorrhage secondary to Systemic Disease or Therapy	AR
h.	Cerebral Amyloid Angiopathy	
i.	Age-Related	AR
ii.	Brain Hemorrhage	AR
iii.	A-beta-related Angiitis (ABRA)	F
iv.	Inherited Amyloidoses (Non-A-beta)	F
v.	Systemic Amyloidoses	F
i.	Aneurysms	
i.	Berry (Saccular) Aneurysms	AR
ii.	Infective Aneurysms	F
j.	Vascular Malformations	
i.	Arteriovenous Malformations	AR
ii.	Cavernous Hemangioma	AR
iii.	Venous Angioma	F
iv.	Capillary Telangiectasia	F
v.	Arteriovenous Fistula	F
vi.	Vein of Galen Malformation	F
k.	Miscellaneous Vascular Disorders	
i.	Vascular Dementia	F

5. Trauma

a.	Fractures, Skull, and Spine	F
b.	Craniocerebral Trauma	
i.	Coup Lesion	AR
ii.	Contra-Coup Lesion	AR
iii.	Traumatic Epidural Hematoma	AR
iv.	Traumatic Subdural Hematoma	AR
v.	Contusion	F
vi.	Laceration	F
vii.	Traumatic Subarachnoid Hemorrhage	F
viii.	Intraparenchymal (Ball/Streak) Hemorrhages	F
c.	Traumatic Axonal Injury	
i.	Brain Swelling and Raised Intracranial Pressure	AR
ii.	Diffuse Axonal Injury	F
iii.	Diffuse Vascular Injury	F
iv.	Missile Head Injury	F

v.	Blast Head Injury	F
d.	Sequelae of Head Injury	
i.	Chronic Traumatic Encephalopathy (CTE-MND)	F
ii.	Ischemic Damage	F
e.	Traumatic Spinal Cord Injury	F

6. Infections and Inflammatory Diseases

a.	Acute Viral Infections	
i.	Herpes Simplex Virus Infections	AR
ii.	Rabies	AR
iii.	Aseptic Meningitis	F
iv.	Poliomyelitis	F
v.	Enteroviral Encephalitis	F
vi.	Other Herpes Viral Infections (VZV, EBV, CMV)	F
vii.	Adenovirus Infections	F
viii.	Paramyxovirus Infections	F
ix.	Rubella Encephalitis	F
x.	Arbovirus Infections	F
xi.	West Nile Encephalitis	F
b.	Chronic and Subacute Viral Infections of the CNS	
i.	Measles Inclusion Body Encephalitis	F
ii.	Subacute Sclerosing Panencephalitis	F
iii.	Progressive Multifocal Leukoencephalopathy	
	-Includes PML and PML-IRIS associated with MS therapy	F
c.	Human Immunodeficiency Virus Infection (HIV)	
i.	HIV encephalitis/leukoencephalitis	F
ii.	HIV-associated Neurologic Disease (HAND)	F
iii.	Neurological and other Disorders Increased in HIV	F
iv.	Therapy-Associated Disorders in Patients with HIV	F
d.	Bacterial Infections	
i.	Acute Bacterial Meningitis	AR
ii.	Brain Abscess	AR
iii.	Tuberculosis	AR
iv.	Subdural Empyema	AR
v.	Epidural Abscess	AR
vi.	Syphilis	F
vii.	Lyme Neuroborreliosis	F
viii.	Whipple Disease	F
ix.	*Nocardia*	F
e.	Fungal Infections	
i.	Aspergillosis	AR
ii.	*Mucorales* Infections	AR
iii.	*Fusarium* and Other Hyaline Molds	AR
iv.	Cryptococcosis	AR

v. Candidiasis AR
vi. Blastomycosis AR
vii. Coccidioidomycosis AR
viii. Histoplasmosis AR
ix. Phaeohyphomycosis F

f. Parasitic Infections
i. Amebic Infections
1. Primary Amebic Meningoencephalitis F
2. Granulomatous Amebic Encephalitis F
ii. Cysticercosis and Other Cestodes AR
iii. Cerebral Malaria F
iv. Cerebral Toxoplasmosis AR

g. Other Inflammatory Diseases
i. Neurosarcoidosis AR
ii. Rasmussen Encephalitis F
iii. Autoimmune Encephalitis F
iv. Paraneoplastic Disorders
1. Paraneoplastic Encephalomyelitis F
2. Paraneoplastic Cerebellar Degeneration F
3. Paraneoplastic Opsoclonus-Myoclonus F
4. Paraneoplastic Myositis F
5. Paraneoplastic Neuropathy F
v. Idiopathic Hypertrophic Pachymeningitis F
vi. IgG4-Related Disease F
vii. Autoimmune (i.e., Lymphocytic) Hypophysitis F
viii. Non-Neoplastic Pituitary Disorders
1. Infectious Hypophysitis AR
2. Pituitary Apoplexy AR
3. Pituitary Hyperplasia F
4. Autoimmune (Lymphocytic) Hypophysitis F

7. Demyelinating Diseases

a. Multiple Sclerosis
i. Classic (Charcot-Type) MS AR
ii. Acute (Marburg-Type) MS F
iii. Concentric Sclerosis (Balo) F
iv. Neuromyelitis Optica (Devic Disease) F
1. Aquaporin-4 in NMO F

b. Other Demyelinating Diseases
i. Acute Disseminated Encephalomyelitis (ADEM) F
ii. Acute Hemorrhagic Leukoencephalopathy F
iii. Guillain-Barré Syndrome (AIDP) F
iv. Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) F
v. Central Pontine Myelinolysis F

8. Complications of Systemic Disorders

- a. Vitamin Deficiencies
  - i. Thiamine Deficiency and Wernicke Encephalopathy F
  - ii. Vitamin B12 Deficiency and Subacute Combined Degeneration F
  - iii. Folic Acid Deficiency F
- b. Systemic Metabolic Disease
  - i. Hypoglycemia F
  - ii. Hyperglycemia F
- c. Disorders of Serum Electrolytes
  - i. Central Pontine and Extrapontine Myelinolysis F
  - ii. Calcium Disturbances F
    - – Siderocalcinosis/Ferrugination Microvessel (Fahr Disease) F
- d. Liver Disease
  - i. Acquired Hepatic Encephalopathy F
  - ii. Hepatolenticular Degeneration (Wilson Disease) F
- e. Lysosomal and Peroxisomal Disorders
  - i. Lysosomal Disorders
    1. GM2 Gangliosidosis F
    2. GM1 Gangliosidosis F
    3. Ceroid Lipofuscinosis (Batten Disease) F
    4. Niemann-Pick Disease, including Type C F
    5. Gaucher Disease F
    6. Acid Beta-Glucosidase-Associated Parkinson Disease F
    7. Mannosidosis F
    8. Mucopolysaccharidosis F
    9. Fabry Disease F
    10. Type II Glycogenesis (Pompe Disease) F
    11. Farber Disease F
    12. Krabbe Disease F
    13. Metachromatic Leukodystrophy F
  - ii. Peroxisomal Disorders
    1. Zellweger Cerebroheptorenal Syndrome F
    2. Adrenoleukodystrophy F
- f. Mitochondrial Disorders
  - i. Mitochondrial myopathy, encephalopathy, lactic acidosis, and stroke-like symptoms (MELAS) F
  - ii. Mycoclonic Epilepsy with Ragged-Red Fibers (MERRF) F
  - iii. Leber Hereditary Optic Neuropathy, Bilateral Striatial Necrosis, and Multiple Sclerosis-Like Mitochondrial Disease (LHON) F
  - iv. Neuropathy, Ataxia, and Retinitis Pigmentosa (NARP) F
  - v. Kearns-Sayre Syndrome (KSS) and Chronic Progressive External Ophthalmoplegia F
  - vi. Myoneurogastrointestinal Encephalopathy (MNGIE) F

vii.	Leigh Disease	F

g. Toxicity

i.	Ethylene Glycol	F
ii.	Methanol	F
iii.	Toluene	F
iv.	Carbon Monoxide	F
v.	Calcineurin Inhibitors (e.g., Cyclosporin A and Tacrolimus)	F
vi.	Nucleoside Analogs	F
vii.	Phenytoin	F
viii.	Chloroquine/Hydroxychloroquine	F
ix.	Statin	F
x.	Cocaine	F
xi.	Heroin	F
xii.	1-Methyl-4-Phenyl Tetrahydropyridine (MPTP)	F
xiii.	Inhaled Solvents	F

h. Toxicity/Secondary Effect due to Radiation Therapy

i.	Radionecrosis	F
ii.	Radiation Induced Neoplasia	F

9. Aging and Neurodegenerative Diseases

a. Aging

i.	Normal Aging	F
ii.	Pathologic Aging	F

b. Alzheimer Disease (AD)

i.	Basic Changes of Alzheimer Disease	AR
ii.	AD Posterior Variant	F
iii.	AD with Hippocampal Sparing	F
iv.	AD with Cotton Wool Plaques	F
v.	AD Familial Forms	

c. Tauopathies, including Frontotemporal Lobar Degeneration-Tau

i.	Frontotemporal Dementia-Parkinsonism Linked to Chromosome 17	F
ii.	Progressive Supranuclear Palsy (Steele-Richardson-Olszewski)	F
iii.	Corticobasal Degeneration	F
iv.	Argyrophilic Grain Disease	F
v.	Pick Disease	F
vi.	Parkinsonism-Dementia Complex of Guam	F
vii.	Postencephalitic Parkinsonism	F
viii.	Tangle-Only Dementia	F
ix.	Diffuse Neurofibrillary Tangles with Calcification	F
x.	Hippocampal Sclerosis Dential Tauopathy	F
xi.	Chronic Traumatic Encephalopathy (CTE-MND)	F

d. Synucleinopathies

i. Lewy-Body Disease (LBD) Spectrum Disorders

1.	LBD, Brainstem Type (Parkinson Disease)	F

2. LBD, Limbic Type F
3. LBD, Neocortical Type (Dementia with Lewy Bodies) F
4. Parkinson Disease-Dementia (PD-D) F

ii. Multiple System Atrophy F

e. Hippocampal Sclerosis F

f. Trinucleotide Repeat Disorders

i. Huntington Disease F
ii. Spinocerebellar Ataxia F
iii. Friedreich Ataxia F
iv. Dentatorubral Pallidoluysian Atrophy F
v. Spinal-Bulbar Muscular Atrophy/ X-linked Bulbospinal Neuronopathy (Kennedy Disease) F
vi. Myotonic Dystrophy F
vii. Oculopharyngeal Muscular Dystrophy F
viii. Machado-Joseph Disease F

g. Frontotemporal Lobar Degeneration (FLD) with/without ALS

i. FLD with TDP-43-Immunoreactive Lesions F
ii. FLD with Neuronal Intermediate Filament Inclusions F
iii. FLD with FUS-Immunoreactive Lesions F
iv. FLD with Motor Neuron Disease F
v. Valosin-containing Protein (IBMPFD) F

h. Motor Neuron Disease

i. SMA Type I (Werdnig Hoffman) F
ii. SMA Type II (Intermediate) F
iii. SMA Type III (Kugelberg-Welander) F
iv. Hereditary Spastic Paraparesis F
v. Primary Lateral Sclerosis F
vi. Amyltrophic Lateral Sclerosis (ALS)

1. ALS with TDP-43 F
2. ALS with TDP-Tau F
3. ALS with SOD F

i. Neuroaxonal Dystrophy

i. Neurodegeneration with Brain Iron Accumulation F
ii. Sporadic Adult-Onset Leukoencephalopathy with

1. – Neuroaxonal Spheroids (Neuroaxonal Leukodystrophy) F

10. Prion Disease

a. Sporadic Creutzfeld-Jakob Disease F
b. Inherited Creutzfeld-Jakob Disease F

i. Gerstmann-Sträussler-Scheinker Disease F
ii. Fatal Familial/Sporadic Insomnia F
iii. Other Inherited Creutzfeld-Jakob Disease F

c. Iatrogenic Creutzfeld-Jakob Disease F
d. Protease-Sensitive Prionopathy F
e. Variant Creutzfeldt-Jakob Disease F

11. Neoplasms

a. Adult-Type Diffuse Gliomas
   i. Astrocytoma IDH-Mutant, CNS WHO Grade 2, 3, 4 — AR
   ii. Oligodendroglioma, IDH-Mutant and 1p/19q Co-Deleted, CNS WHO Grade 2 — AR
   iii. Glioblastoma, IDH-Wildtype
   iv. Diffuse Glioma — AR

b. Circumscribed Astrocytic Gliomas
   i. Pilocytic Astrocytoma — AR
   ii. Pleomorphic Xanthoastrocytoma, CNS WHO Grade 2 or 3 — AR
   iii. High Grade Astrocytoma with Piloid Features — F
   iv. Chordoid Glioma — F
   v. Subependymal Giant Cell Astrocytoma — F
   vi. Astroblastoma, MN1-Altered — F

c. Ependymal Tumors
   i. Subependymoma — F
   ii. Myxopapillary Ependymoma — F
   iii. Supratentorial Ependymoma, ZFTA-Fusion Positive — F
   iv. Supratentorial Ependymoma, YAP1-Fusion Positive — F
   v. Supratentorial Ependymoma, NOS — F
   vi. Posterior Fossa, Group A (PFA) Ependymoma — F
   vii. Posterior Fossa, Group B (PFB) Ependymoma — F
   viii. Posterior Fossa Ependymoma, NOS — F
   ix. Spinal Ependymoma, NOS — F
   x. Spinal Ependymoma, MYCN Amplified — F

d. Choroid Plexus Tumors
   i. Choroid Plexus Papilloma — AR
   ii. Atypical Choroid Plexus Papilloma — F
   iii. Choroid Plexus Carcinoma — F

e. Glioneuronal and Neuronal Tumors
   i. Ganglioglioma — AR
   ii. Dysplastic Gangliocytoma of the Cerebellum (Lhermitte-Duclos) — F
   iii. Desmoplastic Infantile Astrocytoma/Ganglioglioma — F
   iv. Dysembryoplastic Neuroepithelial Tumor — F
   v. Gangliocytoma/Multinodular Vacuolating Neuronal Tumor — F
   vi. Central Neurocytoma — F
   vii. Extraventricular Neurocytoma — F
   viii. Cerebellar Liponeurocytoma — F
   ix. Papillary Glioneuronal Tumor (PGNT) — F
   x. Rosette-Forming Glioneuronal Tumor (RGNT) — F
   xi. Cauda equina Neuroendocrine Tumor — F
   xii. Myxoid Glioneuronal Tumor — F
   xiii. Diffuse Glioneuronal Tumour with Oligodendroglioma-like Features and Nuclear Clusters (DGONC) — F

xiv.	Diffuse Leptomeningeal Glioneuronal Tumor	F
f.	Tumors of the Pinal Region	
i.	Pineocytoma	F
ii.	Pineal Parenchymal Tumor of Intermediate Differentiation	F
iii.	Pineoblastoma	F
iv.	Papillary Tumor of the Pineal Region	F
v.	Desmoplastic Myxoid Tumor of the Pineal Region, SMARCB1-Deficient	F
g.	Embryonal Tumors	
i.	Medulloblastoma, Classic Type	AR
ii.	Atypical Teratoid/Rhabdoid Tumor	AR
iii.	Medulloblastoma, Desmoplastic/Nodular Type	F
iv.	Medulloblastoma with Extensive Nodularity	F
v.	Medulloblastoma, Large Cell/Anaplastic Type	F
vi.	CNS Neuroblastoma, FOXR2-Activated	F
vii.	Embryonal Tumors with Multilayered Rosettes	F
viii.	CNS Tumor BCOR Internal Tandem Duplication	F
ix.	Embryonal Tumors with Multilayered Rosettes, C19MC-Altered	F
x.	Medulloblastoma, WNT-Activated	F
xi.	Medulloblastoma, SHH-Activated & TP53 Wild Type	F
xii.	Medulloblastoma, SHH-Activated & TP53 Mutant	F
xiii.	Medulloblastoma, Non-WHT/Non-SHH	F
h.	Tumors of the Cranial and Paraspinal Nerves	
i.	Schwannoma (Cellular and Plexiform Types)	AR
ii.	Neurofibroma	
1.	Plexiform Neurofibroma	AR
2.	Atypical Neurofibromatous Neoplasm of Uncertain Biologic Potential (ANNUBP)	AR
iii.	Ganglioneuroma	AR
iv.	Malignant Peripheral Nerve Sheath Tumor (MPNST)	AR
v.	Perineurioma	AR
vi.	Hybrid Nerve Sheath Tumors	F
vii.	Epithelioid Malignant Peripheral Nerve Sheath Tumor	F
viii.	MPNST with Divergent Mesenchymal and/or Epithelial Differentiation or Perineural Differentiation	F
ix.	Malignant Melanotic Nerve Sheath Tumor	F
i.	Meningothelial Tumors	
i.	Meningioma, NOS	AR
ii.	Atypical Meningioma	AR
iii.	Anaplastic Meningioma	AR
iv.	Meningioma, Meningothelial Type	F
v.	Meningioma, Fibrous (Fibroblastic)	F
vi.	Meningioma, Transitional (Mixed)	F
vii.	Meningioma, Psammomatous	F
viii.	Meningioma, Angiomatous	F

ix.	Meningioma, Microcystic	F
x.	Meningioma, Secretory	F
xi.	Meningioma, Lymphoplasmacyte-Rich	F
xii.	Meningioma, Metaplastic	F
xiii.	Meningioma, Clear Cell Type	F
xiv.	Meningioma, Chordoid Type	F
xv.	Meningioma, Papillary Type	F
xvi.	Meningioma, Rhabdoid Type	F
xvii.	Meningioma, Other Types	F
xviii.	Meningoangiomatomatosis	F
j.	Mesenchymal (Non-Meningothelial) Tumors	
i.	Chordoma	AR
ii.	Hemangioblastoma	AR
iii.	Lipoma	AR
iv.	Solitary Fibrous Tumor	AR
v.	Chondrosarcoma	AR
vi.	Mesenchymal Chondrosarcoma	AR
vii.	Hemangioma	AR
viii.	Intracranial Mesenchymal Tumor FET::CREB Fusion-Positive	F
ix.	CIC Rearranged Sarcoma	F
x.	Primary Intracranial Sarcoma DICER1-Mutant	F
xi.	Ewing Sarcoma	AR
k.	Primary Melanocytic Tumors	
i.	Melanocytosis	F
ii.	Melanocytoma	F
iii.	Melanoma	F
iv.	Melanomatosis	F
l.	Lymphoma and Hematopoietic Tumors of the Central Nervous System	
i.	Diffuse Large B-cell Lymphoma of the CNS	AR
ii.	Langerhans Histiocytosis	F
iii.	Non-Langerhans Histiocytosis (Rosai-Dorfman)	F
iv.	Immunodeficiency-Associated CNS Lymphomas	F
v.	Intravascular Large B-cell Lymphoma	F
vi.	MALT Lymphomas of the Dura	F
m.	Lesions of the Sellar Region	
i.	Rathke Cleft Cyst	AR
ii.	Craniopharyngioma, Adamantinomatous Type	AR
iii.	Craniopharyngioma, Papillary Type	AR
iv.	Pituitary Adenoma/Pituitary Neuroendocrine Tumor (PitNET)	AR
1.	Densely Granulated Corticotroph Adenoma	F
2.	Sparsely Granulated Corticotroph Adenoma	F
3.	Crooke Cell Adenoma	F
4.	Densely Granulated Somatotroph Adenoma	F
5.	Sparsely Granulated Somatotroph Adenoma	F
6.	Mammosomatotroph Adenoma	F

7.	Mixed Somatotroph-Lactotroph Adenoma	F
8.	Sparsely Granulated Lactotroph Adenoma	F
9.	Densely Granulated Lactotroph Adenoma	F
10.	Acidophil Stem Cell Adenoma	F
11.	Thyrotroph Adenoma	F
12.	Gonadotroph Adenoma	F
13.	Null Cell Adenoma	F
14.	Plurihormonal PIT1-Positive Adenoma	F
v.	Pituitary Carcinoma/ Metastatic PitNET	F
vi.	Pituitary Hyperplasia	F
vii.	Hypothalamic Hamartoma	F
viii.	Granular Cell Tumor	F
ix.	Pituicytoma	F
x.	Spindle Cell Oncocytoma	F

n. Germ Cell Tumors

i.	Germinoma	AR
ii.	Embryonal Carcinoma	AR
iii.	Yolk Sac Tumor	AR
iv.	Choriocarcinoma	AR
v.	Teratoma, Mature	AR
vi.	Teratoma, Immature	AR
vii.	Teratoma with Malignant Transformation	AR
viii.	Malignant Mixed Germ Cell Tumor (Specify Components: Germinoma, Embryonal, etc.)	AR

o. Cysts

i.	Epidermoid and Dermoid Cysts	AR
ii.	Colloid Cyst of the Third Ventricle	AR
iii.	Endodermal/Enterogenous Cyst	AR
iv.	Arachnoid Cyst	AR
v.	Ependymal Cyst	F
vi.	Pineal Cyst	F

p. Metastatic Tumors

i.	Neoplasms in Tissues Surrounding the CNS	AR
ii.	Secondary Neoplasms in the Meninges	AR
iii.	Secondary Neoplasms in the Brain and Spinal Cord	AR

q. Paraneoplastic Disorders

i.	Paraneoplastic Encephalomyelitis	F
ii.	Paraneoplastic Cerebellar Degeneration	F
iii.	Paraneoplastic Opsoclonus-Myoclonus-Ataxia	F

r. Familial Tumor Predisposition Syndromes

i.	Tuberous Sclerosis	AR
ii.	Neurofibromatosis, Type 1 (NF1)	AR
iii.	Neurofibromatosis, Type 2 (NF2)	AR
iv.	von Hippel-Lindau Disease	AR
v.	Li-Fraumeni Syndrome	AR

vi. Cowden Disease AR
vii. Lynch Syndrome AR
viii. Nevoid Basal Carcinoma Syndrome AR
ix. Rhabdoid Tumor Predisposition Syndrome AR
x. Carney Complex AR
xi. Familial Adenomatous Polyposis AR
xii. DICER1 Syndrome AR
xiii. Familial Retinoblastoma AR
xiv. BAP1 Tumor Predisposition Syndrome AR
xv. Constitutional Mismatch Repair Deficiency (CMMRD) Syndrome F
xvi. Melanoma Astrocytoma Syndrome F
xvii. Fanconi Anemia F
xviii. ELP1 Medulloblastoma Syndrome F

s. Pediatric-Type Diffuse Low-Grade Gliomas
i. Diffuse Astrocytoma, *MYB* or *MYBL-1* altered F
ii. Angiocentric Glioma F
iii. Polymorphous Low-Grade Neuroepithelial Tumor of the Young F
iv. Diffuse Low-Grade Glioma, MAPK Pathway Altered F

t. Pediatric-Type Diffuse High-Grade Gliomas
i. Diffuse Midline Glioma, H3 K27-Altered F
ii. Diffuse Hemispheric Glioma, H3 G34-Mutant F
iii. Diffuse Pediatric-Type High-Grade Glioma, H3-Wild Type and IDH-Wildtype F
iv. Infant-Type Hemispheric Glioma F

12. Skeletal Muscle

a. Muscle Biopsy
i. Handling AR
ii. Muscle Biopsy Techniques, IHC/Special Stains F
iii. Skeletal Muscle Ultrastructure F

b. Myopathic Processes
i. Myopathic Histopathologic Features F

c. Inflammatory Myopathies
i. Dermatomyositis F
ii. Inclusion Body Myositis F
iii. Sarcoid Myopathy F
iv. Bacterial Myositis F
v. Viral Myositis F
vi. Parasitic Myositis F
vii. Fungal Myositis F
viii. Vasculitis F
ix. Paraneoplastic Myositis F

d. Metabolic Diseases
i. Glycogenoses F

1. Type II (Acid Maltase Deficiency/Pompe Disease) F
2. Type V (Myophosphorylase Deficiency/McArdle Disease)

ii. Mitochondrial Myopathy F
iii. Lipid Storage Myopathies F

e. Channelopathies F
f. Toxic Myopathies
i. Steroid Myopathy/ Acute Care Myopathy F
ii. Chloroquine / Hydroxychloroquine Vacuolar Myopathy F
g. Muscular Dystrophies
i. Dystrophinopathies F
ii. Emery-Dreifuss Muscular Dystrophy F
iii. Facioscapulohumeral Dystrophy (FSHD) F
iv. Myotonic Dystrophy F
v. Oculopharyngeal Muscular Dystrophy F
vi. Limb-Girdle Muscular Dystrophy F
vii. Congenital Muscular Dystrophy F
h. Autophagic Vacuolar Myopathies F
i. Myofibrillar Myopathies F
j. Distal Myopathies, including Valsoin-Containing Protein (IBMPFD) F
k. Congenital Myopathies
i. Nemaline Myopathies F
ii. Core Myopathies F
iii. Centronuclear Myopathies F
iv. Congenital Fiber Type Disproportion Myopathies F
l. Neuropathic (Neurogenic) Diseases
i. Neuropathic Histopathologic Features F
ii. Motor Neuron Diseases, Spinal Muscular Atrophy F

13. Peripheral Nerve

a. Peripheral Nerve Biopsy
i. Handling AR
b. Peripheral Nerve Ultrastructure F
c. Major Pathologic Processes
i. Axonal (Wallerian) Degeneration F
ii. Distal (“Dying Back”) Axonopathy F
iii. Demyelination (Segmental) F
d. Traumatic Neuroma AR
e. Inflammatory Neuropathies
i. Vasculitic Neuropathy AR
ii. Sarcoid Neuropathy AR
iii. Guillian-Barré Syndrome (AIDP) F
iv. Chronic Inflammatory Demyelinating Polyradiculopathy (CIDP) F
v. Paraneoplastic Neuropathy F
f. Infectious Neuropathies

- i. Leprosy F
- g. Hereditary Motor and Sensory Neuropathies (HMSN) F
- h. Nutritional Deficiency/Toxic Neuropathies F
- i. Neuropathies Associated with Systemic Diseases
  - i. Diabetic Neuropathy AR
  - ii. Amyloid Neuropathy AR

14. Ophthalmic Pathology

- a. Diseases of the Orbit F
- b. Diseases of the Conjunctiva F
- c. Diseases of the Cornea F
- d. Diseases of the Anterior Segment F
- e. Diseases of the Uvea F
- f. Retina and Vitreous
  - i. Retinal Neoplasms
    1. Retinoblastoma AR
    2. Melanoma AR
  - ii. Retinal Detachment F
  - iii. Retinal Vascular Disease F
  - iv. Age-Related Macular Degeneration F
  - v. Other Retinal Degeneration F
  - vi. Retinitis F
- g. Diseases of the Optic Nerve F
- h. Phthisis Bulbi F
- i. Therapeutic or Iatrogenic Complications F

18. Pediatric Pathology Topics for Anatomic Pathology Residents

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 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) Chorangiosis 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. Intragestational 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/Mucolipidoses 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 Dermatosis	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
  - i. Retinoblastoma — AR
  - ii. 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 Gastroentertis	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 Pancrease
  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 Saroma	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 Sclerosis) 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, 11β 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. Epitheliod 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/Phagocyted 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
5. Molecular Detection of Viruses

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	
	i. Poisoning	AR
	ii. Medical Overdose	AR
	iii. Adverse Pharmacogenetics / Pharmacogenomics	AR
h.	Therapeutic Misadventure / Complications of Treatment	AR