TABLE 12-1 Causes of Edema and Their Classic History, Physical Exam, and Lab Findings

HISTORY	PHYSICAL EXAM FINDINGS	LAB FINDINGS
Cardiac		
Dyspnea with exertion is prominent—often associated with orthopnea or paroxysmal nocturnal dyspnea	JVD, S_3, occasionally a displaced or dyskinetic apical impulse; peripheral cyanosis, cool extremities, low pulse pressure when severe	Elevated BUN: SCr; hyponatremia; elevated BNP
Hepatic		
Dyspnea is uncommon except if associated with a significant degree of ascites or hepatic hydrothorax; most often a history of extensive alcohol use	Frequently associated with ascites; JVP is normal or low; BP lower than in renal or cardiac disease; one or more of the following signs of cirrhosis: jaundice, palmar erythema, Dupuytren's contracture, spider angiomata, caput medusae, gynecomastia; asterixis, and other signs of encephalopathy	If severe, reduction in serum albumin, cholesterol, other hepatic proteins (transferrin, fibrinogen); elevated liver enzymes depending on cause and acuity of liver injury; tendency toward hypokalemia, respiratory alkalosis; macrocytosis from folate deficiency; thrombocytopenia; elevated PT/INR
Chronic Kidney Disease		
Usually chronic edema; may be associated with uremic signs and symptoms, including decreased appetite, altered (metallic or fishy) taste, altered sleep pattern, difficulty concentrating, restless legs, or myoclonus; dyspnea can be present, but generally less prominent than in HF	Elevated BP; hypertensive retinopathy; uremic fetor; pericardial friction rub in advanced uremia	Elevation of SCr and cystatin C; albuminuria; hyperkalemia, metabolic acidosis, hyperphosphatemia, hypocalcemia, anemia (usually normocytic)
Nephrotic Syndrome		
Childhood diabetes; plasma cell dyscrasias	Periorbital edema; hypertension	Proteinuria (≥ 3.5 g/d); hypoalbuminemia; hypercholesterolemia; microscopic hematuria
Malnutrition		
Low BMI; malignancy or other immunocompromised states	Temporal wasting	Hypoalbuminemia, low prealbumin, hypophosphatemia
Medication-Induced[a]		
Edema that started after initiation of a new medication	Either edema in the lower extremities or generalized edema	Mostly normal or related to adverse effects of the specific medication
Localized Edema (Thrombophlebitis, Venous Thromboembolism, Varicose Veins, Venous Insufficiency, Lymphedema, Cellulitis)		
Edema localized at the site of disease	Red and associated with ulcers (venous insufficiency, venous thromboembolism, cellulitis); prominent superficial veins; grainy appearance (lymphedema)	Elevated D-dimer (venous thromboembolism); elevated inflammatory markers (cellulitis)
Thyroid Disease		
Either signs of hypothyroidism (fatigue, weight gain, cold intolerance) or hyperthyroidism (nervousness, heat intolerance, sweating, palpitations, fatigue and weakness, weight loss, frequent bowel movements)	For hypothyroidism: bradycardia, dry hair and skin, hair loss, periorbital puffiness, prolongation of the relaxation phase of deep tendon reflexes; for hyperthyroidism: pretibial myxedema, warm and moist skin, eyelid retraction, lid lag, tachycardia, AF, hypertension, fine tremor, and hyperreflexia	Abnormal thyroid studies
Hypercortisolism		
Psychological disturbances, fatigue, diabetes, and weakness	Central obesity, hypertension, acne, hirsutism, easy bruising, purple striae, fat deposition in the face and nuchal areas	Hypokalemia, metabolic acidosis, and hyperglycemia
Pregnancy		
Edema can occur anytime in pregnancy, but is more common after 5 months	Edema usually occurs in the hands, ankles, and feet	Positive β-hCG; proteinuria if associated with pre-eclampsia