## 2017 Internal Medicine In-Training Examination®

<table>
<thead>
<tr>
<th>Content Area</th>
<th>Number of Items</th>
<th>Percentage of Total Items</th>
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<tbody>
<tr>
<td>Cardiology</td>
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<tr>
<td>Endocrinology</td>
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<tr>
<td>Gastroenterology</td>
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<td>General Internal Medicine*</td>
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<tr>
<td>Geriatric Medicine</td>
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<tr>
<td>Hematology and Oncology</td>
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<tr>
<td>Infectious Diseases</td>
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<tr>
<td>Nephrology</td>
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<td>Neurology</td>
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<tr>
<td>Pulmonary and Critical Care Medicine</td>
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<tr>
<td>Rheumatology</td>
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<tr>
<td>High Value Care (HVC)**</td>
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<td><strong>TOTAL</strong></td>
<td><strong>260</strong></td>
<td><strong>100</strong></td>
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*This content area includes, but is not limited to, adolescent medicine, allergy and immunology, complementary and alternative medicine, dermatology, ethics, genetics, literature interpretation, nutrition, ophthalmology, preventive care, psychiatry, sports medicine, statistics, and women’s health. Items associated with the content area High Value Care (HVC)** may appear in other content areas. These items are identified with a double asterisk.*

The following pages list examination educational objectives grouped by content area. One educational objective is provided for each item.
2017 Internal Medicine In-Training Examination®

Educational Objectives

Cardiology
Diagnose an atrial septal defect.
Diagnose cardiac tamponade.
Diagnose chronic venous insufficiency.
Diagnose constrictive pericarditis.
Diagnose Eisenmenger syndrome.
Diagnose myocarditis.
Diagnose pulmonary valve stenosis.
Diagnose sinus tachycardia.
Diagnose the murmur of hypertrophic cardiomyopathy.

** Evaluate noncardiac causes of chest pain.
  Identify high-risk patients requiring coronary angiography.

** Manage asymptomatic left ventricular dysfunction.

** Manage atrioventricular nodal block after an acute inferior myocardial infarction.
  Manage bleeding risk before colonoscopy in a patient taking antiplatelet therapy.
  Manage coronary artery disease in a patient with diabetes mellitus.
  Manage ischemic cardiomyopathy with an implantable cardioverter-defibrillator.

** Manage ischemic heart disease treated with a stent.
  Manage isolated symptomatic premature ventricular contractions.

** Manage Mobitz I second-degree heart block.

** Manage noncardiac chest pain.

** Manage undifferentiated chest pain.
  Manage venous ulceration.
  Perform cardiac testing in a patient with a cardiac pacemaker and an intermediate pretest probability.
  Predict the auscultatory findings in mitral stenosis.
  Prevent sudden cardiac death.
  Provide initial treatment of acute aortic dissection.
  Select stroke prophylaxis in atrial fibrillation.
  Select the appropriate cardiac stress test for a patient with a permanent pacemaker.
  Treat a patient with heart failure and a reduced ejection fraction.
Treat an acute myocardial infarction with a statin.
Treat aortic dissection.
Treat atrial fibrillation in advanced chronic kidney disease.
Treat atrial fibrillation.
Treat atrial myxoma.
Treat obstructive hypertrophic cardiomyopathy.
Endocrinology

Diagnose acromegaly.
Diagnose autoimmune adrenalitis.
Diagnose Cushing syndrome.
Diagnose diabetes mellitus.
Diagnose Graves disease in a pregnant patient.
Diagnose multiple endocrine neoplasia type 1.
Diagnose pheochromocytoma.
Diagnose sarcoidosis in a patient with metabolic complications.
Diagnose secondary male hypogonadism.
Diagnose the endocrine changes of early pregnancy.
Evaluate Paget disease of bone.
Manage a lipid abnormality in a patient with diabetes mellitus.
Manage an incidental adrenal tumor.
Manage Graves disease.
Manage primary adrenal insufficiency.
Recognize the adverse effects of diabetes medications.
Recommend insulin adjustment during strenuous activity.
Treat a prolactinoma.
Gastroenterology
Diagnose a pill-induced esophageal ulcer.
Diagnose achalasia.
Diagnose acute mesenteric vein thrombosis.
Diagnose alcoholic hepatitis.
Diagnose celiac sprue.
Diagnose drug-induced cholestasis.
Diagnose hereditary hemorrhagic telangiectasia in a patient with gastrointestinal bleeding.
Diagnose lactose malabsorption.
Diagnose Meckel diverticulum.
Diagnose pancreatic cancer.
Diagnose spontaneous bacterial peritonitis.
Diagnose Wilson disease.
Evaluate a suspected retroperitoneal hemorrhage.
Identify prognostic factors in acute pancreatitis.

**Manage a hyperplastic colonic polyp.**
  Manage abdominal wall pain.
  Manage acute cholecystitis in a high-risk patient.

**Manage acute pancreatitis.**
  Manage bleeding in a patient with portal hypertension.
  Manage dyspepsia in a patient with alarm features.
  Manage hepatic encephalopathy.

**Manage irritable bowel syndrome.**
  Manage unsuccessful Helicobacter pylori eradication.
Treat fistulizing Crohn disease.
General Internal Medicine
Administer appropriate vaccines to an older patient.
**Calculate the number needed to treat to achieve reduction of one clinical event.
Diagnose caregiver burden.
Diagnose domestic abuse.
Diagnose Dupuytren contracture.
Diagnose eye redness.
Diagnose hereditary angioedema.
Diagnose impetigo.
Diagnose long-QT syndrome.
Diagnose scabies.
Diagnose spinal stenosis with lumbar radiculopathy.
Diagnose testicular torsion.
Diagnose testicular torsion.
Identify a normal physiologic vaginal discharge.
Manage a life-threatening condition in an impaired patient.
Manage a relapse of depression in a patient with risk factors.
Manage asteatotic dermatitis.
Manage back pain in a patient with previous breast cancer.
Manage cervical neck pain.
Manage generalized anxiety disorder.
**Manage hip fracture in an elderly patient with cardiac disease.
**Manage nonspecific low back pain.
**Manage olecranon bursitis.
  Manage otitis media with effusion.
  Manage plantar fasciitis.
  Manage possible metabolic complications of atypical antipsychotic agents.
  Manage smoking cessation.
**Manage trochanteric bursitis.
**Manage vasovagal syncope.
**Perform appropriate preoperative laboratory testing.
  Prevent recurrent herpes zoster infection.
Recognize indications for pneumococcal vaccination of adults younger than 65 years.
Recognize patient autonomy in medical decision making.
Screen for lung cancer in a healthy older adult.
Treat an asymptomatic heavy smoker preoperatively.

**Treat symptoms of pharyngitis.
Treat symptoms of restless legs syndrome.
Treat vasomotor rhinitis.
Treat vasomotor rhinitis.
Geriatric Medicine
Diagnose adverse effects of neuroleptic medications.
Diagnose age-related functional decline in a hospitalized patient.
Diagnose apathetic hyperthyroidism.
Diagnose bullous skin disease.
Diagnose dementia with Lewy bodies.
**Diagnose postprandial hypotension.
Diagnose sensory impairment as a cause of dizziness and falls.
**Evaluate an older patient with unexplained weight loss.
  Follow criteria for hospice enrollment.
  Identify a vulnerable adult.
  Manage advanced dementia with hospice care.
**Manage an abdominal aortic aneurysm.
  Manage blood pressure in an older adult.
  Suggest a driving test for a patient with mild dementia.
  Treat an infected stage 3 necrotic pressure ulcer.
  Treat hypertension in an older adult.
Hematology and Oncology
Diagnose acquired hemophilia.
Diagnose acute myelocytic leukemia in a patient with Auer rods.
Diagnose anemia of chronic inflammation.
Diagnose epidermal growth factor receptor–mutated lung cancers.
Diagnose hemolytic anemia in a patient with jaundice.
Diagnose multiple myeloma.
Diagnose myelodysplasia.
Diagnose pernicious anemia in a patient with pancytopenia.
Diagnose polycythemia vera.
Diagnose primary amyloidosis.
Diagnose secondary polycythemia.
Diagnose thalassemia.
Diagnose the cause of a bleeding disorder.
Diagnose vitamin B12 deficiency–associated anemia.
Establish a diagnosis of hairy cell leukemia.
Evaluate suspected myelodysplastic syndrome.
Evaluate the risk of cardiomyopathy caused by chemotherapy.

**Manage a plasma cell disorder.

Manage a prostate nodule.

Manage bone pain from metastatic cancer.

Manage mucosa-associated lymphoid tissue (MALT) lymphoma.

Treat a B-cell lymphoma with the appropriate monoclonal antibody.

Treat acute leukemia with leukapheresis.

Treat disseminated intravascular coagulopathy with the appropriate blood product.

Treat heparin-induced thrombocytopenia occurring after stopping heparin.

Treat high-risk acute myelogenous leukemia.

Treat neutropenic fever.

Treat ovarian cancer.

Treat superficial bladder cancer.

Treat thrombotic thrombocytopenic purpura.
Infectious Diseases
Diagnose an epidural abscess in a former injection drug user.
Diagnose anthrax.
Diagnose coccidioidomycosis.
Diagnose Creutzfeldt-Jakob disease.
** Diagnose erythema migrans.
Diagnose rhinocerebral mucormycosis.
Diagnose Rocky Mountain spotted fever.
Diagnose staphylococcal food poisoning.
Diagnose the cause of malignant external otitis.
Diagnose the cause of short-incubation, food-borne gastroenteritis.
** Manage a central venous catheter.
** Manage a urinary tract infection in a patient taking multiple medications.
  Manage occupational exposure to HIV.
  Manage suspected active tuberculosis.
  Treat a human bite.
  Treat a severe diabetic foot infection.
  Treat disseminated gonococcal infection.
  Treat fungal sepsis in a patient with a central venous catheter.
  Treat nonpurulent cellulitis.
  Treat pneumococcal meningitis in an adult.
  Treat pyelonephritis.
  Treat recurrent Clostridium difficile–associated colitis.
Treat severe Pneumocystis jirovecii pneumonia in an HIV-positive patient.
**Nephrology**
Diagnose acyclovir-induced nephropathy.
Diagnose cryoglobulinemia in a patient with hepatitis C.
Diagnose mixed cryoglobulinemia in a patient with the nephrotic syndrome.
Diagnose propylene glycol–induced lactic acidosis.
Diagnose psychogenic polydipsia.
Diagnose the cause of hypocalcemia in a patient with chronic alcoholism.
Diagnose the syndrome of inappropriate antidiuretic hormone secretion.
Diagnose thin basement membrane disease.

**Evaluate a kidney cyst.**
Manage hyperphosphatemia in a patient with chronic kidney disease.
Predict the composition of kidney stones in the setting of chronic urinary tract infection.
Select the initial therapy for hypertension in a patient with proteinuria.
Slow the progression of chronic kidney disease.
Treat alcoholic ketolactic acidosis.
Treat asymptomatic euvoletic hyponatremia.
Treat methanol ingestion.
Neurology
Diagnose basilar artery stroke.
Diagnose brain death.
Diagnose cervical myelopathy.
Diagnose medication overuse as the cause of chronic daily headaches.
Diagnose mononeuritis of cranial nerve III in a patient with type 2 diabetes mellitus.
Diagnose vasculitic neuropathy.
Diagnose vertebral artery dissection.
Manage pharmacologic prophylaxis of migraines.
Provide initial treatment for an ischemic stroke.
Treat myasthenia gravis.
Pulmonary and Critical Care Medicine

Diagnose a pleural effusion on the basis of history and clinical evaluation.
Diagnose a pulmonary arteriovenous malformation.
Diagnose cystic fibrosis in an adult with the appropriate diagnostic studies.
Diagnose interstitial lung disease on the basis of spirometry results.
Diagnose interstitial lung disease.
Diagnose interstitial lung disease.
Diagnose nocturnal hypoxemia in COPD.
Diagnose pneumonia on the basis of physical examination findings.
Diagnose pulmonary hypertension.
Diagnose reversible posterior leukoencephalopathy syndrome.
Diagnose sarcoidosis on the basis of clinical presentation and radiographic findings.
Diagnose the cause of a pleural effusion with a high amylase level.
Evaluate the need for oxygen therapy in a patient with lung disease.
Manage an acute asthma exacerbation.
Manage ICU-acquired weakness.
Manage intrinsic positive end-expiratory pressure (auto-PEEP) in a patient with respiratory failure and severe obstruction of the airways.
Provide fluid management for a patient with acute respiratory distress syndrome.
Select the appropriate mechanical ventilation for initial management of acute respiratory distress syndrome.
Treat anaphylactic shock.
Treat asthma during pregnancy.
Treat cardiac arrest due to β-blocker overdose.
Treat community-acquired pneumonia.
Treat hypercapnic respiratory failure.
Treat hypoxemia associated with acute respiratory distress syndrome.
Treat malignant hyperthermia.
Wean a patient from mechanical ventilation.
Rheumatology
Diagnose acute gout by crystal analysis of joint fluid.
Diagnose adult-onset Still disease.
Diagnose Behçet disease.
Diagnose cervical compressive myelopathy in rheumatoid arthritis.
Diagnose dermatomyositis.
Diagnose Henoch-Schönlein purpura in an adolescent.
Diagnose hypertrophic osteoarthropathy.
Diagnose limited cutaneous systemic sclerosis.
Diagnose polymyalgia rheumatica.
Diagnose pseudogout.
Diagnose relapsing polychondritis.
Diagnose rheumatoid arthritis.
Diagnose statin-induced myopathy.
Evaluate a patient with fibromyalgia.
Manage glucocorticoid-induced myopathy.
Manage primary Raynaud phenomenon.
Manage septic arthritis in a patient with rheumatoid arthritis.
Manage systemic sclerosis–associated renal crisis.
Treat ankylosing spondylitis.
Treat osteoarthritis of the knee.
Treat polymyalgia rheumatica.
Treat systemic lupus erythematosus.
Treat temporal arteritis.