

# Interactive NCCPA™ PANCE Content Blueprint

[WWW.SMARTYPANCE.COM](http://WWW.SMARTYPANCE.COM)

SMARTY PANCE IS NOT SPONSORED OR ENDORSED BY, OR AFFILIATED WITH, THE NATIONAL COMMISSION ON CERTIFICATION OF PHYSICIAN ASSISTANTS

# Content Blueprint for the 2020 Physician Assistant National Certifying Examination (PANCE)

The PANCE content blueprint provides information on how exam questions are allocated to the different medical content and task categories that have been deemed important for entry-level practice as a certified physician assistant.

These exam specifications are based on the results of the most recent profession-wide practice analysis. The examples provided for each medical content and task category are indicative of the types of information that will be included on the exam. It is not possible to include all topics on a single exam, and it may be possible that some questions on the exam cover content that is not listed in the examples.

## Medical Content Categories

|  | Percentage* |
|--|-------------|
| <a href="#">Cardiovascular System</a>                  | 13%         |
| <a href="#">Dermatologic System</a>                    | 5%          |
| <a href="#">Endocrine System</a>                       | 7%          |
| <a href="#">Eyes, Ears, Nose, and Throat</a>           | 7%          |
| <a href="#">Gastrointestinal System/Nutrition</a>      | 9%          |
| <a href="#">Genitourinary System (Male and Female)</a> | 5%          |
| <a href="#">Hematologic System</a>                     | 5%          |
| <a href="#">Infectious Diseases</a>                    | 6%          |
| <a href="#">Musculoskeletal System</a>                 | 8%          |
| <a href="#">Neurologic System</a>                      | 7%          |
| <a href="#">Psychiatry/Behavioral Science</a>          | 6%          |
| <a href="#">Pulmonary System</a>                       | 10%         |
| <a href="#">Renal System</a>                           | 5%          |
| <a href="#">Reproductive System (Male and Female)</a>  | 7%          |

## Task Categories

|  | Percentage* |
|--|-------------|
| History Taking and Performing Physical Examination             | 17%         |
| Using Diagnostic and Laboratory Studies                        | 12%         |
| Formulating Most Likely Diagnosis                              | 18%         |
| Managing Patients  |             |
| Health Maintenance, Patient Education, and Preventive Measures | 10%         |
| Clinical Intervention  | 14%         |
| Pharmaceutical Therapeutics                                    | 14%         |
| Applying Basic Scientific Concepts                             | 10%         |
| Professional Practice  | 5%          |

\*Medical content comprises 95% of the exam. All medical content questions are also coded to one of the task areas, with the exception of the professional practice task category. Questions related to professional practice issues comprise 5% of the exam. In addition, up to 20% of the exam may be related to general surgical topics. The specific percentage allocations may vary slightly on exams.

# Medical Content Categories

## **Cardiovascular System (13%)**

### Cardiomyopathy

- Dilated
- Hypertrophic
- Restrictive

### Conduction disorders/dysrhythmias

- Atrial fibrillation/flutter
- Atrioventricular block
- Bundle branch block
- Paroxysmal supraventricular tachycardia
- Premature beats
- Sick sinus syndrome
- Sinus arrhythmia
- Torsades de pointes
- Ventricular fibrillation
- Ventricular tachycardia

### Congenital heart disease

- Atrial septal defect
- Coarctation of aorta
- Patent ductus arteriosus
- Tetralogy of Fallot
- Ventricular septal defect

### Coronary artery disease

- Acute myocardial infarction
  - Non–ST-segment elevation
  - ST-segment elevation
- Angina pectoris
  - Prinzmetal variant
  - Stable
  - Unstable

### Heart failure

### Hypertension

- Essential hypertension
- Hypertensive emergencies
- Secondary hypertension

### Hypotension

- Cardiogenic shock
- Orthostatic hypotension
- Vasovagal hypotension

### Lipid disorders

- Hypercholesterolemia
- Hypertriglyceridemia

### Traumatic, infectious, and inflammatory heart conditions

- Acute and subacute bacterial endocarditis
- Acute pericarditis
- Cardiac tamponade
- Pericardial effusion

### Valvular disorders

- Aortic (Stenosis / regurgitation)
- Mitral (prolapse / stenosis / regurgitation)
- Pulmonary (stenosis / regurgitation)
- Tricuspid (stenosis / regurgitation)

### Vascular disease

- Aortic aneurysm/dissection
- Arterial embolism/thrombosis
- Arteriovenous malformation
- Giant cell arteritis
- Peripheral artery disease
- Phlebitis/thrombophlebitis
- Varicose veins
- Venous insufficiency
- Venous thrombosis

## ***Dermatologic System (5%)***

### Acneiform eruptions

- [Acne vulgaris](#)
- [Folliculitis](#)
- [Rosacea](#)

### Desquamation

- [Erythema multiforme](#)
- [Stevens-Johnson syndrome](#)
- [Toxic epidermal necrolysis](#)

### Diseases/disorders of the hair and nails

- [Alopecia](#)
- [Onychomycosis](#)
- [Paronychia](#)

### Envenomations and arthropod bite reactions

### Exanthems

- [Erythema infectiosum \(fifth disease\)](#)
- [Hand-foot-and-mouth disease](#)
- [Measles](#)

### Infectious diseases

- [Bacterial](#)
  - [Cellulitis](#)
  - [Erysipelas](#)
  - [Impetigo](#)
- [Fungal](#)
  - [Candidiasis](#)
  - [Dermatophyte infections](#)
- [Parasitic](#)
  - [Lice](#)
  - [Scabies](#)
- [Viral](#)
  - [Condyloma acuminatum](#)
  - [Herpes simplex](#)
  - [Molluscum contagiosum](#)
  - [Varicella-zoster virus infections](#)
  - [Verrucae](#)

### Keratotic disorders

- [Actinic keratosis](#)
- [Seborrheic keratosis](#)

### Neoplasms

- [Benign](#)
- [Malignant](#)
- [Premalignant](#)

### Papulosquamous disorders

- [Contact dermatitis](#)
- [Drug eruptions](#)
- [Eczema](#)
- [Lichen planus](#)
- [Pityriasis rosea](#)
- [Psoriasis](#)

### Pigment disorders

- [Melasma](#)
- [Vitiligo](#)

### Skin integrity

- [Burns](#)
- [Lacerations](#)
- [Pressure ulcers](#)
- [Stasis dermatitis](#)

### Vascular abnormalities

- [Cherry angioma](#)
- [Telangiectasia](#)

### Vesiculobullous disease

- [Pemphigoid](#)
- [Pemphigus](#)

### Other dermatologic disorders

- [Acanthosis nigricans](#)
- [Hidradenitis suppurativa](#)
- [Lipomas/epidermal inclusion cysts](#)
- [Photosensitivity reactions](#)
- [Pilonidal disease](#)
- [Urticaria](#)

## **Endocrine System (7%)**

### Adrenal disorders

- [Primary adrenal insufficiency](#)
- [Cushing syndrome](#)

### Diabetes mellitus

- [Type 1](#)
- [Type 2](#)

### Hypogonadism

### Neoplasms

- [Multiple endocrine neoplasia](#)
- [Neoplastic syndrome](#)
- [Primary endocrine malignancy](#)
- [Syndrome of inappropriate antidiuretic hormone secretion \(SIADH\)](#)

### Parathyroid disorders

- [Hyperparathyroidism](#)
- [Hypoparathyroidism](#)

### Pituitary disorders

- [Acromegaly/gigantism](#)
- [Diabetes insipidus](#)
- [Dwarfism](#)
- [Pituitary adenoma](#)

### Thyroid disorders

- [Hyperthyroidism](#)
- [Hypothyroidism](#)
- [Thyroiditis](#)

## Eyes, Ears, Nose, and Throat (7%)

### Eye disorders

- Conjunctival disorders
  - Conjunctivitis
- Corneal disorders
  - Cataract
  - Corneal ulcer
  - Infectious
  - Keratitis
  - Pterygium
- Lacrimal disorders
  - Dacryocystitis
- Lid disorders
  - Blepharitis
  - Chalazion
  - Ectropion
  - Entropion
  - Hordeolum
- Neuro-ophthalmologic disorders
  - Nystagmus
  - Optic neuritis
  - Papilledema
- Orbital disorders
  - Orbital cellulitis
- Retinal disorders
  - Macular degeneration
  - Retinal detachment
  - Retinopathy
- Traumatic disorders
  - Blowout fracture
  - Corneal abrasion
  - Globe rupture
  - Hyphema
- Vascular disorders
  - Retinal vascular occlusion
- Vision abnormalities
  - Amaurosis fugax
  - Amblyopia
  - Glaucoma
  - Scleritis
  - Strabismus

### Ear disorders

- External ear
  - Cerumen impaction
  - Otitis externa
  - Trauma

- Inner ear
  - Acoustic neuroma
  - Barotrauma
  - Dysfunction of eustachian tube
  - Labyrinthitis
  - Vertigo
- Middle ear
  - Cholesteatoma
  - Otitis media
  - Tympanic membrane perforation
- Hearing impairment
- Other abnormalities of the ear
  - Mastoiditis
  - Meniere disease
  - Tinnitus

### Foreign bodies

### Neoplasms

- Benign
- Malignant

### Nose/sinus disorders

- Epistaxis
- Nasal polyps
- Rhinitis
- Sinusitis
- Trauma

### Oropharyngeal disorders

- Diseases of the teeth/gums
- Infectious/inflammatory disorders
  - Aphthous ulcers
  - Candidiasis
  - Deep neck infection
  - Epiglottitis
  - Herpes simplex
  - Laryngitis
  - Peritonsillar abscess
  - Pharyngitis
- Salivary disorders
  - Sialadenitis
  - Parotitis
- Trauma
- Other oropharyngeal disorders
  - Leukoplakia

## ***Gastrointestinal System/Nutrition (9%)***

### Biliary disorders

- [Acute/chronic cholecystitis](#)
- [Cholangitis](#)
- [Cholelithiasis](#)

### Colorectal disorders

- [Abscess/fistula](#)
- [Anal fissure](#)
- [Constipation](#)
- [Diverticulitis](#)
- [Fecal impaction](#)
- [Hemorrhoids](#)
- [Inflammatory bowel disease](#)
- [Irritable bowel syndrome](#)
- [Ischemic bowel disease](#)
- [Obstruction](#)
- [Polyps](#)
- [Toxic megacolon](#)

### Esophageal disorders

- [Esophagitis](#)
- [Gastroesophageal reflux disease](#)
- [Mallory-Weiss tear](#)
- [Motility disorders](#)
- [Strictures](#)
- [Varices](#)

### Food allergies and food sensitivities

- [Gluten intolerance](#)
- [Lactose intolerance](#)
- [Nut allergies](#)

### Gastric disorders

- [Gastritis](#)
- [Peptic ulcer disease](#)
- [Pyloric stenosis](#)

### Hepatic disorders

- [Acute/chronic hepatitis](#)
- [Cirrhosis](#)

### Hernias

### Infectious diarrhea

### Ingestion of toxic substances or foreign bodies

### Metabolic disorders

- [G6PD deficiency](#)
- [Paget disease](#)
- [Phenylketonuria](#)
- [Rickets](#)

### Neoplasms

- [Benign](#)
- [Malignant](#)

### Nutritional and vitamin disorders

- [Hypervitaminosis/hypovitaminosis](#)
- [Obesity](#)

### Pancreatic disorders

- [Acute/chronic pancreatitis](#)

### Small intestine disorders

- [Appendicitis](#)
- [Celiac disease](#)
- [Intussusception](#)
- [Obstruction](#)
- [Polyps](#)

## **Genitourinary System (Male and Female) (5%)**

### Bladder disorders

- [Incontinence](#)
- [Overactive bladder](#)
- [Prolapse](#)

### Congenital and acquired abnormalities

- [Cryptorchidism](#)
- [Peyronie disease](#)
- [Trauma](#)
- [Vesicoureteral reflux](#)

### Human sexuality

### Infectious disorders

- [Cystitis](#)
- [Epididymitis](#)
- [Orchitis](#)
- [Prostatitis](#)
- [Pyelonephritis](#)
- [Urethritis](#)

### Neoplasms

- [Bladder cancer](#)
- [Penile cancer](#)
- [Prostate cancer](#)
- [Testicular cancer](#)

### Nephrolithiasis/urolithiasis

### Penile disorders

- [Erectile dysfunction](#)
- [Hypospadias/epispadias](#)
- [Paraphimosis/phimosis](#)

### Prostate disorders

- [Benign prostatic hyperplasia](#)

### Testicular disorders

- [Hydrocele/varicocele](#)
- [Testicular torsion](#)

### Urethral disorders

- [Prolapse](#)
- [Stricture](#)



## **Hematologic System (5%)**

### Autoimmune disorders

### Coagulation disorders

- Clotting factor disorders
- Thrombocytopenias

### Cytopenias

- Anemia
- Leukopenia

### Cytoses

- Polycythemia
- Thrombocytosis

### Hemoglobinopathies

- Hemochromatosis
- Sickle cell disease
- Thalassemia

### Immunologic disorders

- Transfusion reaction

### Neoplasms, premalignancies, and malignancies

- Acute/chronic lymphocytic leukemia
- Acute/chronic myelogenous leukemia
- Lymphoma
- Multiple myeloma
- Myelodysplasia

## ***Infectious Diseases (6%)***

### Bacterial diseases

- [Botulism](#)
- [Campylobacter jejuni infection](#)
- [Chlamydia](#)
- [Cholera](#)
- [Diphtheria](#)
- [Gonococcal infections](#)
- [Gonorrhea](#)
- [Methicillin-resistant Staphylococcus aureus infection](#)
- [Rheumatic fever](#)
- [Rocky Mountain spotted fever](#)
- [Salmonellosis](#)
- [Shigellosis](#)
- [Tetanus](#)

### Viral diseases

- [Cytomegalovirus infections](#)
- [Epstein-Barr virus infections](#)
- [Erythema infectiosum](#)
- [Herpes simplex virus infections](#)
- [HIV infection](#)
- [Human papillomavirus infections](#)
- [Influenza](#)
- [Measles](#)
- [Mumps](#)
- [Rabies](#)
- [Roseola](#)
- [Rubella](#)
- [Varicella-zoster virus infections](#)

### Fungal diseases

- [Candidiasis](#)
- [Cryptococcosis](#)
- [Histoplasmosis](#)
- [Pneumocystis](#)

### Mycobacterial diseases

- [Atypical mycobacterial disease](#)
- [Tuberculosis](#)

### Parasitic diseases

- [Helminth infestations](#)
- [Malaria](#)
- [Pinworms](#)
- [Toxoplasmosis](#)
- [Trichomoniasis](#)

### Prenatal transmission of disorders

- [Congenital varicella](#)
- [Herpes simplex virus](#)
- [Human papillomavirus](#)
- [Zika virus](#)

### Sepsis/systemic inflammatory response syndrome

### Spirochetal diseases

- [Lyme disease](#)
- [Syphilis](#)

## **Musculoskeletal System (8%)**

### Chest/rib disorders

- [Deformities](#)
- [Fractures](#)

### Compartment syndrome

### Degenerative diseases

- [Osteoarthritis](#)

### Infectious diseases

- [Osteomyelitis](#)
- [Septic arthritis](#)

### Lower extremity disorders

- [Disorders of the hip](#)
  - [Avascular necrosis hip](#)
  - [Developmental Dysplasia of the hip](#)
  - [Fractures and dislocations of the hip](#)
  - [Slipped capital femoral epiphysis](#)
- [Disorders of the Knee](#)
  - [Fractures and dislocations of the knee](#)
  - [Osgood-Schlatter disease](#)
  - [Soft tissue injuries of the knee](#)
- [Disorders of the Ankle and Foot](#)
  - [Fractures and dislocations of the ankle and foot](#)
  - [Soft tissue injuries of the ankle and foot](#)

### Neoplasms

- [Benign](#)
- [Malignant](#)

### Rheumatologic disorders

- [Fibromyalgia](#)
- [Gout/pseudogout](#)
- [Juvenile rheumatoid arthritis](#)
- [Osteoporosis](#)
- [Polyarteritis nodosa](#)
- [Polymyalgia rheumatica](#)
- [Polymyositis](#)
- [Reactive arthritis](#)

- [Rheumatoid arthritis](#)
- [Sjögren syndrome](#)
- [Systemic lupus erythematosus](#)
- [Systemic sclerosis \(Scleroderma\)](#)

### Spinal disorders

- [Ankylosing spondylitis](#)
- [Cauda equina syndrome](#)
- [Herniated nucleus pulposus](#)
- [Kyphosis](#)
- [Scoliosis](#)
- [Spinal stenosis](#)
- [Sprain/strain](#)
- [Thoracic outlet syndrome](#)
- [Torticollis](#)
- [Trauma](#)

### Upper extremity disorders

- [Disorders of the shoulder](#)
  - [Shoulder Fractures/dislocations](#)
  - [Soft tissue injuries of the shoulder](#)
- [Disorders of the Forearm, Wrist and Hand](#)
  - [Fractures and dislocations of the forearm, wrist and hands](#)
  - [Soft tissue injuries of the forearm, wrist and hand](#)

## **Neurologic System (7%)**

### Closed head injuries

- [Concussion](#)
- [Postconcussion syndrome](#)
- [Traumatic brain injury](#)

### Cranial nerve palsies

### Encephalopathic disorders

### Headaches

- [Cluster headache](#)
- [Migraine](#)
- [Tension headache](#)

### Infectious disorders

- [Encephalitis](#)
- [Meningitis](#)

### Movement disorders

- [Essential tremor](#)
- [Huntington disease](#)
- [Parkinson disease](#)
- [Tourette disorder](#)

### Neoplasms

- [Benign](#)
- [Malignant](#)

### Neurocognitive disorders

- [Delirium](#)
- [Major/mild neurocognitive disorders](#)

### Neuromuscular disorders

- [Cerebral palsy](#)
- [Multiple sclerosis](#)
- [Myasthenia gravis](#)

### Peripheral nerve disorders

- [Carpal tunnel syndrome](#)
- [Complex regional pain syndrome](#)
- [Guillain-Barré syndrome](#)
- [Peripheral neuropathy](#)

### Seizure disorders

- [Focal seizures](#)
- [Generalized seizures](#)
- [Status epilepticus](#)

### Vascular disorders

- [Arteriovenous malformation](#)
- [Cerebral aneurysm](#)
- [Intracranial hemorrhage](#)
- [Stroke](#)
- [Syncope](#)
- [Transient ischemic attack](#)

## ***Psychiatry/Behavioral Science (6%)***

### Abuse and neglect

- [Child abuse](#)
- [Domestic violence](#)
- [Elder abuse](#)
- [Sexual abuse](#)

### Anxiety disorders

- [Generalized anxiety disorder](#)
- [Panic disorder](#)
- [Phobias](#)

### Bipolar and related disorders

### Depressive disorders

- [Major depressive disorder](#)
- [Persistent depressive disorder \(dysthymia\)](#)
- [Premenstrual dysphoric disorder](#)
- [Suicidal/homicidal behaviors](#)

### Disruptive, impulse-control, and conduct disorders

- [Conduct disorder](#)

### Dissociative disorders

### Feeding and eating disorders

### Human sexuality

### Obsessive-compulsive and related disorders

### Neurodevelopmental disorders

- [Attention-deficit/hyperactivity disorder](#)
- [Autism spectrum disorder](#)

### Personality disorders

### Schizophrenia spectrum and other psychotic disorders

### Sleep-wake disorders

- [Narcolepsy](#)
- [Parasomnias](#)

### Somatic symptom and related disorders

### Substance-related and addictive disorders

### Trauma- and stressor-related disorders

- [Adjustment disorders](#)
- [Post-traumatic stress disorder](#)

## ***Pulmonary System (10%)***

### Chronic obstructive pulmonary diseases

- [Chronic bronchitis](#)
- [Emphysema](#)

### Infectious disorders

- [Acute bronchiolitis](#)
- [Acute bronchitis](#)
- [Acute epiglottitis](#)
- [Croup](#)
- [Influenza](#)
- [Pertussis](#)
- [Pneumonias](#)
  - [Bacterial](#)
  - [Fungal](#)
  - [HIV-related](#)
  - [Viral](#)
- [Respiratory syncytial virus infection](#)
- [Tuberculosis](#)

### Neoplasms

- [Carcinoid tumors](#)
- [Lung cancer](#)
- [Pulmonary nodules](#)

### Pleural diseases

- [Pleural effusion](#)
- [Pneumothorax](#)

### Pulmonary circulation

- [Cor pulmonale](#)
- [Pulmonary embolism](#)
- [Pulmonary hypertension](#)

### Restrictive pulmonary diseases

- [Idiopathic pulmonary fibrosis](#)
- [Pneumoconiosis](#)
- [Sarcoidosis](#)

### Sleep apnea/Obesity hypoventilation syndrome

### Other pulmonary disorders

- [Acute respiratory distress syndrome](#)
- [Asthma](#)
- [Cystic fibrosis](#)
- [Foreign body aspiration](#)
- [Hyaline membrane disease](#)

## **Renal System (5%)**

### Acute disorders

- [Glomerulonephritis](#)
- [Nephrotic syndrome](#)
- [Pyelonephritis](#)

### Acute kidney injury (acute renal failure)

### Chronic kidney disease

### Congenital or structural renal disorders

- [Horseshoe kidney](#)
- [Hydronephrosis](#)
- [Polycystic kidney disease](#)
- [Renal vascular disease](#)

### End-stage renal disease

### Fluid and electrolyte disorders

- [Acid-base disorders](#)
- [Dehydration](#)
- [Hyperkalemia/hypokalemia](#)
- [Hypervolemia](#)
- [Hyponatremia](#)

### Neoplasms

- [Renal cell carcinoma](#)
- [Wilms tumor](#)

## **Reproductive System (Male and Female) (7%)**

### Breast disorders

- Abscess
- Fibroadenoma
- Fibrocystic changes
- Galactorrhea
- Gynecomastia
- Mastitis

### Cervical disorders

- Cervicitis
- Dysplasia

### Complicated pregnancy

- Abortion
- Abruptio placentae
- Breech presentation
- Cesarean delivery
- Cord prolapse
- Dystocia
- Ectopic pregnancy
- Fetal distress
- Gestational diabetes
- Gestational trophoblastic disease
- Hypertension disorders in pregnancy
- Incompetent cervix
- Multiple gestation
- Placenta previa
- Postpartum hemorrhage
- Premature rupture of membranes
- Rh incompatibility
- Shoulder dystocia

### Contraceptive methods

### Human sexuality

### Infertility

### Menopause

### Menstrual disorders

### Neoplasms of the breast and reproductive tract

- Benign
- Malignant

### Ovarian disorders

- Cysts
- Polycystic ovarian syndrome
- Torsion

### Sexually transmitted infections/Pelvic inflammatory disease

### Trauma

- Physical assault
- Sexual assault
- Trauma in pregnancy

### Uncomplicated pregnancy

- Normal labor/delivery
- Postnatal/postpartum care
- Preconception/prenatal care

### Uterine disorders

- Endometriosis
- Leiomyoma
- Prolapse

### Vaginal/vulvar disorders

- Cystocele
- Prolapse
- Rectocele
- Vaginitis



# Task Categories

## **History Taking and Performing Physical Examination (17%)**

### *Knowledge of:*

- General physical examination components and techniques
- Pertinent historical information
- Risk factors for development of significant medical conditions
- Significant physical examination findings
- Signs and symptoms of significant medical conditions

### *Skill in:*

- Conducting comprehensive and/or problem-based interviews and physical examinations
- Eliciting patient information from other sources
- Identifying conditions requiring referral to or consultation with specialists
- Identifying pertinent patient and family historical information from patients and caregivers
- Identifying pertinent physical examination information
- Triaging of patients based on recognition of abnormal vital signs, examination findings, and/or general observations

## **Using Diagnostic and Laboratory Studies (12%)**

### *Knowledge of:*

- Appropriate patient education relating to diagnostic and laboratory studies
- Indications for initial and subsequent diagnostic and laboratory studies
- Indications for preventive screening tests
- Risks associated with diagnostic and laboratory studies

### *Skill in:*

- Collecting diagnostic and laboratory specimens
- Communicating risks, benefits, and results effectively to other members of the health care team
- Communicating risks, benefits, and results effectively to patients, families, and caregivers
- Reviewing and interpreting results of diagnostic and laboratory studies, and correlating the results with history and physical examination findings
- Selecting appropriate diagnostic and/or laboratory studies
- Using diagnostic equipment safely and appropriately

## **Formulating Most Likely Diagnosis (18%)**

### *Knowledge of:*

- Significance of diagnostic and laboratory studies as they relate to diagnosis
- Significance of history as it relates to the differential diagnosis
- Significance of physical examination findings as they relate to diagnosis

### *Skill in:*

- Developing multiple differential diagnoses for complicated and/or multisystem cases
- Formulating most likely differential diagnoses
- Incorporating history, physical examination findings, and diagnostic data into medical decision-making
- Recognizing the need for referral to a specialist
- Selecting the most likely diagnosis in light of presented data

## **Managing Patients - Health Maintenance, Patient Education, and Preventive Measures (10%)**

### *Knowledge of:*

- Appropriate patient education regarding preventable conditions and lifestyle modifications
- Early detection and prevention of medical conditions
- Effects of aging and changing family roles
- Genetic testing and counseling
- Human growth and development
- Human sexuality and gender identity, gender transition, and associated medical issues
- Immunization schedules and recommendations for infants, children, adults, and foreign travelers/adoptions
- Impact of patient demographics on risks for medical conditions
- Prevention of communicable diseases
- Preventive screening recommendations
- Psychosocial effects of illness, stress, and injury as well as related healthy coping strategies
- Signs of abuse and neglect

### *Skill in:*

- Adapting health maintenance to an individual patient's context
- Communicating effectively with and educating patients, family members, and caregivers regarding medical conditions
- Conducting education on modifiable risk factors with an emphasis on primary and secondary prevention
- Using counseling techniques

## **Managing Patients - Clinical Intervention (14%)**

### *Knowledge of:*

- Clinical procedures and their indications, contraindications, complications, risks, benefits, and techniques
- Conditions that constitute medical emergencies
- Criteria for admission to or discharge from the hospital or other facilities
- Management, treatment, and follow-up of medical conditions
- Palliative care and end-of-life issues
- Roles of other health professionals
- Sterile technique
- Therapeutic regimens
- Universal precautions and special isolation conditions

### *Skill in:*

- Demonstrating technical expertise related to performing specific procedures
- Evaluating patient response to treatment/intervention
- Facilitating patient/caregiver adherence to and active participation in treatment
- Formulating and implementing treatment plans in accordance with applicable practice guidelines
- Interfacing in multidisciplinary teams, including education of other health care professionals
- Making appropriate dispositions
- Monitoring and managing nutritional status
- Prioritizing tasks
- Recognizing and initiating treatment for life-threatening conditions
- Using community resources to meet the needs of patients/caregivers

## **Managing Patients - Pharmaceutical Therapeutics (14%)**

### *Knowledge of:*

- Adverse effects, reactions, and toxicities
- Common alternative/complementary therapies and their interactions and toxicities
- Contraindications
- Drug interactions, including presentation and treatment
- Indications for use
- Mechanism of action
- Methods to reduce medication errors
- Monitoring and follow-up of pharmacologic regimens
- Presentation and treatment of allergic reactions
- Regulation of controlled substances
- Special populations requiring drug/dose modification
- Substances of abuse

### *Skill in:*

- Assessing patient adherence to drug regimens
- Drafting a prescription
- Evaluating, treating, and reporting adverse drug reactions and/or adverse effects
- Identifying and managing medication misuse
- Interacting with pharmacists to address medication issues
- Maintaining knowledge of relevant pharmacologic agents
- Monitoring pharmacologic regimens and adjusting as appropriate
- Prescribing controlled substances appropriately
- Selecting appropriate pharmacologic therapy and dosing

## **Applying Basic Scientific Concepts (10%)**

### *Knowledge of:*

- Basic biochemistry
- Basic genetics
- Human anatomy and physiology
- Microbiology
- Pathophysiology and immunology

### *Skill in:*

- Evaluating emerging medical trends critically as they relate to patient care
- Maintaining awareness of trends in infectious disease
- Relating pathophysiological principles to specific disease processes

## **Professional Practice (5%)**

### ***Legal/medical ethics***

#### *Knowledge of:*

- Cultural and religious beliefs related to health care
- Informed consent and refusal process
- Living will, advance directives, organ donation, code status, do not resuscitate, do not intubate, medical power of attorney, etc.
- Medicolegal issues
- Patient/provider rights and responsibilities
- Privacy, security, and responsibility related to medical record documentation and management

#### *Skill in:*

- Caring for patients with cognitive impairment

### ***Medical informatics***

#### *Knowledge of:*

- Billing/coding to maintain accuracy and completeness for reimbursement and administrative purposes

#### *Skill in:*

- Demonstrating appropriate medical record documentation
- Using appropriate medical informatics sources

### ***Patient care and communication (individual patients)***

#### *Knowledge of:*

- Affordable and effective health care that is patient specific
- Cultural and religious diversity
- Stewardship of patient and community resources

#### *Skill in:*

- Acknowledging and applying patient/provider rights and responsibilities
- Ensuring patient satisfaction
- Providing patient advice and education regarding the informed consent and refusal process
- Providing patient advice and education related to end-of-life decisions

### ***Physician/PA relationship***

#### *Knowledge of:*

- Professional and clinical limitations, scope of practice, etc.
- Supervision parameters: malpractice, mandated reporting, conflict of interest, impaired provider, ethical principles

#### *Skill in:*

- Communicating and consulting with the supervising physician and/or other specialists/consultants

## **Professional development**

### *Knowledge of:*

- Continuing medical education resources

### *Skill in:*

- Critically analyzing evidence-based medicine
- Identifying and interpreting data from medical informatics sources and identifying appropriate reference sources
- Using epidemiologic techniques to evaluate the spread of disease

## **Public health (population/society)**

### *Knowledge of:*

- Basic disaster preparedness
- Infection control measures and response to outbreaks
- Occupational health issues as they pertain to health care as well as non–health care workers
- Population health, travel health, and epidemiology of disease states

### *Skill in:*

- Protecting vulnerable populations and recognizing disparities in provision of and access to health care

## **Risk management**

### *Knowledge of:*

- Quality improvement and patient safety
- Resource stewardship

### *Skill in:*

- Ensuring patient safety and avoiding medical errors