Overall Competencies for the Pediatric Residency Training Program

INFECTIOUS DISEASES

Goals and Competencies

PC: Patient Care; MK: Medical Knowledge; PBLI: Practice-Based Learning & Improvement
IC: Interpersonal & Communication Skills; P: Professionalism; SBP: Systems-Based Practice

GOAL 1: Normal versus Abnormal (Infectious Disease). Understand how to differentiate between normal and abnormal pathologic states related to infectious disease.

COMPETENCIES: (PC, MK)	<25%	25-50%	50-75%	75-100%
1. Describe the normal temperature variability and its use in identifying infection, as well as methods employed, e.g., mercury thermometer and sites (oral, rectal).			1	2, 3
2. Describe other signs that often indicate infections (e.g., inflammation, skin changes, jaundice, rash, exudates, pain, breathing difficulties, behavior change, anorexia) and conditions under which these might be absent.			1	2, 3

GOAL 2: Common Symptom Complexes (Infectious Disease). Understand how to manage common symptoms /signs of infection.

COMPETENCIES: (PC, MK)	<25%	25-50%	50-75%	75-100%
Describe the evaluation, differential diagnosis, and management of these clinical situations:				
1. **General:** Fever in the neonate, in immunocompromised host, without localizing features or associated with rash/petechiae/purpura.			1, 2	3
2. **Respiratory:** Ear pain, sore throat, runny nose, cough, sinus pain, tooth pain, stridor.			1, 2	3
3. **Gastrointestinal:** Vomiting, diarrhea, abdominal pain.			1	2, 3
4. **Genitourinary:** Urinary pain or frequency, hematuria, penile or vaginal discharge.			1	2, 3
5. **Musculoskeletal:** Painful or swollen joints and bones, limp, puncture wounds, skin changes, pain, or erythema.			1	2, 3
6. **Lymphatic:** Adenopathy with or without fever or pain.			1, 2	3
7. **Ophthalmology:** Conjunctival drainage, orbital swelling or redness.			1	2, 3
8. **Oral:** tooth pain, facial swelling.			1	2, 3

GOAL 3: Common Conditions Not Referred (Infectious Disease). Understand how to diagnose and manage infectious disease conditions which do not require referral.

COMPETENCIES: (PC, MK)	<25%	25-50%	50-75%	75-100%
Recognize and manage these conditions:				
1. Systemic (Infectious Disease)				
a. **Viral exanthems:** Measles, varicella, herpes simplex, parvovirus, rubella.			1, 2, 3	
b. **Zoonoses/Arthropod Borne:** Rocky mountain spotted fever, cat scratch disease			1	2, 3
c. **Other:** Infectious mononucleosis syndrome (EB virus, CMV, taxoplasma, etc.), RSV, influenze, entrovirus, adenovirus, Kawasaki disease.		1	2	3
2. Organ System (Infectious Disease)				
a. **Upper respiratory:** Pharyngitis, otitis media and externa, sinusitis, facial cellulitis, mastoiditis.			1	2, 3
b. **Oral/Pharyngal:** Herpetic gingivostomatitis, herpangina, oral thrush, tonsillar-pharyngitis, glossitis enteroviral enanthems, Koplik's Spots.			1	2, 3
c. **Middle airway:** Croup syndrome.			1	2, 3
d. **Lower airway:** Pneumonia (including chlamydia, mycoplasma, bacteria, viral), bronchiolitis, follow-up of pulmonary tuberculosis, tracheitis (child with endotracheal tube).			1	2, 3
e. **GI tract:** Esophagitis, gastroentitis (bacteris, viral, and parasitic, giardia, antibiotic associated colitis), hepatitis.			1, 2	3
f. **Renal:** UTI (pyelonephritis, cystitis, urethritis)				1, 2, 3
g. **Genital:** Urethritis, vaginitis, epididymitis, orchitis, cervicitis, uncomplicated PID.			1, 2	3

h. **Musculoskeletal:** Osteomyelitis/arthritis.			1, 2	3
i. **CNS:** Aseptic and bacterial meningitis, post-viral encephalitis, cerebellar ataxia.			1, 2	3
j. **Skin:** Bacterial (impetigo, cellulites, furuncles, carbuncles); dermatophytes; cadida (oral and diaper); herpes simplex.				1, 2, 3
k. **Eyes:** Conjunctivitis, blepharitis, sty, preseptal cellulitis.			1, 2	3
l. **Parasites:** Pinworms, toxacara canis, ascariasis, neurocysticercosis.			1, 2	3
3. Age Group-Focused (Infectious Disease)				
a. **Intrauterine**: CMV, rubella, syphilis, parvovirus B19, varicella, HIV.			1, 2	3
b. **Perinatal**:				
1. **Viral**: varicella, enterovirus, HSV.			1, 2	3
2. **Bacterial**: sepsis, group B strep, focal infections, (scalp, mastitis, omphalitis).			1	2, 3
3. **Fungal**: candida.			1, 2	3
c. **Infancy/Toddler**: Potential occult bacteremia (2 months to 3 years).			1	2, 3
d. **Adolescent STDs**: Cervicitis, vaginitis, genital ulcer/adenopathy, urethritis, epididymitis/orchitis, cutaneous (syphilis, warts), PID, HIV, human papilloma virus.			1,2,3	

GOAL 4: Conditions Generally Referred (Infectious Disease). Understand how to recognize, manage, and refer infectious disease conditions which require consultation or referral.

COMPETENCIES: (PC, MK, IC, SBP)	<25%	25-50%	50-75%	75-100%
1. Recognize, provide initial management of, and refer appropriately uncommon or complicated conditions for the following Systemic infections such as:				
a. **Zoonoses/Arthropod Borne:** Brucella, leptospirosis, ehrlichia, tularemia, lyme, rocky mountain spotted fever.			1, 2	3
b. **Other:** Prenatal exposure to or congenital HIV, AIDS, disseminated or active tuberculosis, systemic fungal infections, disseminated gonococcal infection, endotoxin shock, toxin shock, fever of unknown origin, fever and neutropenia, fever in immunocompromised patient, Kawasaki disease.			1, 2	3
2. Recognize, provide initial management of, and refer appropriately uncommon or complicated conditions for the following Organ Systems infections such as:				
a. **Upper respiratory**: Orbital cellulitis, mastoiditis.			1	2, 3
b. **Oral/Pharyngeal**: Peritonsillar abscess, retropharyngeal abcess, dental abscess.			1	2, 3
c. **Middle airway**: Epiglottitis, bacterial tracheitis.			1	2, 3
d. **Lower airway**: Fungal pneumonia, empyema, lung abcess, large parapneumonic effusion.			1, 2	3
e. **Heart**: Endocarditis, thrombophlebitis, pericarditis, myocarditis, acute rheumatic fever.			1	2, 3
f. **GI tract**: Hepatic abscess, cholangitis, hemolytic uremic syndrome, parasites.			1, 2	3
g. **Intra-abdominal**: Appendicitis, peritonitis, abcess.			1	2, 3
h. **Renal**: Renal and perinephric abscess.			1	2, 3
i. **Genital**: Complicated PID, tubo-ovarian abscess.		1	2	3
j. **Musculoskeletal**: Osteomyelitis, septic arthritis, discitis, myositis.			1	2, 3
k. **CNS**: Brain abscess, epidural, subdural, and paraspinal abscess, encephalitis, transverse myelitis, peripheral neuropathies (diphtheria, botulism, tetanus), Guillain-Barre.		1	2	3
l. **Skin**: Staphylococcal scalded skin.			1	2, 3
m. **Eyes**: Keratitis, endophthalmitis.			1	2, 3
3. Recognize, provide initial management of, and refer appropriately uncommon or complicated conditions for the following Special Hosts infections such as:				
a. **Immunocompromised hosts**: Identify risk factors, and describe empiric treatment/management (e.g., AIDS, chemotherapy, steroid suppression).			1	2, 3
b. **Newborn**: Toxoplasmosis (intrauterine), perinatal herpes, perinatal systemic fungal, varicella.			1	2, 3

GOAL 5: Human Immunodeficiency Virus (HIV): Understand how to recognize, screen for, refer, and co-manage patients with HIV.

COMPETENCIES: (PC, MK, PBLI, IC, P, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Demonstrate knowledge about the pathophysiology, natural history,				

presenting signs and symptoms, and associated opportunistic infections in patients with HIV.			1	2, 3
2. Describe risk factors for perinatal transmission of HIV, tests for screening and confirmatory diagnosis, and indications for referral including asymptomatic HIV infected patients.			1, 2	3
3. Describe the staging of HIV infection, the use of laboratory parameters (e.g., CD4 counts), and general treatment modalities including chemoprophylaxis.			1	2, 3
4. Co-manage patients with HIV with subspecialists and refer for appropriate complications.			1, 2	3
5. Demonstrate the ability to obtain informed consent for HIV testing, being aware of the legal requirements in your locale.				1, 2, 3

GOAL 6: Use of Antibiotics: Understand the appropriate use of antibiotics in managing infections in children.

COMPETENCIES: (PC, MK, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Describe principle antibiotics for common infections (including antibacterial, antiviral, antifungal, antiparasitic, antitubercular agents), including mechanism of action, spectrum of activity, adverse effects, drug interactions, relative cost.		1	2	3
2. Describe principles of antibiotic use, including static vs. bactericidal drugs, combinations/synergy, monitoring for toxicity/efficacy.		1	2	3
3. Identify changing patterns of microbial antibiotic resistance and alterations in antibiotic usage to meet these changes.		1	2	3
4. Identify several resources for current information on common antibiotics.			1	2, 3

GOAL 7: Immunizations (Infectious Disease): Understand how to use vaccines to prevent common childhood diseases.

COMPETENCIES: (PC, MK, PBLI, IC, P, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Describe the currently recommended immunization schedules for preventing infections in children.			1	2, 3
2. Provide routine immunizations and related counseling, including contraindications, common side effects, informed consent.				1, 2, 3
3. Identify special circumstances justifying special immunizations such as influenza, pneumovax, vaccination of infant born to hepatitis B carrier, immunosuppressed patients and family contacts, immunization of HIV positive children.			1	2, 3
4. Identify sources for up-to-date information on new vaccines.				1, 2, 3
5. Describe current federal laws related to immunizations of children (including National childhood Vaccine Injury Act and Vaccine Adverse Event Reporting System [VAERS].			1	2, 3
6. Describe public health responses to common epidemics (measles, whooping cough, influenza).			1	2, 3
7. Describe quality control for office administration of common vaccines.			1, 2	3
8. Describe strategies to increase vaccination rates among children.			1, 2	3
9. Identify appropriate uses of passive antibodies IVIG, HBIG, TIG, immune serum globulin, cytogam, respigam.			1, 2	3

GOAL 8: Infection Control: Understand principles of infection control for pediatric settings.

COMPETENCIES: (PC, MK, PBLI, IC, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Describe principles of nosocomial infection surveillance, isolation procedures, and employee health issues (as addressed by OSHA).		1	2	3
2. Describe and consistently comply with standard precautions.				1, 2, 3
3. Describe guidelines for exclusion from school/day care.			1	2, 3
4. Identify and manage infections commonly seen in day care settings.			1	2, 3
5. Describe effective infection control procedures (including prophylaxis) appropriate for day care, school, and household settings.			1, 2	3
6. Identify resources for up-to-date information dealing with infection prevention and treatment for international travelers/adoptees.			1	2, 3
7. Describe indications for chemo- and immuno-prophylaxis in common infections (meningitis, hepatitis) including indications for use of gamma globulin and management of chicken pox exposure in immunosuppressed child.			1	2, 3
8. Counsel patients in the prevention of sexually transmitted diseases.				1, 2, 3
9. Describe appropriate prophylaxis to contacts of certain illnesses (e.g.,				

measles, systemic hemophilus influenza, meningococcus, hepatitis A&B).			1	2, 3

GOAL 9: Laboratory Procedures (Infectious Disease): Understand the laboratory methods used in pediatrics relating to the management of infectious diseases in children.

COMPETENCIES: (PC, MK)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Demonstrate proper specimen collection and transport for bacterial, viral, chlamydia, and mycoplasma cultures.			1	2, 3
2. Describe principles of clinical application of rapid diagnostic techniques for common pathogens (e.g., particle agglutination, rapid strep tests, monoclonal FA tests).			1	2, 3
3. Describe principles of these serologic tests: Western immunoblot, ELISA.		1	2	3
4. Describe principles of these molecular biologic test; PCR, Southern Blot, in situ hybridization.		1	2	3
5. Discuss principles and clinical applications for susceptibility testing (e.g., MIC, MBC, synergy and antagonism).		1	2	3
6. Describe principles and clinical application for antibiotic serum concentrations and serum bactericidal titers.		1	2	3
7. List infections for which there is mandatory reporting to the Health Department.			1, 2	3