

## HOSPITALIST ELECTIVE

*Contact:* Amy Holst, M.D.

*When to contact:* One month prior

*Preceptors:* Amy Holst, MD; Patrick Doherty, MD; Joseph Snow, MD

*Prerequisite:* In order to take this elective rotation, a resident must have completed, in good standing, at least one month of inpatient pediatrics at the supervisory level and have approval of Dr. Holst. This is preferably a rotation meant for one's final year of training.

### Purpose:

Allow residents to experience inpatient medicine as a hospitalist at the sub-attending level in order to develop greater clinical acumen and skills.

### Objectives:

- 1. Provide family centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health**
  - Gather essential and accurate information using the following clinical skills: medical interviewing, physical examination, diagnostic studies and developmental assessments.
  - Make informed diagnostic and therapeutic decisions based on patient information, current scientific evidence and clinical judgment, using clinical problem-solving skills, recognizing the limits of one's knowledge and expertise, gathering appropriate information and using colleagues and consultants appropriately.
  - Develop and carry out patient care plans, using principles of evidence-based decision-making and appropriate prioritization, and taking into account the needs, beliefs and resources of patient and family.
  - Effectively use common therapies within the scope of general pediatric practice, including a variety of prescription and non-prescription medications, intravenous fluids, and inhalation treatments, as well as special diets and nutritional supplements. Be familiar with therapies commonly used by subspecialists and other professionals who care for children.
  - Prescribe and perform competently all medical procedures considered essential for the scope of general pediatric practice; be familiar with those procedures commonly used by subspecialists and other professionals who care for children.
  - Counsel patients and families in a supportive manner so they can understand their illness or injury and its treatment, share in decision-making, make informed consent and participate actively in the care plan.
- 2. Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a pediatrician; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.**
  - Demonstrate that you know or can efficiently access the knowledge base needed for effective patient care. (See Addendum A for suggested topics)
  - Critically evaluate current medical information and scientific evidence and modify your knowledge base accordingly.
  - Recognize the limits of one's knowledge and expertise by seeking information needed to answer clinical questions and using consultants and referrals appropriately. Use this process to guide life-long learning plans.
  - Apply current medical information and scientific evidence effectively to patient care

3. **Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.**
  - Communicate effectively in a developmentally appropriate manner with patients and families to create and sustain a therapeutic relationship across the broad range of socioeconomic and cultural backgrounds.
  - Communicate effectively with physicians, other health professionals, and health-related agencies to create and sustain information exchange and teamwork for patient care.
  - Develop effective approaches for teaching students, colleagues, other professionals and lay groups.
  - Serve as a consultant on pediatric matters to other physicians and health professionals.
  - Maintain comprehensive, timely and legible medical records.
4. **Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.**
  - Demonstrate willingness and capability to be a life-long learner by pursuing answers to clinical questions, using journal articles, texts, information resources, patients, colleagues and formal teaching conferences.
  - Be prepared to alter one's practice of medicine over time in response to new discoveries and advances in epidemiology and clinical care.
  - Seek and incorporate feedback and self-assessment into a plan for professional growth and practice improvement (e.g., use evaluations provided by patients, peers, superiors and subordinates to improve patient care).
5. **Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.**
  - Be honest and use integrity in your professional duties.
  - Demonstrate commitment, responsibility, and accountability for patient care, including continuity of care.
  - Maintain professional boundaries in one's dealings with patients, family, staff, and professional colleagues.
  - Demonstrate sensitivity and responsiveness to patients' and colleagues' gender, age, culture, disabilities, ethnicity, and sexual orientation.
  - Develop a healthy lifestyle, fostering behaviors that help balance personal goals and professional responsibilities.
  - Recognize and respond to personal stress and fatigue that might interfere with professional duties.
  - Place the needs of patients and society over your own self-interest.
  - Consistently use compassion and empathy in one's role as a physician.
6. **Have appropriate understanding of systems based practice, including how to practice quality health care and advocate for patients in the inpatient setting.**
  - Acknowledge medical errors and understand practice systems to prevent errors.
  - Work with health care managers and providers to assess, coordinate and improve patient care.
  - Understand how inpatients are affected by system complexities and help identify resources to meet their needs.
  - Practice cost-effective health care and resource allocation.

- Understand how types of medical practice delivery systems differ from one another with respect to how they control health care costs, allocate resources, and assure quality care.

Methods:

The resident will have a monthly schedule made with the guidance of Dr. Holst prior to the first day of the rotation. Exact schedules will vary based on individual needs and desires of the learner. The resident will:

1. Spend at least five week days and one weekend day acting as the “sub-attending” physician, including phone triage, patient care, and supervision of rounds.
2. Spend at least two evenings (3-10pm) with the evening shift hospitalist.
3. Spend time “on-call” for the hospitalist service.
4. Complete the pre-test prior to completion of the first week.
5. Spend time with member of the physician billing department understanding the process of inpatient coding and billing.
6. Spend time with a member of the performance improvement team.
7. Spend time with a member of the infection control team.
8. Spend time with a member of the case management team.
9. Spend time with a member of the social work department.
10. Attend various hospital committee meetings with preceptors (Pharmacy and Therapeutics Committee, Medical Executive Committee, Education Committee, etc )
11. Attend educational conferences (PMC, Grand Rounds, Formal Teaching Rounds)
12. Complete a formal case presentation in written form suitable for presentation for publication to the quarterly Nebraska AAP newsletter or other such publication.
13. Spend time in didactic sessions with Dr. Holst.
14. Complete a post-test within the last five days of the rotation.

Evaluation:

Individual evaluations of residents will be done by Dr. Holst with input from all preceptors, support staff, nursing, and patients and their families. It will be based on observed clinical skills and knowledge, performance on the end-of-rotation test and quality of formal written case presentation.

## Addendum A

### Problem and Diagnosis Specific Objectives

Evaluate and manage, as well as obtain appropriate consultation for, the common signs and symptoms associated with, but not limited to the following diagnoses/problems.

- General: acute life-threatening event (ALTE), failure to thrive, fever without localizing signs, fever of unknown origin
- Allergy: acute drug allergies/reactions, anaphylaxis, immunodeficiencies, serum sickness, severe angioedema
- Cardiac: cyanosis, heart murmur, hypertension, hypotension, rhythm disturbance, shock, syncope, bacterial endocarditis, cardiomyopathy, congenital heart disease, congestive heart failure, Kawasaki disease, myocarditis, rheumatic fever
- Respiratory: apnea, dyspnea, hemoptysis, inadequate respiratory effort, wheezing airway obstruction, asthma exacerbation, bacterial tracheitis, bronchiolitis, croup, cystic fibrosis, epiglottitis
- Dermatologic: ecchymoses, edema, petechiae, purpura, rashes, urticaria
- EENT: acute visual changes, epistaxis, hoarseness, nasal discharge, stridor
- Endocrine: heat/cold intolerance, polydipsia, polyuria, diabetes (including diabetic ketoacidosis), electrolyte disturbances secondary to underlying endocrine disease
- GI/Nutrition/Fluids: abdominal masses or distention, abdominal pain, ascites, dehydration, diarrhea, dysphagia, hematemesis, jaundice, melena, rectal bleeding, vomiting, appendicitis, bleeding, cholangitis, complications of inflammatory bowel disease, cystic fibrosis, gastroenteritis (with/without dehydration), gastroesophageal reflux, hepatic dysfunction, bowel obstruction, pancreatitis, pyloric severe malnutrition
- Genitourinary/Renal: change in urine color, dysuria, edema, hematuria, oliguria, scrotal mass or edema, electrolyte and acid-base disturbances, glomerulonephritis, hemolytic-uremic syndrome, nephrotic syndrome, urinary tract infection/pyelonephritis
- GYN: abnormal vaginal bleeding, pelvic pain, vaginal discharge, pelvic inflammatory disease
- Hematologic/Oncologic: abnormal bleeding, bruising, hepatosplenomegaly, lymphadenopathy, masses, pallor, abdominal and mediastinal mass, common malignancies, fever and neutropenia, thrombocytopenia, severe anemia, tumor lysis syndrome, vaso-occlusive crises and other complications of sickle cell disease
- Infectious Disease: cellulitis (including periorbital and orbital), cervical adenitis, dental abscess with complications, encephalitis, infections in immunocompromised hosts, laryngotracheobronchitis, line infection, meningitis (bacterial or viral), osteomyelitis, pneumonia (viral or bacterial), sepsis/bacteremia, septic arthritis, tuberculosis
- Pharmacology/Toxicology: common drug poisoning or overdose, dose adjustment for special conditions or serum drug levels
- Musculoskeletal/Rheumatologic: arthritis/arthritis, bone and soft tissue trauma, limb pain, limp, Henoch Schonlein purpura (HSP), juvenile rheumatoid arthritis (JRA), systemic lupus erythematosus (SLE)
- Neurologic: ataxia, coma, delirium, diplopia, headache, hypotonia, head trauma, lethargy, seizure, vertigo, weakness, acute neurologic conditions (acute cerebellar ataxia, Guillain Barre syndrome, movement disorders), developmental delay with acute medical conditions, seizures, shunt infections, cerebral palsy/static encephalopathy
- Psychiatric/Psychosocial: acute psychosis, child abuse or neglect, conversion symptoms, depression, suicide attempt

- Surgery: pre- and post-op consultation and evaluation of surgical patients (general, ENT, orthopedics, urology, neurosurgical, etc.), special needs of technology-dependent children (blocked trachea, gastric tube dysfunction)

Demonstrate an understanding of the common diagnostic tests and imaging studies used in the inpatient setting, by being able to:

- Explain the indications for and limitations of each study.
- Know or be able to locate age-appropriate normal ranges (lab studies).
- Apply knowledge of diagnostic test properties, including the use of sensitivity, specificity, positive predictive value, negative predictive value, false-positive and negative results, likelihood ratios, and receiver operating characteristic curves, to assess the utility of tests in various clinical settings.
- Recognize cost and utilization issues.
- Interpret test results in the context of the specific patient.
- Discuss therapeutic options for correction of abnormalities.
- Use common laboratory studies when indicated for patients in the inpatient setting.
  1. CBC with differential, platelet count, RBC indices
  2. Blood chemistries: electrolytes, glucose, calcium, magnesium, phosphate
  3. Renal function tests
  4. Tests of hepatic function (PT, albumin) and damage (liver enzymes, bilirubin)
  5. Serologic tests for infection (e.g., hepatitis, HIV)
  6. C-reactive protein, erythrocyte sedimentation rate
  7. Therapeutic drug concentrations
  8. Coagulation studies
  9. Arterial, capillary, and venous blood gases
  10. Detection of bacterial, viral, and fungal pathogens
  11. Urinalysis
  12. Cerebrospinal fluid analysis
  13. Gram stain and culture
  14. Stool studies
  15. Other fluid studies (e.g. pleural fluid, joint fluid)
- 1. Use common imaging or radiographic studies when indicated for patients on the inpatient unit.
  1. Plain radiographs of the chest, extremities, abdomen, skull, sinuses
  2. Other imaging techniques such as CT, MRI, angiography, ultrasound, nuclear scans, contrast studies
  3. Echocardiogram and electrocardiogram

Understand how to use physiologic monitoring and special technology in the general inpatient setting, including issues specific to care of the chronically ill child.

2. Demonstrate understanding of the monitoring techniques and special treatments commonly used in the inpatient setting, by being able to:
  1. Discuss indications, contraindications and complications.
  2. Demonstrate proper use of technique for children of varying ages.
  3. Determine which patients need continuous monitoring or special monitoring (e.g., neurological checks).

4. Interpret and respond appropriately to results of monitoring based on method used, age and clinical situation.
- Use appropriate monitoring techniques in the inpatient setting.
    1. Monitoring of temperature, blood pressure, heart rate, respirations
    2. Cardiac monitoring.
    3. Pulse oximetry
  - Use appropriately the treatments and techniques used in the inpatient setting.
    1. Universal precautions
    2. Nasogastric tube placement
    3. Administration of nebulized medication
    4. Injury, wound and burn care
    5. Oxygen delivery systems
    6. I.V. fluids
    7. I.V. pharmacotherapy (antibiotics, antiepileptics, etc.)
    8. Transfusion therapy
  - Describe key issues in the inpatient and home management of the technology-dependent child with the following care needs:
    1. Tracheostomy
    2. Chronic mechanical ventilation
    3. Chronic parenteral nutrition (HAL)
    4. Gastrostomy tube for feedings
    5. Permanent central venous catheter
  - Demonstrate the skills for assessing and managing pain.
    1. Use age-appropriate pain scales in assessment.
    2. Describe indications for use and side effects of common narcotic and non-narcotic analgesics.
    3. Administer medications to control pain in appropriate dose, frequency and route.
    4. Describe indications for and use of behavioral techniques and supportive care, and other non-pharmacologic methods of pain control.