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PEDIATRIC EMERGENCY DEPARTMENT

GENERAL DESCRIPTION

Elective Rotation

This elective rotation in the ED is a four (4) week experience structured to develop the student's decision-making, organizational and cognitive skills and to apply didactic material in a clinical setting. This will be an elective rotation for 4th year medical students only.

Purpose

Clinical experiences are intended to assist the students' transition from didactics to integrated clinical evaluation, decision-making, and management of patients with medical problems. In addition to gaining specific skills in pediatric critical care and emergency medicine during this rotation, the student should also continue to develop skill in systematic medical problem solving and patient management abilities, establish or reinforce patterns of independent learning and self-evaluation, improve skills in communication and organization, as well as medical record keeping.

At the completion of this rotation, the student should have reached certain broad goals, including:

- development of systematic medical problem solving and patient management abilities in the ED setting
- expanded knowledge of common ED problems, their diagnosis, and management
- improved ED clinical skills, including both diagnostic and therapeutic procedures
- Students are expected to assist in the diagnosis and management of common ED problems under supervision.
- The student should develop fundamental psychomotor skills by performing routine basic procedures under direct supervision.
- the ability to organize, manage, and synthesize medical data on several patients in the busy ED setting
- develop communication skills needed to accurately relay patient information to other members of the health care team
- enhanced knowledge of common lab tests, values, and appropriate usage
- enhanced skills regarding ordering and interpreting radiographic studies
- knowledge of names, indications, dosages, and adverse reactions to commonly used medications in the ED setting

PROFESSIONAL CONDUCT & ATTITUDES

Students have a personal responsibility for their own education and for development of life-long learning skills. They must interact with all staff, including their peers and their teachers, in a manner that demonstrates respect for each individual and that promotes personal and group learning.

PREREQUISITES

Well developed data gathering skills, knowledge of ethical principles, and a basic understanding of health law issues are essential foundations for the student. Each student should have completed a Basic Life Support class prior to beginning this rotation. Pediatric Advanced Life Support, although not required, would be useful in this rotation as well.

OBJECTIVES

Affective Objectives

1. Gain confidence in the rapid establishment of a doctor-patient relationship in the ED setting.
2. Understand how to react (attitude and behavior) and assist in an emergency situation.
3. Understand the psychosocial, social and economic status of ED patients.

Basic Psychomotor Objectives

At the completion of the ED rotation, the student should be able to apply osteopathic principles and practices to:

1. Perform and record an abbreviated history, focused physical examination, and obtain other pertinent history quickly and efficiently.
2. Prioritize patient management.
3. Demonstrate knowledge of basic life support and resuscitation methods.
4. Use laboratory tests appropriately.
5. Initiate treatment with supervision.
6. Recognize the need for and appropriateness of consultation and/or referral.
7. Anticipate possible treatment actions, reactions, and interactions.

In addition, students should be able to demonstrate:

1. knowledge of basic life support and resuscitation.
2. knowledge of pertinent pathophysiology in the urgent and ICU patient, to include shock, fluid imbalance, and cardiopulmonary resuscitation.
3. knowledge of rapid stabilization techniques for critically ill patients.
4. knowledge of chest tube placement, endotracheal intubation, suturing techniques, venous, arterial access and/or other techniques as directed.

Basic Cognitive Objectives

For each of the following core areas, the student should be able to apply osteopathic principles and practices to:

- the assessment of critically ill children
- basic airway management
- recognition and treatment of types of shock
- recognition and management of respiratory failure
- recognition and management of renal failure and electrolyte disorders and fluid management
- sedation and pain management in the ED setting
- apply strategies for prevention and management of:
 - ventilator associated pneumonia
 - catheter related infections
- assessment and management of pediatric trauma of the chest
- understanding the risks of transferring patients
- utilization of protocols in standardizing care
- communication with families and patient
- care of the pediatric post-operative patients

The student should also develop understanding of the following:

- arterial blood gases (ABGs)
- acid-base analgesia management
- capnography
- knowledge of common antibiotics

COMMONLY ENCOUNTERED EMERGENCIES TABLE

Emergent Clinical Problem	Diagnosis to Consider
Airway Obstruction/Respiratory Distress	Croup, bronchiolitis, asthma, pneumonia, foreign body aspiration, anaphylaxis, peritonsillar or retropharyngeal abscess
Altered Mental Status (Delirium/lethargy)	Head injury, increased ICP, substance abuse, infection (encephalitis, meningitis), diabetic ketoacidosis, hypoglycemia, abuse, shock, hypoxemia, intussusception
Apnea	Acute life-threatening event (ALTE), seizures, and respiratory infections (RSV and pertussis), GERD, sepsis, cardiac dysrhythmias, breath holding spells
Ataxia	Ingestion, infection, and tumor
Gastrointestinal Bleeding	Meckel's diverticulum, fissure, intussusception, inflammatory bowel disease, allergic colitis, peptic ulcer disease
Injuries and Accidents	Animal bites, minor head injury, nursemaid's elbow, sprains and fractures, burns, near drowning, lacerations
Proptosis	Tumor and orbital cellulitis
Seizures	Infection (i.e. meningitis or encephalitis), status epilepticus, febrile, ingestion, hypoxemia, shock, electrolyte disturbances, tumor
Shock	Sepsis, severe dehydration, diabetic ketoacidoses, anaphylaxis, congestive heart failure, and ingestion, burns, neurogenic shock, ductal dependent heart lesions, and adrenal insufficiency
Suicidal Ideation	Depression
Toxicology	Acetaminophen, iron, alcohol, narcotics, tricyclic antidepressants, volatile hydrocarbons, and caustics

IMPLEMENTATION

Course objectives are to be accomplished in a College affiliated hospital or clinical facility, under supervision. Basic objectives **must** be covered during the rotation to assure adequate student preparation for Board examinations and other evaluations such as post-rotation examinations. The use of diverse methods appropriate to the individual and the clinical site are encouraged, but patient-centered teaching is optimal.

Didactic methods to achieve required objectives include:

- reading assignments
- lectures
- computer-assisted programs (if available)
- student attendance at/participation in formal clinical presentations by medical faculty
- ED case study assignments

Clinically oriented teaching methods may include:

- supervised and critiqued clinical workups of patients seen in the ED
- assignment of limited co-management responsibilities under supervision
- assigned, case-oriented reading case presentations

Four levels of achievement are identified:

- familiarity with a variety of medical procedures through observation and assisting
- proficiency in clinical procedures through actual supervised performance

- awareness of the availability of various medical procedures and their use
- understanding of the complex relationship between the pediatric family and the provider and staff

ED DAILY (ROUTINE) SCHEDULE

1. **Prompt arrival with appropriate dress.** Dress should reflect respect for the hospital and staff with which the student will be working. In the ED, no scrubs are allowed to be worn by the student, as this confuses patients, families, and staff as to which person is the attending provider.
2. **Report to attending physician.**
3. **Review current patients in the ED.**
4. **Review current and/or significant radiographs.**
5. **Receive assignment of reading for the day.**
 - a. articles
 - b. core reading
 - c. reading relative to current patients
6. **Patient Care Responsibilities**
 - a. evaluation
 - b. staffing
 - c. arriving at diagnosis
 - d. evaluation plan
 - e. treatment plan and implementation
 - f. assist with procedures, including IV, etc.
7. **End of shift**
 - a. review patients from that day
 - b. assignment of specific readings
 - 1) patient specific
 - 2) additional to core readings
8. **Other goals**
 - a. photo diagnosis
 - b. mock codes
 - c. reading
 - d. procedures

TEXTS AND RESOURCES

No Required or Recommended Text

