HENNEPIN COUNTY MEDICAL CENTER (HCMC)
PEDIATRIC INTENSIVE CARE UNIT
CURRICULUM

DESCRIPTION OF ROTATION OR EDUCATIONAL EXPERIENCE

This clinical rotation is based in the pediatric critical care unit of a metropolitan Level 1 Trauma center, Hennepin County Medical Center (HCMC). The critical care fellow will have graduated responsibility for clinical care and coordination of care for all patients admitted to this unit as well as consultations on other services for stabilization and/or transfer to the HCMC PICU. This will include patients who receive care in the Burn Unit.

ROTATION GOALS

Clinical experience will facilitate knowledge acquisition regarding the physiology, pathophysiology, pharmacology, and literature evidence for all determinants and phases of critical illness, culminating in the application of that knowledge to the compassionate, age appropriate, and effective management of children with single organ to multiple organ system failure. There will be an emphasis in pediatric trauma critical care, particularly neurointensive and burn critical care.

PATIENT CARE

Goals

1. Acquisition of knowledge regarding established and evolving biomedical, clinical, and cognate sciences, with the resultant application of that knowledge to the compassionate, age appropriate, and effective treatment of critically ill children.
2. Comprehensive knowledge of the physiology, pathophysiology, pharmacology, and literature evidence for all determinants and phases of critical illness, culminating in excellence in the clinical management of children with single organ to multiple organ system failure.
3. Participate in end-of-life care and discussions regarding organ donation.

Objectives

1. Graduated knowledge acquisition and performance development:

First Year Fellows

1. Expand understanding of physiology, pathophysiology and therapy of disorders beyond that of a senior resident so as to have a thorough grasp on the basic normal physiology and the mechanisms organ systems use to cope with physiologic derangements and stress encountered in all patients admitted to PICU.
2. Be skilled in physical examination and medical history taking as related to critical care medicine.
3. Understand tools and instruments used for monitoring patients in the PICU and be able to access and interpret the necessary data.
4. Be able to stabilize a critically ill patient during initial presentation, including Emergency Department stabilization:
    - Establish differential diagnosis, assessment and plan
    - Prioritize interventions effectively
    - Act in a timely fashion as clinical situation warrants
5. Order and interpret diagnostic tests appropriately.
6. Learn to use consultants effectively.
7. Begin to develop understanding of therapeutic options.
8. Be able to apply basic critical care physiology and pathophysiology to patient ca.
9. Maintain appropriate documentation of patient care.
10. Effectively supervise residents during admissions and subsequent patient cares in the PICU and contribute to their medical education.
11. Round of pediatric patients in the burn unit with the PICU team.
12. Understand indications and risk/benefits to procedures for which training and proficiency is accomplished, and maintain procedure logs:
    - Cardiopulmonary resuscitation
    - Conscious sedation

- Non-invasive airway management
- Endotracheal intubation
- Tube thoracostomy and thoracentesis
- Arterial line placement
- Central venous catheter placement
- Management of intracranial hypertension
- Provide procedural sedation with attending staff

13. Visit Hyperbaric Chamber for a teaching session with chamber medical staff.

Second Year Fellows

1. Feel comfortable with longer-term therapeutic options for critically ill patients, beyond initial stabilization.
2. Gain confidence with individual decision making, including stabilization in the Emergency Room.
3. Expand ability to evaluate a treatment plan and make changes as necessary.
4. Apply advanced critical care physiology and pathophysiology to their patient care plans.
5. Apply current literature to patient care.
6. Maintain proficiency and expertise in clinical skills.
7. Take a leadership role in daily rounds.

Third Year Fellows

1. Consider knowledge of textbooks and current literature as related to patient care.
2. Obtain comfort with independent decision making for patient care.
3. Integrate information into cohesive short and long-term goals for their patients.
4. Refine their understanding of application of current literature to patient care.
5. Maintain proficiency and expertise in technical skills.
6. Take responsibility for teaching junior fellows and residents procedural techniques.

This clinical and technical skills progression should include the following curriculum components more thoroughly outlined in "Medical Knowledge":

a. Resuscitation and Stabilization
b. Information Gathering
c. Cognitive Skills by System:
   - Cardiovascular
   - Respiratory
   - Renal
   - Central Nervous System
   - Endocinology
   - Infectious Disease
   - Hematology/Oncology
   - Gastrointestinal
   - Nutrition and Metabolism
   - Trauma/Burn
   - Pain, Analgesia and Sedation

2. Graduated acquisition of procedural skills as follows:

1. Thoroughly understand the anatomic considerations, correct techniques, indications/contraindications, and potential complications for all clinical procedures required for the superlative care of critically ill children.
2. Expertly and independently perform appropriate procedures based on skill level and level of clinical training:

- *First Year Fellows*:
  - Procedures that may be performed independently, but ideally with attending physician supervision:
    Arterial Puncture
    Lumbar Puncture
    Peripheral Vein Cannulation

- Procedures that require approval from the attending physician prior to being performed independently but ideally with attending physician supervision:
  - Femoral Vein Cannulation
  - Femoral Artery Cannulation
  - Endotracheal Intubation
  - Thoracentesis
  - Thoracostomy Tube Placement
  - Peripheral Artery Cannulation
  - Abdominal paracentesis
  - Procedural Sedation
- Procedures that usually require direct attending supervision and participation:
  - Subclavian Vein Cannulation
  - Internal Jugular Vein Cannulation
  - Pulmonary Artery Catheter Insertion
  - Dialysis Catheter Insertion
  - Pericardiocentesis

- *Second Year Fellows:*
  - Procedures that may be performed independently but ideally with attending physician supervision:
    - Arterial Puncture
    - Lumbar Puncture
    - Peripheral Vein Cannulation
    - Femoral Vein Cannulation
    - Femoral Artery Cannulation
    - Axillary Artery Cannulation
    - Endotracheal Intubation
    - Thoracentesis
    - Thoracostomy Tube Insertion
    - Peripheral Artery Cannulation
    - Abdominal paracentesis
    - Femoral Vein Dialysis Catheter Placement
    - Procedural Sedation
  - Procedures that require approval from the attending physician prior to being performed independently but ideally with attending physician supervision:
    - Subclavian Vein Cannulation
    - Internal Jugular Vein Cannulation
  - Procedures that usually require direct attending supervision and participation:
    - Pulmonary Artery Catheter Placement
    - Subclavian or Internal Jugular Dialysis Catheter Placement
    - Pericardiocentesis
- *Third Year Fellows:*
  - Procedures that may be performed independently but ideally with attending physician supervision:
    - Arterial Puncture
    - Lumbar Puncture
    - Peripheral Vein Cannulation
    - Femoral Vein Cannulation
    - Femoral Artery Cannulation
    - Endotracheal Intubation
    - Thoracentesis
    - Thoracostomy Tube Placement
    - Peripheral Artery Cannulation
    - Peritoneocentesis
    - Procedural Sedation

Femoral Vein Dialysis Catheter Placement
Subclavian Vein Cannulation
Internal Jugular Vein Cannulation
Axillary Artery Cannulation

- Procedures that require approval from the attending physician prior to being performed independently but ideally with attending physician supervision:
  Pulmonary Artery Catheter Placement
  Subclavian or Internal Jugular Dialysis Catheter Placement
- Procedures that usually require direct attending supervision and participation:
  Pericardiocentesis

3. Graduated management and decision-making:

1. Discuss the indications for admission to and discharge from the Pediatric Intensive Care Unit, including indications for emergent intervention and stabilization prior to transport to the PICU.
2. Develop and maintain a detailed list of specific patient-related responsibilities with accurate execution and prioritization.
3. Coordinate care of the PICU patient with the critical care attendings, consultants, ancillary services, and primary care physicians.
4. Coordinate orderly transfer of care to another health care provider when PICU care is no longer required.
5. Recognize the limits of one's knowledge, skills, and tolerance for stress.
6. Graduated levels for responsibility:

Junior Fellow (First Year):

PICU responsibilities will include:

1. Overseeing the clinical activities of the rotating PICU residents.
2. Notifying the Faculty regarding major changes in the clinical status of any patient in the PICU.
3. Reviewing, evaluating, and triaging referrals from the Emergency Department, Post-anesthesia Care Unit (PACU), and general medical/surgical areas. All patients who are evaluated, but not transferred to the PICU require a note in the medical chart outlining recommendations from the Critical Care Service.

Senior Fellow (Second and Third Year):

PICU responsibilities will include:

1. Directing Multidisciplinary Bedside Rounds.
2. Governing the clinical activities of the rotating Pediatric Residents and Medical Students.
3. Assuming responsibility for clinical management decisions on all patients in the PICU.
4. Notifying the Critical Care Faculty Attending regarding major changes in the clinical status of any patient in the PICU.
5. Coordinating clinical care through interaction with the primary surgical service and/or consulting services.
6. Disposition planning for patients meeting clinical criteria for transfer from the PICU.
7. Facilitating the triage of patients to limited PICU beds and nurses, while maintaining quality of patient care.
8. Transport dispatch, triage, and medical management.
9. Acting as the team leader for all cardiopulmonary arrests throughout the hospital.

NOTE: ALL of the above Senior Fellow responsibilities are to be performed only under the direct leadership, knowledge, and approval of the Critical Care Medicine Attending Physician.

Competencies

1. HCMC Critical Care Medicine Faculty Evaluation.
2. HCMC Pediatric Intensive Care Unit Staff 360 Evaluation.
3. Multiple Choice Examinations: Each year of training, the Society of Critical Care Medicine's Multidisciplinary Critical Care Knowledge Assessment Program (MCCKAP).
5. Procedural Skills Documentation.
6. Provide one PICU-HCMC lecture.

MEDICAL KNOWLEDGE

Goals

1. Perpetual acquisition of knowledge regarding established and evolving biomedical, clinical, and cognate sciences, with the resultant application of that knowledge to the compassionate, age appropriate, and effective treatment of critically ill children with emphasis on physiologic derangements related to central nervous system and multi-system trauma and burns.
2. Comprehensive knowledge of the physiology, pathophysiology, pharmacology, and literature evidence for all determinants and phases of critical illness, culminating in excellence in the clinical management of children with single organ to multiple organ system failure, especially as occurs in patients with burns, central nervous system trauma and/or multi-system trauma.
3. Gain knowledge regarding common problems suffered by technology dependent children and become familiar with their management.
4. Gain knowledge regarding the use of hyperbaric oxygen therapy.

Objectives

First Year Fellows

Expand understanding of physiology, pathophysioloigy and therapy of disorders beyond that of a senior resident so as to have a thorough grasp on the basic normal physiology and the mechanisms organ systems use to cope with physiologic derangements and stress.

Second Year Fellows

Continue to expand basic knowledge of physiology and pediatric critical care medicine. Shift focus from studying textbooks to appreciating medical literature, particularly in regards to therapeutic modalities and understanding pathophysiologic mechanisms of disease.

Third Year Fellows

Continue to expand basic knowledge of pediatric critical care medicine. Focus on reading and understanding current literature. Develop relationships with critical care professionals around the country to further knowledge and understanding.

Medical Knowledge curriculum components are included below as follows:

a. Resuscitation and Stabilization:
   - Promptly recognize clinical signs and symptoms heralding the onset of life-threatening events.
   - Expeditiously and appropriately intervene to prevent the onset of cardiopulmonary arrest.
   - Thoroughly understand the basic principles of cardiopulmonary resuscitation and stabilization.
   - Perform appropriately as the critical care team leader during cardiopulmonary resuscitation and stabilization.
   - Recognize the pathophysiology associated with tissue hypoxia/ischemia and properly institute medical management to minimize secondary injury.

b. Information Gathering:
   - Perform an appropriately detailed problem-oriented history and physical examination.
   - Assimilate, organize, and succinctly summarize all pertinent previously obtained medical information from the Emergency Department, general medical/surgical unit, outside hospital, and/or clinic.

- Informatively discriminate diagnostic interventions based upon parent/patient information, previous medical information, patient and family preference, scientific evidence, and clinical judgment.
- Discuss the indications, limitations, and risks of diagnostic studies and interpret abnormalities in the context of disease-specific pathophysiology.
- Formulate an age-appropriate differential diagnosis with appropriate prioritization.
- Expeditiously utilize all diagnostic information in the development, execution, and evolution of logical, effective therapeutic management strategies.

c. Cognitive Skills:

THE CARDIOVASCULAR SYSTEM:

- Utilize principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to recognize signs and symptoms of, and expediently and logically treat the following conditions:
  Cardiogenic Shock
  Congestive Heart Failure
  Cardiac Tamponade
  Hypertension
  Hypotension
  Dysrhythmia
- Accurately perform calculations, interpretation, and utilization of hemodynamic data in the management of patients with hemodynamic instability.
- Appropriately utilize inotropes, vasoconstrictors, and vasodilators, and understand the pharmacological actions, uses, and indications/contraindications for each.
- Thoroughly understand cardiopulmonary interactions and the effects of positive pressure mechanical ventilation on cardiovascular function.

THE RESPIRATORY SYSTEM:

- Utilize principles of physiology, pathophysiology, pharmacology and evidence based medicine to recognize signs and symptoms of, and expediently and logically treat the following conditions:
  Acute Lung Injury (ALI)/Acute Respiratory Distress Syndrome (ARDS)
  Status Asthmaticus
  Pulmonary Contusion
  Pneumonia
  Pneumonitis (infectious, aspiration, smoke inhalation)
  Upper Airway Obstruction (anatomic, infectious, foreign body)
  Bronchiolitis
  Bronchopulmonary Dysplasia/Chronic Lung Disease
  Acute Chest Syndrome
  All Other Forms of Acute Respiratory Failure
- Utilize appropriate timing, techniques, and tools in emergency airway management.
- Accurately interpret and utilize arterial/venous blood gas data in the management of patients with respiratory dysfunction.
- Accurately interpret chest x-ray abnormalities in the context of disease-specific pathophysiology, and formulate a plan for therapeutic intervention when appropriate.
- Understand the physiology and principles underlying the use of hyperbaric oxygen and the conditions for which it is used.
- Comprehensively understand (1) the indications for endotracheal intubation, (2) the general principles of mechanical ventilation, (3) the various modes of mechanical ventilation, (4) the differential management of obstructive versus restrictive lung diseases, (5) the pathophysiological mechanisms leading to the development of ventilator-induced lung injury (barotrauma, volutrauma, biotrauma), (6) the disease-specific principles of weaning from

mechanical ventilation and (7) the management of technology-dependent chronic respiratory failure

THE RENAL SYSTEM:

- Utilize principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to recognize the signs and symptoms of, and expediently and logically treat acute renal failure.
- Thoroughly understand the normal renal mechanisms of fluid and electrolyte homeostasis.
- Appropriately utilize serum and urine electrolytes to determine the pathophysiological mechanisms associated with alterations in fluid and electrolyte homeostasis.
- Thoroughly understand the normal renal mechanisms of acid/base homeostasis.
- Thoroughly understand the general principles of, indications for, and advantages/disadvantages to the utilization of peritoneal dialysis, and continuous venovenous hemofiltration (CVVH).

THE CENTRAL NERVOUS SYSTEM:

- Utilize principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to recognize signs and symptoms of, and expediently and logically treat the following conditions:
  - Status Epilepticus
  - Encephalopathy/Coma
  - Intracranial Hypertension
  - Intracranial Hemorrhage
  - Closed Head Injury
  - Spinal Cord Injury
  - Neuromuscular Disease
  - Stroke
- Thoroughly understand the pathophysiological mechanisms leading to an increase in intracranial pressure, the proper utilization of intracranial pressure monitoring devices and data interpretation, and therapeutic strategies to diminish intracranial pressure and maintain cerebral perfusion.
- Understand the principle of, and accurately perform brain death determinations.

THE ENDOCRINE SYSTEM:

- Utilize principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to recognize signs and symptoms of, and expediently and logically treat the following conditions:
  - Diabetic Ketoacidosis
  - Hyperosmolar Hyperglycemic Nonketotic Coma
  - Syndrome of Inappropriate Antidiuretic Hormone (SIADH)
  - Diabetes Insipidus (DI)
  - Adrenal Crisis
  - Thyrotoxicosis/Thyroid Storm
  - Pheochromocytoma

INFECTIOUS DISEASES:

- Utilize principles of pathophysiology, pharmacology, and evidence-based medicine to recognize signs and symptoms of, and expediently and logically treat the following conditions in an age appropriate fashion:
  - Bronchiolitis
  - Sepsis
  - Meningitis
  - Encephalitis
  - Myelitis

Pneumonia
Endocarditis
Myocarditis
Pericarditis
Pyelonephritis
Peritonitis
Toxic Shock Syndrome
Tropical infectious diseases such as malaria

- Thoroughly understand the epidemiology and risk factors associated with the development of nosocomial infections in critically ill children.
- Thoroughly understand the principles of infection control within the Pediatric Intensive Care Unit.

THE HEMATOLOGICAL SYSTEM:

- Utilize the principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to recognize signs and symptoms of, and expediently and logically treat the following conditions:

  Disseminated Intravascular Coagulation
  Anemia
  Hemorrhage
  Thrombocytopenia
  Coagulopathy
  Thrombosis
  Hemolysis
  Sickle Cell Crisis

- Thoroughly understand the indications, risks, and benefits associated with blood component transfusion

THE GASTROINTESTINAL SYSTEM:

- Utilize principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to recognize signs and symptoms of, and expediently and logically treat the following conditions:

  Gastrointestinal Bleeding
  Acute Hepatic Failure
  Pancreatitis
  Viscus Perforation
  Necrotizing Enterocolitis
  Gastrointestinal Obstruction
  Inflammatory Bowel Disease
  Hepatic and Intestinal Trauma

NUTRITION AND METABOLISM:

- Utilize principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to recognize signs and symptoms of, and expediently and logically treat inborn errors of metabolism that produce critical illness.
- Understand the effect of stress, altered substrate utilization, energy requirements, and the indications, risks and benefits of various modes of nutritional support in the critically ill child.

IMMUNOLOGY AND TRANSPLANTATION:

- Generally classify the congenital immunodeficiency disorders as primarily affecting immunoglobulins, T-cell function, both B- and T-cell function, or the phagocytic system, and recognize the general presenting signs and symptoms associated with each.
- Generally understand the potential opportunistic organisms associated with infection in inherited and acquired disorders of immune function.
- Recognition, evaluation and initial management of rheumatologic diseases that may present in the PICU.

TRAUMA/BURN:

- Perform primary and secondary survey appropriately.
- Recognize and manage underlying shock.
- Utilize principles of physiology, pathophysiology, pharmacology, and evidence-based medicine to expediently and logically treat the following conditions:

Closed Head and Spinal Cord Injury

1. Understand and assign Glascow Coma Scores
2. Perform complete neurological exam and recognize pathophysiologic findings
3. Recognize and implement cervical spine precautions in patient cares, including airway management and intubation, transport and procedural positioning
4. Understand mechanisms of injury and time-course of complications
5. Understand indications for intracranial pressure monitoring and drainage, methods available for intervention and monitoring of intervention
6. Understand pathohysiology of and management to control elevations of intracranial pressure
7. Perform and appropriately diagnose brain death

Blunt/Penetrating Abdominal Trauma

1. Understand pathophysiology and mechanisms of abdominal trauma.
2. Understand diagnostic modalities, risks, benefits and reliability in imaging abdominal trauma.
3. Understand role of interventional radiology vs. surgery in management of splenic and liver laceration.
4. Recognize injuries and complications from intestinal trauma, including perforation, strangulation and ischemia, hematoma and evisceration.
5. Identify and manage injuries to pancreas.
6. Identify and manage direct or indirect injury to the kidney and its vascular supply.
7. Understand indications for and appropriately administer antimicrobials.
8. Institute appropriate and timely nutrition.

Blunt/Penetrating Thoracic Trauma

1. Understand physiology, indications and mechanics of drainage of the thoracic cavity.
2. Understand pathophysiology of flail-chest.
3. Understand clinical presentation, bronchoscopic findings and radiographic evidence of tracheobronchial injury.
4. Understand and appropriately manage tracheobronchial and pulmonary injury, including airway management and ventilation strategies.
5. Understand etiology, presentation, methods of assessment and diagnosis of esophageal trauma.
6. Understand and appropriately manage esophageal injuries and complications .
7. Understand presentation, evaluation and treatment of blunt and penetrating diaphragmatic injuries.
8. Understand physiology of deceleration injuries to the thoracic aorta.

9. Understand physiology, diagnosis and management of traumatic VSD, papillary muscle rupture, myocardial contusion, pericardial tamponade.

Burns and Electrical Injury

1. Learn pathophysiology, patient evaluation and management of thermal, chemical and electrical burns.
2. Demonstrate the ability to calculate surface area burned for various age groups using a Lund-Browder chart.
3. Demonstrate the method for determining the correct maintenance fluid regimen for the burned patient.
4. State the admission criteria for the burned patient, including criteria for burn unit admission.
5. Understand the differences between alkali and acid burns and the treatment for an acid burn, alkali burn, hydrofluoric acid burn, and white phosphorous burn.
6. Recognize injuries/conditions commonly associated with electrical injuries.
7. Demonstrate appropriate clinical and diagnostic evaluation of the electrically-injured patient.
8. List the complications resulting from electrical injuries.
9. Recognize common injuries and conditions associated with lightning injuries.
10. List the appropriate clinical and diagnostic evaluation of the lightning-injured patient.
11. Demonstrate the ability to evaluate and treat lightning injury

Inhalational Injury

1. State the pathophysiologic mechanisms associated with inhalation injury.
2. State the indications for intubation in the smoke inhalation patient.
3. List the common toxins commonly associated with a house fire.
4. Demonstrate appropriate management of inhalation injuries, and recognize those patients who require emergent intubation.

Drowning and Near-Drowning

1. Understand the pathophysiologic processes associated with immersion.
2. Demonstrate the correct care for the near-drowning/drowning patient, including respiratory, central nervous system and temperature management.
3. List the complications resulting from near-drowning/drowning.

Environmental Injury

1. Learn pathophysiology, patient evaluation and management of hypothermia, frostbite, and heat illness.
2. Discuss the criteria for superficial frostbite and for deep frostbite.
3. Demonstrate the correct care for the frostbite victim.
4. Demonstrate the correct care for the hypothermic patient.
5. State the various techniques for passive and active rewarming.
6. Appropriately interpret blood gases in the hypothermic patient.
7. Understand specific considerations regarding intubation, use of external cardiac compression, and use of cardiovascular medications in the hypothermic patient.
8. Differentiate the various types of heat illness.
9. Demonstrate the correct care for the heat cramp, heat exhaustion, and heat stroke patient.
10. State the definition for heat stroke and recognize patients at risk for heat stroke.

Fellow will visit Hyperbaric Chamber for a teaching session with chamber medical staff

SEDATION, ANALGESIA, AND MUSCLE RELAXATION:
Generally understand and have a working knowledge of the pharmacokinetics, mechanisms of action, pharmacodynamics, contraindications, side effects, and potential complications for each of the commonly used sedatives, analgesics, and muscle relaxants in the PICU.

Competencies
1. HCMC Critical Care Medicine Faculty Evaluation.
2. Multiple Choice Examinations: Each year of training, the Society of Critical Care Medicine's Multidisciplinary Critical Care Knowledge Assessment Program (MCCKAP).
3. Pediatric Advanced Life Support (PALS) Certification: Training and maintaining certification in PALS (American Heart Association) is a requirement of Critical Care Medicine Subspecialty Resident training.
4. Procedural Skills Documentation.
5. Participation in the required clinical curriculum as outlined above, including daily half-hour teaching by PICU attending.
6. First year fellow will visit Hyperbaric Chamber for a teaching session with chamber medical staff.

PRACTICE-BASED LEARNING AND IMPROVEMENT
Goals
To acquire skills to enable investigation and evaluation of patient care practices, appraisal and assimilation of scientific evidence, and improvement of patient care practices.

Objectives
1. Analyze one's practice experience, recognizing strengths, deficiencies, and knowledge limits; perform practice-based improvement activities using a systematic methodology.
2. Consider and utilize performance evaluations from peers, attendings, patients, parents, nurses, respiratory therapists, and other ancillary health care providers for clinical performance improvement in the care of critically ill children.
3. Locate, appraise, and assimilate evidence from scientific studies directly related to the management of critically ill children.
4. Procure and utilize information relative to critically ill children and the larger population from which these patients are drawn.
5. Appraise study designs and statistical methods of clinical studies that demonstrate diagnostic or therapeutic effectiveness.
6. Utilize information technology to access and manage medical information.
7. Facilitate the education of residents, students, and other health care professionals.

Competencies
1. HCMC Critical Care Medicine Faculty Evaluation.
2. Participation in the required rounds and conferences as outlined above.
3. Facilitating teaching and learning of students and other health care providers by leading teaching facets of patient care rounds.
4. Fellow will attend the weekly Critical Care portion HCMC Stabilization Thursday morning conferences time allowing.

SYSTEMS BASED PRACTICE
Goals
Achieve cognisant responsiveness to the larger context of the health care system and the effective employment of system resources to provide care that is of optimal value.

Objectives

1. Understand the effect of patient management decisions and professional practices upon other health care professionals, the health care organization, and the larger society.
2. Appreciate the differences in medical practice and health care delivery systems, and their effect upon medical management.
3. Practice cost-effective health care and resource allocation while maintaining an uncompromised quality of care.
4. Advocate for quality patient care and assist patients in dealing with system complexities.
5. Partner with health care managers and health care providers to assess, coordinate, and improve health care and system performance.
6. Acknowledge medical errors and assist in developing or improving systems for their prevention.

Competencies

1. HCMC Critical Care Medicine Faculty Evaluation.
2. HCMC Pediatric Intensive Care Unit Staff 360 Evaluation.
3. Fellow will attend the weekly Critical Care portion HCMC Stabilization Thursday morning conferences time allowing.

PROFESSIONALISM

Goals

Commitment to executing professional responsibilities, adherence to ethical principles, and sensitivity to diverse populations.

Objectives

1. Demonstrate respect, compassion, integrity, honesty, compassion, and empathy.
2. Respond to the needs of patients and society in a benevolent manner that supercedes self-interest.
3. Demonstrate accountability to patients, society, and the profession.
4. Commit to consistently performing professional responsibilities, including complete medical records.
5. Demonstrate HIPPA compliance.
6. Participate in program requirements in clinical, research and educational curricula.
7. Commit to excellence and continuing professional development.
8. Commit to ethical principles pertaining to provision, withholding, or withdrawal of clinical care, patient confidentiality, informed consent, and clinical practices.
9. Demonstrate sensitivity and responsiveness to patients' and colleagues' culture, age, gender, beliefs, and disabilities.
10. Present oneself in professional manner, both in behavior and dress.
11. Submit fellowship paperwork in a timely fashion.

Competencies

1. HCMC Critical Care Medicine Faculty Evaluation.
2. HCMC Pediatric Intensive Care Unit Staff 360 Evaluation.
3. HCMC Pediatric Intensive Care Unit Parent 360 Evaluation.
5. Timely submission of fellowship duty hours, evaluations and procedure logs.

INTERPERSONAL AND COMMUNICATION SKILLS

Goals

Development of interpersonal and communication skills resulting in effective information exchange and collaboration with patients, families, and health care professionals.

Objectives

1. Develop and maintain a therapeutic and ethically appropriate relationship with patients and their families.
2. Listen effectively.

3. Elicit and provide information using effective nonverbal, informative, interrogative, and writing skills.
4. Communicate and work effectively with other fellows, residents, attendings, consultants, nurses and ancillary health care providers as a member of the critical care medicine team.
5. Communicate effectively with surgeons and other subspecialists whose patients are being managed in the HCMC Pediatric Intensive Care Unit or on the Burn Unit.
6. Assume responsibility for frequent and effective communication with referring and primary care physicians whose patients are being managed in the PICU.
7. Consistently maintain accurate, timely, and legally appropriate medical records.
8. Participate in end-of-life and/or organ donation discussions

Competencies

1. HCMC Critical Care Medicine Faculty Evaluation.
2. HCMC Pediatric Intensive Care Unit Staff 360 Evaluation.
3. HCMC Pediatric Intensive Care Unit Parent 360 Evaluation.
4. Complete compliance with procedure note documentation.

TEACHING METHOD(S)

Graduated levels of didactic teaching on rounds.

Graduated levels of direct triage supervision, decision making, etc.

Conference schedule (University of Minnesota and HCMC -outlined elsewhere).

Stabilization Conference (HCMC).

Introduction to Hyperbaric Medicine (HCMC).

ASSESSMENT METHOD - RESIDENT(S)

Quarterly performance evaluations.

ASSESSMENT METHOD – ROTATION

The fellows provide an anonymous review of the rotation, including comment on patient volume, quality of supervision and overall value of rotation.

The fellows provide an anonymous overall program review biannually and participate in Divisional discussion of the reviews.

LEVEL OF SUPERVISION

The fellow is directly supervised by pediatric critical care faculty, more senior fellows or other pediatric subspecialty faculty with graduated levels of independent decision making, as noted above. However, ALL of the above fellow responsibilities are to be performed only under the direct leadership, knowledge, and approval of the HCMC Critical Care Medicine Attending Physician.

EDUCATIONAL RESOURCES

Resident library.

HCMC Biomedical Library.

Conference schedule, including Stabilization conference.

Didactic sessions, including bedside PICU lectures and hyperbaric session.

Web-based educational sites.