Neurosciences Intensive Care Unit (2 Lakeside Neuro ICU)

Fellows are expected to:

- Demonstrate proficiency in the diagnosis and management of the following conditions
  (Patient care, Medical knowledge):
  - Evaluation and management of coma
  - Monitoring central nervous system function (EEG, evoked potentials, ICP, neuromuscular function)
  - Management of intracranial hypertension
  - Intracerebral catastrophes
  - Postoperative neurosurgical care
  - Therapeutic hypothermia
  - Seizure disorders

- Demonstrate the ability to perform a comprehensive neurologic examination
  (Patient Care, Medical Knowledge)

- Appraise and assimilate scientific evidence in neurologic intensive care
  (Practice-based learning and improvement)

- Demonstrate understanding of ICU admission and discharge criteria for patients with neurologic illness
  (Patient care, system-based practice)

- Teach principles of anesthesiology, airway management and surgical critical care to members of the Neuro ICU team
  (Practice-based learning and improvement, System-based practice)

- Demonstrate the ability to effectively communicate about patients with neurologic illness
  (Interpersonal and communication skills)

- Demonstrate sensitivity to patients and families with severe neurologic illness
  (Professionalism)

- Integrate smoothly and effectively into NICU rounds
  (Professionalism)

- Demonstrate awareness of multidisciplinary services available in the NICU and from Neurology consultants
  (System-based practice)

- Demonstrate familiarity with protocols for care in the NICU
  (Systems-based practice)

- Participate in end-of-life discussions compassionately in regards to patients with traumatic brain injury
  (Professionalism)

- Demonstrate understanding of NICU guidelines and protocols for therapeutic hypothermia
  (Systems-based practice)

Contact: Wiley Hall, MD
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Coronary Care Unit (CCU)

Fellows are expected to:

- Demonstrate proficiency in the diagnosis and management of the following conditions
  (Patient care, medical knowledge)
  - Acute coronary syndromes
  - End-stage congestive heart failure
  - Interpretation and management of acute cardiac arrhythmias
  - Emergency and therapeutic placement of transvenous cardiac pacemakers

- Demonstrate the ability to perform a comprehensive cardiac evaluation
  (Patient Care, Medical Knowledge)

- Appraise and assimilate scientific evidence in cardiac intensive care
  (Practice-based learning and improvement)

- Understand ICU admission and discharge criteria for patients with cardiac illness
  (Patient care, system-based practice)

- Teach principles of anesthesiology, airway management and surgical critical care to members of the CCU team
  (Practice-based learning and improvement, System-based practice)

- Demonstrate sensitivity to patients and families with end-stage heart failure
  (Professionalism)

- Integrate smoothly and effectively into CCU rounds
  (Interpersonal and communication skills, Professionalism)

- Demonstrate awareness of multidisciplinary services available from cardiology consultants
  (System-based practice)

- Demonstrate familiarity with protocols for care in the CCU
  (Systems-based practice)

- Demonstrate understanding of CCU guidelines and protocols for use of echocardiography, the cardiac catheterization lab and IABP
  (Systems-based practice)

- Demonstrate ability to communicate effectively with other health care professionals regarding cardiac patients.
  (Interpersonal and communication skills, Professionalism)

Contact: Craig Smith, MD
Craig.smith@umassmemorial.org

Basic Ultrasonography in Critical Care

Fellows are expected to:

- Demonstrate proficiency in general ultrasound principles (physics, machine use, probe types, advantages, limitations)
  (Medical knowledge)

- Assess organ systems with ultrasound and demonstrate proficiency in basic image interpretation
  (Medical knowledge, patient care)
  - Cardiovascular: ventricular function, chamber size, pericardial fluid, regional wall motion abnormalities, valvular disorders
  - Pulmonary: pneumothorax, effusion, consolidation, thoracentesis, chest tube placement
  - Basic abdominal exam / FAST exam (focused assessment with sonography in trauma); paracentesis
  - Renal: anatomy, bladder assessment
  - Vascular: access techniques, assessment of thrombosis

- Appraise and assimilate scientific evidence in ultrasound imaging and its application to critical care
  (Practice-based learning and improvement)

- Demonstrate understanding of indications for and against ultrasound imaging as well as cost
  (Patient care, system-based practice)

- Teach principles of ultrasound to co-fellows and residents
  (System-based practice, practice-based learning and improvement, professionalism, interpersonal and communication skills)

- Demonstrate sensitivity to patients and explain purpose and limitations of ultrasound to patients
  (Interpersonal and communication skills, professionalism)

- Integrate smoothly into ICU workflow and patient care
  (Professionalism)

Contact: Max Zayaruzny, MD, Matthias Walz, MD
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Ethics

Fellows will be expected to:

- Assess and formulate an ethically, legally and medically appropriate plan of action for these cases and to be able to communicate these ideas and conclusions effectively, both orally and in writing, to patients, patients' families, colleagues and other decision makers in society
  (Interpersonal and communication skills)

- Know when and how to obtain an ethics consultation and be knowledgeable of the function of ethics committee.
  (System-based practice)

- Attend the meetings of the adult ethics committees, as well as any ethics lectures given at the medical center.
  (Practice-based learning and improvement)

- Integrate smoothly and effectively into Ethics rounds
  (Professionalism)

- Demonstrate sensitivity to patients from a broad range of backgrounds presenting to the ethics team
  (Professionalism)

- Appraise and assimilate scientific evidence in ethics and intensive care
  (Practice-based learning and improvement)

- Demonstrate awareness of multidisciplinary services (psychiatry, ethics, ICU team, palliative care) available in intensive care units
  (System-based practice)

- Concepts that the fellow should be familiar with by gaining exposure to common dilemmas involving clinical medical ethics, including: end-of-life issues, interpreting advance directives, medical futility, organ transplantation, New York State law, informed consent, DNR issues, quality of life issues, care of the dying patient
  (Patient care, Medical knowledge)

- An understanding of beneficence, non-maleficence, autonomy, distributive justice.
  (Patient care, Medical knowledge)

Contact: Charles Lidz, MD
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Infectious Disease and Epidemiology

Fellows are expected to:

- Demonstrate proficiency in the diagnosis and management of the following conditions:
  (Patient care, Medical knowledge)
  - Community-acquired pneumonia (CAP)
  - Ventilator-acquired pneumonia (VAP)
  - Hospital-acquired pneumonia (HAP)
  - Sepsis and multisystem organ dysfunction
  - Central line-associated blood stream infection (CLABSI)
  - Intra-abdominal infections
  - Device/graft infections
  - Multidrug resistant (MDR) infections

- Appraise and assimilate scientific evidence in infectious disease practice
  (Practice-based learning and improvement)

- Demonstrate the ability to effectively communicate about patients with infectious issues
  (Interpersonal and communication skills)

- Demonstrate sensitivity to patients from a broad range of backgrounds presenting to the infectious disease service
  (Professionalism)

- Integrate smoothly and effectively into infectious disease rounds
  (Professionalism)

- Demonstrate awareness of multidisciplinary services available in intensive care units
  (System-based practice)

- Demonstrate familiarity with protocols for care on the infectious disease service
  (Systems-based practice)

Contact: Douglas Golenbock, MD
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Hepatology, Liver Transplant Surgery & Anesthesia

Fellows are expected to:

- Demonstrate proficiency in the diagnosis and management of the following conditions in patients with end-stage liver disease (ESLD)
  (Patient care, Medical knowledge)
  - Cirrhosis
  - Portal hypertension
  - Fulminant liver failure including acetaminophen overdose
  - Hepatorenal syndrome
  - Hepatopulmonary syndrome
  - Upper gastro-intestinal bleeding (GIB)
  - Status-post orthotopic liver transplantation (OLT)
  - Spontaneous bacterial peritonitis (SBP)
  - Acute and chronic liver transplant graft rejection

- Develop management plans for post-transplant immunosuppression
  (Patient care)

- Appraise and assimilate scientific evidence in liver transplantation, including extended donor criteria (EDC), living related donation, donation after cardiac death (DCD), and cadaveric donation
  (Practice-based learning and improvement)

- Demonstrate understanding of ICU admission and discharge criteria for liver patients
  (Patient care, system-based practice)

- Demonstrate sensitivity and ability to communication with ESLD patients and their parents
  (Interpersonal and communication skills, Professionalism)

- Integrate smoothly and effectively into the Liver Service rounds
  (Interpersonal and communication skills, Professionalism)

- Demonstrate familiarity with protocols for care of liver transplant patients
  (Systems-based practice)

- Demonstrate understanding of Model of End-stage Liver Disease (MELD)
  (Systems-based practice)

- Participate and demonstrate understanding of liver-transplant anesthesia
  (Medical knowledge)

- Participate and demonstrate familiarity liver-transplant surgical techniques
  (Medical knowledge)

Contact: Adel Bozorgzadeh, MD (Liver Transplant Surgery), Graham Barnard, MD (Liver Transplant Medicine), Farajallah Habib, MD (Liver Transplant Anesthesia)
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Medical Intensive Care Unit (MICU) (6ICU)

Fellows are expected to:

- Demonstrate proficiency in the diagnosis and management of the following conditions:
  (Patient care, Medical knowledge)
  - Acute respiratory failure and ARDS
  - Sepsis and multisystem organ dysfunction
  - Overdose and intoxication
  - Gastrointestinal bleeding
  - Hematologic and oncologic emergencies

- Appraise and assimilate scientific evidence in medical intensive care
  (Practice-based learning and improvement)

- Teach principles of anesthesiology, airway management and surgical critical care to members of the MICU team
  (Practice-based learning and improvement, System-based practice)

- Demonstrate the ability to effectively communicate about patients with medical illness
  (Interpersonal and communication skills)

- Demonstrate sensitivity to patients from a broad range of backgrounds presenting to the medical intensive care unit
  (Professionalism)

- Integrate smoothly and effectively into MICU rounds
  (Professionalism)

- Demonstrate awareness of multidisciplinary services available in medical intensive care units
  (System-based practice)

- Demonstrate familiarity with protocols for care in the MICU
  (Systems-based practice)

Contact: Scott Kopec, MD
Scott.Kopec@umassmemorial.org

Renal Consult Service

Fellows are expected to:

- Demonstrate the ability to use history, physical exam, invasive monitoring, laboratory, and ancillary tests to assess clinical volume status
  (Patient care, Medical knowledge).

- Demonstrate ability to generate differential diagnosis, diagnostic strategy, and to define appropriate therapeutic plan and modifications to ongoing therapy in patients with renal failure
  (Patient care, Medical knowledge).

- Demonstrate the ability to generate differential diagnosis, diagnostic strategy, and to define appropriate therapeutic plan and modifications to ongoing therapy in patients with a serious fluid, electrolyte, or complex acid-base disorders
  (Medical knowledge).

- Articulate the pathophysiology, evaluation, and management of acute kidney injury and chronic kidney disease, including patients on dialysis, with emphasis on the critically ill patient
  (Medical Knowledge).

- Demonstrate knowledge of the fundamentals and indications for the different types of renal replacement therapy (RRT)
  (Medical Knowledge).

- Appraise and assimilate scientific evidence in the field of intensive care nephrology
  (Practice-based learning and improvement).

- Demonstrate the ability to effectively communicate about patients with renal dysfunction and therapeutic goals
  (Interpersonal and communication skills).

- Demonstrate sensitivity to patients from a broad range of backgrounds
  (Professionalism).

- Integrate smoothly and effectively into renal consult team rounds
  (Professionalism).

- Demonstrate awareness of multidisciplinary services available in intensive care units
  (System-based practice).

- Demonstrate familiarity with protocols for renal replacement therapy in the ICU
  (Systems-based practice).

Contact: Jeffrey Stoff, MD
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Nutrition

Fellows are expected to:

- Demonstrate proficiency in the diagnosis and management of the following conditions:
  (Patient care, Medical knowledge)
  - Malnutrition
  - Gastroparesis/Ileus
  - Overfeeding
  - Patients requiring total Parenteral nutrition (TPN)
  - Patients with specific nutrition needs
  - Nutrition and Ventilator weaning
  - Indirect Calorimetry

- Appraise and assimilate scientific evidence in nutrition and intensive care
  (Practice-based learning and improvement)

- Demonstrate the ability to effectively communicate about patients with specific nutrition needs
  (Interpersonal and communication skills)

- Demonstrate sensitivity to patients from a broad range of backgrounds presenting to the medical intensive care unit
  (Professionalism)

- Integrate smoothly and effectively into Nutrition rounds
  (Professionalism)

- Demonstrate awareness of multidisciplinary services available in intensive care units
  (System-based practice)

- Demonstrate familiarity with protocols for Nutritional support in the various ICUs
  (Systems-based practice)

Contact: Ulises Torres, MD (Trauma/Surgical Critical Care), Dominic Nompleggi, MD
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Palliative Care

Fellows will be expected to:

- Assess and formulate an ethically, legally and medically appropriate plan of action for these cases and to be able to communicate these ideas and conclusions effectively, both orally and in writing, to patients, patients' families, colleagues and other decision makers in society
  (Interpersonal and communication skills)

- Demonstrate awareness of multidisciplinary services (psychiatry, ethics, ICU team, palliative care) available in intensive care units
  (System-based practice)

- Concepts that the fellow should be familiar with by gaining exposure to common dilemmas including: end-of-life issues, interpreting advance directives, medical futility, organ transplantation, Massachusetts State law, informed consent, DNR issues, quality of life issues, care of the dying patient
  (Patient care, Medical knowledge)

- Demonstrate proficiency in palliative care techniques
  (Medical Knowledge):
  - Comprehensive pain assessment and management for patients with serious illness
  - Comprehensive nonpain symptom assessment and management for patients with serious illness
  - Manage palliative care emergencies
  - Estimate and communicate prognosis to aid medical decision making
  - Establish goals of care based on patient and/or family values and specific medical circumstances
  - Prevent and mediate conflict and distress over complex medical decisions
  - Manage withdrawal of advanced life-sustaining therapies
  - Care for imminently dying patients and their families
  - Address requests for hastened death
  - Support patients and families in the psychosocial domain
  - Support patients and families in the spiritual and existential domain
  - Promote self-care and resilience
  - Facilitate transitions across the HPM continuum of care
  - Promote and teach hospice and palliative care

- Appraise and assimilate scientific evidence in palliative care
  (Practice-based learning and improvement)

- Demonstrate sensitivity to the beliefs and attitudes of patients from a broad range of backgrounds presenting to the intensive care unit
  (Professionalism)

- Integrate smoothly and effectively into the palliative care consult service.
  (Professionalism)

- Demonstrate awareness of multidisciplinary services available in intensive care units
  (System-based practice)

- Demonstrate familiarity with protocols for palliative care in the various ICUs
  (Systems-based practice)

Contact: Suzana Makowski, MD, Jennifer Reidy, MD
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Pediatric Intensive Care Unit (PICU)

Fellows are expected to:

- Demonstrate proficiency in the diagnosis and management of the following conditions in the pediatric patient
  (Patient care, Medical knowledge)
  - Respiratory failure and high frequency oscillatory ventilation
  - Inhaled prostacyclin for neonatal hypoxemia and congenital cardiac disease
  - Extracorporeal membrane oxygenation
  - Pediatric emergencies
  - Congenital heart disease

- Develop management plans for pediatric patients after organ transplantation (kidney)
  (Patient care)

- Appraise and assimilate scientific evidence in pediatric critical care
  (Practice-based learning and improvement)

- Demonstrate understanding of ICU admission and discharge criteria for pediatric patients
  (Patient care, system-based practice)

- Demonstrate sensitivity and ability to communication with pediatric patients and their parents
  (Interpersonal and communication skills, Professionalism)

- Integrate smoothly and effectively into PICU rounds
  (Interpersonal and communication skills, Professionalism)

- Demonstrate familiarity with protocols for care in the PICU
  (Systems-based practice)

- Demonstrate understanding of PICU guidelines and protocols for use of high-frequency oscillatory ventilation and ECMO
  (Systems-based practice)

Contact: Scot Bateman, MD
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