Area of Interest: None specified

Academic Year: /1
Program Code:

Ottawa Campus

Program of Study

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Course Descriptions

HLT0120 Anesthesia Equipment

A thorough understanding of anesthesia equipment and the ability to operate it is foundational to safe administration of anesthesia to patients undergoing surgery or procedures. The anesthetic infrastructure of the operating room is explored and students develop operational knowledge and ability to troubleshoot the anesthetic gas machine and its components, such as vaporizers, breathing systems and ventilators. Students discuss inventory management, equipment maintenance programs and purchasing/budgeting initiatives. Students determine requirements and techniques for patient monitoring and analyze the clinical significance of results. Using current research and best practices, students explore environmental concerns including scavenging systems for pollution regulation and infection control measures for anesthetic equipment and personnel.

Prerequisite(s): none
Corerequisite(s): HLT0122

HLT0121 Introduction to Anesthesia

Safe practice in operating rooms and ancillary anesthesia locations is essential for an anesthesia assistant. Students engage in an ongoing review of anatomy, physiology and pathophysiology that they apply to preoperative patient assessment, interpretation of diagnostic data, airway management and fluid administration. Students apply principles of infection control and aseptic technique in the perioperative environment when performing invasive and non-invasive patient interventions, such as vascular access, hemodynamic monitoring and airway management. Students learn the roles of anesthesia team members, standards of practice and ethico-legal concerns and the importance of using medical information for documenting patient care.

Prerequisite(s): none
Corerequisite(s): HLT0122
HLT0122 Anesthesia Laboratory I

Anesthesia assistants develop a high level of expertise in the use of anesthesia equipment prior to clinical application. Students examine risk management and safe use of medical devices. Students analyze changing intraoperative hemodynamic, cardiac and respiratory parameters from anesthesia induction to emergence. Students practise routine anesthesia case set-up, apply standard monitoring equipment and manage uncomplicated airways. In a simulated setting, students conduct and document preoperative assessments for patients of all ages in order to develop a plan of care.

Prerequisite(s): none
Corequisite(s): HLT0120 and HLT0121

HLT0123 Applied Anesthesia

Anesthetic modalities, implementation and maintenance vary according to patient age, physical status, type of surgical intervention and changing patient parameters. Students explore the rationale for choosing and implementing different types of anesthesia including general, regional anesthesia and procedural sedation. Using research, case studies and discussions, students determine the management of patients with co-morbid disorders, compare anesthetic patient care across surgical specialties and apply advanced airway, monitoring, fluid management and pharmacological interventions. Students apply critical-thinking skills to analyze and respond to complications and emergency situations.

Prerequisite(s): HLT0120 and HLT0121 and HLT0122
Corequisite(s): HLT0124

HLT0124 Anesthesia Laboratory II

Anesthesia assistants develop ongoing skills in order to care for more diverse patients. Students practise complex case set-ups for general and regional anesthesia and participate in advanced intraoperative patient monitoring. Students apply critical thinking to recognize and respond to adverse events within the operating room, in remote locations and during patient transportation. In a simulated setting, students identify requirements for patients of all ages regarding managing difficult airways, advanced monitoring, fluid administration and thermoregulation.

Prerequisite(s): HLT0122
Corequisite(s): HLT0123

HLT0126 Pharmacology for the Anesthesia Assistant

Anesthesia assistants must have a solid understanding of pharmacologic principles and agents commonly used during the perioperative period. Continuous advancements in anesthesia pharmacology offer many options for care of the surgical patient. Students apply pharmacologic principles and calculate drug dosages for a wide range of local anesthetic, intravenous, inhalation and reversal agents, muscle relaxants, cardiovascular agents and analgesics. Using a case study approach, students compare agents relative to clinical use for mode of action, indications/contraindications, dosage, administration route, therapeutic effects, side effects and drug reactions and complications.

Prerequisite(s): none
Corequisite(s): HLT0122

HLT0127 Anesthesia Clinical Practicum

Clinical experience provides the opportunity for the student to apply the requisite knowledge, skills and judgment of the anesthesia assistant in the perioperative patient care setting. Students gain the experience of working as an integral member of the anesthesia team. They demonstrate program competencies and practise clinical anesthesia under the direction and supervision of an anesthesiologist in the operating room and ancillary anesthesia settings.

Prerequisite(s): HLT0123 and HLT0124
Corequisite(s): none