

CPC CORE MODULES INSTRUCTIONAL DESIGN

AIRWAY MANAGEMENT TECHNIQUES:

1. Course Goal:

To enhance professional competence through an ongoing, multimodal, and progressive process that maintains and enhances proficiency in nurse anesthesia practice and is a concept that ranges on a continuum from entry-level proficiency to complete mastery. The determination of what knowledge and skill equate to proficiency at the level required for continued professional certification requires judgment about the needs of patients and the range of services that experienced nurse anesthetists provide. **The knowledge base and skill set for nurse anesthetists include (but are not limited to) patient-centered care, work in interprofessional teams, evidence-based practice, quality improvement, and informatics.** The goals of the CPC program for nurse anesthetists are **(1) to maintain core competence and (2) to enhance competence beyond the expectations of the initially certified nurse anesthetist.**

1.1 Instructional Goals: To enhance knowledge and skills in basic and advanced airway management instrumentation and techniques.

1.1.1 Instructional Objectives: The Learner will be able to recognize and respond with the appropriate instrumentation and technique with regard to airway management in accordance with evidence-based practices.

Performance Objectives:

1.1.1.1 The Learner will demonstrate the appropriate steps in assessing an airway to develop the appropriate patient-specific plan that ensures safe management of the airway and facilitates continuity of care.

1.1.1.2 The Learner will identify the indications and contraindications associated with the use of airway equipment.

1.1.1.3 The Learner will understand the associated malpractice claims arising from the management of the airway, using a closed claims analysis.

1.1.1.4 The Learner will identify the complications associated with airway equipment.

1.2 To enhance in-depth understanding of and provide learning experiences in the difficult airway algorithm as a standard of care.

AIRWAY MANAGEMENT TECHNIQUES (cont):

- 1.2.1 The Learner will be able to anticipate, identify, and manage patients with a potentially difficult airway in accordance with the difficult airway algorithm.
 - 1.2.1.1 When challenged with a difficult ventilation, the Learner will be able to demonstrate the appropriate steps outlined in the difficult airway algorithm.
 - 1.2.1.1 When challenged with a known difficult airway, the Learner will be able to demonstrate the appropriate steps outlined in the difficult airway algorithm.
 - 1.2.1.2 When challenged with a "cannot ventilate, cannot intubate" incident, the Learner will be able to demonstrate the appropriate steps outlined in the difficult airway algorithm.
- 1.3 To enhance in-depth understanding of and provide learning experiences in airway management complications.
 - 1.3.1 The Learner will be able to recognize and respond to airway management complications in accordance with evidence-based practices.
 - 1.3.1.1 When challenged with a laryngospasm, the Learner will be able to respond with the appropriate treatment in accordance with evidence-based practices.
 - 1.3.1.2 When challenged with an airway fire, the Learner will be able to respond with the appropriate treatment in accordance with evidence-based practices.
 - 1.3.1.3 When challenged with recurrent laryngeal nerve damage, the Learner will be able to respond with the appropriate treatment in accordance with evidence-based practices.
 - 1.3.1.4 When challenged with a pulmonary aspiration, the Learner will be able to respond with the appropriate treatment in accordance with evidence-based practice.

APPLIED CLINICAL PHARMACOLOGY:

2. Course Goal:

To enhance professional competence through an ongoing, multimodal, and progressive process that maintains and enhances proficiency in nurse anesthesia practice and is a concept that ranges on a continuum from entry-level proficiency to complete mastery. The determination of what knowledge and skill equate to proficiency at the level required for continued professional certification requires judgment about the needs of patients and the range of services that experienced nurse anesthetists provide. **The knowledge base and skill set for nurse anesthetists include (but are not limited to) patient-centered care, work in interprofessional teams, evidence-based practice, quality improvement, and informatics.** The goals of the CPC program for nurse anesthetists are **(1) to maintain core competence and (2) to enhance competence beyond the expectations of the initially certified nurse anesthetist.**

2.1 Instructional Goals: To enhance in-depth understanding of and provide learning experiences in the utilization, actions, interactions, and adverse effects of anesthetics and adjuvant medications.

2.1.1 Instructional Objectives: The Learner will be able to recognize and respond to normal and abnormal pharmacological actions, interactions, and adverse effects of medications.

Performance Objectives:

- 2.1.1.1** When challenged with recurarization or inadequate reversal of muscle relaxation, the Learner will identify symptoms, causes, and treatment in accordance with evidence-based practices.
- 2.1.1.2** When challenged with anaphylaxis, the Learner will identify symptoms, causes, and treatment in accordance with evidence-based practices.
- 2.1.1.3** When challenged with local anesthetic (LA) toxicity, the Learner will identify symptoms, causes, and treatment in accordance with evidence-based practices.
- 2.1.1.4** The Learner will be able to identify anesthesia implications and treat adverse effects related to beta blockers in accordance with evidence-based practices.
- 2.1.1.5** The Learner will be able to identify anesthesia implications and treat adverse effects related to anxiolytics in accordance with evidence-based practices.

APPLIED CLINICAL PHARMACOLOGY (cont):

- 2.1.1.6** The Learner will be able to identify anesthesia implications and treat adverse effects related to insulin and oral hypoglycemic agents in accordance with evidence-based practices.
- 2.1.1.7** The Learner will be able to identify anesthesia implications and treat adverse effects related to opioids in accordance with evidence-based practices.
- 2.1.1.8** The Learner will be able to identify anesthesia implications and treat adverse effects related to induction agents in accordance with evidence-based practices.
- 2.1.1.9** The Learner will be able to identify anesthesia implications and treat adverse effects related to local anesthetics in accordance with evidence-based practices.
- 2.1.1.10** The Learner will be able to identify anesthesia implications and treat adverse effects related to antiemetics in accordance with evidence-based practices.
- 2.1.1.11** The Learner will be able to identify anesthesia implications and treat adverse effects related to muscle relaxants in accordance with evidence-based practices.
- 2.1.1.12** The Learner will be able to identify anesthesia implications and treat adverse effects related to inhaled anesthetics in accordance with evidence-based practices.
- 2.1.1.13** The Learner will be able to identify anesthesia implications and treat adverse effects related to non-opioid pain management in accordance with evidence-based practices.
- 2.1.1.14** The Learner will be able to identify anesthesia implications and treat adverse effects related to anticholinergics in accordance with evidence-based practices.
- 2.1.1.15** The Learner will be able to identify anesthesia implications and treat adverse effects related to fluid, electrolyte, and blood component therapy in accordance with evidence-based practices.
- 2.1.1.16** The Learner will be able to identify anesthesia implications and treat adverse effects related to self-administered medications (e.g., OTC, herbal agents, illicit drugs) in accordance with evidence-based practices.

APPLIED CLINICAL PHARMACOLOGY (cont):

- 2.1.1.17 The Learner will be able to identify anesthesia implications and treat adverse effects related to psychiatric medications in accordance with evidence-based practices.
- 2.1.1.18 The Learner will be able to identify anesthesia implications and treat adverse effects related to antihypertensive medications in accordance with evidence-based practices.
- 2.1.1.19 The Learner will be able to identify anesthesia implications and treat adverse effects related to inotropic agents in accordance with evidence-based practices.
- 2.1.1.20 The Learner will be able to identify anesthesia implications and treat adverse effects related to diuretics in accordance with evidence-based practices.
- 2.1.1.21 The Learner will be able to identify anesthesia implications and treat adverse effects related to anticoagulants in accordance with evidence-based practices.
- 2.1.1.22 The Learner will be able to identify anesthesia implications and treat adverse effects related to bronchodilators in accordance with evidence-based practices.
- 2.1.1.23 The Learner will be able to identify anesthesia implications and treat adverse effects related to vasoconstrictors in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY:

3. Course Goal: To enhance professional competence through an ongoing, multimodal, and progressive process that maintains and enhances proficiency in nurse anesthesia practice and is a concept that ranges on a continuum from entry-level proficiency to complete mastery. The determination of what knowledge and skill equate to proficiency at the level required for continued professional certification requires judgment about the needs of patients and the range of services that experienced nurse anesthetists provide. The knowledge base and skill set for nurse anesthetists include (but are not limited to) patient-centered care, work in interprofessional teams, evidence-based practice, quality improvement, and informatics. The goals of the CPC program for nurse anesthetists are **(1) to maintain core competence and (2) to enhance competence beyond the expectations of the initially certified nurse anesthetist.**

3.1 Instructional Goal: To enhance in-depth understanding of the physiological differences across the lifespan as well as the function of and interaction between organ systems and their associated disorders to ensure the safe and effective administration of anesthesia.

3.1.1 Instructional Objectives: The Learner will be able to recognize physiological and pathophysiological cardiovascular events and manage the anesthetic in accordance with evidence-based practices.

Performance Objectives:

- 3.1.1.1** The Learner will be able to recognize congestive heart failure and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.2** The Learner will be able to recognize a cardiovascular collapse and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.3** The Learner will be able to recognize events related to valvular disorders and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.4** The Learner will be able to recognize events related to peripheral vascular disease and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.5** The Learner will be able to recognize events related to hypertension and manage the anesthetic in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY (cont):

- 3.1.1.6** The Learner will be able to recognize cardiac dysrhythmias and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.7** The Learner will be able to recognize cardiac tamponade and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.8** The Learner will be able to recognize shock and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.1.8.1** The Learner will be able to recognize hypovolemic shock and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.1.8.2** The Learner will be able to recognize cardiogenic shock and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.1.8.3** The Learner will be able to recognize cardiac compressive shock and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.1.8.4** The Learner will be able to recognize septic shock and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.1.8.5** The Learner will be able to recognize neurogenic shock and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.1.8.6** The Learner will be able to recognize anaphylactic shock and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.9** The Learner will be able to recognize abdominal aortic aneurysms and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.10** The Learner will be able to recognize events related to pacemakers, stents, and automatic implantable cardioverter-defibrillators and manage the anesthetic in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY (cont):

- 3.1.1.11** The Learner will be able to recognize events related to carotid artery stenosis and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.12** The Learner will be able to recognize myocardial ischemia and infarction and manage the anesthetic in accordance with evidence-based practices.
- 3.1.1.13** The Learner will be able to recognize events related to hypotension and manage the anesthetic in accordance with evidence-based practices.
- 3.1.2** The Learner will be able to recognize physiological and pathophysiological Respiratory events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.2.1** The Learner will be able to recognize events related to obstructive lung disease and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.2.2** The Learner will be able to recognize events related to restrictive lung disease and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.2.3** The Learner will be able to recognize events related to upper respiratory infections and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.2.4** The Learner will be able to recognize events related to embolisms and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.2.5** The Learner will be able to recognize events related to mediastinal masses and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.2.6** The Learner will be able to recognize acute respiratory distress syndrome and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.2.7** The Learner will be able to recognize bronchospasm and manage the anesthetic in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY (cont):

- 3.1.2.8** The Learner will be able to recognize events related to tension pneumothorax and manage the anesthetic in accordance with evidence-based practices.
- 3.1.3** The Learner will be able to recognize physiological and pathophysiological Neurologic events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.1** The Learner will be able to recognize events related to a brain AVM and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.2** The Learner will be able to recognize events related to substance abuse and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.3** The Learner will be able to recognize events related to dementia and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.4** The Learner will be able to recognize events related to a spinal cord injury and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.5** The Learner will be able to recognize events related to intracranial masses and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.6** The Learner will be able to recognize events related to aneurysms and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.7** The Learner will be able to recognize events related to seizures and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.8** The Learner will be able to recognize events related to a stroke and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.9** The Learner will be able to recognize events related to a traumatic brain injury and manage the anesthetic in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY (cont):

- 3.1.3.10** The Learner will be able to recognize events related to neuromuscular disorders and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.11** The Learner will be able to recognize events related to increased intracranial pressure and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.12** The Learner will be able to recognize events related to congenital anomalies and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.13** The Learner will be able to recognize the events related to post-operative visual loss in accordance with evidence-based practices.
 - 3.1.3.14** The Learner will be able to recognize and manage emergence delirium in accordance with evidence-based practices.
 - 3.1.3.15** The Learner will be able to recognize events related to peripheral nerve injury and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.16** The Learner will be able to recognize events related to cauda equina syndrome and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.3.17** The Learner will be able to recognize a myasthenic crisis and manage the anesthetic in accordance with evidence-based practices.
- 3.1.4** The Learner will be able to recognize physiological and pathophysiological Renal events and manage the anesthetic in accordance with evidence-based practices.
- 3.1.4.1** The Learner will be able to recognize events related to acute renal failure and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.4.2** The Learner will be able to recognize events related to chronic renal failure and manage the anesthetic in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY (cont):

- 3.1.4.3** The Learner will be able to recognize events related to fluid and electrolyte abnormalities and manage the anesthetic in accordance with evidence-based practices.
- 3.1.5** The Learner will be able to recognize physiological and pathophysiological Gastrointestinal events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.5.1** The Learner will be able to recognize events related to obesity and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.5.2** The Learner will be able to recognize events related to gastro esophageal reflux disease and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.5.3** The Learner will be able to recognize events related to small-bowel obstruction and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.5.4** The Learner will be able to recognize events related to pancreatitis and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.5.5** The Learner will be able to recognize events related to liver failure and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.5.6** The Learner will be able to recognize events related to an acute abdomen and manage the anesthetic in accordance with evidence-based practices.
- 3.1.6** The Learner will be able to recognize physiological and pathophysiological Hematological events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.6.1** The Learner will be able to recognize events related to disseminated intravascular coagulation and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.6.2** The Learner will be able to recognize events related to anemias and manage the anesthetic in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY (cont):

- 3.1.6.3** The Learner will be able to recognize events related to transfusion reaction and manage the anesthetic in accordance with evidence-based practices.
- 3.1.6.4** The Learner will be able to recognize events related to Coagulopathies and manage the anesthetic in accordance with evidence-based practices.
- 3.1.7** The Learner will be able to recognize physiological and pathophysiological Endocrine events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.7.1** The Learner will be able to recognize events related to a pheochromocytoma and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.7.2** The Learner will be able to recognize events related to diabetes mellitus and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.7.3** The Learner will be able to recognize thyroid related events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.7.4** The Learner will be able to recognize pituitary related events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.7.5** The Learner will be able to recognize SIADH related events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.7.6** The Learner will be able to recognize events related to multiple endocrine neoplasia and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.7.7** The Learner will be able to recognize parathyroid-related events and manage the anesthetic in accordance with evidence-based practices.
- 3.1.8** The Learner will be able to recognize physiological and pathophysiological Musculoskeletal events and manage the anesthetic in accordance with evidence-based practices.
 - 3.1.8.1** The Learner will be able to recognize events related to rheumatoid disease and manage the anesthetic in accordance with evidence-based practices.

HUMAN PHYSIOLOGY and PATHOPHYSIOLOGY (cont):

- 3.1.8.2** The Learner will be able to recognize events related to ankylosing spondylitis and manage the anesthetic in accordance with evidence-based practices.
- 3.1.8.3** The Learner will be able to recognize events related to scoliosis and manage the anesthetic in accordance with evidence-based practices.
- 3.1.8.4** The Learner will be able to recognize events related to muscular dystrophy and manage the anesthetic in accordance with evidence-based practices.

ANESTHESIA TECHNOLOGY

4. Course Goal:

To enhance professional competence through an ongoing, multimodal, and progressive process that maintains and enhances proficiency in nurse anesthesia practice and is a concept that ranges on a continuum from entry-level proficiency to complete mastery. The determination of what knowledge and skill equate to proficiency at the level required for continued professional certification requires judgment about the needs of patients and the range of services that experienced nurse anesthetists provide. **The knowledge base and skill set for nurse anesthetists include (but are not limited to) patient-centered care, work in interprofessional teams, evidence-based practice, quality improvement, and informatics.**

4.1 Instructional Goal: To provide information on current anesthesia equipment, technology, and informatics.

4.1.1 Instructional Objectives: The Learner will select and utilize appropriate anesthesia equipment to facilitate the safe and effective care of the patient.

Performance Objectives:

4.1.1.1 The Learner will select and utilize the most appropriate anesthesia equipment and monitoring modalities.

4.1.1.2 The Learner will demonstrate infection prevention, disinfection, and sterilization of equipment (e.g., fiber optics, POC testing devices).

4.1.1.3 When challenged with an equipment malfunction, the Learner will take the appropriate action for resolution to facilitate the safe and effective care of the patient.

4.1.1.4 When challenged with an anesthesia gas machine malfunction, the Learner will take the appropriate action for resolution to facilitate the safe and effective care of the patient.

4.1.1.5 When challenged with an electrical malfunction, the Learner will take the appropriate action for resolution to facilitate the safe and effective care of the patient.

4.1.2 The Learner will demonstrate current principles of patient care documentation.

4.1.2.1 The Learner will conduct and document a preanesthesia evaluation and informed consent in accordance with current standards and guidelines.

ANESTHESIA TECHNOLOGY (cont):

- 4.1.2.2 The Learner will recognize effective communication and indicate proper documentation of key perioperative events to the essential members of the perioperative team.
- 4.1.3 The Learner will demonstrate understanding of quality assurance and informatics.
 - 4.1.3.1 The Learner will recognize the importance and benefits of information management systems to anesthesia.
 - 4.1.3.2 The Learner will appropriately utilize informatics and media technology within their practice in accordance with current standards and guidelines.
 - 4.1.3.3 The Learner will utilize, synthesize, and apply quality assurance data and risk management in accordance to current standards and guidelines in order to effect the safe management of patient care.