



**Critical Care Nursing: Scope of Practice, Professional Standards,
Competencies, and Indicators**

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The Jordanian Nursing Council

The Jordanian Nursing Council (JNC) is a national governmental regulatory institution for nursing and midwifery in Jordan. The JNC is governed by a board headed by Her Royal Highness Princess Muna Al Hussein as president of the council. The board is comprised of 14 key representatives of the healthcare institutions and through regulating and governing the nursing profession in education, practice and research.

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Acronyms

ABG	Arterial blood gas
ANS	advances in nursing services
CT	Computed tomography scan
CBC	Complete blood count
CCN	Critical care nurses
CRP	C-reactive protein
CSF	Cerebral spinal fluid
DVT	Deep vein thrombosis
Echo	Echocardiogram
ICP	Intracranial pressure
ICU	Intensive care unit
JNC	Jordanian Nursing Council
JNMC	Jordan Nurses and Midwives Council
MRI	Magnetic resonance imaging
PEEP	Positive end-expiratory pressure
STEMI	ST-Elevation Myocardial Infarction
VAP	Ventilator associated pneumonia

Introduction

This document presents the scope of practice, professional standards, and essential competencies for advanced critical nursing practice in Jordan. This document was developed by the Jordanian Nursing Council (JNC) and partners as part of the JNC mission to promote the health status of patients as well as the community through a sound regulatory system to protect the public and the profession. JNC recognizes the importance of the role of critical nurses and is committed to strengthening critical nursing practice to support and improve the quality of services and to protect patients and the public in general.

The primary purpose of the JNC Professional Standards is to promote, guide, and direct professional practice. Furthermore, it works as a framework for assessing competence of practice nurses, assessment of nurses educated abroad seeking to work in Jordan, and nurses returning to work after breaks in service. JNC considers the professional standards as legal guidance to protect the public by regulating nursing practice, provide guidance to nurses regarding their professional obligations, provide a framework to assess professional performance, and address incompetence among nurses. The JNC Professional Standards are used by educators, universities, registered nurses, and managers.

Methodology

Standards of critical care nurse specialists were developed by reviewing the best evidence-based international models and frameworks of critical care standards through consultations with critical nurse leaders and experts, and feedback provided by advance practice critical nurses in a variety of clinical settings.

Scope of Practice

The scope of practice for critical care nursing of critically ill adult patients includes the dynamic interaction and collaboration between the patient, family, nurse, and environment where critical care is being delivered to improve patient health status. The scope of practice for critical care nursing is the commitment to the vision of the holistic view of patients and their families, taking in consideration varied dimensions, including

physical, emotional, spiritual, and cultural needs. The scope of critical care nursing practice is grounded in specialized scientific knowledge, ethical and legal considerations for decision-making and interdisciplinary cooperation.

The scope of practice for critical care nursing encompasses different roles of the critical care nurse who is committed to using specific and safe interventions designed to restore, rehabilitate, cure, maintain, or palliate for adult patients in critical care settings across their lifespan. In addition, critical care nurses (CCN) are devoted to maintain a respectful, healing, and caring environment, and respond to the unique needs of patients and families.

The scope of practice for a CCN requires cognitive, intellectual, and technical abilities within ethically and culturally safe acts, policies, procedures, and practice guidelines. CCNs need to use evidence-based practice in primary, secondary, and tertiary care settings in rural and urban communities. They must also have the ability to interpret, evaluate, and communicate research findings; test and apply the findings of research produced by others; and conduct independent research in order to improve nursing practice and subsequently quality of healthcare services.

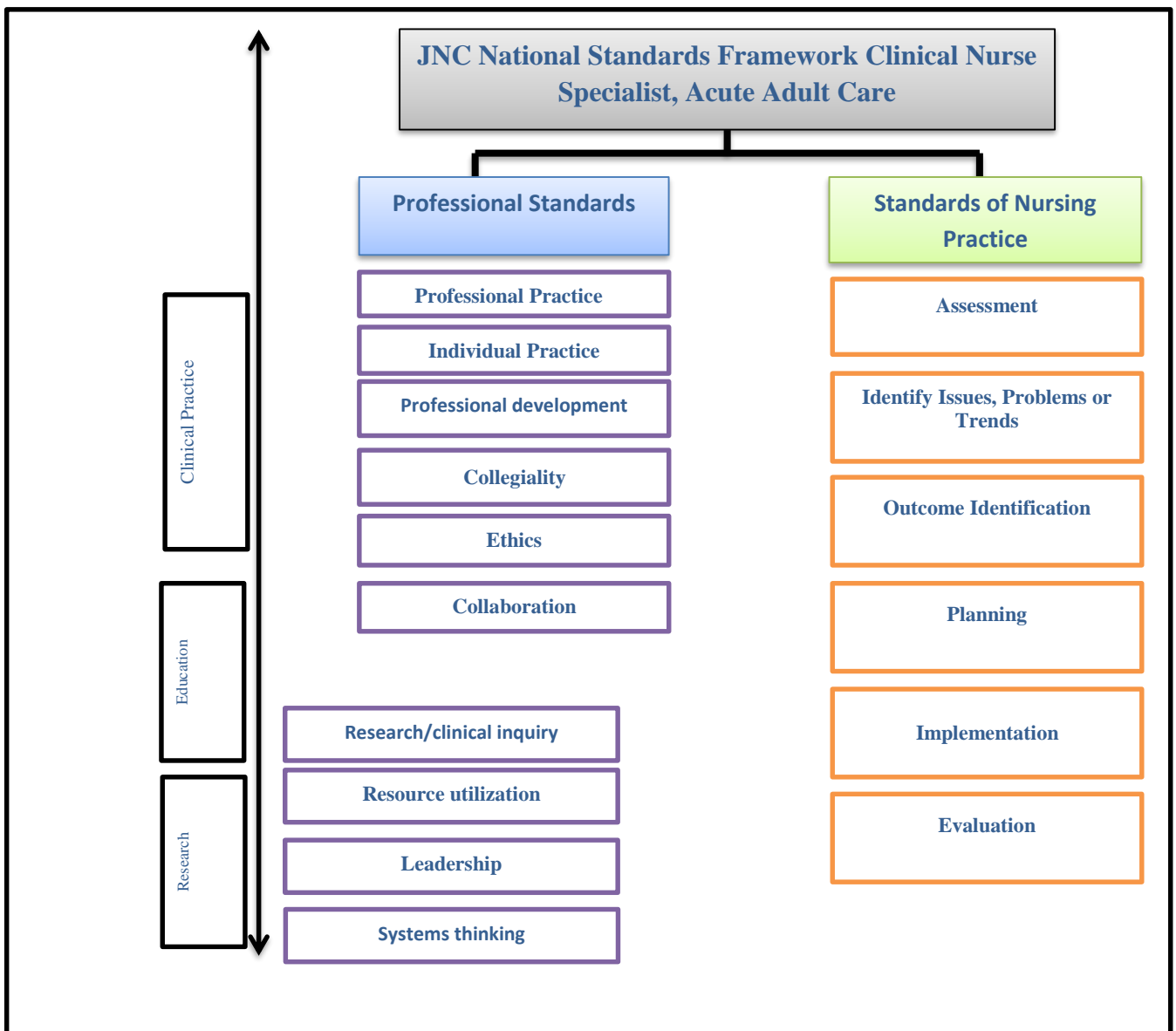
A CCN provides high level advocacy for client-centered care needs, health promotion, and management of health problems. CCNs act as advocates for individuals or groups with critical care conditions and for their rights for nursing and healthcare within institutional structures. CCNs have an important consultative role to improve the skills in handling a work-related problem and to enhance the abilities to master future problems of a similar type. Also, advanced nursing specialist has a pivotal role in providing health education; and acting as an educator for patients, families, staff, and students in critical care settings.

Enhancing collaboration and interdisciplinary teamwork is a significant role of the CCN who must lead in developing, promoting, and maintaining interdisciplinary teamwork. Finally, ANS possesses a satisfactory leadership and management knowledge and skills. CCNs have the ability to assess, implement, and evaluate leadership and management problems and opportunities that may arise in critical care settings.

Qualifications:

- Registered with the Jordan Nurses and Midwives Council (JNMC) and licensed according to the provisions of the Public Health Law.
- Obtained, at minimum, a master’s degree from an accredited university or educational institution in a field of specialty listed and recognized by JNC.
- Fulfilled specific standards to achieve JNC certifications for this professional level.

JNC National Standards Framework for Advanced Critical Nurse Specialist



Section 1: JNC Professional Standards for the Advanced Critical Care Nurse Specialist

Standard 1: Professional Practice

The advanced critical care nurse develops criteria for and evaluates the quality, safety, and effectiveness of practice within the three spheres of influence: the patient/family, nursing/nursing practice, and organizations/systems.

Core Competency 1:

Develops and implements quality activities that ensure safe and effective nursing practice.

Measurement criteria:

- Leads clinical inquiry through quality improvement activities.
- Obtains and maintains professional certification.
- Identifies and develops strategies to enhance quality care and promote healthy work environments.
- Synthesizes data and formulates evidence-based recommendations to improve quality care, practice, and healthcare outcomes within the three spheres.
- Uses appropriate coding and billing to reflect the level and type of service delivery in practice.
- Disseminates benefits of the ANS to the organization, system, and community through presentations, publications and/or involvement in professional organizations.
- Analyzes the whole healthcare system and its philosophy to align critical care accordingly, e.g., the implication of JNC standards for critical care nursing practice.
- Reflects on the social, political, cultural, and economic developments within the context of the country's healthcare system while conforming to national and international standards of critical care nursing.

- Provides leadership in the design, implementation, and monitoring of quality improvement activities.
- Develops indicators and checklists to monitor quality and effectiveness of critical care nursing practice based on contextual variables, e.g., infection rates, length of stay, morbidity, mortality, adverse events, etc.
- Implements, evaluates, and updates policies, procedures, and/or guidelines to improve the quality and effectiveness of nursing practice.

Core Competency 2:

Improves nursing practice to facilitate the physical, psychological, cultural, and environmental measures that promote safety.

Measurement criteria:

- Adheres to nursing national safety guidelines.
- Uses data and trends in decision-making to optimize patient safety.
- Intervenes to prevent and/or minimize complications resulting from disease or illness.
- Fosters an interprofessional approach to safety into practice.
- Evaluates patient care practices based on research and experiential knowledge, and integrates changes into practice to improve safety.
- Facilitates safe and effective transitions across levels of care.
- Reports incidents of unsafe healthcare and/or nursing practice.
- Performs meticulous respiratory/bronchial hygiene to avoid ventilator associated pneumonia (VAP).
- Ensures that emergency/safety plugs are labelled and continuously available.
- Orientates staff, including general assistants, on safety.

- Coordinates infection surveillance at intervals to identify nosocomial infections and resistant organisms in collaboration with the healthcare team especially the microbiologist.
- Traces infection with first signs of infection, e.g., change in the consistency and color of sputum, urine, drainage, etc.
- Ensures that alarms are kept on and within acceptable limits/ranges.
- Applies the various patient restraints considering safety, prescriptive requirements, and legal implications.
- Avoids/reduces noise in the intensive care unit (ICU).

Standard 2: Individual Practice Evaluation

The advanced critical care nurse is accountable for maintaining competence in clinical practice across all three spheres of influence: evaluation of the patient, nursing/nursing practice, and organization and system-oriented outcomes.

Core Competency:

Maintains accountability in the evaluation processes: credentials, privileges, and role performance according to practice standards.

Measurement criteria:

- Engages in self-reflection, performance appraisal, and peer review to ensure competent professional practice.
- Complies with the credentialing and privileging process within the organization or system.
- Evaluates role performance according to professional practice standards, institutional guidelines, and relevant statutes and regulations.
- Reflects on self and staff competence and keeps her/him and staff up to date with current health issues and healthcare trends in the dynamic environment like critical care nursing.

Standard 3: Professional Development

The advanced critical care nurse is a lifelong learner who acquires and maintains current knowledge and competency in advanced nursing practice.

Core Competency:

Participates in ongoing professional development programs that improve professional performance.

Measurement criteria:

- Is accountable for self-engagement in educational activities related to professional practice and patient population across the three spheres of influence.
- Uses information gained in educational activities to improve professional performance
- Maintains competence in information and patient care technologies appropriate to role and patient population.
- Consciously seeks experiences and formal and independent learning activities to maintain and develop clinical and professional skills and knowledge as well as personal growth.

Standard 4: Collegiality

The advanced critical care nurse promotes a healthy work environment for the development of peers, colleagues, and other professionals.

Core Competency:

Collaborates with patients, nursing staff, and interdisciplinary healthcare team to provide comprehensive nursing care.

Measurement criteria:

- Contributes to the advancement of the profession as a whole by disseminating outcomes of practice through presentations and publications.
- Promotes career development for students, nurses, and other healthcare providers.

- Promotes the role and scope of practice of the ANS (e.g., to legislators, regulators, other healthcare providers, and the public).
- Facilitates development of clinical judgment in healthcare team members through role modeling, teaching, coaching, and/or mentoring.
- Creates and utilizes learning opportunities for orientation and teaching of staff, patients, and families of critically ill patients in the unfamiliar and stressful ICU environment.

Standard 5: Ethics

The advanced critical care nurse makes decisions and implements actions to ensure the delivery of safe, competent, and ethical care that is age-appropriate and congruent with patient and family needs and values.

Core Competency:

Identifies, articulates, and takes action on ethical concerns at the patient, family, healthcare provider, and system, community, and public policy levels.

Measurement criteria:

- Fosters the establishment and maintenance of an ethical environment.
- Facilitates resolution of ethical conflicts and moral distresses using ethical principles to promote a healthy work environment.
- Implements interventions that consider the impact of scientific advances, cost, clinical effectiveness, patient values and preference, diversity, and other external influences on healthcare.
- Serves as a mentor and role model to others in developing moral agency by fostering professional accountability in self and others.
- Facilitates ethical and non-coercive decision-making for patients to maintain activities of daily living, receive treatment, initiate advance directives, and implement end-of-life care.

- Delivers care in a manner that preserves and protects the autonomy, dignity, rights, values, beliefs, and preferences of the healthcare user and family
- Engages in ethical and legal debates concerning some complex decisions and orders in ICU, e.g., the Do Not Resuscitate, or DNR, orders.
- Recognizes the significance of the critically ill patient and family in ethical decision-making within the multidisciplinary team ensuring they make informed decisions.
- Upholds and advocates for the critically ill patient's confidentiality within the legal and ethical framework particularly because the critically ill patient is not in control of his/her situation.
- Takes appropriate action in case of illegal, unethical, or inappropriate behavior that exposes the critically ill patient to risk and jeopardizes the best interest of the patient, e.g., reports and documents adverse events to relevant structures including the regulatory body.

Standard 6: Collaboration

The advanced critical care nurse effectively partners with interprofessional colleagues in the care of patients and patient populations to improve patient outcomes.

Core Competency:

Collaborates at an advanced level by committing to authentic engagement and constructive patient, family, system, and population-focused problem-solving to provide comprehensive nursing care.

Measurement criteria:

- Facilitates provision of clinically competent care through education, role modeling, team building, and quality monitoring.
- Fosters an interprofessional approach to safety, quality improvement, evidence-based practice, research, and translation of research into practice.
- Uses communication practices that minimizes risks associated with handoffs among providers and across transitions of care.

- Implements outcome-focused patient care programs.
- Mentors healthcare team members to understand and use the expertise of others.
- Establishes collaborative relationships within and across disciplines that promote patient safety, culturally competent care, and clinical excellence.
- Leads and participates in activities such as interprofessional rounds and community health-related activities.
- Uses skilled communication to foster true inter- and intra-professional collaboration in the interest of continuity of patient care and professional development

Standard 7: Research/Clinical Inquiry

The advanced critical care nurse identifies research priority in practice, participates in research, translates scientific evidence, and promotes evidence-based practice.

Core Competency:

The empirical work thorough systematic inquiry includes the search for, interpretation, and use of evidence in clinical practice and quality improvement, as well as active participation in conducting research.

Measurement criteria:

- Identifies clinical opportunities amenable to research.
- Conducts research to advance the science of nursing practice.
- Participates with other healthcare professionals in conducting and implementing research/clinical inquiry.
- Analyzes research findings and other evidence for application to clinical practice.
- Synthesizes and translates research findings to determine the need for changes in practice.
- Evaluates patient care practices based on research and experiential knowledge, and integrates changes into practice to improve safety, efficiency, reliability, and quality.

- Acts as a role model and mentors staff regarding the dissemination, implementation, and evaluation of research findings.
- Communicates research results and develops a process to incorporate research findings into practice.
- Evaluates and facilitates incorporation of new products, techniques, and technologies into practice.
- Contributes to nursing knowledge by conducting or synthesizing research and other evidence that discovers, examines, and evaluates current practice, knowledge, theories, criteria, and creative approaches to improve critical care practice.
- Promotes a climate of research and clinical inquiry in the critical care setting.
- Critically analyzes and discusses the findings of nursing research studies within the healthcare team in critical care nursing to negotiate for applicable findings in own work environment.
- Disseminates research findings through activities, such as, presentations, publications, consultations, and journal clubs for a variety of audiences but especially co-workers to improve the critical care nursing practice.

Standard 8: Resource Utilization

The advanced critical care nurse influences resource utilization in order to promote safe, quality, and cost-effective patient care.

Core Competency:

Manages human resources, facilities, and materials to ensure equitable decisions about the allocation of resources for safe, cost-effective, and efficient health practices.

Measurement criteria:

- Leads clinical inquiry through quality improvement activities.
- Considers fiscal and budgetary implications in decision-making regarding practice and system modifications.

- Assists staff in developing innovative and cost-effective programs or protocols of care.
- Conducts cost-benefit and cost-avoidance analysis of programs, processes, and technologies.
- Evaluates impact of introduction or withdrawal of products, services, and technologies.
- Facilitates access for patients to appropriate healthcare services.
- Facilitates safe and effective transitions across levels of care, including acute, community-based, and long-term.
- Utilizes resources and programs to promote functional, physical, and mental wellness for patient population.
- Interprets and facilitates integration of organizational mission, goals, and systems into patient care practices.
- Acts as a role model and mentors innovative systems thinking and resource use among the healthcare team.
- Develops strategies to facilitate transition of patients through the healthcare system.
- Assesses, facilitates, and advocates the impact of social, political, regulatory, and economic forces on delivery of care.
- Ensures constant availability of adequate, operational, cost-effective, safe, and efficient equipment and technology for the care of critically ill patients on a daily basis.
- Designs evaluation strategies to demonstrate cost-effectiveness, cost-benefit, and efficiency (fitness for purpose) factors associated with critical care nursing practice.
- Evaluates the use of products and services for appropriateness and cost-benefit in meeting critical care needs.

- Conducts cost-benefit analysis of new clinical technology.
- Evaluates the impact of introducing or withdrawal of products, services, and technologies.

Standard 9: Leadership

The advanced critical care nurse manages change and leads others to influence practice and political processes within and across systems.

Core Competency:

Exhibits ability to manage change and empower others to influence clinical practice and political processes both within and across systems.

Measurement criteria:

- Leads micro and macro system-level change.
- Masters and employs skilled communication.
- Uses leadership, team building, negotiation, and conflict resolution skills to promote a healthy work environment.
- Develops a culture where hostile work environments are not tolerated.
- Provides leadership in implementing innovation.
- Facilitates creation of a common vision for care within the healthcare team and system.
- Acts as a role model for professional leadership and accountability for nursing role within the healthcare team and community.
- Participates in professional organizations to address issues of concern in meeting patients' needs and improving nursing practice and system effectiveness.
- Advocates for legislation and policies that promote health and improve care delivery.
- Engages in commissioning a critical care unit with confidence based on sound knowledge of the needs and resource requirements of an ICU setting.

- Ensures adequate coverage of all shifts with appropriately qualified staff and skills mix in accordance with the organizational policies, guidelines, and norms.
- Assigns aspects of care based on a careful assessment of the needs and conditions of the patient, the potential risks or harm, availability, and competence of the healthcare providers and applicable policies, norms, and legal framework, like the Scope of Practice.

Standard 10: Systems Thinking

The advanced critical care nurse develops and participates in organizational systems and processes to promote optimal outcomes.

Core Competency:

Manages existing environmental and system resources for the patient, family, and staff within or across healthcare and non-healthcare systems.

Measurement criteria:

- Applies knowledge of organizational theories and systems to provide safe, patient-centered, high-quality, and cost-effective care.
- Performs system-level assessments to identify variables that influence nursing practices and outcomes.
- Determines nursing practice and system interventions that promote patient, family, and community safety.
- Designs and develops care paths and initiatives across the continuum of acute care services.
- Anticipates unintended consequences with the introduction of new technology.
- Participates in the design of clinical decision support systems.
- Advocates for equity in health and healthcare for patient populations of diverse cultural, ethnic, and spiritual backgrounds across their lifespan.
- Evaluates the ongoing integration of evidence and practice standards into systems of healthcare delivery.

- Identifies, participates in, and assists with developing institutional and organizational system responses to natural and man-made disasters.
- Integrates knowledge of governmental and regulatory opportunities and constraints to impact patient transitions across the continuum of care.
- Participates in designing systems that support effective teamwork and positive outcomes.

Section II: The JNC National Practice Standards for the Advanced Critical Care Nurse Specialist

Standard 11: Provision of Patient-Centered Care

11.1. Assessment:

The advanced critical care nurse provides comprehensive, systematic and prioritized nursing assessment to collect data pertinent to the issue, situation, or trend.

Core Competency:

Uses relevant evidence-based assessment framework to collect data on all health domains of the patient/groups and ensures accurate documentation.

Measurement criteria:

- Collects comprehensive data from the patient, family, and other healthcare providers, to develop a holistic plan for the patient according to his/her needs.
- Prioritizes data collection according to patient condition related to the immediate predicted needs.
- Uses valid evidence-based assessment techniques, instruments, and tools to evaluate patient condition according to his/her age and health status.
- Obtains the essential and crucial data to formulate differential diagnoses.
- Assesses pharmacological and non-pharmacological interventions, diagnostic measures, medical equipment, procedures, and treatment as identified in plan of care.
- Communicates with healthcare providers to determine the use of best strategies to meet patient needs.
- Documents relevant data in patient file in clear and systematic manner.
- Maintains documentation within the legal and ethical framework.

- Develops an epidemiological profile concerning the incidence, prevalence, morbidity, and mortality of life-threatening conditions in order to practice evidence-based assessments.
- Integrate the biomedical and social sciences, such as anatomy, physiology, pathophysiology, and clinical pharmacology with the educational, psycho-socio-cultural, ethical, legal, and economical context of disease to assess a critically ill patient.
- Organizes, synthesizes, analyses, and interprets the assessment data of the critically ill patient from various data sources to derive nursing diagnoses.
- Formulates nursing diagnoses based on accurate analysis and interpretation of the assessment data obtained from a critical evaluation of the critically ill patient or patient with life-threatening problems.

11.2: Diagnosis

The advanced critical care nurse uses the assessed data to analyze and formulate the nursing diagnoses and related condition.

Core Competency:

Analyzes and interprets the assessment data and identifies actual and potential health problems accurately.

Measurement criteria:

- Develops nursing diagnoses or related conditions based on nursing assessment.
- Uses the collected data in clinical decision-making to improve patient safety.
- Validates diagnoses with patient, family, and other healthcare providers.
- Documents relevant data in patient file in clear and systematic manner.
- Formulates nursing diagnoses based on accurate analysis and interpretation of the assessment data obtained from a critical evaluation of the critically ill patient or patient with life-threatening problems.

- Establishes priorities concerning the critically ill patients' problems according to severity as determined by the complexity and multiplicity of problems including the life-threatening that impingement on the patient's quality of life.

Standard 11.3: Outcome Identification

The advanced critical care nurse recognizes the expected outcomes for the patient based on assessment data and evidence base in relation to ethical considerations, patient preferences, cost, resources, and risk-benefit ratio in collaboration with other health team members.

Core Competency:

Identifies expected outcomes for the individualized plan.

Measurement criteria:

- Recognizes the outcomes from assessments and diagnoses.
- Respects patient and family perspectives and values in formulating culturally appropriate outcomes in collaboration with the patient and family, and with the interprofessional team.
- Considers associated risks, benefits, current evidence, clinical expertise, and cost when formulating expected outcomes.
- Modifies expected outcomes based on changes in patient condition or situation.
- Documents outcomes as measurable goals in patient file in clear and systematic manner.

Standard 11.4: Planning

The advanced critical care nurse develops and facilitates the plan that prescribes interventions to attain expected outcomes within the three spheres of influence: the patient/family, nursing/nursing practice, and organizations/systems.

Core Competency:

Plans patient-centered care interventions in collaboration with other healthcare team members to achieve the expected outcomes.

Measurement criteria:

- Determines when evidence-based guidelines, policies, procedures, and plans of care need to be tailored to the patient and family.
- Designs evidence-based strategies to meet the multifaceted needs of complex patients/populations (e.g. safety, quality, and cost).
- Communicates directly with nursing staff to determine which strategies would best meet a patient's needs.
- Develops age- and population-specific clinical standards, algorithms, policies, procedures, protocols, and guidelines.
- Coordinates education within the three spheres to improve healthcare outcomes.
- Develops, implements, and modifies plans of care or system initiatives within the spheres of influence.
- Applies critical thinking and clinical judgment underpinned by scientific, biomedical, and technological knowledge in the critical care field to deduce a plan of care for the critically ill patient.
- Develops a complex, comprehensive, individualized, and evidence-based plan of care according to determined healthcare priorities and care management tools in collaboration with the relevant multidisciplinary team.
- Formulates collaboratively and frequently a critical analysis of the plan of care based on the critically ill patient progress and as directed by the care management tools (e.g. protocols, algorithms, and guidelines) and laboratory findings.
- Reviews and revises the critically ill patient's plan of care collaboratively according to the compromise/ deterioration or progress of the critically ill patient as illustrated/confirmed in the patient status, advanced technological parameters, and laboratory findings.

11. 5: Implementation

The advanced critical care nurse implements interventions within the three spheres of influence: the patient/family, nursing/nursing practice, and organizations/systems.

Core Competency:

Provides comprehensive, safe, and effective evidence-based and patient-centered care to achieve identified health outcomes.

Measurement criteria:

- Provides direct care to selected patients based on the needs of patients and specialized knowledge and skills.
- Implements pharmacologic and nonpharmacological interventions, diagnostic measures, durable medical equipment, procedures, and treatments as identified in the plan of care.
- Coordinates implementation of an individualized plan of care collaboratively with patients and the healthcare team.
- Uses behavioral, communication, and environmental modification strategies with patients who have cognitive and/or psychiatric impairments.
- Documents consultations, assessments, recommendations, interventions, and evaluations in the patient's record.
- Initiates appropriate referrals and performs consultations.
- Implements evidence-based clinical guidelines, care paths, policies and procedures, and tailors them to specific populations.
- Coordinates services to optimize transitions of care.
- Intervenes to prevent and/or minimize iatrogenesis and ensure patient safety.
- Implements strategies using documents and online guidelines to identify and/or manage age-related syndromes.
- Facilitates learning among patients, staff, other disciplines, and organizational leaders.

- Implements technology and treatments in an appropriate and ethical manner.
- Leads system change to promote health outcomes, system efficiency, and a healthy work environment through evidence-based practice.
- Implements individualized, comprehensive, and evidence-based care based on the findings of the scientific, biomedical, and technological assessment of the critically ill patient within the relevant contextual variables/factors and multidisciplinary collaboration.
- Appropriately prepares for, initiates under supervision, monitors, and administers appropriate care to critically ill patients on technological support.

11.6: Evaluation

The advanced critical care nurse evaluates and communicates progress toward attainment of expected outcomes within the three spheres of influence: the patient/family, nursing/nursing practice, and organizations/systems.

Core Competency:

Determines progress of patient and groups towards planned outcomes.

Measurement criteria:

- Revises diagnoses, expected outcomes, and interventions based on information gained in the evaluation process.
- Bases the evaluation process on advanced knowledge, evidence, expertise, quality indicators, benchmarking, and research.
- Evaluates evidence-based algorithms, clinical guidelines, protocols, and care paths for appropriateness to patient population.
- Evaluates all three spheres to ensure care is patient-centered, safe, timely, effective, efficient, and equitable.
- Evaluates the clinical practice of healthcare team members (e.g., nursing staff, medical staff, and other healthcare providers).

- Evaluates impact of interventions and nursing practice changes on systems of care using nurse-sensitive outcomes.
- Evaluates effect of practice on healthcare outcomes within the three spheres.
- Evaluates impact of legislative and regulatory policies as they apply to nursing practice and patient or population outcomes.
- Monitors and critically evaluates on a regular basis the progress of the patient with a life-threatening condition against the collaboratively predetermined and revised outcomes of the critically ill patient.
- Utilizes evaluation data to modify the plan of critical care of the patient with life-threatening condition in accordance with protocols and algorithms and in collaboration with the multidisciplinary team.

Table 1: System-based competencies

System-Based Competencies		
System	Competencies	Examples
Neurological System	Discusses the physiology of the nervous system and the pathophysiology for neurological system-related diseases.	
	Obtains detailed history and subjective data related to neurological system.	
	Performs comprehensive neurophysical assessment.	<ul style="list-style-type: none"> • Glasgow Coma Scale (level of consciousness) • Level of responsiveness • Sedation scales • Motor function assessment • Sensory function assessment • Papillary response assessment • Cranial nerve assessment • Delirium assessment • Pain assessment
	Analyzes and interprets lab and diagnostics results.	<ul style="list-style-type: none"> • Cerebral spinal fluid (CSF) normal and abnormal values and characteristics • Osmolality • Sodium and arterial blood gas (ABG) • Blood glucose
	Understands the rationale for the following neurological diagnostics tests and provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • Computed tomography (CT) scan/ computerized axial tomography scan • Magnetic resonance imaging (MRI) • Electroencephalogram or EEG • Lumbar puncture • Identifies intracranial dynamics • Intracranial pressure (ICP) monitoring and readings • Alteration in ICP, such as increased ICP • Handles troubleshooting of ICP monitoring system
	Recognizes and provides client-centered care for actual or potential life-threatening alterations in neurologic function.	<ul style="list-style-type: none"> • Ineffective thermoregulation (e.g., hyperthermia, hypothermia) • Motor and sensory dysfunction related to neuromuscular transmission, (e.g., Guillain-Barré syndrome, spinal cord injury, myasthenia gravis, amyotrophic lateral sclerosis, critical illness, or polyneuropathy) • Motor and sensory dysfunction related to brain injury (e.g., stroke or traumatic brain injury) • Cerebral tissue perfusion (e.g., seizures, stroke, cerebral edema, cerebral aneurysm, or altered cerebral metabolism) • Intracranial hypertension (e.g., traumatic brain injury, hepatic failure, stroke, or herniation)

System-Based Competencies		
System	Competencies	Examples
	Selects the appropriate evidence-informed nursing interventions to minimize or prevent motor or sensory deficits.	<ul style="list-style-type: none"> • Maintains spinal cord integrity (e.g., positioning and immobilization devices) • Intervenes in spinal cord crises: spinal shock, neurogenic shock, autonomic dysreflexia (e.g., alleviating cause, pharmacological agents, positioning, or fluids) • Provides interventions to prevent complications of immobility, such as deep vein thrombosis (DVT) precautions, fall risk assessment • Provides active or passive range of motion
	Selects the appropriate evidence-informed nursing interventions to correct alterations in cerebral tissue perfusion.	<ul style="list-style-type: none"> • Using techniques to prevent obstruction and promote venous and CSF drainage (e.g., positioning, neck alignment, head-of-bed elevation, proper application of collars, and tracheostomy ties) • Optimizing PaCO₂ • Administering pharmacological agents (e.g., diuretics, barbiturates, analgesics, sedatives, neuromuscular blocking agents, steroids, and vasopressors) • Managing invasive intracranial pressure monitoring or ventricular drainage devices (e.g., set-up, drainage, troubleshooting, positioning of device) • Using techniques that control intrathoracic pressures (e.g., minimizing airway stimulation, pharmacological agents, minimizing positive end-expiratory pressure [PEEP], gastric decompression) • Managing vasospasm (e.g., calcium channel blockers; hypervolemia, hypertension, hemodilution [triple H therapy]; or positioning) • Managing metabolic rate (e.g., cooling devices or fluids, pharmacological agents, or reduced stimulation) • Managing seizure activity (e.g., pharmacological agents, correcting hypoglycemia, or correcting electrolytes) • Preventing secondary injury (e.g., maintaining adequate oxygenation, preventing hypercarbia, fluid management, or blood pressure management) • Managing thrombotic stroke (e.g., thrombolytic, blood pressure control, thermoregulation, or blood glucose control)
	Provides care for patients with neuro-related interventions (e.g., such as craniotomy, laminectomy, or shunt).	
Cardiovascular System	Discusses the physiology of cardiovascular system and the pathophysiology for cardiovascular system related diseases.	
	Obtains detailed history and subjective data related to cardiovascular system.	

System-Based Competencies		
System	Competencies	Examples
	Performs comprehensive cardiovascular physical assessment.	<ul style="list-style-type: none"> • Vital signs • Pulses (apical, and peripheral). • Jugular Vein Pressure (JVP) • Skin color and temperature • Edema • Capillary refill • Heart and lung sounds
	Analyzes and interprets lab and diagnostics results:	<ul style="list-style-type: none"> • Complete blood count (CBC) • Coagulation studies • Electrolytes • Myocardial enzymes • Lipid profile • Digoxin level • Inflammatory studies • Electrocardiogram strips and 12 leads • ABGs • Thyroid function test
	Understands the rationale for the following diagnostics tests and provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • Cardiac catheterization • Echocardiogram (echo) • Chest X-ray • CT • MRI • Stress test (treadmill and medication) • Pulmonary artery catheter pressures and waveforms • Trans-esophageal echo • Intra-aortic balloon pump
	Identifies hemodynamic parameters, monitoring, and their interpretations.	<ul style="list-style-type: none"> • Cardiac output • Cardiac index • Stroke volume • Mean arterial pressure • Peripheral vascular resistant

System-Based Competencies		
System	Competencies	Examples
	Intervenes based on observation of manifestations of the following actual or potential life-threatening alterations in cardiac output and perfusion: cardiogenic shock (e.g., myocardial infarction, or cardiomyopathy).	<ul style="list-style-type: none"> • Hypovolemic shock (e.g., hemorrhage and third space loss) • Distributive shock (e.g., systemic inflammatory response system or sepsis) • Neurogenic shock, anaphylactic shock • Acute coronary syndrome: myocardial infarction (e.g., ST-Elevation Myocardial Infarction [STEMI], non-STEMI, or unstable angina) • Cardiac tamponade (e.g., cardiac surgery, trauma, pericardial effusion) • Acute cardiac pulmonary edema (e.g., oxygen, pharmacological agents, PEEP) • Hypertension (e.g., post cardiovascular surgery, pheochromocytoma, pregnancy-induced) • Dysrhythmias • Valvular disease (e.g., stenosis, regurgitation, papillary muscle rupture, mechanical, or tissue valves) • Heart failure (e.g., systolic, diastolic)
	Provides care for patients with cardiovascular-related complications.	<ul style="list-style-type: none"> • Aneurysm and/or dissection • Complications from dysrhythmia • Limb or organ ischemia
	Provides basic life support and advanced cardiovascular life support for cardiac arrested patient, and provides care for patient in Returned of Spontaneous Circulation stage.	
	Selects appropriate evidence-informed nursing interventions to manage intravascular access devices.	<ul style="list-style-type: none"> • Assisting with invasive procedures (e.g. maximal barrier precautions, site selection, or site preparation) • Preventing or managing complications (e.g., air embolism, thrombosis, infection, occlusion, hemorrhage, or malposition) • Removal of intravascular access devices: central venous catheters, peripheral arterial lines, or femoral arterial lines (e.g., adequate hemostasis, patient positioning, infection prevention, or timely removal)
	Selects appropriate evidence-informed nursing interventions to manage hemodynamic monitoring systems.	<ul style="list-style-type: none"> • Managing invasive hemodynamic devices (e.g., set-up, levelling, patency, or patient positioning) • Troubleshooting invasive hemodynamic devices (e.g., inaccurate results, interpreting abnormal findings, or waveform interpretation)
	Understands rationale for prescribed pharmacological agents.	
	Administers cardiovascular-related pharmacological agents safely.	<ul style="list-style-type: none"> • Fibrinolytic • Anticoagulants • Platelet inhibitors • Classes of antiarrhythmic drugs.

System-Based Competencies		
System	Competencies	Examples
		<ul style="list-style-type: none"> • Inotropic drugs • Phosphodiesterase III inhibitor • Angiotensin-converting enzyme inhibitor • Vasodilator drugs • Classes of antihyperlipidemic drugs
Respiratory System	Discusses the physiology of respiratory system and the pathophysiology for respiratory-related diseases.	
	Obtains detailed history and subjective data related to respiratory system.	
	Performs comprehensive respiratory physical assessment.	<ul style="list-style-type: none"> • ABGs • CBC • Chemistry • End tidal CO₂ • Methemoglobins, • Carboxyhemoglobins • Mixed venous oxygen saturation SvO₂ • C-reactive protein (CRP)
	Understands the rationale for the following respiratory diagnostics tests provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • Chest X-ray • CT scan • Bronchoscopies • Pulmonary function tests • Thoracentesis • Sputum culture • Oxyhemoglobin dissociative curve • MRI
	Able to deal with respiratory monitoring devices.	<ul style="list-style-type: none"> • Capnography • Pulse oximeter • Incentive spirometer
	Recognizes an actual or potential life-threatening alteration of the respiratory system, including:	<ul style="list-style-type: none"> • Ineffective airway (e.g., asthma, epiglottitis, laryngeal spasm/edema, head/neck trauma, mucous plug) • Ineffective breathing (e.g., Guillain-Barré syndrome, chest trauma, impaired respiratory drive) • Pleural abnormalities (e.g., tension pneumothorax, pleural effusion, hemothorax) • Non-cardiac pulmonary edema (e.g., acute lung injury or acute respiratory distress syndrome) • Ventilation: perfusion mismatch/perfusion disturbance (e.g., embolism, thrombotic, fat, air, amniotic, or atelectasis) • Pulmonary hypertension (e.g., primary, secondary) • Inhalation injuries (e.g., thermal, carbon monoxide, or aspiration) • Chronic pulmonary disease (e.g., restrictive, obstructive); and pulmonary infections (e.g., febrile respiratory illness, community acquired pneumonia, health-care associated pneumonia, VAP, tuberculosis)

System-Based Competencies		
System	Competencies	Examples
	Provides care for patients with mechanical ventilator.	
	Provides care for patients with respiratory-related interventions.	<ul style="list-style-type: none"> • Positioning (e.g., prone, head of bed elevation) • Managing airway (e.g., jaw thrust or chin lift, or artificial airways). • Administering and titrating oxygen therapy • Clearing secretions in patients have endotracheal or tracheostomy tube • Suctioning • Chest percussion vibration • Postural drainage • Assisted cough
	Provides care for patients with respiratory-related complications.	
	Understands rationale for prescribed pharmacological agents.	
	Administers respiratory-related pharmacological agents safely.	<ul style="list-style-type: none"> • Pharmacological agents to facilitate ventilation (e.g., analgesics, reversal agents, sedatives, paralytic, and puffers/aerosol therapy) • Pharmacological agents to prevent or treat pulmonary embolism (e.g., thrombolytic agents or anticoagulants) • Pharmacological agents to treat pulmonary hypertension and/or hypoxemia (e.g., prostacyclin or nitric oxide)
	Assists with medical interventions (tracheostomy, intubation, or chest tube insertion).	
Gastrointestinal System	Discusses the physiology of the gastrointestinal system and the pathophysiology for gastrointestinal system related diseases.	
	Obtains detailed history and subjective data related to the gastrointestinal system.	
	Performs comprehensive gastrointestinal physical assessment.	
	Analyzes and interprets lab and diagnostics results.	<ul style="list-style-type: none"> • Liver function tests • Glucose • Amylase • Lipase • Proteins • Electrolytes • Albumin • Hematocrit • Prealbumin

System-Based Competencies		
System	Competencies	Examples
		<ul style="list-style-type: none"> • Ammonia
	Understands the rationale for the following gastrointestinal diagnostics tests provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • Gastric lavage • Paracentesis • Fine-needle Aspiration • Ultrasound • Abdominal x-ray • CT scan • MRI • Angiography • Esophagogastroduodenoscopy • Colonoscopy • Sigmoidoscopy • Endoscopic retrograde cholangiopancreatography
	Demonstrates ability to deal with gastrointestinal related monitoring devices (intra-abdominal pressure).	
	Provides care for patients with the following gastrointestinal disorders.	<ul style="list-style-type: none"> • Infarcted bowel • Hepatic failure • Cirrhosis • Abdominal compartment syndrome • Intra-abdominal hypertension • Peritonitis • Pancreatitis • Hepatitis • Crohn's disease • Esophageal rupture • Perforated bowel • Ileus • Upper and lower gastrointestinal bleeding • Splenic injuries • Hepatic injuries • Esophageal varices • Ingestion of a toxic substance (e.g., acetylsalicylic acid, antidepressants, acetaminophen, and toxic alcohols).
	Provides care for patients with the following examples.	<ul style="list-style-type: none"> • Nasogastric Tube(NGT), gastrostomy, and jejunostomy • Colostomy, ileostomy, and nephrostomy
	Able to assess the severity of acute pancreatitis based on Ranson's criteria.	
	Provides care for patients with peritonitis.	
	Understands rationale for prescribed pharmacological agents.	
	Administers gastrointestinal-related pharmacological agents safely.	
Renal System	Discusses the physiology of the renal system and the pathophysiology for	

System-Based Competencies		
System	Competencies	Examples
	renal system-related diseases.	
	Obtains detailed history and subjective data related to renal system.	
	Performs comprehensive renal physical assessment (e.g., intake and output).	
	Analyzes and interprets lab and diagnostics results.	<ul style="list-style-type: none"> • Electrolytes • Urine electrolytes • Urea • Creatinine • Urinalysis and culture • Serum and urine osmolality • Anion gap • Drug levels • Glomerular Filtration Rate (GFR)
	Understands the rationale for the following renal diagnostics tests and provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • Doppler ultrasound • Renal biopsy • Double J stent • Suprapubic Foleys catheter
	Provides care for patients with the following renal disorders.	<ul style="list-style-type: none"> • Acute kidney injury • Chronic kidney injury • Nephrotic syndrome • Nephritic syndrome • Pyelonephritis • Glomerulonephritis
	Provides care for patients with the following examples.	<ul style="list-style-type: none"> • Disorders of fluid volume • Electrolyte imbalances • Post-kidney transplantation
	Provides care for patients with acute or chronic dialysis.	
	Provides care for patients with renal-related complications.	
	Understands rationale for prescribed pharmacological agents.	
	Administers renal-related pharmacological agents safely.	
Endocrine System	Discusses the physiology of the endocrine system and the pathophysiology for endocrine-system related diseases.	
	Obtains detailed history and subjective data related to the endocrine system.	
	Performs comprehensive endocrine physical assessments.	
	Compares and contrasts the signs and symptoms of endocrine hormonal	

System-Based Competencies		
System	Competencies	Examples
	dysfunction (e.g., hypothyroidism and hyperthyroidism).	
	Analyzes and interprets lab and diagnostics results.	<ul style="list-style-type: none"> • Serum Antidiuretic Hormone (ADH) • Serum osmolality • Total thyroxine (T4) • Free T4 • Free T4 index • Free triiodothyronine (T3) • Thyroid-stimulating hormone • Cortisol • Fasting blood sugar • Glycosylated hemoglobin (HbA1c) • Serum ketones • Urine ketones • Urine osmolality • Electrolytes levels
	Understands the rationale for the following endocrine diagnostics tests and provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • CT • MRI • Thyroid scan and radioactive iodine uptake • Fine-needle biopsy • Ultrasound
	Provides care for patients with the following endocrine disorders.	<ul style="list-style-type: none"> • Diabetes insipidus • Diabetes mellitus • Syndrome of inappropriate antidiuretic hormone • Diabetic ketoacidosis • Hyperglycemic hyperosmolar non-ketotic syndrome • Adrenal insufficiency (e.g., primary and secondary associated with critical illness) • Thyrotoxicosis crisis • Myxedema coma
	Provides care for patients with endocrine-related interventions.	
	Provides care for patients with endocrine related complications.	
	Understands rationale for prescribed pharmacological agents.	
	Administers endocrine-related pharmacological agents safely.	
Integumentary System	Discusses the physiology of integumentary system and the pathophysiology for integumentary system-related diseases.	
	Obtains detailed history and subjective data related to the integumentary system.	
	Performs comprehensive integumentary physical assessment.	

System-Based Competencies		
System	Competencies	Examples
	Performs the Braden scale assessment.	
	Analyzes and interprets lab and diagnostics results.	<ul style="list-style-type: none"> • CBC • Electrolytes • Vitamins
	Understands the rationale for the following integumentary diagnostics tests and provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • Swab culture • X-ray • CT scan • MRI • Ultrasound
	Provides care for patients with the following integumentary disorders.	<ul style="list-style-type: none"> • Burns (e.g., thermal, chemical, radiation, or electrical) • Wounds (e.g., postoperative wounds, post trauma wounds, decubitus ulcers, or necrotizing fasciitis) • Provides care for patients with integumentary-related interventions (Pressure ulcers)
	Understands rationale for prescribed pharmacological agents.	
	Administers integumentary -related pharmacological agents safely.	
Musculoskeletal System	Discusses the physiology of the musculoskeletal system and the pathophysiology for musculoskeletal system-related diseases.	
	Obtains detailed history and subjective data related to the musculoskeletal system.	
	Performs comprehensive musculoskeletal physical assessment.	<ul style="list-style-type: none"> • Able to perform general principle (ask, look, feel, and move) • Able to perform general examination • Able to inspect the joints using the Gait, Arms, Legs, and Spine screen or GALS
	Analyzes and interpret labs and diagnostics results.	<ul style="list-style-type: none"> • Urinalysis • Full blood count • Erythrocyte sedimentation rate • CRP • Biochemical • Serological
	Understands the rationale for the following musculoskeletal diagnostics tests and provides care for patients undergoing these tests.	<ul style="list-style-type: none"> • Plain radiography (X-rays) • Ultrasonography • MRI • CT scan • Dual-energy X-ray absorptiometry • Joint aspiration biopsy and histology • X-ray survey • Schirmer tear test: salivary flow test
	Provides care for patients with the	<ul style="list-style-type: none"> • DVT

System-Based Competencies		
System	Competencies	Examples
	following musculoskeletal disorders.	<ul style="list-style-type: none"> • Compartment syndrome (e.g., abdominal, limb) • Fractures (e.g., long bone, skull, pelvis, ribs, crush injuries, or blood loss)
	Provides appropriate nursing interventions to encourage mobilization and prevent complications related to immobility (e.g., range of motion, positioning, coughing, deep breathing, wound care, splinting, mobilization, minimal restraints, and fall prevention).	
	Provides care for patients with fixation and traction.	
	Understands rationale for prescribed pharmacological agents.	
	Administers musculoskeletal-related pharmacological agents safely.	
Immunology and Hematology System	Discusses the physiology of the hemato-immune system and the pathophysiology for hemato-immune system-related diseases.	
	Obtains detailed history and subjective data related to the hemato-immune system.	
	Performs comprehensive hemato-immune physical assessment.	<ul style="list-style-type: none"> • Assess the nares, gums, and mucous membranes of the mouth for signs of bleeding • Inspect and palpate lymph nodes • Palpate spleen and liver • Assess pain
	Analyzes and interprets lab and diagnostics results.	<ul style="list-style-type: none"> • CBC • Immunoglobulins • Coagulation studies • Inflammatory studies
	Understands the rationale for the following hemato-immune diagnostics tests.	<ul style="list-style-type: none"> • Blood culture (bacterial, viral, and fungal) • Peripheral smear • Antinuclear antibody • Bone marrow aspiration and biopsy • Tissue biopsy (skin) • Lymph node biopsy • CT scan • Skeletal survey
	<ul style="list-style-type: none"> • Provides care for patients with the following hemato-immune disorders. • Provides appropriate nursing interventions to prevent infections. 	<ul style="list-style-type: none"> • Immunocompromised patient • Anemia • Thrombocytopenia • DVT • Hemophilia • Disseminated Intravascular Coagulation (DIC)

System-Based Competencies		
System	Competencies	Examples
	Assists with bone marrow aspiration procedures and caring for patient undergoing the procedure.	
	Provides care for patients with hemato-immune related complications	<ul style="list-style-type: none"> • Septic shock • Blood transfusion reaction
	Understands rationale for prescribed pharmacological agents.	
	Administers hemato-immune -related pharmacological agents safely.	

Table 2: Psychosocial competencies

Psychosocial Competencies		
System	Competencies	Examples
	Communicates with the patient and/or family.	<ul style="list-style-type: none"> • Interpreting data (initial and ongoing assessment or response to interventions) related to each patient's and/or family's psychosocial needs, including: <ul style="list-style-type: none"> – Experience of the health crisis (e.g., coping skills, hopelessness, powerlessness, grief, loss, culture, or spirituality) – Response to the health-care system (e.g., current and past experiences)
	Selects appropriate evidenced-informed nursing interventions to facilitate optimal communication.	<ul style="list-style-type: none"> • Providing opportunities for patient- and family-centered decision-making (e.g., end-of-life decisions, advance directives, transplantation, and plan of care) • Providing alternative methods of communication (e.g., use of Passy-Muir valve, communication board, cuff deflation, written communication, or interpreter)
	Selects appropriate evidence-informed nursing interventions to facilitate optimal family processes.	<ul style="list-style-type: none"> • Facilitating communication among patient, family, interprofessional team, and external resources (e.g., family meetings) • Involving family in direct patient care (e.g., assisting with basic care and family presence) • Supporting the patient and/or family during decision-making and plan of care (e.g., interprofessional rounds) • Advocating for the patient (e.g., advance directives, organ donation, informed consent, privacy, and Allow Natural Death) • Advocating for family presence (e.g., visiting, interprofessional rounds, or crisis management) • Consulting with internal and/or external resources (e.g., social work, ethics consult, or community support)
	Interprets assessment data (initial and ongoing assessment or response to interventions) related to the examples.	<ul style="list-style-type: none"> • Pain (e.g., vital sign changes, body language, pain intensity scale, precipitating and palliative factors, quality, radiation/referral, associated signs and symptoms, time, or understanding/experience) • Level of arousal (e.g., sedation scale, agitation scale, or delirium assessment)

Psychosocial Competencies		
System	Competencies	Examples
	Selects appropriate evidence-informed nursing interventions to promote comfort.	<ul style="list-style-type: none"> • Non-pharmacological methods of managing discomfort (e.g., alternative therapies, spiritual care, or promoting sleep) • Pain management strategies (e.g., continuous and intermittent analgesia, epidural, patient-controlled analgesia, or multi-modal approach) • Sedative administration (e.g., selection or titration) • Delirium prevention (e.g., manipulation of the environment, promoting sleep, pharmacological agents, or consideration of causes)
	Selects appropriate evidence-informed nursing interventions to manage substance withdrawal (e.g., minimal use of restraints, alleviation of seizures, and delirium tremens).	

Table 3: End-of-life care competencies

End-of-Life Care Competencies		
System	Competencies	Examples
	Understands indications for transition to end-of-life care (e.g., patient data, advance directives, patient and family wishes, medical futility, and legal considerations).	
	Enables transition to end-of-life care (e.g., communication, advocating for patient and family wishes, and conflict resolution).	
	Understands criteria for: <ul style="list-style-type: none"> - Determination of neurological death and/or cardiac death; and - Organ and/or tissue donation 	
	Selects appropriate evidence-informed nursing interventions to provide care in preparation of organ donation (e.g., maintaining hemodynamic stability, comfort care, symptom relief, and diagnostic testing).	
	Selects appropriate evidence-informed nursing interventions to provide end-of-life care including the following examples.	<ul style="list-style-type: none"> • Providing palliative care strategies (e.g., pain and symptom management) • Supporting family (e.g., encouraging family presence, grieving, and spiritual and cultural practices) • Coordinating with internal and/or external support resources (e.g., spiritual care, ethics, grief support, social work, or legal consult)
	Selects appropriate evidence-informed nursing interventions for withdrawal of treatment (e.g., palliation, family support, family education, and cultural and spiritual implications).	

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