McLaren
FLINT

This RN Orientation Emergency Room Manual belongs to:

Employee Name: _____

Job Title: _____

Department/Unit: _____

If lost, please call: _____

BEFORE THE END OF ORIENTATION
Things to hand in and or complete:

___ Critical Care Classes

___ EKG quiz or assigned Basic EKG class

___ McLaren University assignments completed

___ Stroke NIH completed

___ Dysphagia- Quiz completed

___ Moderate Sedation Module on Healthstreams

___ FEMA 100

___ FEMA 700

___ **Weekly orientee updates and meet with educator weekly**

___ CPI Training

___ Skills check list completed

___ 1 Page competency signed and dated

TAB

ED Skill Competencies

McLaren – Flint
Orientation Competency Validation Record

RN Emergency Department Orientation **Employee Name:_____** **Validator('s)Names:_____** **_____** **_____** **_____**	**Self Assessment Legend** **Directions –Orientee:** Complete the self assessment to indicate your level of experience using the following Key : 1. Minimal or no Experience 2. Experienced **Validator Level of Performance** **D. Demonstrated** **S. Simulated** **V. Verbalized and reviewed steps/procedure**

Purpose: To Maintain competency of skills necessary for personnel to perform rapid assessment and appropriate interventions necessary for patient care delivery for neonate, infant, child, adolescent, adult and geriatric. Competence means able to perform the procedure safely, correctly, effectively and legally.

N=Neonate I=Infant C= Child T= Adolescent A=Adult G=Geriatric
Unless otherwise noted, performance is all inclusive of the identified population in the purpose statement. In areas noted, only those specific ages are applicable

Self Assess	Competency Skills/Procedures	Age Specific	Method	Validator/Date Initials
	Professional Responsibility			
	Demonstrates quality customer service			
	Demonstrates nursing presence with patients and family			
	Adheres to Quality initiatives: hospital and department a. Core measures b. Keystone c. Organizational/Nursing Projects d. National patient safety goals			
	Supports MRMC nursing philosophy and mission			
	Able to access Nursing Policy/Procedure Manual/Intranet			
	Demonstrates reliability a. Time and attendance b. Work schedules/PTO requests c. Dress Code d. Chain of command e. Appropriate breaks/lunch			
	Maintains Confidentiality			
	Able to work within a team			
	Emergency Department Operations			
	Obtains locker and mailbox assignment/staff lounge			
	Time clock and exception roster location and procedure			
	Schedule-Location and request procedure			
	Manager/Educator/Director Offices and contact information			
	Crash Carts and Procedure Carts and locations			
	Med rooms and Omni Cell operation			
	EMS/Hern Radio operations and protocols			
	Clean and Soiled Utility Room locations			
	Isolation Room (Location and Protocol			
	Waiting Room (Location)			
	Triage tour/ED admissions process-walk in vs. EMS			

	Pharmacy (Location and process)			
	Lab (Location and process)			
	Blood Bank (Location and process)			
	X-ray (Location and process)			
	CT (Location and process)			
	Ultrasound (Location and process)			
	Cath Lab (Location and process)			
	Interpreter Line/TDD Phone (Location and procedure)			
	Cisco Phone desk and portable phones			
	Overhead paging/ answering call lights			
	Eye Wash Station Location			
	Fire Extinguishers (Operation and Location)			
	Oxygen Shutoff (Operation and Location)			
	Fire alarms and Fire Exits (Location)			
	Explains patient inter-hospital transfer according to COBRA and EMTALA laws			
	Explains department diversion policy			
	Activation of Acute MI or Cath lab page			
	Adheres to hospital HIPAA regulations			
	Describe procedure to obtain/document physician's orders			
	Initiates documentation according to ED Nursing Standards			
	Explain department/role responsibilities during a disaster drill			
	List department/role responsibilities during hazmat situations			
	Uses telephones and paging systems as well as infrared paging			
	Utilizes Computer for documentation			
	Verbalize procedure for patient elopement			
	McLaren Intranet site (Location)			
	Trauma flow sheet			
	CPR flow Sheet			
	Restraint Flow Sheets-Medical vs. Behavioral			
	Monitor strip mounts			
	Clinical Foundations of Emergency Nursing			
	• Primary assessment			
	• Focused assessment			
	• Computerized documentation			
	• Paper documentation , on down time			

Self Assess	Competency Skills/Procedures	Age Specifc	Method	Validator Date/Initials
	• Priority setting with multiple patients			
	• Demonstrates ability to state rationale for nursing decisions			
	• Questions orders that do not appear appropriate based on patient disease process and past history			
	• Organ/Tissue Donation and Palliative care			
	General Patient Care			
	Demonstrates use of patient stretcher			
	Demonstrates use of standard precautions			
	Locate the McLaren intranet to access Policies and Procedures as well as Micromedex			

	Demonstrate proper use of vital sign equipment Blood pressure cuffs and size appropriate Thermometers	C,T,A,G		
	Demonstrate proper use of pain scales			
	Demonstrate use of monitors and telemetry monitor systems			
	Obtains arterial/venipuncture specimens	C,T,A,G		
	Adult			
	Pediatric			
	Central line/long-term venous access catheter			
	Med-port access			
	Arterial blood gas			
	Inserts nasogastric or orogastric tube			
	Inserts urinary catheter; straight and indwelling, Foley, Caude and 3 way			
	Assemble and perform Continuous Bladder Irrigation (CBI)			
	Obtains CCMS urine specimens	C,T,A,G		
	Demonstrates the ability to complete a urinary pregnancy test			
	Performs Gastric Lavage and use of Charcoal			
	Demonstrates use of noninvasive blood pressure equipment	C,T,A,G		
	Obtains and interprets orthostatic vital signs	C,T,A,G		
	Demonstrates use of pulse oximetry equipment	C,T,A,G		
	Demonstrates use of bedside serum glucose equipment	C,T,A,G		
	Demonstrates nursing interventions for a patient requiring physical/chemical restraints			
	Initiate referral/collaborate with Social Worker			
	Initiate/maintain suicide precautions			
	Consent/protocol for drawing ETOH for Police Department			
	Describe protocol for care of police prisoners			
	Identify Radiology locations -X-ray -CT -Angiography -Ultrasound -Cath Lab -MRI and MRI paper work			
	Describe process for CT administration of oral contrast			
	Initiate/maintain Isolation precautions			
	Locate Latex Allergy equipment			
	Assists with lumbar punctures	C,T,A,G		
	Demonstrates use of hypothermia/hyperthermia equipment			
	Assists with arterial line insertion and monitoring			

Self Assess	Competency Skills/Procedures	Age Specific	Method	Validator Initials/Date
	Medication/Blood Administration			
	Obtains peripheral vascular access (demonstration)	C,T,A,G		
	Demonstrates access to PICCs's, Central Venous Catheters and Power ports, med-ports			
	Assists with insertion and administers medications and			

	intravenous fluid through Intraosseous IO (EZ-IO Drill)			
	Administer intravenous medication, IVP			
	Demonstrates use of intravenous fluid/medication With pumps			
	Intravenous continuous medication and IVPB			
	Use of Med; medication procurement, medication waste and medication return			
	Medication container/syringe labeling	C,T,A,G		
	Avoid distractions/interruptions; handle one medication at a time			
	Label the medication syringe and container immediately before transferring the medications			
	Verbally and visually confirm the medication (i.e. name, strength, dosage and expiration date) by reading the medication label aloud while passing the medication	C,T,A,G		
	Administers all medication based on age of the patient and using the 5 rights (+3) of medication administration	C,T,A,G		
	Administers blood/blood products			
	Set up/Use fluid warmer			
	Describes blood bank release procedures			
	Complies with glucometer testing for accuchecks Adheres to policy and process for lab labeling			
	Provides instruction and education on medications at discharge			
	Airway and Respiratory Patient Care/Emergencies			
	Reviews specific diagnoses and treatment for; airway obstruction, asthma, bronchitis/URI's, COPD, inhalation injuries, pneumonia, pulmonary edema, pulmonary embolus, hyperventilation, respiratory distress, aspiration, pleural effusion, bronchiolitis, RSV, flail Chest, pneumothorax, tension pneumothorax, rib fractures, pulmonary contusion			
	• Oxygen tanks (Location and use)			
	• Green vs. Yellow oxygen flow meters			
	• General principles of oxygen delivery			
	• Performs or assists with simple airway patency maneuvers, chin life and jaw thrust, oral and nasal airway			
	• Nasal cannula			
	• Non-rebreather mask			
	• Pulse oximetry			
	• Capnography (EtCO2) monitoring			
	• Endotracheal intubation supplies			
	• Rapid Sequence Intubation-location of medications, medication indications, billing and restocking procedure			
	• Assist with endotracheal intubation			
	• Pharyngeal suctioning			
	• Nasotracheal suctioning			
	• Endotracheal / Tracheostomy suctioning			
	• Inhalation therapy			
	• Nebulizer therapy			
	• Croup set - up			
	• Chest tube insertion supplies			
	• Atrium chest drainage device-set up, drainage and			

	troubleshooting			
	• Assist with Emergency needle thoracentesis			
	• BiPAP			
	• CPAP			
	• Ventilator Care			
	Cardiac Patient Care/ Cardiovascular Emergencies			
	Review specific diagnoses and treatment for : cardiac dysrhythmias, pericarditis, angina, myocardial infarction, congestive heart failure, hypertension, endocarditis, aortic aneurysm (AAA), cardiac arrest, peripheral vascular disease, thromboembolism, cardiac tamponade, cardiac contusion, thromboembolism, cardiac tamponade, cardiac contusion, injuries to great vessels including aortic dissection			
	• Spacelab monitors			
	• Phillips monitors			
	• Hewlett Packard monitors			
	• Measuring Doppler blood pressure & peripheral pulses			
	• 12-Lead EKG-performing l, right sided and posterior as well as retrieving old EKG's for comparison			
	• Cardiopulmonary Resuscitation			
	• Lucas Device			
	• Defibrillation			
	• Transcutaneous Cardiac pacing			
	• Transvenous pacemaker-set up , supplies, settings			
	• Pacemaker magnet location and use			
	• STEMI-identification , process and treatment modalities			
	• Arterial Line- set up , leveling/zeroing, readings/waveform, troubleshooting, obtaining lab specimens			
	• Central Venous Pressure (CVP)- set-up, leveling/zeroing, readings/waveform, troubleshooting, obtaining lab specimens			
	• Assists with and able to obtain equipment necessary for a pericardiocentesis			
	• Post Cardiac Arrest Therapeutic Hypothermia, Artic sun, Cool fluids, ice packs			
	Neurologic Emergencies			
	Review specific diagnoses and treatment for: headache, stroke/transient is chemic attack, shunt dysfunctions, seizure disorders, Guillain-Barre syndrome, Alzheimer's disease/dementia, increased intracranial pressure, head injury, skull fractures (i.e. linear, depressed, basilar), epidural hematoma, subdural hematoma, subarachnoid hemorrhage/aneurysm rupture, spinal cord injuries			
	• Performs and applies use of Neuro Checks			
	• Institutes appropriate use Glasgow Coma Scale (GCS)-adult and pediatrics			
	• Demonstrates accurate completion of dysphagia screen			
	• C-spine immobilization-C-collar and backboard			
	• Lumbar puncture-adult and pediatrics			
	• Ventriculostomy-set-up, supplies, leveling/zeroing, readings/waveform, troubleshooting			
	• Camino-set-up, supplies, leveling/zeroing,			

	readings/waveform, troubleshooting			
	• Halo			
	• Institutes stroke identification process and process and treatment modalities for a stroke patients (Stroke Alert)			
	• Provides thrombolytic therapy to an appropriately identified stroke patient			
	• Initiates and completes a swallow screen on stroke patients before medications are administered			
	Trauma Emergencies			
	Review specific diagnoses and treatment for: hypovolemic shock, cardiogenic shock, distributive shock, distributive shock, (anaphylactic, septic, neurogenic, spinal), multiple trauma-falls, motor vehicle crashes, industrial, blast, burns, penetrating, chemical contamination			
	• Performs spinal stabilization, applies appropriate cervical collar, logrolls patient off of backboard			
	• Locates equipment and assists with fast exam			
	• Bandaging/Pressure dressings			
	• Decontamination process			
	• Rule of Nine formula for burns-determination of BSA burned and fluid resuscitation guidelines			
	• IV boluses-adult and pediatric	C,T,A,G		
	• Ranger warmer rapid infuser	A,G		
	• Review criteria/process for Level I, II and III trauma activations			
	• Trauma transfer criteria			
	• Forensic evidence collection			
	• Legal chain of evidence,			
	• Hypothermia prevention measures			
	• Bair Hugger			
	• Locates and helps to apply splints			
	• Assists with helmet removal			
	• Verbalizes and identifies the different roles of the trauma team members of the trauma team			

Self Assess	Competency Skills/Procedures	Age Specific	Method	Validator Initials/Date
	Special Patient Populations			
	Maxillofacial/Ocular/Nasal/Dental Emergencies			
	Review specific diagnoses and treatment for; dental emergencies, ruptured tympanic membrane, foreign body-ear,Meniere's disease, labyrinthitis, epistaxis, nasal fracture, foreign body-nose, pharyngitis, tonsillitis, laryngitis, peritonsillar abscess,foreign body-throat, soft tissue injuries to the neck, epiglottitis/croup, fractured larynx, soft tissue facial injuries, mandibular,fractures, maxillary fractures, zygomatic fractures, sinusitis, TMJ, facial nerve disorders, conjunctivitis, iritis, central retinal artery occulusion, glaucoma, corneal abrasion/foreign body/burn, orbit fracture, chemical burns, hyphema, eyelid laceration, globe rupture, retinal detachment			
	• Performs visual acuity test	C,T,A,G		

	• Assists with removal foreign body of eye, ear, nose and throat			
	• Eye irrigation (Morgan lens)			
	• Instillation of eye medication			
	• Performs patching of eye			
	• Locates equipment and assists with tonometry			
	• Contact lens removal			
	• Nasal packing procedure			
	• Cultures EENT as necessary i.e. RSV and throat cultures			
	• Ear medication			
	• Ear irrigation			
	• Assists with foreign body removal			
	• Performs tooth preservation			
	Abdominal and Genitourinary Procedures			
	Review specific diagnoses and treatment for: ruptured bladder, kidney trauma, urinary tract infection, pylonephritis, epididymitis, testicular torsion, genital trauma, renal calculi, prostatitis, benign, prostatic hypertrophy			
	• Urinary catheterization, Foley, Coude, Adult – Female and Male, Pediatric and Infant			
	• Continuous Bladder Irrigation (CBI)			
	• Gastric tubes, Nasogastric, Orogastric			
	• Gastric lavage/charcoal administration			
	Gynecological and Obstetric Emergencies /STD			
	Review specific diagnoses and treatment for: vaginal bleeding, spontaneous abortion, placenta previa, placenta abruption, preeclampsia, eclampsia, emergency delivery, postpartum, hemorrhage, ectopic pregnancy, trauma in pregnancy, newborn, resuscitation, hyperemesis gravidarum, preterm labor, vaginal/ penile discharge, Bartholin's cyst, and sexual assault.			
	• Pelvic examination	C,T,A,G		
	• Fetal Heart Tones	TAG		
	• Pelvic Ultrasound protocol			
	• Urine pregnancy testing	TAG		
	• Reviews process for products of conception			
	• Vaginal and Penile collection, male and female with STD's	C,T,A,G		
	• Products of conception and fetal demise procedures			
	• Newborn Surrender Process			
	• Assembles equipment and performs/discusses sexual assault procedure and evidence collection	C,T,A,G		
	• Childbirth procedure and APGAR scoring			
	• STD cultures and reporting	C,T,A,G		
	• Assessing fetal heart tones	T,A,G		
	• Products of conception	T, A, G		
	• Emergency Childbirth	T, A, G		
	• Neonatal Resuscitation/ APGAR	N		
	Orthopedic/ Musculoskeletal Crisis and Wound Emergencies			
	• Reviews specific diagnoses and treatment for : inflammatory conditions, (i.e. bursitis, tendonitis, arthritis,			

	gout), carpal tunnel syndrome, joint effusion, costochondritis, low back pain, osteomyelitis, ligament and musculotendinous injuries/strains and sprains, fractures/dislocations, compartment syndrome, amputations, lacerations, abrasions, contusions, avulsions, wound-related infections, puncture wounds, foreign bodies, ballistic injuries, bites and stings, peripheral vascular trauma			
	• Procedural Sedation-policy, process and documentation			
	• Splints			
	• Ace wraps			
	• Shoulder and Knee immobilizer			
	• Arm sling			
	• Posterior mold			
	• Finger splint/immobilizer			
	• Velcro wrist splint			
	• Ankle air splint			
	• Leg and arm splint			
	• Buddy toe splint			
	• Elastic bandage application			
	• Bi-valving of casts			
	• Heat and cold therapy			
	• Measuring and fitting for ambulation aids/crutches	C,T,A,G		
	• Patient teaching Crutch walking techniques or ambulation aids	C,T,A,G		
	• Ring cutter			
	• Assists with cast cutter equipment			
	• Compartment syndrome recognition as well as actions and monitoring			
	• Animal Bite Reporting			
	• Wound anesthesia			
	• Digital block			
	• Wound cleaning and irrigation			
	• Assembles equipment and assists with wound repair			
	• Incision and drainage			
	• Assists with removal of foreign objects i.e. fishhooks, earrings			
	• Wound cultures			
	• Wound closure using steri strips and Dermabond			
	• Suture and/or staple removal			
	• Minor burn care			
	• Amputated part care			
	Medical Emergencies/Childhood/ Endocrine Crisis			
	Review specific diagnoses and treatment for:Reye's syndrome, fibromyalgia, fever, renal failure, electrolyte/fluid imbalance hepatitis, hyperglycemia(including DM, HHNK, DKA), hypoglycemia, thyroid orders (Graves, thyroind storm). Sickle cell crisis, hemophilia, von Willebrand's, anemia, idiopathic thrombocytopenia purpura (ITP), polycythemia, DIC, and immunocompromised/oncological disorders			

Self Assess	Competency Skills/Procedures	Age Specific	Method	Validator Initials/Date
	• Glucometer testing			
	• Insulin administration-subcutaneous and IV gtt, dosing sliding scale coverage, repeat blood sugar/glucometer testing			
	• Isolation for immunocompromised patients			
	Communicable Disease			
	Review specific diagnoses and treatment for ; hepatitis, HIV, tuberculosis, measles, mumps, pertusis, chicken pox, meningitis, infectious mononucleosis, parasitic and fungal infestations			
	• Reportable conditions			
	• Isolation techniques			
	• Laboratory procedures and testing			
	Psychiatric/Behavioral and Substance Abuse Crisis			
	Review specific diagnoses and treatment for: anxiety/panic, depression, suicide attempt, violent/homicidal, psychotic, bipolar disorder, eating disorders, bereavement, situational crisis (e.e. job loss, divorce), abuse, alcohol and substance abuse, drug toxicity/overdose			
	• Patient safety/room safety			
	• Emotional support/interventions in crisis; resources			
	• Restraints-Wrist, Mitts, Posey, flow sheet , documentation			
	• Suicide risk assessment			
	• Code Gray			
	• Poison Control Notification			
	• Abuse/Assault reporting and management			
	• Child and Adult Protective Services Consult			
	• 3200 Form completion (CPS)			
	• Consent/protocol for legal blood draws for police			
	• Fitness for Duty/ Occupational Medicine Process			
	• Police Prisoners/Forensic (PD) Process			
	Epidemiologic Crisis			
	Understanding and reporting of suspected outbreaks of infection, education of individuals on infection, risk, and prevention control, management of infection prevention and control activities			
	• Hand Hygiene			
	• Reporting responsibilities (Health Department, Infection Control)			

Self Assess	Competency Skills/Procedures	Age Specific	Method	Validator Initials/Date
	Pain Management			
	Promotes the delivery of high quality pain management care, ensures patients are properly assessed for initial pain as well as reassessed for pain post treatment and prior to discharge			
	• Documentation of pain assessment/reassessment			
	• Utilization of pain scales-faces, numbers, FLACC, NIPS			

	• Assessment of type of pain and characteristics and reassessment			
	Admission/ Transfer/ Discharge/ Consult			
	• Incoming patient report			
	• Physician consults			
	• Consent forms			
	• Case Management consult			
	• Admission process-registration, paperwork, report, belongings, staff accompaniment			
	• Transfers to outside facilities-paperwork, copies, report, family notification , belongings			
	• Patient death reporting			
	• Gift of Life notification			
	• Preparation of body after death			
	• Organ/tissue donation			
	• Morgue (Location)			
	• AMA			
	• Refusal of treatment			
	Care of the Bariatric Patient			
	Able to recognize the common metabolic and bariatric surgery complications i.e. pulmonary embolus, anastomotic leak, infection, and bowel obstruction to manage a bariatric patient in the emergency room			
	• Provides compassion and appreciates burdens and co- morbidities of the severe obese patient			
	Miscellaneous			

Orientee Signature: _____ Date: _____

Preceptor/Validators Signatures/Initials:

_____ _____ _____

_____ _____ _____

Nurse Educator Signature: _____

Manager_____

TAB

ED Final Competency

Emergency Orientation Competency Statement
Revised November 30, 2011

Professional Competency

1. The emergency nurse evaluates the quality and effectiveness of nursing practice.
2. The emergency nurse adheres to established standards of practice, including activities and behaviors that characterize professional status.
3. The emergency nurse engages in activities and behaviors that characterize a professional.
4. The emergency nurse provides care on philosophical and ethical concepts: reverence for life, respect for inherent dignity, worth, autonomy, and individuality of each human being, and acknowledging the diversity of all people.
5. The emergency nurse ensures open and timely communication with patients, significant others and other health care providers through professional collaboration.
6. The emergency nurse collaborates with other health care providers to deliver patient-centered care in a manner consistent with safe, efficient, and cost effective resource utilization.

Clinical Competency

1. The emergency nurse initiates accurate and ongoing assessments of physical and psychosocial concerns of patients within health care system.
2. The emergency nurse analyzes assessment data to formulate nursing diagnoses and identify collaborative problems for each patient and/or family.
3. The emergency nurse identifies outcomes individualized to the patient based on assessment, nursing diagnosis, collaborative problems, and/or medical diagnosis.
4. The emergency nurse formulates a plan of care with the patient and/or family based on the assessment, nursing diagnoses, concomitant problems, identified outcomes, and/or medical diagnoses within the nurse's legal scope of practice.
5. The emergency nurse evaluates and modifies the plan of care based on observable patient responses and attainment of expected outcomes.
6. The emergency nurse implements a plan of care based on assessment, nursing diagnoses, and/or concomitant problems and outcome identification.

This document verifies that _____ has met the objectives of the Emergency Unit Competency Based Orientation. Performance skills have been validated and the orientee has progressed into Benner's competent level of nursing practice. The orientee can function independently in the patient care area.

Orientee Signature_____ Date: _____

Preceptor Signature _____ Date: _____

Nurse Educator Signature _____ Date: _____

Manager Signature _____ Date: _____

Definition of Competency Statement Revised July 2008

PROFESSIONAL COMPETENCY

Quality of Care:

The nurse evaluates the quality and effectiveness of nursing practice.

- Participates in development and implementation of plan for assessing & improving quality of care for patients
- Communicates/documents quality of care issues
- Identifies internal and external customers
- Assess customer needs to maximize customer satisfaction

Professionalism/Collegiality:

The nurse adheres to established standards of practice, including activities and behaviors that characterize professional status.

- Identifies self and role to patients/significant others, colleagues and other healthcare providers.
- Demonstrates professional image
- Assume responsibilities for actions
- Understand regulatory and legislative issues that affect nursing practice
- Use self evaluation, peer evaluation, and feedback to modify and improve practice

Ethics:

The nurse provides care on philosophical and ethical concepts: reverence for life, respect for inherent dignity, worth, autonomy, and individuality of each human being, and acknowledging the diversity of all people.

- Respect individuality and human worth of patients, regardless of age, gender, sexual orientation, socioeconomic status, cultural or ethnic background, or nature of health problems.
- Respect dignity, confidentiality, and privacy of patients
- Serves as advocate for patient and significant others
- Acts congruently with institutional and professional practice standards and state nursing practice acts
- Informs the patient of legal rights, as required
- Ensures that informed consent is obtained for each patient
- Advocates for patient's rights as delineated by advanced directives, durable power of attorney, and other documents that address end-of-life issues

Collaboration:

The nurse ensures open and timely communication with patients, significant others and other health care providers through professional collaboration.

- Provides patient information to patient and significant others, as appropriate, in a way that is consistent with their intellectual, developmental and emotional abilities
- Provides explanations about treatment before initiation, whenever possible
- Explains medications, treatments, self-care, referral, and/or prevention and ensure patient's understanding
- Participates in development of written discharge instructions
- Assist patient and significant others in identification of factors that place them at risk for illness or injury
- Explain methods for illness or injury prevention, as appropriate

Resource Utilization

The nurse collaborates with other health care providers to deliver patient-centered care in a manner consistent with safe, efficient, and cost effective resource utilization.

- Ensures delivery of efficient and effective care through assessment and evaluation of facility operations
- Documents nursing activities in a way that supports the charges incurred by the patient
- Ensures that charges to that patient are accurate and reflect the care that the patient received
- Demonstrate knowledge and compliance with practices that protect the health care provider and reduce the spread of infection in health care setting

CLINICAL COMPETENCY

Assessment

The nurse initiates accurate and ongoing assessments of physical and psychosocial concerns of patients within health care system.

- Obtains focused subjective and objective data through history taking, physical examination, review of records, and communication with health care providers and families
- Performs initial and ongoing assessment within the framework of holistic professional nursing practice
- Utilizes assessment techniques and criteria that are pertinent to patient's age-specific physical, developmental, cognitive, learning, and psychosocial needs

Diagnosis

The nurse analyzes assessment data to formulate nursing diagnoses and identify collaborative problems for each patient and/or family.

- Identifies and formulate nursing diagnoses and/or collaborative problems during a focused, systematic assessment; communicates findings with other health care providers
- Identifies actual or potential knowledge deficits for the patient and family

Outcome identification

The nurse identifies outcomes individualized to the patient based on assessment, nursing diagnosis, collaborative problems, and/or medical diagnosis.

- Identifies measurable short-term and long-term outcomes, as well as time frames for attainment related to patient's nursing diagnosis and/or concomitant problems
- Communicates expected outcomes to other health care providers, the patient, and family to ensure continuity of care

Planning

The nurse formulates a plan of care with the patient and/or family based on the assessment, nursing diagnoses, concomitant problems, identified outcomes, and/or medical diagnoses within the nurse's legal scope of practice.

- Develops a plan of care for each patient based on current scientific knowledge, recognizing diversity, that addresses nursing diagnosis and/or concomitant problems
- Collaborates plan of care with patient, family, and appropriate health care providers
- Identifies priorities for nursing actions, patient goals, and patient outcomes
- Ensure that the plan of care is family centered

Implementation

The nurse implements a plan of care based on assessment, nursing diagnoses, and/or concomitant problems and outcome identification.

- Implements multidisciplinary plan of care for each patient
- Performs appropriate patient monitoring
- Anticipates patient's needs and provide education to patient and family

Evaluation

The nurse evaluates and modifies the plan of care based on observable patient responses and attainment of expected outcomes.

- Uses current patient data to evaluate patient's responses to interventions, as well as measure progress toward attainment of patient outcomes
- Modifies outcomes, as needed, through discussion with patient and the family
- Communicate patient evaluation to other health care team members, as appropriate, to achieve desired outcomes

TAB

Advance Triage Protocols

EKG Criteria

Patients with symptoms listed below, presenting in triage or by ambulance must have an EKG done, shown, and signed by the physician within 5 minutes.

- Chest Pain
- Chest pressure, fullness, or squeezing in chest or left arm
- Lightheadedness, syncope, diaphoresis, nausea, or shortness of breath
- Unexplained fatigue, nausea in older women
- Dizziness
- Epigastric pain
- Indigestion
- Jaw pain without other known cause
- Abnormal vitals; hypertension, hypotension, tachycardia, bradycardia
- Blunt chest trauma
- Unexplained back pain or Left shoulder pain
- Palpitations
- Diabeties with co-morbidities, cardiac history, hyperglycemia
- CHF
- Recent cardiac surgery or cardiac catheterization
- Crack or cocaine use

* If for any reason you suspect a potential underlying cardiac concern an EKG may be done

Objective: Advanced Treatment Guideline #7 CVA

Common Complaints:
Limb Weakness
Facial Droop
Unexplained Paralysis
Visual Disturbances
Altered Mental Status
Ataxia
Aphasia or Dysphasia
Seizures

Triage Rating:
Emergent (Priority 1)

Related Factors:
History of Hypertension
History of Atherosclerosis
History of Diabetes
Recent fall

Policy: Completion of the advanced triage assessment, which includes a primary and secondary assessment, the Emergency Department Clinical Nurse will:

- **Place patient in a room for physician assessment immediately if symptom onset <120 minutes- CALL STROKE ALERT**
- Vital signs and Neurochecks every hour.
  - Non-contrast head CT re: Cerebral Vascular Disease **(first obtain physician order).** **DOOR TO CT GOAL <20 Minutes**
  - **0 2L NC after obtaining room air pulse ox.**
  - Monitor and document rhythm strips.
  - **Establish IV access x2–IV: Anticipate thrombolytics initiation.**
  - if blood sugar is ≤ 50 notify physician immediately and administer 1 amp. D50 IVP).
  - **Perform EKG and old EKG**
  - Draw Stroke Panel
  - **Perform Swallow Screen**, Elevate head of bed 30° (aspiration precautions).
  - **NPO**
  - **Perform NIH Scale**

APPROVAL:

/sw
F:\ED Stat\Advanced Triage\Advanced Triage\Psychiatric Policy.doc 2010.doc

Objective: Advanced Triage Assessment #6 Vaginal Bleeding

Common Complaints:
Lower abdomen
Increased Vaginal Bleeding
(more than patients usual flow)
Syncope or Near Syncope
Decreased Back Pain
Fever

Related Factors:
History of Pregnancy Complications
History of Multiple Sex Partners

Triage Rating:
Non-emergent to Emergent

Policy: Upon completion of the advanced triage assessment, which includes a primary and secondary assessment, the Emergency Department Clinical Nurse will:

- Obtain orthostatic vital signs (if indicated).
- **Establish IV access large bore**
- Draw the following labs:
  BHCG, Type and Screen, RH and CBC, CMP, UA and UC
- **Prepare for pelvic exam.**
- Anticipate Pelvic US for bleeding
- Refer to products of conception policy, if needed.

APPROVAL:

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Objective: Advanced Treatment Guideline# 4 Possible GI Bleed

Common Complaints:
Coffee Ground Emesis
Bloody Stool or Emesis
Weak
Light-headed

Related Factors:
NSAID Use
Recent Anticoagulation Therapy
Stress (psychological/emotional)

Triage Rating:
Emergent

Policy: Upon completion of the advanced triage assessment, which includes a primary and secondary assessment, the Emergency Department Clinical Nurse will:

- Triage emergently and notify physician of abnormal vital signs.
- **Administer supplemental oxygen**
- **Perform EKG**
- Obtain old EKG
- **Draw Cardiac Panel with a Type & Screen**
- U/A
- Monitor – document rhythm strip.
- Anticipate placement of NG to low intermittent suction if hematemesis or melanotic stools.
- **Establish IV access x2 (large bore)**
- **Orthostatic BP**

APPROVAL:

RN

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Objective: Advanced Treatment Guideline #1 Psychiatric Evaluation

Common Complaints:

Behavioral:	Physical
restlessness	tachycardia
rapid speech	tension
withdrawal	elevated B/P
combative	tachypnea
	insomnia
	GI disturbances

Related Factors:
Psychiatric History
Recent Life Stressors:
divorce
death
job loss
illness

Triage Rating:
Urgent to Emergent (All suicidal ideations or suicide attempts are emergent.)

Policy: Upon completion of the advanced triage assessment, which includes a primary and secondary assessment, the Emergency Department Clinical Nurse will:

- **Screen patient for suicidal ideation**, if pt. is suicidal the following must be documented: Is plan present (What is it?)
- Remove clothing/valuables from patient's possession and place in locker and document the locker number.
- **Place in safe room**.
- Remove items from the patient's environment that could potentially be hazardous to the safety of the patient and/or others in the area.
- Draw and send the following labs:
  Breathhalizer/ UDS

Address any medical conditions (IDDM/HTN)

- CMP,CBC
- If taking medications: Depakote,Tegretol,Lithium,Dilantin ** Order levels

APPROVAL: _____

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Objective: Advanced Treatment Guideline #5 Possible Renal Calculi

Common Complaints:
Back, flank, abdominal groin pain
Sweating
Nausea and vomiting

Related Factors:
Males are more commonly affected that females

Predisposing factors include:
hypercalcemia
hyperabsorption or reabsorption failure of kidneys
renal tubular acidosis

Triage Rating:
Emergent

Policy: Upon completion of the advanced triage assessment, which includes a primary and secondary assessment, the Emergency Department Clinical Nurse will:

- **Perform pregnancy test, if appropriate**
- Strain all urine.
- Establish IV access
- Monitor/document pain level; request analgesia order, as needed.
- Monitor/document nausea and vomiting; request antiemetic order.
- Draw labs CMP,CBCwith diff, U/A
- Anticipate CT A/P no contrast RE: ABD pain

APPROVAL:

/sw

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Objective: Advanced Treatment Guideline #3: DIB

Common Complaints:
Wheezing
Cough
Dyspnea
Chest tightness

Related Factors:
Aggravating factors include:

infection	medications
allergens	emotional upset
exercise	environmental factors

This disease is chronic with acute reversible exacerbations
Affects 5 – 10% of children < 20 yrs.

Triage Rating:
Urgent to Emergent

Policy: Upon completion of the advanced triage assessment, which includes a primary and secondary assessment, the Emergency Department Clinical Nurse will:

- Position patient to facilitate breathing.
- Monitor pulse oximetry, B/P, pulse, respiration, temperature, respiratory effort and level of consciousness.
- **Administer supplemental oxygen.**
- **Call Respiratory Therapy Initiate SVN:**
  - **Adult >16 yrs.: Albuterol Nebulizer 10 mg. X 3 doses**
  - **Peds < 16 yrs.: Albuterol Nebulizer 5 mg. X 3 doses**
- **Initiate saline lock.**
- **EKG**
- Obtain old EKG
- Be prepared to administer Methylprednosione, Epinephrine (Peds: 0.01 mg/Kg).
- CXR, c/o DIB
- IF CHF concern: order cardiac panel & BNP
- Be prepared for intubation

APPROVAL:

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Objective: Advanced Treatment Guideline #2 Chest Pain

Common Complaints:
Chest pain
Sweating
Shortness of breath
Nausea
Fatigue
Epigastric pain

Related Factors:
A history of CAD or previous infarction
Risk factors:
smoking
diabetes
family history
sedentary life style
obesity
hyperlipidemia
Cocaine use
Hx CABG/Stents

Triage Rating:
Emergent

Policy: Upon completion of the advanced triage assessment, which includes a primary and secondary assessment, the Emergency Department Clinical Nurse will:

- **Administer supplemental oxygen.**
- **Initiate continuous cardiac monitoring.**
- **Administer Aspirin 325 mg. PO per Chest Pain Protocol.**
- **Obtain 12 lead EKG within 5".**
- Retrieve old EKG.
- Monitor and document rhythm strips
- **Establish peripheral IV x2 of 0.9% NS; rate KVO.**
- **Assess and document for the use of erectile dysfunction medications**
- **NTG. 0.4 mg, S.L. every five minutes x 3, as long as B/P stable**
- **Draw Cardiac Panel & BNP**
- Order portable chest x-ray – re: Chest Pain.

APPROVAL:

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ADVANCED NURSING GUIDELINES – DO NOT INCLUDE IN THE PERMANENT MEDICAL RECORD

CARDIAC / ABDOMINAL

CARDIAC CHEST PAIN – SUSPECTED

- – ED Cardiac
- – ED AMI / TNK for confirmed MI
  Label SUPER STAT
- PCXR
- Stat EKG, Cardiac monitor, Saline lock
- O2 2L via NC, Pulse Ox.
- Previous records, Previous EKG
- ❑ **Request: Aspirin** 162 mg PO (if no allergy to Aspirin and not given PTA)
- ❑ **Request: Nitroglycerin** 0.4 mg SL q 5 min x 3 for chest pain (if systolic BP greater than 90) **if no use of Viagra, Cialis, etc. in the past 24 hrs.**

PLEURITIC CHEST PAIN

- CXR (PA & LAT), EKG, pulse oximetry

SEVERE VOMITING AND DIARRHEA

- ❑ Saline lock **Request:** IV fluids
- – ED Routine
- Pregnancy test (if of reproductive age)
- ❑ **Request:** Antiemetic
- ❑ Stool Specimen

UPPER ABDOMINAL PAIN

- Saline lock
- – ED Abdominal
- U/A
- Pregnancy test (if of reproductive age)
- EKG (30 y/o or older)
- ❑ Consider **Request**: Oral Contrast if CT likely

LOWER ABDOMINAL PAIN AND/OR VAGINAL BLEEDING

- Saline lock
- ED Routine, UA
- Orthostatic Vital Signs
- Urine Qualitative Pregnancy test if pregnancy status unknown. (if of reproductive age)
- Serum Quantitative Beta HCG if patient known to be in 1st trimester of pregnancy
- Group and Rh if vaginal bleeding **AND** known to be pregnant
- Fetal heart tones if gestational age > 12 weeks
- ❑ Consider **Request**: Oral Contrast if CT likely

FLANK PAIN

- Saline lock
- – ED Routine
- U/A, (clean catch/catheter), C&S
- Strain all Urine.
- Urine pregnancy (if of reproductive age)
- ❑ **Request**: Tylenol for Temp > 100.5 F
- ❑ **Request**: Pain Management

UTI W/O FEVER – SUSPECTED

- Urine Dirty Catch if suspected STD
- U/A , Hold C & S - Clean catch or Catheter if bleeding or child age < 36 mos.
- Urine pregnancy (if of reproductive age)

UTI w/ FEVER – SUSPECTED

- As above, plus C & S
- ED1 – ED Routine, Hold BC x 2

GI BLEED

- Saline lock
- ❑ If actively bleeding **Request:** IV fluids
- GIBLEEDED – ED GI Bleed Direct
- Orthostatic Vital Signs
- CXR
- EKG

NEURO / PSYCH

STROKE – SUSPECTED

Activate hospital protocol

- Saline lock
- STRNTPAED – ED Stroke
  Label SUPER STAT
- Pregnancy test (if of reproductive age)
- Baseline Neuro exam
- ❑ STAT CT Brain
- PCXR
- EKG, Cardiac monitor
- Pulse Ox – O_2 if $SpO_2 \leq 95\%$
- Accucheck
- Elevate HOB 30°
- Hourly Neurochecks
- NPO

MENTAL STATUS CHANGE

- Saline lock
- ED Cardiac (Adult)
- U / A , C & S
- BC x 2 – Draw and Hold
- Accucheck
- Pulse Ox – O_2 if $SpO_2 \leq 95\%$
- PCXR , EKG , Cardiac monitor
- Consider **Request:** CT Brain
- Orthostatic Vital Signs
- ETOH (if History of Abuse)
- Consider Rectal temp

OVERDOSE – SUSPECTED

- Saline lock
- – ED Overdose
- Urine toxicology
- Pregnancy test (if of reproductive age)
- EKG
- Accucheck
- Cardiac monitor,
- Pulse Ox – O_2 if $SpO_2 \leq 95\%$

ETOH INTOXICATION

- Saline lock
  - – ED Routine,
  - ETOH level, Magnesium level
  - **-OR-**
  - ED5 – McGee
  - Accucheck
  - Pulse Ox – O_2 if $SpO_2 \leq$ 95%

MED CLEARANCE FOR ADMISSION TO MCGEE

- ED5 – ED McGee
- Serum HCG Pregnancy test (if of reproductive age)
- Urine toxicology

PRIOR TO PHYSICIAN EXAM

- **Undress pt appropriate to presenting symptom**
- **Setup basic supplies and equipment at bedside appropriate to presenting Sx. (NG tube, Hemoccult, Eye tray, ENT cart, etc.)**
- **Monitor and Oximetry appropriate to presenting sx.**

RESPIRATORY / GENERAL

ASTHMA/BRONCHOSPASM Adult & Pedi

- Pulse Ox – O_2 if $SpO_2 \leq 95\%$
- Saline lock if needed.
- Peak flows – pre & post
- ❑ **Request:** Albuterol nebulizer treatment x 3
- Page Respiratory Therapy

COPD

- As above, plus
- ED1 – ED Routine
- CXR (PA & LAT)

PNEUMONIA – SUSPECTED

- Saline Lock
- PNEUMED – ED Pneumonia
- BC x 2
- Sputum Gram Stain, C & S
- Urine C & S
- Pulse Ox – O_2 if $SpO_2 \leq 95\%$
- CXR (PA & LAT)

- **Antibiotics w/in 4 hrs of arrival.**

PEDIATRIC FEVER > 100.5 RECTAL Temp < 3 months

Request:	Tylenol	Motrin
Age < 12 yrs		
10 kg	150 mg	100 mg
20 kg	300 mg	200 mg
30 kg	450 mg	300 mg
40 kg	600 mg	400 mg
Age > 12 yrs		
	325-650 mg	400 mg

- Remove excess clothing
- Light blanket if cold
- Offer fluids

WEAK & DIZZY – GERIATRIC PT

- Saline Lock
- – ED Cardiac
- Accucheck
- UA, C & S
- Orthostatic Vital Signs
- Rectal Temp
- BC x 2 if febrile/hypothermic
- Pulse Ox
- EKG, cardiac monitor
- CXR (PA & LAT) Preferred

PAIN MANAGEMENT

Mild Pain (1-3/10):

❑ **Request:** Tylenol 650 mg. PO x 1

Moderate Pain (4-7/10):

❑ **Request:** Consult MD for NSAID or Opiod order

Severe Pain (8-10/10):

❑ **Request:** Consult MD for NSAID or Opiod order

Alternative therapy -
Traumatic injury: positioning, splinting, cold compresses if indicated
Non-traumatic injury: Cold or Warm compresses as appropriate

TRAUMA

HEAD INJURY (Suspect)

- Glasgow Coma Scale
- Eval for Trauma level
- CT Head
  - GCS < 15
  - On Coumadin
  - LOC
  - Saline Lock
  - Draw and Hold Rainbow Lab Tubes
- ❑ Consider **Request:** Head CT ETOH / Drug Intox

EYE PAIN MANAGEMENT

❑ **Request:** Proparacaine (Alcaine) q 30 min. x 2 as needed unless allergic or suspected open globe injury

For Chemical Exposure –

- As above, plus
- ❑ **Request:** Irrigation of affected eye with Morgan Lens and Lactated Ringers solution.

HIP FRACTURE – SUSPECTED

- NPO
- ❑ **Request**: X-ray pelvis
- ❑ **Request**: X-ray hip (R or L)
- ❑ **Request**: Pain Mgmt.

If obvious fracture:

- Saline lock,
- ED1 – ED Routine
- PT, PTT, T & S
- EKG, CXR (PA & LAT)

LACERATIONS

- Clean wound with normal saline
- Tetanus diphtheria (Td) 0.5 ml IM (if appropriate)
- Suture set-up at bedside

EXTREMITY INJURY

- Determine mechanism of injury and exact location of pain. Evaluate joint above and joint below for tenderness. **Order appropriate distal X-ray.** Consult MD for exam above the elbow or knee.
- Immobilize / elevate injured extremity
- Apply cold compress if injury less than 48 hours old
- Saline lock if obvious displaced fracture or major joint dislocation
- **Request**: Pain Management

ADVANCED NURSING GUIDELINES – DO NOT INCLUDE IN THE PERMANENT MEDICAL RECORD

Common IV Drips Page 1/3

Medication	Standard Dilution	Usual Dosage	Comments
Fentanyl	2mg/250ml (8mcg/ml)	0.02-0. 05mcg/kg/min	• Titrate to pain relief
Hydromorphone (DILAUDID)	2mg/100ml	0.5 mg/hr	• Titrate to pain relief
Labetalol	300mg/250ml	2 - 3mg/min	• Begin Labetalol at slow rate and titrate up to 2mg/min, monitor for drop in blood pressure
Lepirudin (REFLUDAN)		*IV bolus* 0.2- 0.4mg/kg (up to 44mg) (bolus only for renal insufficiency pts *Continuous IV* 0.15mg/kg/hr (up to 16.5mg/hr)	• Adjust to PTT ratio of 1.5 to 2.5 • Need dedicated IV line • Thrombin inhibitor • Infusion adjustment required for renal insufficiency • Used when patient has known or suspected HIT
Lidocaine	2grams/250ml	1-4mg/min	• For ventricular dysrhythmias • Use with caution if renal insufficiency or failure
Lorazepam (ATIVAN)	24mg/240ml	Start 1-2mg/hour	• Dedicated line • Continuous IV • Titrate to Ramsey Luer score = 3 (no limit) • If continuous IV dose not effective, bolus a dose IVP equal to current rate, then titrate up (i.e.); if at 4mg/hr, give 4mg and then increase IV dose
Midazolam (VERSED)	100mg/250ml (0.4mg/ml)	*IV bolus* 1- 2.5mg over 2min *Continuous IV* 0.02-0.1mg/kg/hr with 50% adjustments (up or down) for sedation.	• Titrate for Ramsey Luer = 3
Milrinone (PRIMACOR)	20mg/100ml	50mcg/kg over 10 minutes; then 0.25-1 mcg/kg/min	• Inotrope - improves contractility • Vasodilator - can cause hypotension • Can cause Ventricular Dysrhythmias
Morphine Sulfate	50mg/50ml	Start at 1 to 2 mg/hr	• Titrate for pain relief
Neosynephrine	50mg/250ml	10-50 mcg/min, up to 300mcg/min	• Must give via central line • Alpha agonist - causes peripheral vasoconstriction • Does **Not** have beta effects like levophed (compare to levophed)
Nesiritide (NATRECOR)	1.5mcg/250ml	*IV bolus* 2mcg/kg *Continuous* IV 0.01 to 0.03 mcg/kg/min	• May cause hypotension with IV bolus, dehydration • Vasodilator- Decrease preload (CVP, PWP) by dilating veins • Improves urine output
Nitroprusside (NIPRIDE)	50-100mg/250ml	0.5-10mcg/kg/min	• Decreases afterload (SVR) by dilating arteries • Begin Nipride at a VERY slow rate (l-2ml per hour). Some patients are sensitive and **BP drops very fast** • Protect solution from light - hang dark bag over solution • Draw thiocyanate level if on for > 24 hours
Nitroglycerine	50mg/250ml	5-10mcg/min, up to 100mcg/min	• Dilates coronary arteries - improves myocardial O2 • Decreases preload (CVP, PWP) by dilating veins
Norepinephrine (LEVOPHED)	4-8mg/250ml	2-20mcg/min	• Must give via central line • Sympathomimetic • **Alpha** effects cause peripheral vasoconstriction • **Beta** effects increase CO and dilate coronary arteries • Do **Not** start on patient who is "dry" - give fluid

Common IV Drips Page 2/3

Medication	Standard Dilution	Usual Dosage	Comments
Pancuronium (PAVULON)	2mg/ml	*IV bolus* 0.6 -.10 mg/kg *Continuous* 0.4-0.8mg/kg/hr Titrate drip to 2/4 on	• CAUTION: Extreme hypertension and tachycardia with IV
Pitressin (VASOPRESSIN)	50units/250ml	**Hypotension** - *Continuous IV* 0.01-0.04units/min **Diabetes Insipidus**: 5-10 units IVP, Titrate to UOP 100ml/hour	• Titrate Vasopressin up, but **Not** more than 0.04 units/min to maintain BP in shock • Maximum rate is 0.04units/min • **Not** titrated for BP like vasopressors - Vasopressin is for replacement at a set rate
Propofol (DIPRIVAN)	50mg/50ml	*IV Bolus* 10 to 40 mg (up to 2. 5 mg/kg) *Continuous IV* 25-200 mcg/kg/min	• Change tubing every 12 hours due to no preservatives • Dedicated line • **Not** compatible with any solutions or medications • Check triglycerides levels if on > 24 hours
Tenecteplase (TNKase)	Not a drip	*IV bolus* - 30 to 50mg over less than one minute	• Plasminogen Activator like tPA, but only one dose IVP • See tPA for information on plasminogen activators
Amiodarone (CORDARONE)	900mg/500ml	*IV bolus* 150mg over 10"; **then** 1mg/min for 6 hrs; **then** 0.5mg/min for 18hrs	• Measure QT interval q8 hours • Preferable to give via central line; use in-line filter • May cause nausea, vomiting • Can increase liver enzymes • Many drug interactions: Warfarin, Cylcosporine, and varies antiseizure and antiviral meds
Alteplase, tPA (ACTIVASE)	100mg vial	**Acute MI** *IV bolus*- 15mg; **then** 0.75mg/kg (up to 50mg) over next 30 min; **then** 0.5mg/kg (up to 35mg) over next 60 min **Stroke** *IV drip* 0.9mg/kg (up to 90mg) over 1 hour **Pulmonary Embolism** *IV drip* 100mg over 2 hrs	• Monitor for bleeding • All thrombolytics are Plasminogen activators • Activators converts Plasminogen to Plasmin • Plasmin breaks down the fibrin portion of a blood clot causing the clot to "fall apart" • Doses >90mg have been shown to cause intracranial hemorrhage • For stroke - must be given within 3 hours of symptoms
Aminocaproic (ACID CAMICAR)	1.25 mg/ml	5 gm in 250ml over 1 hr, **then** infuse1gram /hr until hemostasis occurs	• Inhibits fibrinolysis primarily by inhibiting plasminogen activator (compare to tPA) • Basically, **opposite** of tPA
Bivalirudin (ANGIOMAX)		1.75mg/kg/hr during heart cath and up to 4 hours post heart cath; **then** 0.2mg/kg/hr- may consider up to 20 hours	• Use with aspirin 300-325mg per day • Thrombin inhibitor • Infusion adjustment required for renal insufficiency • Currently only used in Cath lab
Brevibloc (ESMOLOL)	250 mg/ml	*IV bolus* - 0.5mg/kg over 1 minute *Continuous IV*- 0.05mg/kg/min	• Can cause hypotension and bradycardia, and heart block
Cisatricurium Beslyate (NIMBEX)	100mg/250ml 0.4 mg/ml	*IV bolus* - 0.2mg/kg *Continuous IV* -1 to 3mcg/kg/min	• Hypotension with IV bolus • Titrate to patient condition and TOF 2-3 of 4

Common IV Drips Page 3/3

Medication	Standard Dilution	Usual Dosage	Comments
Diltiazem (CARDIZEM)	125mg/125ml	*IV bolus* - 0.15 to 0.25mg/kg over 2 minutes *Continuous IV*- 5-15mg/hour	• In general given for atrial fibrillation to control rate to approximately 100 beats per min • Negative inotrope - decreases contractility • Can cause hypotension with bolus if patient is hypovolemic
Dobutamine (DOBUTREX)	500mg/250ml	2-20mcg/kg/min	• Inotrope -increases contractility • Can cause Ventricular Dysrhythmias • Does not drop BP as much as Milrinone • Drop in BP when starting Dobutamine most likely indicate that patient is "dry"
Dopamine (INTROPIN)	400mg/250ml	**Renal-** 2-5mcg/kg/min **Inotrope** 5-10mcg/kg/min **Vasoconstrictor** 10-20mcg/kg/min =	• Must give via central line • Can cause tachycardia- more than levophed • Consider switching to levophed if using for BP and patient' becomes tachycardic • Can help increase HR to treat patient with symptomatic bradycardia
Orotrecogin Alfa (XIGRIS)	10mg/l100ml	24mcg/kg/hour for up to 96 hours If infusion is held (i.e.) for surgery, continue infusion so that total time up is 96 hours	• Bleeding can occur • Given to patients with severe sepsis • Also known as "Activated protein C" - opposes mediators contribute to inflammatory response in sepsis that lead to septic shock
Epinephrine	2 mg/250ml	*Continuous IV* – 1-10mcg/min	• Can cause cardiac ischemia • Only used in ICU, CCU
Eptifibatide (INTEGRILIN)	75mg/100ml	*IV bolus* 180mcg/kg, may repeat once *Continuous IV* **ACS** -2mcg/kg/min (maximum 15mg/hr) **High risk/renal patients** -1 mcg/kg/min	• Prevents platelet aggregation • Dosed for the obese patient based on corrected body wt.
Etomidate (AMIDATE)	Not a drip	0.3 mg/kg IV bolus over 30 seconds	• Anesthesia used for rapid sequence intubation (RSI) • CAUTION: Severe muscle spasm, tetany with IV bolus
Precedex	200mcg/50ml	*Loading dose* 0.5-1mcg/kg **over 10min**. *Continuous IV* 0.2-0.7 mcg/kg/hr, not to exceed 24 hrs.	• Sedation for ventilator managed patients • Can cause bradycardia and hypotension • Onset 20-30min after start of infusion, half-life 2 hrs. • Titrate goal- Ramsey Sedation Score 3-5 • Use Caution with other vasodilators/ **-** chronotropics
Nicardipine (Cardene)	25mg/250ml	**CHF/Angina** 0.5-2.2mg/hr **Hypertension** 5-15mg/hr.	• Contraindicated in sick sinus syndrome, 2nd/3rd degree AV block, advanced cardiac stenosis. • Onset within min, half-life 2-4hrs. • Titrate for BP and anginal relief.

TAB

ED Check Offs

Blood Draw Validation

Validation Statement: The RN and ERT demonstrate the following:

1. Verify Physician Order
2. Obtain Labels from Printer or label tubes with registration labels
3. Validate Name on labels from printer with chart and order
4. Take labels to the bedside to verify labels with patient and patient arm band
5. Identify lab tubes in the patient room
6. Tube labs up or in a trauma, when starting IV, draw labs and hand specimens to lab technician

Learning Activities: Verbalize/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Lists steps and repeats process for blood draws		
2. Places order in computer system or asks unit clerk to place blood draw specimens in computer		
3. Obtain printer labels and verify that the stickers are for the patient that is about to be drawn		
4. Verify stickers with patient orders on chart		
5. Gathers IV cart for equipment to draw blood		
6. Brings stickers in patient room and verifies patient ID band with stickers and the patient		
7. Draws appropriate labs from patient		
8. Labels lab specimens with appropriate lab specimens and initial and time tubes		
9. Verify lab labels with specimen tubes and label tubes		
10. Places specimens in biohazard bag and tubes blood to lab or hand labs to lab technician		
11. *If lab labels unavailable at the time of the draw utilize registration stickers and time and initial specimens until lab stickers are available to send specimens		
12. Understands that if the wrong patient is drawn or a specimen is mislabeled-corrective action will occur		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Arterial Line Insertion and Maintenance Validation Page 1/2

Validation Statement: The RN demonstrates the following:

1. Demonstrates Set up of Arterial Line
2. Verbalizes assisting Physician with proper equipment and tackle box
3. Identifies and discusses the importance of sterile technique and equipment necessary for insertion of Arterial line as well as preparing the patient if they are awake
4. Demonstrates critical thinking skills and is able to identify patients that are appropriate Arterial line insertion
5. Demonstrates critical thinking skills and is able to identify complications of Arterial line insertion

Learning Activities: Demonstrate/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Lists indications for arterial line use; Sepsis, hypotension		
2. Assembles all relevant equipment and supplies for insertion		
3. Prepares the patient; patient may need conscious sedation or medication for procedure		
• Discuss and is able to explain procedure for setting up Arterial line		
• Flushes the line (500cc NS with Heparin 1000 units)		
• Assemble and tighten connections on pressurized tubing		
• Position stopcock to allow flush to flow through		
• Spike bag, allowing no air to enter the system		
• Fill drip chamber		
• Place flush bag into pressure bag and inflate to 50mm HG		
• Open flow regulator and remove cap at end of tubing		
• Squeeze flush valve to prime whole tubing including all ports, removing all air bubbles in system		
• Replace protective cap at end of tubing		
• Increase pressure of bag to 300 mmHG do not permit drip chamber to fill		
• Flush system to ensure all bubbles removed		
• Replace vented caps with sterile occlusive caps		
• Mount transducer onto IV pole into transducer holder		
• Turn on hardline		
• Connect transducer cable to monitor using press 1 outlet		
• Performs preliminary zeroing of transducer		
• Documents patient tolerance of procedure		

Arterial Line Insertion and Maintenance Validation Page 2/2

Validation Statement: The RN demonstrates the following:

1. Demonstrates Set up of Arterial Line
2. Verbalizes assisting Physician with proper equipment and tackle box
3. Identifies and discusses the importance of sterile technique and equipment necessary for insertion of Arterial line as well as preparing the patient if they are awake
4. Demonstrates critical thinking skills and is able to identify patients that are appropriate Arterial line insertion
5. Demonstrates critical thinking skills and is able to identify complications of Arterial line insertion

Learning Activities: Demonstrate/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
4. Discuss Zeroing		
• Position air reference stopcock at level of arterial catheter tip or level of phlebostatic axis		
• Place one end of level at intersecting point and adjust manifold vertically on pole until level bubble centered		
• Turn stopcock off to patient and open to air		
• Remove cap on stopcock port and place in sterile gauze package		
• Press art and zero on screen, release		
• Turn stopcock off to air and open to patient (monitoring position)		
• Replace cap on port		
5. Verbalizes the procedure to draw blood for the arterial line using sterile techniques		
6. Able to state waveforms		
7. Able to verbalize and trouble shoot for difficulty with insertion of Arterial line		
8. Documents patients tolerance of procedure and Arterial lines readings		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

IV General Validation

Validation Statement: The RN will demonstrate and discus the following:

1. Verbalizes set-up of IV's and when and when not to use gravity or pump tubing
2. Verbalizes reasons for multiple IV sites
3. Identifies critical thinking and is able to discuss reasons for use of pump and gravity tubing and is able to identify populations that have specific needs
4. Verbalizes and Identifies standard set up for "drips"
5. Verbalizes procedure for blood transfusions and that a pump may or may not be utilized
6. Verbalizes specific pediatric IV considerations

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Discuss and demonstrate Gravity and Pump tubing and is able to state the reasons for and rationale for the use of		
2. Discuss the importance of piggybacking medications such as nitroglycerin and reasons for utilizing a normal saline main line		
3. Discuss the set up for blood transfusions, per policy a pump may or may not be utilized for transfusion		
4. Review trouble shooting for transporting and not taking IV's off for transport to floor		
5. Identify potential complications		
6. Discuss sites for IV's and starting in hand and moving up instead of automatically going to AC, which may be inconvenient for the patient		
7. Discuss importance of starting a large bore IV in AC for Chest CT		
8. Discuss and identify that charts for use are kept in pharmacy book on A side or by crash carts		
9. Discuss techniques for stabilizing and securing pediatric IV's		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Bair Hugger Validation

Validation Statement: The RN demonstrates the following:

1. Set up bair hugger
2. Monitors temperature
3. Demonstrates correct placement of bair hugger and that no blanket should be placed on top of blanket bed
4. Identifies and corrects basic alerts and is able to state that the unit does not work on battery
5. Demonstrates critical thinking skills and is able to identify patients that are appropriate for bair hugger

Learning Activities: Demonstrate/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Discuss and verbalizes indication for use		
2. Identifies where to locate hose and blanket		
3. Able to demonstrate correct set-up of unit and hose		
4. Able to regulate temperature control		
5. Able to demonstrate proper blanket placement on patient		
6. Able to trouble shoot alarms		
7. Able to identify patients that bair hugger should be utilized for		
8. Able to state correct documentation on patient record		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Level 1 Rapid Fluid Warmer Validation Page 1/2

Validation Statement: The RN demonstrates the following:

1. Demonstrates Set up of Ranger High flow Fluid warmer
2. Monitors temperature
3. Identifies and corrects basic alert/error code situations
4. Demonstrates critical thinking skills and is able to identify patients that are appropriate for Level 1 Rapid Fluid Warmer use

Learning Activities: Demonstrate/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Plug in warming unit and turns warming unit "ON"		
2. Plug into power source and state that there is no battery back up		
3. Removes air from any IV bag prior to hanging on rapid infuser, hang on IV pole to assure that tubing is not kinked or twisted.		
4. Makes sure all luer connections are tight		
5. Primes tubing correctly to remove all air		
6. Clips auto-venting bubble trap to holder on side of warming unit		
7. Spikes fluid container and begins priming set		
8. Initial priming: opens one clamp at bag, squeezing drip		
• Invert drip chamber and allow to fill 2/3 full		
• Gently tap filter		
• The auto-venting bubble trap will self-prime		
• Flow will stop once the bubble trap is primed		
• Open white clamp distal to the bubble trap and continue priming		
9. Removes end cap and connects to patient IV cannula.		
10. Ensures additional IV bags are ready to hang		
11. Identifies critical thinking and is able to identify patients that would be appropriate for Level 1 Rapid Fluid infuser and warmer		

Level 1 Rapid Fluid Warmer Validation Page 2/2

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
12. Demonstrates proper documentation of using rapid fluid infuser		
13. In order to remove a Ranger system cassette from the warming unit you must first relieve a small amount of pressure within the cassette		
• Close blue inlet clamp proximal to the fluid warming cassette and open all clamps distal to the cassette		
• Allow fluid from the Ranger warming unit to flow to the patient (this may take 2-3 seconds).		
• Close white distal clamp		
• Remove the fluid warming cassette from the Ranger warming unit and discard		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Pacemaker Competency Page 1/2 (Revised cmb/12/2011)

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
Transvenous Pacemaker:		
Prepare equipment:		
Gather equipment:		
1. Pacemaker Generator Equipment Trauma 1		
2. 1 or 2 pacer Cables in generator box or EP Door 1		
3. 1 percutaneous Introducer Sheath currently Arrow 6 Fr. 10cc .035		
4. The physician may also ask for a 5 fr or 6 fr Swan Ganz Pacing Sheath		
5. 1 pair of sterile gloves		
6. 1 providone iodine bottle		
7. 1 cut down tray		
8. 1 sterile drape		
9. Tegaderm		
10. Masks and hats for all personnel in patients room		
11. Sterile 4x4's		
12. 1 package sutures		
13. 1 vial 2% Lidocaine		
Have a crash cart with a defibrillator at bedside for use if available		
Insert new 9 volt battery with each patient use		
Verify consent completed		
Position patient supine. Offer sedation as indicated		
Assist with TVP insertion and monitor patient for dysrhythmias as physician advances catheter		
Locate the lead wires.		
Remember: Negative pole – paces		
Positive pole -senses		
Attach the lead wires to the pacemaker generator. Attach the distal electrode to the negative pole and the proximal electrode to the positive pole of the pacemaker cable. Attach the pacemaker cable to the pacemaker generator, matching polarity. Attach the cables to the ventricular terminals.		

Pacemaker Competency Page 2/2 (Revised cmb/12/2011)

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
Adjust the Atrial output to the minimal No Cables will be attached to the atrial terminals		
Pacing Threshold;		
Adjust the pacemaker rate to 10BPM greater than the patients present heart rate		
Set the MA 2 10		
Set sensitivity control between 1.5 and 3 mv		
Turn Pacemaker generator on		
Verify if capture has been obtained. Look for a pacing spike followed by a wide QRS complex for every beat on the monitor. If this is noted, 100% capture has been obtained.		
If capture has been obtained, gradually decrease output (mA) until capture is lost. Then gradually increase output until capture is regained. This is the minimum cardiac threshold, (minimum amount of energy required to obtain capture). If capture is not verified at 10 mA, gradually increase the output dial until 100% capture is noted. This is the minimum cardiac threshold.		
After verifying threshold-set the output or mA dial at two times the threshold value; ie if threshold was 3 mA set the output dial at 6mA.		
14. Verify the setting with the physician		
15. Help to secure the site with a Tegaderm		
16. Document Capture and threshold		

When transporting the Pt please ask for a replacement Pacer generator to exchange and check if a battery is in the unit to be used if necessary for the next patient.

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Additional Comments:

Obtaining 12-Lead ECG Competency (Revised 1/2013)

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Power machine on or arrow over to next ECG		
2. Input at minimum patient name, medical record number, initials of operator and whether patient has pacemaker or not		
3. Correctly position electrodes for accuracy.		
4. Click on ECG when delayed picture looks accurate		
5. Stopping of ECG will not store ECG in machine data base for cardiology review.		
6. Allow physician to review ECG and place in patient chart		
7. To change paper, place paper pack without cardboard into holder, pull small amount of paper out of machine, and then use P = page advance to have paper line up correctly.		
8. Clean machine and electrodes with discide.		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Continuous Ambulatory Peritoneal Dialysis (CAPD) Competency (Revised 9/2012)

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
Set up: 1. Clean work surface and gather supplies		
2. Warm solution		
3. Close extension set clamp; put on mask and wash hands		
4. Open solution bag and wipe off any surface moisture; check for leaks, expiration date and verify correct solution		
5. Turn stay-safe disc to position "1" and place in organizer		
6. Hang solution on IV pole and weigh; then break frangible in solution bag outlet port		
7. Place drainage bag on floor		
Procedure: 1. Attach extension set, remove mask and open extension clamp to begin draining		
2. Insert new cap in one notch of organizer and extension tubing in other notch		
3. Unscrew extension set from cap and attach to stay-safe disc		
4. Upon drainage completion turn dial to "2" to start flush to fill bag		
5. After about 5 seconds, turn dial to "3" to fill abdomen		
6. When fill complete turn dial to "4"; remove extension set and cap		
7. Discard used tubing and solution		
Documentation: 1. Discuss recording the weight of the solution prior to exchange and weight of the drainage bag following the exchange, as well as patient's response to treatment		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Med-Port Access Competency Page 1/4

Validation Statement: The RN will demonstrate the following:

1. Approaches performance in a systematic way with minimal effort
2. Performs skills with accuracy and smoothness in a length of time
3. Can state the purpose, rationale, precautions, and observations related to the skill

Learning Activities: Verbalize/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
Preparation: 1. Gathers Port central line equipment 2. Pre-primes all IV/extension tubing 3. Leur-Locks all IV connections 4. Uses non-coring 90 degree needle for accessing port 5. Keeps needle and IV tubing closed to air 6. Applies sterile gloves 7. Preps access site: Chloroprep circular scrub back and forth for 30 seconds and lets dry for 30 seconds, the area must be completely dry.		
Access: 1. Apply a mask. Ask the patient to turn his or her head away from the port or apply a mask to the patient as well 2. Prepare all supplies on a sterile field 3. Assess the site for signs of infection. Do not access port if signs of infection are present; stop and notify the physician 4. Wash hands 5. Expose the chest and identify the septum by palpating the outer perimeter of the port. The septum is located in the middle of the port *- continued on back -*		

Med-Port Access Competency Page 2/4

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
6. Use aseptic technique, fill the 10ml syringes with sterile normal saline solution, and attach the extension set to the noncoring needle, and prime the needle and extension setup with normal saline solution to purge all air. Leave the syringe attached to the needle and extension set. Return the set to the sterile package to protect the needle, wings, and proximal portion of the extension against contamination. 7. Using sterile gloves clean the skin over the port and any surrounding skin that will be covered by the final dressing. ▪ Use a chlora prep applicator swab working in a back and forth method. Allow to air dry completely. 8. Change gloves. 9. Stabilize the port with the forefinger and thumb of nondominant hand (one on each side of the port). Insert the noncoring needle through the skin and into the middle of the septum. Hold the needle perpendicular to the port and apply continuous downward pressure. Do not twist, rock, or manipulate the needle sideways during or after the needle insertion, because this may core the septum and cause leaking from the port. Continue downward pressure on the needle until it hits the back of the septum and can go no farther. 10. Aspirate 5 ml of blood to confirm port patency. To facilitate blood return, have the patient raise his or her arms, cough, perform the Valsalva maneuver, or change position 11. If no blood return is obtained, the needle may be located at the side of the septum over the outer periphery of the port. If you are unable to achieve a blood return, remove the needle and try again with a new needle. If there is visual confirmation that the new needle is in the port, attempt to irrigate the port with normal saline solution. If there is no resistance when irrigating and there is still no blood return, stop and report port access and findings to the physician. The provider may order radiographic studies or declotting procedures.		

Med-Port Access Competency Page 3/4

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
12. If blood is aspirated, flush port with 20 ml of normal saline. (If resistance is met during irrigation with 10 ml of normal saline, stop and report findings to the physician). 13. Remove the 10 ml syringe and then clamp the tubing 14. Clean the end of the extension tubing or needleless adapter cap with an alcohol swab. Attach primed IV tubing. Unclamp the port access tubing and proceed with the infusion (the IV fluid should drip freely by gravity if the needle is in the port) while monitoring the patient for signs of extravasation. To assess for extravasation, place the patient on his or her back and compare the breasts and both sides of the chest and neck. Observe for asymmetry, swelling, redness, or the patient's complaint of tenderness. A chest radiograph helps confirm the catheter's placement and rule out a catheter pinch-off or transaction 15. If the port is to remain accessed, apply a dressing: • Apply a antimicrobial sponge • Stabilize the needle and wings by placing a 2x2 sterile gauze pad under the angled needle to provide support as needed. To facilitate patient assessment, do not obscure the needle insertion site with the gauze dressing • Cover the entire area with a transparent semipermeable dressing, leaving only the end of the extension set with the clamp exposed. • Label the dressing with the date of the insertion and the needle size and RN initials		
Blood Sampling: 1. If a continuous IV infusion is running, stop the infusion for 1 minute, clamp the port access tubing, disconnect the IV infusion tubing, and attach a 10 ml syringe 2. If no infusion is running, clean the end of the extension tubing or needleless adaptor cap with an alcohol swab and a 10ml syringe		

Med-Port Access Competency Page 4/4

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
3. Unclamp tubing and aspirate 6ml of blood from the port. Clamp the tubing and discard the blood. 4. Clean the end of the extension tubing or needleless adaptor cap with an alcohol swab and attach the sampling syringe. Unclamp the tubing, and withdraw the amount of blood needed. Clamp the tubing, and withdraw the amount of blood needed and clamp the tubing, remove sampling syringe, and place blood in appropriate specimen tubes. 5. Clean the end of the extension tubing or needleless adaptor cap with an alcohol swab and attach a 10ml syringe with normal saline solution. Unclamp the tubing and flush the catheter with 20ml of normal saline using "push-pause technique". 6. If no infusion is to be resumed, clean the end of the extension tubing or needleless adaptor cap with an alcohol swab, and flush the catheter with 5 ml of heparin (100units/ml) using a 10ml syringe. Clean the end of the extension tubing or needleless adaptor cap with an alcohol swab, and attach a sterile Luer-lock cap. 7. If the infusion is to be resumed, after flushing with 10 ml of normal saline, clean the end of the extension set with an alcohol swab, and reattach the infusion tubing. Unclamp the tubing, and restart the infusion.		
Removing the Needle from the Port: 1. Perform hand washing 2. Clean the end of the extension tubing or needleless adaptor with an alcohol swab and attach a 10 ml syringe filled with normal saline. Flush the port with 10ml of normal saline solution for injection. 3. Clean the end of extension tubing or needleless adaptor cap with an alcohol swab, and attach a 10ml syringe containing 5 ml of heparin (100 units/ml). Flush the port with the 5 ml of heparin (100 units/ml). 4. Remove dressing, perform hand hygiene and wash hands 5. Don gloves		

Med-Port Access Competency Page 1/3

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
6. Hold the white wings on the needle next to the skin with the non-dominant hand then pinch the yellow wings on the needle and pull straight up. The needle will lock into guard. Discard the needle in a sharps container 7. Apply pressure with a sterile gauze over site until bleeding stops 8. Apply dressing to the site.		
Age-Specific Considerations: A smaller port and a shorter catheter are used for infants and children; therefore, there are lower blood discard volumes for laboratory draws and flushing volumes. Volumes should equal approximately two to three times the catheter or port volume, which can be found on the package insert. If the catheter volume is unknown, it is generally adequate to withdraw 5 ml of blood before the blood draw		
Patient Teaching: Ports are preexisting central catheters, so patients should be familiar with self-care measures. Patients should be reminded to have the catheter flushed monthly when not in use. Teach the patient about signs and symptoms of infection and extravasation, and reinforce that they should notify their health care provider immediately if they experience any of these symptoms. It is determined that the patient requires further training for home management of the catheter, a referral to the home health service or the primary provider should be considered.		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Education & Development Department

IV Moderate Sedation Competency
Clinical Skill Validation Checklist

Employee Name: **E&S Number:**
Department: **Date Completed:**

Directions: Staff are required to demonstrate competency in **all** critical behaviors including age-specific components as appropriate. The validator/preceptor shall document the verification method, and initial and date the appropriate columns. **Yes =** 'deemed competent', **No =** 'not yet deemed competent', **N/A =** 'not applicable to the job functions'. If employee does not demonstrate competency in a critical behavior, please use the action plan to document in the Comments section. For "Verification Methods", use the abbreviations at the bottom of the page. **Completed checklists are to be kept in the employee's** department **file.**

Skills/Critical Behaviors* (RN must independently demonstrate all critical behaviors)	Validator Initials and Date			Verification Method*	Comments
	Yes	No	N/A		
Policy and Procedure					
• Reviews policy Patient Care Services Manual on Alnet (PCS.02.3340)					
• Successful completion of IV Moderate Sedation SLP and Post-Test					
Completes Patient Assessment					
• Completes checklist on Conscious/Moderate Sedation Flowsheet					
• Determines initial Post-Anesthesia Recovery Score pre-medication					
• Reviews Physician Procedure Record and Progress note, including ASA classifications, as determined by MD, prior to beginning of procedure.					
• Reviews patient allergies					
• Reviews patient history information (including adverse experience with sedation) and recent changes					
• Verifies informed consent					
Prepares for the procedure – the uncredentialed RN is responsible for room set up for the credentialed RN.					
• Ensures room is prepared with supplies and equipment for the specific procedure					
• Verifies emergency crash cart accessibility including oral airways, ambu bag, suction and intubation equipment					
• Prepares patient for the procedure					
Medications					
• Describes dosing and effects of the medication(s) being administered					
• Describes dosing and effects for the antagonist medications for narcotics and benzodiazepines					
• Checks physician order(s) per policy					
• Prepares and administers medications as ordered by the physician and per policy					
• If appropriate, initiate time out form and complete according to policy.					

***Verification Method(s):**
T = Test/Self Study, O = Observed in Practice, S = Simulated Demonstration, V = Verbalized Understanding

Skills/Critical Behaviors* (RN must independently demonstrate all critical behaviors)	Validator Initials and Date			Verification Method*	Comments
	Yes	No	N/A		
Monitoring – Intra-Procedure					
• Continuously monitors, provides and documents patient care as indicated by level of sedation and interpretation of monitored data per policy					
• Continually assesses for changes in the level of sedation; identifies variances from intended level					
• Reports changes in level of sedation to physician in charge					
• Provides supplemental oxygen as warranted					
• Performs emergency procedures as needed					
Monitoring-Post- Procedure					
• Monitors patient per requirements					
• Determines Post Anesthesia Recovery scores, verifies patient is "9" or at baseline for discharge					
• Reviews data to determine if patient has reached an awake/pre-procedure state					

• Assures that ordering physician approves and documents that discharge criteria have been met for Outpatient and provides patient/family education re:
  • The procedure
  • Types of medication given
  • Post-procedure care
  • Follow-up care
  • Phone numbers/resources to call if problems occur					

• Ensures that inpatients return to pre-procedure levels of assessment and care					
Documentation					
• Documents all monitored and assessment information on the Conscious/Moderate Sedation Flowsheet per minimum monitoring guidelines and as needed					
• Verifies completion of Quality Improvement Form					
• Documents medications on the MAR					
• Documents education and teaching on appropriate forms or in the computer					

_____ _____

Employee Signature Date

_____ _____

Validator/Preceptor Signature Date

***Verification Method(s):**

T = Test/Self Study, O = Observed in Practice, S = Simulated Demonstration, V = Verbalized Understanding

Evidence Collection Competency

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Able to verbalize indications for use and need for evidence collection kit. 2. Able to verbalize the need to obtain written consent from the patient, parent or guardian. 3. Able to state the need to prepare the kit, label each envelope with the patients name and the collector's initials. 4. Able to state the need to save the patients clothing if the patient is wearing the same cloths; have the patient stand on a sheet and place the cloths and sheet in a clean brown paper bag NEVER A PLASTIC BAG. 5. Verbalizes the importance of RN documentation history of the assault and the importance of using quotations and the patient's exact words whenever possible. 6. Verbalizes the RN's part in obtaining specimens for evidence; ie pull hair do not cut, always allow 20 minutes to air dry before you place in envelops and seal. 7. States the importance of never leaving evidence unattended. 8. Able to verbalize process for appropriate chain of custody.		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Chest Tube Insertion and Maintenance Competency

Validation Statement: The RN demonstrates the following:

1. Set up of Chest Tube
2. Verbalizes assisting Physician with proper equipment and tackle box
3. Identifies and discusses the importance of sterile technique and equipment necessary for insertion of Chest Tube as well as preparing the patient if they are awake
4. Demonstrates critical thinking skills and is able to identify patients that are appropriate Chest tube insertion
5. Demonstrates critical thinking skills and is able to identify complications of Chest Tube insertion

Learning Activities: Demonstrate/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Lists insertion criteria for chest tubes		
2. Assembles all relevant equipment and supplies for insertion		
3. Prepares the patient; patient may need conscious sedation		
4. Discuss and is able to explain procedure for setting up the Water Seal system • Fill the water seal chamber with funnel the water will turn blue • Set the system upright on the floor stand or on the bedside rail of the stretcher for transport, below the level of the chest • Connect the drainage set to suction or as ordered by physician • Never milk or clamp tubing		
5. Dresses insertion site never all 4 sides. Secures tubing to patient to prevent dislodgement		
6. Documents initial and subsequent drainage appearance and quantity in progress notes		
7. Documents initial and subsequent drainage and appearance and quantity in nursing notes		
8. Documents patency of chest tube in terms of bubbling and tidaling in chamber		
9. Discuses troubleshooting techniques and how to change system as necessary		
10. Documentation reflect troubleshooting techniques employed and their outcomes, physician contact		
11. Is able to critically think and trouble shoot for chest tube complication such as; tube pulled out; lung is dropped with chest tube insertion		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Mock Code Competency

Validation Statement: The ED staff member demonstrates the following:

1. Identifies need for CPR and obtaining staff and code cart
2. Identifies and is able to state the correct treatment for lethal arrhythmias
3. Verbalizes the importance of team and roles and identifying the captain in a code situation
4. Is able to Identify correct tools for documentation and discuss the use of the code sheet

Learning Activities: Demonstrate/Return Demonstrate

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
1. Discuss and Verbalizes the location of crash carts within the unit		
2. Identifies and verifies the rhythm of the patient		
3. Explains the correct treatment per ACLS protocol for lethal arrhythmias; Aystole, V-fib, V-tach and 3rd degree block		
4. Able to discuss the team approach and the roles and organization with a coding situation		
5. Able to troubleshoot and identify equipment that may be needed for a code situation		
6. Is able to verbalize and discuss correct usage of Code Sheet and verifying rhythm and treatment while a patient is coding if asked to document		
7. Able to discuss and critically think of a plan for the patient and family after code has taken place; i.e. calling report to ICU		
8. Able to verbalize Social worker as a support person for family in a code situation down in the Emergency area		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Pacemaker Competency Page 1/2

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
TRANSCUTANEOUS PACEMAKER **Equipment:** 1. Transcutaneous pacemaker with monitor 2. Multifunction cable or pacing cable 3. Pacing electrodes R2 pads 4. EKG Electrodes 5. Monitor recorder paper 6. Crash cart 7. Sedatives or analgesics as indicated		
Prepare the patient: 1. Explain the function of the external pacemaker to the patient and family 2. Provide reassurance that analgesics will be provided if the procedure is uncomfortable 3. Instruct the family members that they will not receive a shock if they touch the patient		
Position the electrodes on patient; anterior/posterior or both anteriorly		
Initiate pacing;		
Press pacer on. The default settings will be displayed demand or asynchronous		
Demand mode is used when the patient has an underlying rhythm. The pacemaker delivers a pacing stimulus only when the patient's intrinsic heart rate falls below the present rate.		
Demand pacing should be used when ever possible.		
Asynchronous mode. The asynchronous (fixed rate) mode should be used only in emergency situations when the patient has no underlying rhythm. In this mode, the pacemaker disregards the patient's intrinsic rhythm and delivers a pacing stimulus at the present rate. There is a risk that a lethal arrhythmia may be generated if the pacing energy occurs during the vulnerable period of ventricular repolarization.		

Pacemaker Competency Page 2/2

PERFORMANCE CRITERIA	DATE	VALIDATOR'S INITIALS
Select the pacing rate. The rate range is typically 60-100 beats/min		
Set the mA on zero and turn the pacemaker on		
A. For a patient in a comprised hemodynamic state, but not in arrest determine the capture threshold and set the maintenance pacing output. Beginning at the capture threshold and set the maintenance pacing output. Beginning at zero mA increase the output until the electrical capture is evidenced by a wide QRS complex.		
B. For patients without a pulse, the device should be set to a maximum output when it is turned on. If capture of the heart rate is achieved at the maximum energy, the device should be turned down until loss of capture occurs and then increased to 110% of capture energy.		
To set the lowest possible output level, decrease the current by decrements of 5 mA until capture is lost. Then set output about 10% higher then threshold level		
Set high and low heart rate alarms		
Assess patient vital signs and administer analgesic if necessary for discomfort		
Observe the patient frequently during pacing. The heart rate alarms may be unreliable		
Assess the continuing need for transcutaneous pacing		
Document intervention with pacer settings		

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Additional Comments:

Wall Suction Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Gather Equipment:		
• Outer holder		
• Disposable inner collection chamber		
• Two surgical connecting tubes		
• Suction regulator		
2. Correctly assemble equipment		
3. Discuss appropriate suction strength for oral		
4. Discuss appropriate suction strength for tracheal		
5. Demonstrate proper documentation of collection chamber contents		
6. Demonstrate proper disposal of biohazard waste.		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Tracheostomy Care - Shirley Reusable Inner Cannula Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Explain procedure to patient		
2. Gather equipment:		
• Trach care kit		
• Suction kit		
• Gloves (sterile and clean)		
• Sterile saline		
3. Demonstrate:		
• Tracheostomy suction per procedure		
• Remove/discard trach dressing		
• Prepare trach care kit		
• Remove and place inner cannula in peroxide		
• Don sterile gloves		
• Clean inner cannula and replace		
• Complete stoma care		
• Replace ties if needed		
• Dispose of used equipment in proper biohazard waste container		
4. Document patient response to procedure		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Pulse Oximetery Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Obtain equipment		
2. Place transducer probe over patients finger		
3. Identify appropriate oximetry waveform		
4. Adjust contrast		
5. Adjust alarm volume		
6. Adjust alarm parameters		
7. Verbalize normal pulse oximetry values		
8. Document procedure:		
• Date		
• Time		
• Procedure type (single check/continuous)		
• Oximetric measurement		
• Action taken for abnormal result		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Sputum Culture Collection Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Verify physician order		
2. Gather equipment		
• Sterile cup with screw lid OR		
• Sputum trap for ET/tracheal suction		
3. Explain procedure to patient		
• Early AM specimen		
• Mucous from lungs (not saliva from mouth)		
4. Document collection of specimen		
5. Verbalize timely transport to laboratory		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Sputum Culture Collection Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Verify physician order		
2. Gather equipment		
• Sterile cup with screw lid OR		
• Sputum trap for ET/tracheal suction		
3. Explain procedure to patient		
• Early AM specimen		
• Mucous from lungs (not saliva from mouth)		
4. Document collection of specimen		
5. Verbalize timely transport to laboratory		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Oxygen Therapy Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Verify physician order		
2. Identifies patient		
3. Explains procedure to procedure to patient		
4. Select proper oxygen device/equipment		
5. Demonstrate proper use of oxygen device		
• Nasal cannula - liter flow		
• Venti-mask – correlate 02% with liter flow into adapter		
• Aerosol mask - correlate 02% with liter flow		
• No fluid in tubing		
• Non-rebreather mask - correlative flow rate with bag inflation (bag full at tend inspiration)		
• Exhale valve covered		
• Partial rebreather mask - correlate flow rate with bag inflation to 1/3 full (end inspiration)		
• Exhale valve open		
• Trach aerosol - liter flow		
• No fluid in tubing		
• Briggs (T-piece) - liter flow		
6. No fluid in tubing		
7. Document oxygen therapy delivered		
8. Assess patient response to oxygen therapy		
9. Document patient response to oxygen therapy		
10. Verbalizes oxygen safety precautions		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

IV Venipuncture Competency Page 1/2

Employee: _____ SS# _____

KEY: X=Yes O=No	1	2	3	4	5
1. Gathers necessary equipment.					
2. Explains procedure to patient.					
3. Washes hands and wears gloves during venipuncture.					
4. Cleans site with alcohol friction rub and povidone, allows to air dry.					
5. Selects appreciate venipuncture device considering medications to delivered, procedures or surgery to be performed and size and health of patient (smallest guage and shortest length possible for prescribed therapy).					
6. Applies tourniquet correctly to distend vein and used appropriate methods to enhance distention (light tapping, application of moist heat).					
7. Attempts venipuncture at most distal vein employing skin stabilization.					
8. Performs venipuncture with bevel up.					
9. Always venipuncture with bevel up.					
10. Always uses a new venipuncture device for each and every IV insertion attempt.					
11. Correctly advances catheter into vein.					
12. Applies and dates dressings correctly.					
13. Disposes of equipment correctly.					
14. Documents insertion, including date, time, type of catheter, number of attempts, and signature.					
15. Discontinues IV using universal precautions and aseptic technique, and documents date and time IV d/c'd.					

Validator's Signature #1 _____ Date: _____

Validator's Signature #2 _____ Date: _____

Validator's Signature #3 _____ Date: _____

Validator's Signature #4 _____ Date: _____

Validator's Signature #5 _____ Date: _____

IV Venipuncture Competency Page 2/2

Employee: _____ SS# _____

KEY: X=Yes O=No	1	2	3	4	5
1. Gathers necessary equipment.					
2. Explains procedure to patient.					
3. Washes hands and wears gloves during venipuncture.					
4. Cleans site with alcohol friction rub and povidone, allows to air dry.					
5. Selects appreciate venipuncture device considering medications to delivered, procedures or surgery to be performed and size and health of patient (smallest guage and shortest length possible for prescribed therapy).					
6. Applies tourniquet correctly to distend vein and used appropriate methods to enhance distention (light tapping, application of moist heat).					
7. Attempts venipuncture at most distal vein employing skin stabilization.					
8. Performs venipuncture with bevel up.					
9. Always venipuncture with bevel up.					
10. Always uses a new venipuncture device for each and every IV insertion attempt.					
11. Correctly advances catheter into vein.					
12. Applies and dates dressings correctly.					
13. Disposes of equipment correctly.					
14. Documents insertion, including date, time, type of catheter, number of attempts, and signature.					
15. Discontinues IV using universal precautions and aseptic technique, and documents date and time IV d/c'd.					

Validator's Signature #1 _____ Date: _____

Validator's Signature #2 _____ Date: _____

Validator's Signature #3 _____ Date: _____

Validator's Signature #4 _____ Date: _____

Validator's Signature #5 _____ Date: _____

IV Therapy - Gravity Infusion Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Explain procedure to patient		
2. Gather equipment:		
▪ Continue-flo tubing		
▪ Secondary tubing for piggyback infusion		
▪ Lever lock		
▪ IV solution (primary and secondary)		
3. Demonstrate spiking IV solution with IV tubing		
4. Demonstrate back filling/back flushing secondary tubing		
5. Verbalize calculating ordered flow rates		
6. Verbalize removal of air from IV tubing		
7. Demonstrate saline flush safe-site cap		
8. Verbalize frequency of tubing change: primary IV		
9. Verbalize frequency of tubing change: intermittent piggyback tubing		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Glucometer Monitoring and QC with Accu-Check Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Explain procedure to patient		
2. Gather equipment:		
• Glucometer basket with meter		
• Gloves		
• Sharps biohazard waste container		
• Miscellaneous lab form		
3. Instruct/Assist patient to wash hands (soap/H20)		
4. Demonstrate:		
• Turn meter on		
• Scan operator ID barcode		
• Verify test strip lot number		
• Verify control solution lot number		
• Perform quality control check as indicated		
• Enter patient medical record number		
• Insert test strip into meter		
• Obtain blood sample using automatic lancet device		
• Apply blood sample to test strip, completely filling yellow window		
• Document glucose result on miscellaneous lab form		
• Follow infection control measures		
• Discard contaminated equipment in proper container		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

IVAC Dose Rate Calculator Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Check physicians order		
2. Demonstrate:		
▪ Selection of dose rate calculator mode		
▪ Selection of "New Program" desired medication		
▪ Ability to change Ht/Wt units		
▪ Ability to change concentration units		
▪ Using numeric key pad to enter necessary data when prompted		
▪ Entering VTBI at prompt		
▪ Clearing VI		
▪ Starting infusion		
3. Discuss use of lock out safety feature		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

IV Therapy - IVAC Infusion Pump Set Up Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Explain procedure to patient		
2. Gather Equipment		
▪ IVAC pump		
▪ IV tubing (primary and secondary)		
▪ IV solution (primary and secondary)		
3. Demonstrate priming: primary tubing		
4. Demonstrate priming: secondary tubing		
5. Demonstrate pump set up for infusion rate and volume to be infused: primary line		
6. Demonstrate pump set up for infusion rate and volume to be infused: secondary line		
7. Verbalize troubleshooting alarms		
8. Verbalize removal of air from IV tubing		
9. Verbalize frequency of tubing changes		
10. Verbalize criteria for infusion pump use		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Endotracheal / Tracheostomy Suctioning Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Explain procedure to patient		
2. Gather Equipment		
• Suction kit or In-line suction		
• Sterile normal saline		
• Suction source		
3. Demonstrate:		
• Aseptic preparation of suction kit		
• Connect suction catheter to suction source		
• Remove T-Tube connector from trach/endo tube		
• Don gloves		
• Pass suction catheter through trach/endo tube until resistance met		
• Pull catheter back, applying intermittent suction, while rotating catheter between thumb and fore finger		
• Rinse catheter with sterile saline between each suction pass		
• Discard used equipment in biohazard waste		
4. Verbalize proper hand washing pre/post procedure		
5. Verbalize need to use correct size suction catheter		
6. Verbalize acceptable duration of suction time		
7. Documentation patient response to procedure		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Cardiac Monitor Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Prepare/select telemetry transmitter and/or monitoring cable		
2. Correct skin preparation		
3. Appropriate monitor lead placement: Lead II		
4. Appropriate monitor lead placement: MCL1		
5. Admit patient to central monitor		
6. Select/change monitoring leads		
7. Adjust ECG alarm limits		
8. Adjust ECG size		
9. Adjust alarms for ST segment monitoring		
10. Identify alarm levels: Silence/Reset		
11. Identify alarm levels: Suspend		
12. Record rhythm strip		
13. Change recording paper		
14. Adjust monitor for "paced" patient		
15. Discontinue/discharge patient from monitoring		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Cardioversion Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Verify physician's order		
2. Verify informed consent for procedure/sedation		
3. Administer moderate sedation per hospital policy ie: physician present, pre-procedure assessment, patient IV access, emergency equipment available, anesthesia standby, patient monitoring during and post procedure.		
4. Set up monitoring/emergency equipment i.e.: cardiac monitor, multipurpose electrodes, defibrillator, suction, oxygen, pulse ox., airway, ambu-bag, crash card.		
5. Activate synchronize mode and document with monitor rhythm strip to chart.		
6. Select correct joules per physician order 7. Discharge defibrillator, keeping buttons pushed until shock is delivered		
8. Document delivery of synchronized shock and rhythm outcome with monitor strip to chart		
9. Monitor patient during and post procedure per moderate sedation policy: VS, 02 saturation, LOC, continuous cardiac monitoring, Aldrete Score.		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Cardioversion Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Verify physician's order		
2. Verify informed consent for procedure/sedation		
3. Administer moderate sedation per hospital policy ie: physician present, pre-procedure assessment, patient IV access, emergency equipment available, anesthesia standby, patient monitoring during and post procedure.		
4. Set up monitoring/emergency equipment i.e.: cardiac monitor, multipurpose electrodes, defibrillator, suction, oxygen, pulse ox., airway, ambu-bag, crash card.		
5. Activate synchronize mode and document with monitor rhythm strip to chart.		
6. Select correct joules per physician order 7. Discharge defibrillator, keeping buttons pushed until shock is delivered		
8. Document delivery of synchronized shock and rhythm outcome with monitor strip to chart		
9. Monitor patient during and post procedure per moderate sedation policy: VS, 02 saturation, LOC, continuous cardiac monitoring, Aldrete Score.		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

AED Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Discuss indication for AED use		
2. Gather equipment:		
▪ AED/Lifepak 12 with cable		
▪ Crash cart		
▪ Multifunction electrodes		
3. Demonstrate:		
▪ Turn AED on		
▪ Application of multifunction electrodes		
▪ Attach multifunction electrodes to cable		
▪ Press analyze button		
▪ Follow voice/screen prompts		
4. Discuss documentation indicated for AED use		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Competency

PERFORMANCE CRITERIA	MET	NOT MET

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Blood/Blood Product Administration Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Check physician's order		
2. Informed consent form completed		
3. Verify lab values meets blood usage criteria		
4. Baseline VSs taken and recorded		
5. Patent venous access present		
6. Hangs saline to blood tubing		
7. Pre-meds given if ordered		
8. RN and other McLaren Flint employee goes to patient's bedside and checks patient's wrist band to blood bag and transfusion record		
9. Initial infusion rate does not exceed 100cc/hour for the first 5 minutes		
10. Observes patient for transfusion reaction		
11. Verbalizes understanding of transfusion reaction protocol		
12. Changes blood tubing at least every 4 hours		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Defibrillation Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Verbalize indications for defibrillation		
2. Gather equipment:		
▪ Defibrillator		
▪ Saline pads or multifunction electrode pads		
▪ Crash card		
3. Demonstrate:		
▪ Placement of saline pads/multifunction electrode pads		
▪ Turn defibrillator on		
▪ Select lead or paddles		
▪ Select joules		
▪ If using paddles, place in position over saline pads		
▪ Confirmation of rhythm		
▪ Discharge paddles/multifunction electrode pads		
4. Discuss energy requirement for stacked shocks		
5. Discuss electrical safety during defibrillation		
6. Verbalize firm pressure needed for using paddles		
7. Discuss documentation of patient response		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

Glucometer Monitoring and QC with Accu-Check Competency

PERFORMANCE CRITERIA	MET	NOT MET
1. Explain procedure to patient		
2. Gather equipment:		
• Glucometer basket with meter		
• Gloves		
• Sharps biohazard waste container		
• Miscellaneous lab form		
3. Instruct/Assist patient to wash hands (soap/H20)		
4. Demonstrate:		
• Turn meter on		
• Scan operator ID barcode		
• Verify test strip lot number		
• Verify control solution lot number		
• Perform quality control check as indicated		
• Enter patient medical record number		
• Insert test strip into meter		
• Obtain blood sample using automatic lancet device		
• Apply blood sample to test strip, completely filling yellow window		
• Document glucose result on miscellaneous lab form		
• Follow infection control measures		
• Discard contaminated equipment in proper container		

☐ Passed ☐ Needs to Repeat

Validator's Signature _____ Date: _____

Staff Member Signature _____ Date: _____

TAB

Orientation Feedback

Competency Based Orientation Evaluation
Questionnaire for Orientee (Page 1/2 - Revised 7/2008)

Orientee Name: _____ Date: _____

This is to be filled out by the orientee upon completion of the unit based orientation program. Part one consists of a series of multiple choice questions and part two consists of a few short answer questions. (If not applicable, please just write N/A.) Please take the time to complete this form with as much detail as possible so that we are able to continually improve our orientation program. Thank you for your time!

Part One (Please circle the number that best describes your response):

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I felt that I was provided with a clear explanation of what my performance criteria were.	1	2	3	4
2. I felt the program was appropriate to my learning needs.	1	2	3	4
3. I felt I had adequate time for completion of the performance criteria/orientation.	1	2	3	4
4. I felt I was provided with adequate resource material to facilitate my own learning needs.	1	2	3	4
5. I felt there was open communication between my preceptor and myself.	1	2	3	4
6. I felt that I was provided with adequate feedback regarding my performance in a timely fashion.	1	2	3	4
7. I felt my preceptor encouraged individual growth and independence.	1	2	3	4
8. I felt I understood my responsibilities as an orientee.	1	2	3	4
9. I felt I received adequate supervision in the patient care setting.	1	2	3	4
10. I felt my learning experiences were selected appropriately to help me accomplish my performance criteria.	1	2	3	4
11. I felt my preceptor used all forms of teaching, including demonstration, effectively.	1	2	3	4
12. I felt my preceptor was knowledgeable regarding unit resources.	1	2	3	4
13. I felt I was provided with enough hands on experience to solidify the theory content.	1	2	3	4
14. I felt that as orientation progressed, I could function independently and valued as a team member.	1	2	3	4
15. I felt my manager communicated with me adequately.	1	2	3	4

Competency Based Orientation Evaluation
Questionnaire for Orientee (Page 2/2 - Revised 7/2008)

Part Two:

1. In what areas did you find it difficult to meet the performance criteria?

2. Were there teaching methods or learning materials that would have benefited you?

3. How often were there informal conferences between:

    a. You and your preceptor?

    b. You and your educator?

4. Did you find anything that distracted you or made the orientation program more difficult?

5. Do you have any recommendations for improving the overall orientation program?

Competency Based Orientation Evaluation
Questionnaire for Preceptor (Page 1/2)

Preceptor Name: _____ Date: _____

Please complete this form after completion of the orientation program. Answer the following questions as honestly as possible. This information provides valuable feedback for your preceptor and is needed to improve the program. If you had more than one preceptor, please fill out a separate form for each one. Thank you in advance for your time and effort.

Please circle the number that best describes your response:

	Strongly Disagree	Disagree	Agree	Strongly Agree
Acts as a Role Model:				
1. Demonstrates knowledge regarding the application of departmental policies and procedures.	1	2	3	4
2. Promotes flexibility in setting priorities	1	2	3	4
3. Portrays a professional manner when dealing with patients and other health care team members	1	2	3	4
Facilitates Learning:				
4. Ensures that adequate resources are available to assist in accomplishing mutually agreed on goals.	1	2	3	4
5. Identifies learning experiences needed to complete the orientation process.	1	2	3	4
6. Provide assistance in identifying and writing daily or weekly goals.	1	2	3	4
7. Acts as resource.	1	2	3	4
8. Encourages autonomy in decision making and patient care.	1	2	3	4
Interpersonal Skills:				
9. Communicates effectively with staff and other healthcare team members	1	2	3	4
10. Promotes communication regarding the orientation process among the orientee, staff, and other persons involved in the orientation process.	1	2	3	4
11. Identifies and addresses interpersonal difficulties and assists with appropriate problem-solving techniques.	1	2	3	4
12. Facilitates the socialization process.	1	2	3	4
13. Promotes a collegial relationship in learning.	1	2	3	4

- continued on next page -

Competency Based Orientation Evaluation
Questionnaire for Preceptor (Page 2/2)

1. If you have marked any of the statements with a "1" or "2", please explain why and give suggestions for improvement:

2. Additional comments:

TAB

Weekly Orientation / Preceptor Sign Offs

McLaren FLINT

Weekly Progress Sheet
McLaren Flint

_____ (Rating orientee's at the standard a new hire to the unit)

Does Not Meet Expectations	1	**Validation Method**	
Partially Meets Expectations	2	Observe	Demo
Fully Effective/ Satisfactory	3	☐	☐
Consistently Exceeds Expectations	4		
Not able to assess currently	N/A		

Job Tasks & Competencies:	**1**	**2**	**3**	**4**	**n/a**	**Validation Method** Observe	Demo
1. Patient Care/ Patient Assessment – The ability to assess patients and maintain their safety and dignity.						☐	☐
2. Professionalism – Treating patients & their family with respect/empathy/dignity Also being receptive, respectful, honest & open for constructive advice from coworkers, preceptors & managers						☐	☐
3. Medications - Ability to understand medications & give to patients correctly per Mclaren Flint policy on medication administration; using the 7 rights/ including IV management of drips/ titration & documenting correctly						☐	☐
4. Documentation – Ability to chart correctly & effectively in a timely manner, that includes pt education & daily updates & interventions & care plan summaries						☐	☐
5. Orders – Ability to receive, implement, write, & review new/ current orders in a timely manner. Also reading back new orders that are given from physicians						☐	☐
6. Results – Evaluating lab results in a timely manner, following the correct pathways of a critical lab protocol (such as: notifying physicians, charting and implementing interventions & evaluating patients in order to give optimal patient care/ safety)						☐	☐
7. Report – Giving report that covers all essential information in systematically order at patient's bedside using SBAR						☐	☐
8. Routine – Developing a routine that works in a timely manner that is also thorough & complete to ensure patient safety						☐	☐
9. Nursing Skills - Caring for urinary catheters, central & peripheral IV lines, feeding tubes, restraints, etc… Also, being aware of complications such as; CAUTI & CLABSI						☐	☐

ORIENTEE- Name:_____ DATE:_____

McLaren Flint
Weekly Orientation Performance Feedback
Date:

Name:	
Position: & Unit:	
Date of Hire:	

Strengths" (What did the Orientee do well this week?)

_____
_____
_____
_____
_____

Skills & Performed & Equipemnt Utilized:

_____
_____
_____
_____
_____

Areas that require more Education/Experience: (What are some areas that the orientee needs to focus on for the future week?)

_____
_____
_____
_____
_____

Plan: (What is the specific goal for the next week?)

_____
_____
_____
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_____

_____ _____
Orientee's Signature Date

_____ _____
Preceptor's Signature Date

_____ _____
Educator's Signature Date

_____ _____
Manager's Signature Date

McLaren FLINT

Weekly Progress Sheet
McLaren Flint

_____ (Rating orientee's at the standard a new hire to the unit)

Does Not Meet Expectations	1	**Validation Method**	
Partially Meets Expectations	2	Observe	Demo
Fully Effective/ Satisfactory	3	☐	☐
Consistently Exceeds Expectations	4		
Not able to assess currently	N/A		

Job Tasks & Competencies:	**1**	**2**	**3**	**4**	**n/a**	**Validation Method** Observe	Demo
1. Patient Care/ Patient Assessment – The ability to assess patients and maintain their safety and dignity.						☐	☐
2. Professionalism – Treating patients & their family with respect/empathy/dignity Also being receptive, respectful, honest & open for constructive advice from coworkers, preceptors & managers						☐	☐
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ORIENTEE- Name:_____ DATE:_____

McLaren Flint
Weekly Orientation Performance Feedback
Date:

Name:	
Position: & Unit:	
Date of Hire:	

Strengths" (What did the Orientee do well this week?)

_____
_____
_____
_____
_____

Skills & Performed & Equipemnt Utilized:

_____
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Areas that require more Education/Experience: (What are some areas that the orientee needs to focus on for the future week?)

_____
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Plan: (What is the specific goal for the next week?)

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_____ _____
Orientee's Signature Date

_____ _____
Preceptor's Signature Date

_____ _____
Educator's Signature Date

_____ _____
Manager's Signature Date

McLaren FLINT

Weekly Progress Sheet
McLaren Flint

_____ (Rating orientee's at the standard a new hire to the unit)

Does Not Meet Expectations	1	**Validation Method**	
Partially Meets Expectations	2	Observe	Demo
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Consistently Exceeds Expectations	4		
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Job Tasks & Competencies:	1	2	3	4	n/a	Validation Method Observe	Demo
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ORIENTEE- Name:_____ DATE:_____

McLaren Flint
Weekly Orientation Performance Feedback
Date:

Name:	
Position: & Unit:	
Date of Hire:	

Strengths" (What did the Orientee do well this week?)

_____
_____
_____
_____
_____

Skills & Performed & Equipemnt Utilized:

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_____

Areas that require more Education/Experience: (What are some areas that the orientee needs to focus on for the future week?)

_____
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_____
_____

Plan: (What is the specific goal for the next week?)

_____

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_____ _____

Orientee's Signature Date

_____ _____

Preceptor's Signature Date

_____ _____

Educator's Signature Date

_____ _____

Manager's Signature Date

McLaren FLINT

Weekly Progress Sheet
McLaren Flint

_____ (Rating orientee's at the standard a new hire to the unit)

Does Not Meet Expectations	1	**Validation Method**	
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Job Tasks & Competencies:	1	2	3	4	n/a	Validation Method Observe	Demo
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4. Documentation – Ability to chart correctly & effectively in a timely manner, that includes pt education & daily updates & interventions & care plan summaries						☐	☐
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7. Report – Giving report that covers all essential information in systematically order at patient's bedside using SBAR						☐	☐
8. Routine – Developing a routine that works in a timely manner that is also thorough & complete to ensure patient safety						☐	☐
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ORIENTEE- Name:_____ DATE:_____

McLaren Flint
Weekly Orientation Performance Feedback
Date:

Name:	
Position: & Unit:	
Date of Hire:	

Strengths" (What did the Orientee do well this week?)

_____
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Skills & Performed & Equipemnt Utilized:

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Areas that require more Education/Experience: (What are some areas that the orientee needs to focus on for the future week?)

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Plan: (What is the specific goal for the next week?)

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_____ _____
Orientee's Signature Date

_____ _____
Preceptor's Signature Date

_____ _____
Educator's Signature Date

_____ _____
Manager's Signature Date

McLaren FLINT

Weekly Progress Sheet
McLaren Flint

_____ (Rating orientee's at the standard a new hire to the unit)

Does Not Meet Expectations	1	**Validation Method**	
Partially Meets Expectations	2	Observe	Demo
Fully Effective/ Satisfactory	3	☐	☐
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TAB

Anesthesia Agents and Adjuncts

CHAPTER 9

ANESTHESIA AGENTS & ADJUNCTS

D. INTRAVENOUS AGENTS

Benzodiazepines, Hypnotics, Opioids

Linda Wilson, PhD, RN, CPAN, CAPA, BC, CNE

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OVERVIEW

Purpose: The perianesthesia registered nurse (RN) will describe the mechanism of action of benzodiazepines, hypnotics, and opioids, and the pharmacology of each. The RN perianesthesia nurse will also demonstrate skills to assess and monitor the patient for potential complications, apply appropriate interventions, and provide patient teaching related to benzodiazepines, hypnotics, and opioids.

Please note – The administration of any of the pharmacologic agents mentioned in this chapter is governed by the nurse's State Nurse Practice Act, the State Department of Health Regulations, and any specific hospital policies and procedures.

INTRAVENOUS AGENTS: BENZODIAZEPINES

Competency Statement: Demonstrate knowledge of intravenous agents: Benzodiazepines.

Criteria:

1. **Describe indications for benzodiazepines.**
   - Premedication before surgery
   - Induction
   - Anesthetic adjunct
   - Supplemental intravenous sedation during local and regional anesthesia
   - IV moderate sedation
   - Postoperative for anxiety and agitation

   Benzodiazepines commonly used in the perioperative period include diazepam (Valium), midazolam (Versed), and lorazepam (Ativan).

2. **Describe therapeutic effects of benzodiazepines.**
   - Calming
   - Sedation
   - Hypnosis
   - Amnesia
   - Suppression of seizure activity

3. **Identify characteristics of the following, including uses, onset, duration, and dosage.**
   - **Diazepam (Valium)**

   Acts on limbic system, thalamus, and hypothalamus to include calming effect. Produces skeletal muscle relaxation effects. Minimal depressant effects on ventilation and circulation unless combined with other central nervous system (CNS) depressant drugs.

   Dosage: 2-10 mg IV; 0.4 mg/kg IM

   Onset: 1-3 minutes IV; 20 minutes IM

   Duration: 1 hour IV

   Metabolism/Elimination: hepatic/renal

   Nursing Considerations:

   Lipid soluble – burns when given IV

   IM route is unpredictable

   Half-life is age-dependent (30 years = 30 hours)

- **Midazolam (Versed)**

Short-acting, central nervous system depressant. It possesses anti-anxiety, sedative, amnesic, anticonvulsant, and skeletal muscle relaxant effects. Midazolam's primary pharmokinetic property is anxiolytic; it takes away anxiety and fear and elevates the mood. Potency 3-4 times that of diazepam.

Dosage: 0.5-5 mg IV titrated to effect; 0.05-0.08 mg/kg IM; 0.2-0.5mg/kg po

Children max dose: 15-20 mg po

Onset: 1-5 minutes IV

Duration: 2-6 hours

Metabolism/Elimination: hepatic/renal

Nursing Considerations:

Water-soluble; does not burn on injection. Decrease dosage with elderly, debilitated, chronic obstructive pulmonary disease (COPD), hepatic disease, opioids, CNS depressants.

- **Lorazepam (Ativan)**

Sedative, anxiolytic, premedication, and amnesic that is 5-10 times more potent than Diazepam.

Dosage: 1-2 mg IV; 0.05 mg/kg IM; 2 mg po

Onset: 1-5 minutes IV; 30 minutes IM; 15-45 minutes po

Duration: 10-20 hours

Metabolism/Elimination: hepatic/ renal

Nursing Considerations:

Pronounced sedation. Dilute when giving IV.

4. Identify nursing implication for perianesthesia care.

- Ensure adequate ventilation
- Monitor for respiratory depression
- Monitor for hypotension
- Antagonist available (Flumazenil)
- Re-intubation equipment available

5. Identify characteristics of benzodiazepine antagonists.

- **Flumazenil (Romazicon)**

Receptor antagonist that reverses the sedative, amnesic, and psychomotor effects of benzodiazepines.

Dosage: 0.2 mg IV (may repeat in 15 seconds, 45 seconds, and in 60 seconds); titrate to effect. Maximum dose: 1 mg/15 minutes or 3 mg/hour.

Onset: Usually 1-2 minutes

Duration: 1-3 hours

Metabolism/Elimination: hepatic/renal

Nursing Considerations:

Monitor closely for resedation. May cause nausea/vomiting.

Use with great caution in patients with a history of epilepsy or chronic benzodiazepine usage, because reversal with flumazenil can precipitate seizure activity.

6. Communicate and document all pertinent information per facility/unit specific policy/protocol.

INTRAVENOUS AGENTS: HYPNOTICS

Competency Statement: Demonstrate knowledge of intravenous agents: Hypnotics.

Criteria:

1. **Identify uses for hypnotics.**
   - Anesthetic induction
   - Sedation
   - Monitored Anesthesia Care (MAC)
   - Maintenance of anesthesia

   Use results in either a rapid or slow onset of anesthesia, depending on the dose, speed, and rapidity of titration of the agent. The major benefit of IV agents is that they can induce anesthesia in a matter of seconds. Agents include barbiturates, etomidate, propofol, and ketamine.

2. **Describe characteristics of the barbiturates including pharmacology, dosage, onset, and duration.**

   Barbiturates are the most frequently used induction agents. They produce a rapid, pleasant induction to a Stage III level of anesthesia for 3 to 7 minutes.

   - **Sodium thiopental (Pentothal)**

   Ultra short-acting depressant of CNS that induces hypnosis and anesthesia but not analgesia. Quickly crosses the blood brain barrier. It typically produces modest decreases in blood pressure (10-20 mg Hg) that are transient due to compensatory increases in heart rate. It can have dose dependent depressant effect on the heart. Since the development of newer anesthesia drugs, there has been a general decrease in use of Pentothal.

   Dosage: 4-6 mg/kg IV; 25 mg/kg rectal (Maximum dose 1 gram)
   Onset: 10-20 seconds
   Duration: 5-15 minutes
   Metabolism/Elimination: hepatic/renal. Fatty tissue serves as a reservoir for the agent.

   Recovery may be prolonged if induction dose is excessive or if circulating depression occurs, slowing redistribution. Dose should be reduced in the elderly, hypovolemic, and high-risk surgical patient.

   Nursing Considerations:
   Skin may be cold and clammy due to peripheral vasoconstrictive action.
   May cause histamine release, apnea, coughing, laryngospasm, or bronchospasm.
   Pentothal/anesthesia may cause increased shivering.
   Drug is alkaline; may cause thrombophlebitis if extravasation occurs.

   - **Methohexital (Brevital)**

   Ultra short-acting IV anesthesia agent 2-3 times more potent than thiopental. Less lipid soluble. More rapid recovery. Does have amnesia effect.

   Dosage: 1 mg/kg IV; 20-30 mg/kg rectal
   Onset: 20-40 seconds IV; less than 5 minutes rectal
   Duration: 4-7 minutes; 30-90 minutes rectal
   Metabolism/Elimination: hepatic/renal

Nursing Considerations:
May cause coughing and hiccups
Muscle hyperactivity may appear
Methohexital may cause shivering

3. Describe the characteristics of the non-barbiturates including pharmacology, dosage, onset, and duration.

- **Etomidate (Amidate)**

Short-acting non-barbiturate hypnotic; 25 times more potent than thiopental; 6 times more potent than methohexital. Does not possess any analgesic effect. Reduces intracranial and intraocular pressure. There is less respiratory depression and minimal cardiovascular (CV) effects. Myoclonic movements are seen post-injection in one-third of patients during induction.

Dosage: 0.2-0.3 mg/kg
Onset: within one minute
Duration: 3-5 minutes
Metabolism/Elimination: hepatic/renal

Nursing Considerations:
Pain at injection site
Adrenocortical suppression for 5-8 hours
Patients have high incidence of nausea and vomiting.

- **Propofol (Diprivan)**

A rapid-acting non-barbiturate sedative-hypnotic that produces a dose-dependent depression of CNS function. Used for induction as well as maintenance of general anesthesia. Dose-dependent respiratory and circulatory depression with induction doses. It reduces cerebral metabolic rate, cerebral perfusion, and intracranial pressure (ICP). An antiemetic effect is suggested by the low incidence of nausea and vomiting in patients receiving this drug. It does not have antibacterial preservatives; therefore strict asepsis must be maintained.

Dosage: 2-2.5 mg/kg
Onset: within 40 seconds
Duration: 5-10 minutes
Metabolism/Elimination: hepatic/renal

Nursing Considerations:

Due to rapid recovery and early awakening of patients, assessment and pain interventions are important.

4. Describe the characteristics of disassociative agents.

- **Ketamine (Ketalar)**

A rapid-acting dissociative anesthetic agent used alone for certain diagnostic or operative procedures or in combination with other general anesthetics. Selectively blocks pain conduction and perception producing a profound state of analgesia and unconsciousness. Respiratory function is usually unimpaired. Protective reflexes remain intact. It is sympathomimetic in action. Ketamine is the only intravenous anesthetic that produces cardiovascular stimulation, increasing the heart rate, blood pressure, and cardiac output. Horizontal and vertical nystagmus, vivid dreaming, confusion, irrational behavior, and hallucinations are common.

Dosage: 0.5-1 mg/kg IV; 2.5-5 mg/kg IM
Children's Induction Dose: 2-3 mg/kg IV; 5-7 mg/kg IM
Duration: varied; prolonged IM
Metabolism/Elimination: hepatic/renal

Nursing Considerations:
Seclude from auditory, visual, and tactile stimulation.
Observe for respiratory depression.
Avoid aggressive stimulation.

5. Identify nursing implications for perianesthesia care.

- Monitor for respiratory depression
- Monitor for hypotension
- Monitor for cardiac depressant effects
- Monitor for coughing, laryngospasm, bronchospasm
- Implement nursing measures for shivering if present
- Provide a safe environment for patients
- Monitor for nausea and vomiting and implement interventions if needed
- Monitor for pain, since these agents do not have an analgesic effect
- Avoid aggressive stimulation if Ketamine is used

6. Communicate and document all pertinent information per facility/unit specific policy/protocol

INTRAVENOUS AGENTS: OPIOIDS

Competency Statement: Demonstrate knowledge of intravenous agents: Opioids.

Criteria:

1. **Identify uses for opioids/narcotics.**
   - Perioperatively for sedation and analgesia
   - Intraoperatively for induction and maintenance of general anesthesia
   - Regional anesthesia
   - Moderate Sedation/Analgesia
   - Postoperatively for pain management

2. **Describe characteristics of Morphine, Meperidine, Hydromorphone, Fentanyl, Sufentanil, Alfentanil, and Remifentanil. (See Table on next page.)**

DRUG	DOSAGE (Analgesia)	ONSET OF ACTION (Minutes)	PEAK (Minutes)	DURATION (Hours)	ELIMINATION (Half-life Hours)	IMPORTANT INFORMATION
Morphine	**IV**: 2.0 -15 mg Children – 0.05-0.2 mg/kg **Epidural Bolus**: 2-5 mg **Intrathecal:** 0.2-1.0 mg	IV: 1-2.5 Epidural: 15-60 Intrathecal: 15-60	IV: 5-20 Epidural: 30-60 Intrathecal: 30-60	IV: 2-4 Epidural: 6-24 Intrathecal: 6-24	3-4	Histamine release (Hypotension, Pruritis, Wheezing) Nausea and vomiting Use **preservative-free morphine** for epidural and intrathecal routes
Meperidine (Demerol)	**IV:** 0.5-2 mg/kg (25-100 mg) Children: 1-1.5 mg/kg	<1	5-20	2-4	3-4	1/10th as potent as Morphine Limited use recommended due to release of normeperidine (meperidine's active metabolite). 25-50 mg effective in decreasing postop shivering
Hydro-morphone (Dilaudid)	**IV:** 0.5-2.0 mg	<1	5-20	2-4	2	7 time more potent than Morphine CNS and CV depressant
Fentanyl (Sublimaze)	**IV:** 0.7-2 mcg/kg	1-3	15	0.5-1.0	3-4	Synthetic narcotic agonist 80-100 times more potent than Morphine No Histamine release Minimal effect on CV system May be given IV, epidural, intrathecal, patch, transmucosal, or oral
Sufentanil (Sufenta)	**IV:** 0.2-0.6mcg/kg	0.5-2	3-5	0.3-0.75	2-3	5-10 times more potent than Fentanyl No histamine release Additive effects with other CNS depressants May be given IV, epidural, or intranasal
Alfentanil (Alfenta)	**IV:** 10-50 mcg/kg	1-2	1-2	0.25	1.3-1.6	One-third as potent as fentanyl with onset of action at least three times faster. Nausea and vomiting common Small volume of distribution allows for rapid metabolism
Remifentanil (Ultiva)	**IV:** 1.5 mcg/kg	<1	<1	<0.25	0.25-0.33	Ultra short acting narcotic; Patients will require repeat analgesia. Best administered as continuous infusion during anesthesia.

3. Identify nursing implications for patients receiving opioids/narcotics.

- Monitor for hypotension
- Monitor for bradydysrhythmias
- Monitor for respiratory depression
- Airway protection in event of nausea/vomiting
- Naloxone available
- Reintubation equipment available in unit

4. Describe opioid/narcotic antagonists.

- **Naloxone (Narcan)**

A specific narcotic antagonist that displaces opioid antagonists at mu, delta, and kappa receptor sites.

Dosage: 0.1-2.0 mg IV slowly titrated to patient response. Child Dose: 0.02 mg/kg IV or IO; may repeat every 3 to 5 minutes. Response should occur with a maximum dose of 10 mg.

Onset, Peak, Duration: Onset in 1-2 minutes; peak 5-15 minutes; can last 1-4 hours. Short duration of action may necessitate multiple doses.

Adverse effects: Analgesic cessation, increased blood pressure, increased heart rate, cardiac dysrhythmias, pulmonary edema, nausea and vomiting.

- **Nalmefene (Revex)**

A long-lasting injectable opioid antagonist with half-life of 10.8 hours

Dosage: 0.25 mcg/kg at 2-5 minute intervals
Duration: dose dependent, 30 minutes to several hours
Adverse Effects: tachycardia, nausea and vomiting

5. Communicate and document all pertinent information per facility/unit specific policy/protocol.

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Barash P, Cullen B, Stoelting R. *Handbook of Clinical Anesthesia.* 5th ed. Philadelphia, PA: Lippincott, Williams and Wilkins; 2006.

Bowman-Howard M. *Anesthesia Review*. Philadelphia, PA: Lippincott, Williams and Wilkins; 2007.

Burden N, Quinn D, O'Brien D, Gregory-Dawes B. *Ambulatory Surgical Nursing.* 2nd ed. Philadelphia, PA: WB Saunders; 2000.

QUESTIONS:
IV AGENTS COMPETENCY

1. Dose for dose, fentanyl is how many more times potent than morphine?
   a. 5 times
   b. 10 times
   c. 50 times
   d. 100 times

2. A patient has been given Fentanyl 200 mcg. In the PACU, the patient's respirations are shallow and 6 per minute. The reversal agent of choice is:
   a. Atropine 0.4 mg
   b. Antilirium
   c. Naloxone 0.4 mg
   d. None of the above

3. Midazolam has which of the following properties:
   a. Anxiolytic
   b. Hypnotic
   c. Amnesic
   d. Mood alteration
   e. All of the above

4. The reversal drug of choice for benzodiazepines is:
   a. Physostigmine
   b. Glycopyrrolate
   c. Naloxone
   d. Flumazenil

5. In outpatient surgery, a patient has had a reversal agent in Phase I PACU. Twenty minutes later the patient is transferred to Phase II PACU. Suddenly the patient is exhibiting the following signs and symptoms: drowsy and unarousable, respirations are 8 and shallow, blood pressure is 90/60, and the heart rate is 58. The initial nursing management of this patient is the following:
   a. Nasal cannula at 4 liters/minute
   b. Face mask at 6 liters / minute
   c. Bag-Valve-Mask at 15 liters / minute
   d. Call physician

KEY:
IV AGENTS COMPETENCY QUESTIONS

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   c. Bag-Valve-Mask at 15 liters / minute
   d. Call physician

Competency Based Orientation for the Perianesthesia Nurse

Name_____ **Date**_____

Written Competency Test	Pass & Date (90%)	Retake & Date		
ANESTHESIA AGENTS & ADJUNCTS: INTRAVENOUS AGENTS				
Competency Criteria can be validated by discussion, or by performance, or both. If an item is not appropriate for each column, please indicate with "N/A."				
Competency Statement	**Discusses with Preceptor**	**Observed**	**Performs with Assistance**	**Independent**
Demonstrate knowledge of intravenous agents: Benzodiazepines.				
CRITERIA:				
1. Describe indications for benzodiazepines.				
2. Describe therapeutic effects of benzodiazepines.				
4. Identify characteristics of the following, including uses, onset, duration, and dosage: • Diazepam (Valium) • Midazolam (Versed) • Lorazepam (Ativan)				
4. Identify nursing implications for perianesthesia care.				
5. Identify characteristics of benzodiazepine antagonists.				
6. Communicate and document all pertinent information per facility/unit specific policy/protocol.				

☐ **Meets Criteria**

☐ **Does Not Meet Criteria** ☐ **Re-Validate – Meets Criteria**

Employee Signature_____ **Date**_____

Preceptor Signature_____ **Date**_____

Competency Based Orientation for the Perianesthesia Nurse

Name_____ **Date**_____

Written Competency Test	Pass & Date (90%)	Retake & Date		
ANESTHESIA AGENTS & ADJUNCTS: INTRAVENOUS AGENTS	**Only 1 test**			
Competency Criteria can be validated by discussion, or by performance, or both. If an item is not appropriate for each column, please indicate with "N/A."				
Competency Statement	**Discusses with Preceptor**	**Observed**	**Performs with Assistance**	**Independent**
Demonstrate knowledge of intravenous agents: Hypnotics.				
CRITERIA:				
1. Identify uses for hypnotics.				
2. Describe characteristics of the barbiturates, including pharmacology, dosage, onset, and duration.				
3. Describe the characteristics of the non-barbiturates, including pharmacology, dosage, onset, and duration.				
4. Describe the characteristics of disassociative agents.				
5. Identify nursing implications for perianesthesia care.				
6. Communicate and document all pertinent information per facility/unit specific policy/protocol.				

☐ **Meets Criteria**

☐ **Does Not Meet Criteria** ☐ **Re-Validate – Meets Criteria**

Employee Signature_____ **Date**_____

Preceptor Signature_____ **Date**_____

Competency Based Orientation for the Perianesthesia Nurse

Name_____ **Date**_____

Written Competency Test	Pass & Date (90%)	Retake & Date		
ANESTHESIA AGENTS & ADJUNCTS: INTRAVENOUS AGENTS	**Only 1 test**			
Competency Criteria can be validated by discussion, or by performance, or both. If an item is not appropriate for each column, please indicate with "N/A."				
Competency Statement	**Discusses with Preceptor**	**Observed**	**Performs with Assistance**	**Independent**
Demonstrate knowledge of intravenous agents: Opioids				
CRITERIA:				
1. Identify uses for opioids/narcotics.				
2. Describe characteristics of: • Morphine • Meperidine (Demerol) • Hydromorphone (Dilaudid) • Fentanyl (Sublimaze) • Sufentanil (Sufenta) • Alfentanil (Alfenta) • Remifentanyl (Ultiva)				
3. Identify nursing implications for patients receiving opioids/narcotics.				
4. Describe opioid/narcotic antagonists.				
5. Communicate and document all pertinent information per facility/unit specific policy/protocol.				

☐ **Meets Criteria**
☐ **Does Not Meet Criteria** ☐ **Re-Validate – Meets Criteria**

Employee Signature_____ **Date**_____

Preceptor Signature_____ **Date**_____

MODERATE SEDATION COMPETENCY
Revised 2/2011

Answer Sheet

Instructions:

1. Use this sheet to complete the following competency test.
2. After completing test, turn this sheet in to the manager.
3. You must get 23 of 25 correct for a passing grade of 92%)

Name: _____

Date: _____

Department: _____

1.	A	B	C	D	E
2.	A	B	C	D	
3.	A	B			
4.	A	B	C	D	
5.	A	B			
6.	A	B	C	D	
7.	A	B	C	D	
8.	A	B	C	D	
9.	A	B	C	D	
10.	A	B			
11.	A	B			
12.	A	B	C	D	
13.	A	B	C	D	E
14.	A	B	C	D	
15.	A	B	C	D	
16.	A	B	C	D	
17.	A	B	C	D	
18.	A	B	C	D	
19.	A	B			
20.	A	B			
21.	A	B			
22.	A	B	C	D	
23.	A	B	C	D	
24.	A	B	C	D	
25.	A	B	C	D	

Score:

MODERATE SEDATION COMPETENCY
Revised 2/2011 (Page 1/)

1. The primary goals of moderate sedation/analgesia are:
    a. Partial amnesia
    b. Elevate the pain threshold
    c. Maintain protective reflexes
    d. Deep sleep
    e. a, b, c

2. If the patient's American Society of Anesthesiologists (ASA) classification documented by the physician on the moderate sedation form is greater than Class II the nurse should do the following:
    a. Proceed with moderate sedation of the patient
    b. Consult with the physician and jointly determine whether to proceed with moderate sedation
    c. Consult with physician about possibility of using Monitored Anesthesia Care (MAC) provided by qualified anesthesia personnel
    d. Both b and c

3. Patients receiving medication to achieve moderate sedation/analgesia must have venouse access maintained until discharge criteria are met.
    a. True
    b. False

4. The highest priority of assessment is:
    a. Cardiovascular
    b. Oxygenation
    c. Renal perfusion
    d. Skin integrity

5. Patients given moderate sedation are unable to independently and continuously maintain a patent airway.
    a. True
    b. False

6. Post procedure a patient has had a reversal agent. Twenty minutes later the patient is exhibiting the following signs and symptoms: drowsy, unarousable, Sp02 is 83%, respirations are 6 and shallow, blood pressure is 90/60, and the heart rate is 58. The initial nursing management of this patient is the following:
    a. Nasal cannula at 4 liters/minute
    b. Face mask at 6 liter/minute
    c. Bag-valve-mask at 15 liters/minute
    d. Call physician

7. For the adult patient, an early sign of hypoventilation whick can lead to hypoxia and cardiac arrest is:
    a. Bradycardia
    b. Slow capillary refill
    c. Slow, shallow respirations
    d. Diaphoresis

MODERATE SEDATION COMPETENCY
Revised 2/2011 (Page 2/)

8. A technique in basic airway management that should be initiated early in the emergency care sequence includes:
    a. Head tilt, chin lift
    b. Intubation
    c. Suctioning
    d. CPR

9. Undesirable effects of sedation include:
    a. Severely slurred speech
    b. Unresponsiveness
    c. Agitation
    d. All of the above

10. Benzodiazepines and opiods are the classes of drugs most ofter unsed in moderate sedation/analgesia.
    a. True
    b. False

11. The half-life of reversal drugs is often shorter than the sedative producing agents and rebound sedation can be a significant side effect.
    a. True
    b. False

12. When discharge teaching, the nurse should always:
    a. Provide written discharge instructions to patient and caregiver
    b. Provide pre-procedural education due to amnesic effects of sedative drugs
    c. Review post-procedural site care, pain control measures, prescriptions, home care needs, and follow up medical care
    d. all of the above

13. Midazolam has which of the following properties:
    a. Anxiolytic
    b. Sedative
    c. Amnesic
    d. Mood alteration
    e. All of the above

14. In healthy patients, midazolam is recommended to be given:
    a. 1 mg/minute until patient is completely sedated
    b. Titrated to desired effect with no more than 2.5 mg over 2 minutes
    c. In 500 ml normal saline over 1 hour
    d. Rapid IV push over 5 seconds

15. A nursing consideration when administering midazolam includes:
    a. Increasing dosage with the elderly and patient with COPD
    b. Decreasing the dosage with the elderly and patients with COPD

c. Therapeutic effects are short acting
d. Both b and c

16. The reversal drug of choice for benzodiazepines is:
    a. Flumazenil
    b. Physostigmine
    c. Gluycopyrrolate
    d. Naloxone

17. Dose for dose, fentanyl is how many more times potent than morphine?
    a. 5-10 times
    b. 10-20 times
    c. 25-50 times
    d. 80-100 times

18. A patient has been given Fentanyl 200 mcg. The patient's respirations are shallow and 6 per minute. The reversal agent of choice is:
    a. Atropine
    b. Antilirium
    c. Naloxone
    d. Flumazenil

19. At the completion of a bedside procedure done with moderate sedation, the nurse who monitored the patient will hand-off care to the bedside nurse. Documentation of the patient's recovery on the Moderate Sedation Form must continue until the patient meets discharge form recovery criteria.
    a. True
    b. False

For the following questions, please refer to the "Documentation for Procedural Sedation" form found on page _____.

20. "Discharge form recovery" and "Discharge from the hospital" found on the moderate sedation form is the same thing.
    a. True
    b. False

21. The Modified Aldrete Score is the responsibility of the nurse to be completed prior to administering moderate sedation and prior to being discharged from "recovery" area.
    a. True
    b. False

22. A time out must be performed immediately prior to the procedure and includes the following:
    a. Correct patient identity using two patient identifiers such as name and birth date
    b. Affirmation of the time-out by those members of the care team present
    c. Correct side and site

23. The Modified Aldrete Scoring System assigns a predetermined score to objective criteria, which include:
    a. Level of consciousness, physical activity, circulation, respiratory status, oxygenation, pain assessment, and emetic symptoms
    b. Activity level, eye movement, circulation, and level of consciousness
    c. Activity level, respiration, swallowing reflex, and circulation
    d. Respiration, swallowing reflex, circulation, and patient temperature

24. Documentation of moderate sedation at McLaren Flint should be done on the following:
    a. Care Manager
    b. Nurses notes
    c. Documentation form for procedural sedation
    d. Progress notes

25. If a pharmacological reversal agent is used the following must be notified with the patient information:
    a. Nursing supervisor
    b. Physician
    c. Quality Management
    e. Next of kin

Drug	Dosage (IV)	Onset of Action	Elimination (Half-Life Hours)	Reversal Agent (IV push)	Precautions
Morphine	2-15 mg	Onset: 1-3 min Peak: 5-20 min Duration: 2-4 hrs	3-4	Naloxone (Narcan) 0.001 mg/kg (usual 0.2-2 mg) titrated every 2 minutes to a resp. rate of 10 or more. Dose limit 0.01 mg/kg	Respiratory depression and contraindicated with increased ICP
Meperidine (Demerol)	0.5 -2 mg/kg (25-100 mg)	Onset: <1 min Peak: 5-20 min Duration: 2-4 hrs	3-4	Naloxone (Narcan) 0.001 mg/kg (usual 0.2-2 mg) titrated every 2 minutes to a resp. rate of 10 or more. Dose limit 0.01 mg/kg	AMI and increased ICP, not for patients with poor renal function
Hydromorphone	0.5-2 mg	Onset: 1-3 min Peak: 5-20 min Duration: 2-4 hrs	2	Naloxone (Narcan) 0.001 mg/kg (usual 0.2-2 mg) titrated every 2 minutes to a resp. rate of 10 or more. Dose limit 0.01 mg/kg	CNS and CV depressant, more respiratory depression than equivalent doses of morphine
Fentanyl (Sublimaze)	0.7-2 mcg/kg (25-100 mcg)	Onset: 1-3 min Peak: 15 min Duration: 0.5-1 hrs	3-4	Naloxone (Narcan) 0.001 mg/kg (usual 0.2-2 mg) titrated every 2 minutes to a resp. rate of 10 or more. Dose limit 0.01 mg/kg	Severe, possibly fatal reaction with MAOIs
Butorphanol (XXXXXX)	0.5 -2 mg	Onset: 1 min Peak: 5 min Duration 2-4 hrs	2.5-3.5	Naloxone (Narcan) 0.001 mg/kg (usual 0.2-2 mg) titrated every 2 minutes to a resp. rate of 10 or more. Dose limit 0.01 mg/kg	Elderly, debilitated, and renal/hepatic disease
Diazepam (Valium)	0.04-0.1 mg/kg (2-10 mg) titrated to desired effect. Reduce dose by 1/3 -1/2 when opioids used.	Onset: 1-3 min Peak: 2 min Duration: 15-30 min	Half-life is age dependent (20-60 hrs, plus active metabolite)	Romazicon 0.003 mg/kg (usual 0.2-0.3 mg) over 15 seconds. May repeat every 1 minute to maximum of 5 mg	Elderly, debilitated, and renal/hepatic disease
Midazolam (Versed)	0.5 - 5 mg titrated to effect; 0.05 - 0.08 mg/kg	Onset: 1-5 min Peak: 5 min Duration: 30-40 min up to 2-4 hrs	2-6	Romazicon 0.003 mg/kg (usual 0.2-0.3 mg) over 15 seconds. May repeat every 1 minute to maximum of 5 mg	Decrease dosage with elderly, debilitate, COPD, hepatic disease, and opioids
Lorazepam (Ativan)	Max 2 mg	Onset: 5-15 min Peak: unknown Duration: 24-48 hrs	14	Romazicon 0.003 mg/kg (usual 0.2-0.3 mg) over 15 seconds. May repeat every 1 minute to maximum of 5 mg	Rapid IV push can cause ECG changes, apnea, and cardiac arrest

References: Skidmore-Roth, L. (2009). Mosby's Nursing Drug Reference. Mosby Elsevier, St. Louis, Missouri.

TAB

Common Medications and Usages

Common Medications and Usages

This section contains the following:

Anticoagulants and Antiplatelets
- Warfarin
- Aspirin

Antiarrhythmic Drugs
- Amiodaron

Ischemic Heart Disease
- Nitrate
- Beta-blockers
  - Atenolol, Bisoprolol, Metoprolol, Labetolol, Carvedilol
- ACE inhibitors
  - Catopril, Enalapril, Lisinopril, Ramipril, Trandolapril, Fosinopril, Quinapril, Perindopril
- ARBs
  - Candesartan, Eprosartan, Irbesartan, Losartan, Telmisartan, Balsartan

Hypertension
- Methyldopa

Calcium Channel Blockers
- Dihydropyridines
  - Nifedipine, Amlodipine, Felodipine
  - Benzthiazepines, Phenylakylamies

Diuretics
- Loop diuretics
  - Furosemide, Bumetanide, Torasemide
- Thiazide and thiazide-like diuretics
  - Hydrochlorothiazide
- Potassium-sparing diuretics
  - Amiloride, Triamterene
  - Spironolactone

Erectile Dysfunction
- Sildenafil

Lipids
- HMG CoA reductase inhibitors ('statins')
  - Atorbastatin, Simvastatin, Rosovastatin
- Fibrates
  - Bezafibrate, Fenofibrate

Common Medications and Usages

Calcium Channel Blockers

- Cardizem (Diltiazem), Dilacor, Tiazac, Apo-Verap (Verapamil), Calan, Isoptin, Verapamil, Verelan, Norvasc (amlodipine), Plendil, Renedil (felodipine), DynaCirc (Isradipine), Cardene (niCARdipine), Adalat, Apo-Nifed, Nifedical, Novo-Nifedin, Nu-Nifedin, Procardia (NIFEdipine)

Anti-Platelet Medications

- Plavix (Clopidogrel), Effient (Prasugrel), Ascription (Acetylsalicylic Acid - Aspirin), Bufferin, Easprin, Ecotrin, Halfprin

Statins

- Lescol (Fluvastatin), Lipitor (Atorvastatin), Pravachol (Pravastatin), Zocor (Simvastatin)

Diuretics

- Bumex (Bumetanide), Lasix (Furosemide), Diuril (Cholrothiazide), HydroDIURIL (Hydrochlorothiazide), Microzide, Hygroton (Chlorthalidone), Lozol (Indapamide), Zaroxolyn (Metolazone), Demadex (Torsemide), Midamor▪ (Amiloride*), Aldactone* (Spironolactone*), Dyrenium* (Triamterene*)

Understanding Cardiovascular Medications

- Antianginals
- Antiarrhythmics
- Anticoagulants
- Antihyperlipidemics
- Antihypertensives
- Beta Blockers
- Calcium Channel Blockers
- Cardiac Glycosides
- Diuretics
- Vasodilators

Cardiac Medications

- Ace Inhibitors
- ARBS Angiotensin Receptor Blockers
- Beta-Blockers

Anticoagulants and Antiplatelets

WARFARIN	
Uses of the Drug	• Oral Anticoagulant drug • Used whenever long-term anticoagulation is required
Cautions on the Drug	• Warfarin is slow to act • Hemophilia and inherited disorders of coagulation • Elderly and debiltated patients, who are at great risk of bleeding • Recent severe trauma or surgery (depending on the site and nature of the injury) • Severe renal insufficiency increases the risk of bleeding • Avoid taking if you have an active peptic ulcer • Severe or uncontrolled hypertension • Pregnant women
When to Use the Drug	• Warfarin is most effective for venous thrombosis and that associated with sluggish blood flow ('red clot') • Patients with Atrial Fibrillation can reduce their risk of stroke
Side Effects	• The greatest risk from warfarin is hemorrhage. Other adverse effects are uncommon. • Rarely causes hypersensitivity, characterized by a maculopapular rash • Other adverse effects include alopecia, diarrhea, hepatic dysfunction and pancreatitis
Drug-Drug Interactions	• Warfarin is affected by a large number of other drugs • Some drugs that can enhance the anticoagulant effect are alcohol, lipid-regulating drugs, anti-infective drugs, antiarrhythmic drugs, anti-infective drugs, antiarrhythemic drugs, Thyroid hormones, antifungals, and ulcer-healing drugs
Patient Information	• Warfarin can cause bleeding, but the risk is always balanced against the potential benefits • Can cause bruising, but should report any large or unexpected bruises immediately • Avoid over-the-counter formulations containing asprins or NSAIDs (eg ibuprofen) • Take the warfarin tablets at the same time of day
Doses	• 0.5 mg tablets are white • 1 mg tablets are brown • 3 mg tablets are blue • 5 mg tablets are pink

Anticoagulants and Antiplatelets

ACETYLSALICYLIC ACID (ASPRIN OR ASA)	
Uses of the Drug	• Primary and secondary prevention of complications of atherosclerotic disease (Angina, Myocardial infarction, stroke, peripheral vascular disease)
Cautions on the Drug	• Aspirin can cause bleeding (mainly in patients with active peptic ulceration, uncontrolled hypertension, severe renal or hepatic insufficiency, hemophilia, and in pregnant women) • Can cause asthma and worsen the control of intrinsic asthma
When to Use the Drug	• Antiplatelet drugs are most effective fro arterial clots that are composed mainly of platelets ('white clot')
Side Effects	• The risk of aspirin causing bleeding is 0.6% in the patient population • Gastrointestinal disturbance and tinnitus are common at high dosages • Rarely can cause thrombocytopenia
Drug-Drug Interactions	• Extra care must be taken when using an aspirin with warfarin, other antiplatelet drugs, or corticosteroids • Aspirin can antagonize the action of diutetics and cause fluid retention
Patient Information	• Patients are advised to seek immediate medical attention if they have blood in the stool or dark, tarry stools
Doses	• 81 mg (low dose aspirin) • 325 mg

Anticoagulants and Antiplatelets

AMIODARONE	
Uses of the Drug	• Amiodaron should be introduced under hospital or specialist supervision • Used for the treatment of paroxysmal supraventricular, nodal, ventricular tachycardia, Atrial fibrillation and flutter. • Emergency treatment of ventricular fibrillation or pulseless VT
Cautions on the Drug	• Slows down the heart rate and AV conduction
Side Effects	• Most of the side effects are only common with doses of 400 mg or more such as corneal lipofusino micodeposits • 4% of the patients experience thyroid dysfunction
Drug-Drug Interactions	• Amiodarone interacts with many drugs • It will inhibit the function of warfarin • Reduces the excrection of digoxin • Avoid using antiarrhythmic drugs, antibiotics, antipsychotic drugs, antidepressants, and antiepileptic • Also avoid any drug that reduces the heart rate, including calcium channel blockers
Patient Information	• Patients may become sensitive to the sun, and should use a hight SPF sun cream • There is a possibility of persistent slate-grey skin discoloration • Seek immediate medical advice if you become breathless
Doses and Specific Names	• 400 mg 2 times daily daily for 2 weeks, which is then reduced to 200 mg daily for a further week

Ischemic Heart Disease

NITRATE DRUGS (PATCH OR SPRAY)	
Uses of the Drug	• Treatment and prevention of angina • Treatments of acute left ventricular failure
Cautions on the Drug	• Nitrates are first-line treatments for the symptoms of angina but do not affect the course of the underlying disease • Causes vasodilatation, which can be hazardous in some patients (e.g. patients with severe hypotension, hypertrophic cardiomyopathy, aortic stenosis, and cerebral hemorrhaging following head trauma)
Side Effects	• Most common effects are throbbing headache, dizziness, postural hypotension and tachycardia
Drug-Drug Interactions	• Drug interactions are uncommon
Patient Information	• Used to treat acute chest pain, and if symptoms change or unrelieved by nitrate, seek medical attention

Ischemic Heart Disease

BETA-ADRENOCEPTOR ANTAGONISTS (BETA-BLOCKERS) Drug Name: Atenolol, Bisoprolol, Monocor, Metoprolol, Labetolol, Carvedilol, Lopressor, and Trandate	
Uses of the Drug	• Treatment of hypertension • Coronary artery disease • Treatment of arrhythmia (Following myocardial infarction, SVT, or A.Fib) • Treatment of stable heart failure
Cautions on the Drug	• Patients with asthma • Patients with 2nd or 3rd degree heart block • Patients with acute or unstable heart failure
How to Use the Drug	• Do not stop taking the beta-blocker suddenly. The rebound symptoms can be severe, including precipitation of an acute coronary syndrome.
Side Effects	• The most common side effect of these drugs is bronchoconstriction.
Drug-Drug Interactions	• Do not use beta-blockers with verapamil because there is a risk of asystole or a catastrophic reduction of cardiac output
Patient Information	• Patients may experience tiredness and cold hands, which may improve over time if they can tolerate it • There is a potential risk of erectile impotence
Doses and Specific Names	• There are many different beta-blockers. The ones prescribed by Dr. Kumar are Atenolol or Tenormin, Bisoprolol or Monocor, Metoprolol or Lopressor, Labetolol or Trandate, and Carvedilol or Coreg. • With the wide range of beta-blockers, there are a wide range of dosages that are set by your physician depending on your personal situation

Ischemic Heart Disease

ANGIOTENSIN CONVERTING ENZYME INHIBITORS (ACE INHIBITORS) **Drug Names: Mavik, Vasotec, Accupril, Coversyl, Altace, Enalapril, Ramipril, Trandolapril, Fosinopril, Quinapril, Preindopril**	
Uses of the Drug	• Treatment of hypertension • Prevention of cardiac remodeling following myocardial infarction
Cautions on the Drug	• Can cause birth defects in pregnant patients • Can cause severe renal impairment in patients with renovascular disease • ACE inhibitors case vasodilatation and can precipitate a fall in blood pressure in patients with a fixed cardiovascular output
Side Effects	• The most common side effect is hypotension • A small deterioration in renal function is often seen in patients upon starting the drug • About 20% of the patients experience a dry cough
Drug-Drug Interactions	• ACE inhibitors potentate the actions of other drugs that lower blood pressure
Patient Information	• The aim of this drug is to achieve the maximum tolerated dose • Patient should get blood tests to measure renal function every few months
Doses and Specific Names	• There are many different ACE inhibitors. The ones commonly prescribed by Dr. Kumar are Enalapril or Mavik, Ramipril or Altace, Trandolapril or Mavik, Quinapril or Accupril, Perindopril or Coversyl.

Ischemic Heart Disease

ANGIOTENSIN RECEPTOR BLOCKER (ARBS) Drug Names: Atacand, Diovan, Cozaar, Micardis, Avapro, Candesartan, Irbesartan, Losartan, Telmisartan and Valsartan	
Uses of the Drug	• Treatment of hypertension • Treatment and prevention of diabetic nephropathy • Some evidence indicates these drugs are useful in the treatment of heart failure
Cautions on the Drug	• Can cause birth defects during pregnancy • Can cause severe renal impairment in patients with renovascular disease • ARBs can vasodilation and can precipitate a fall in blood pressure in patients with a fixed cardiac output
Side Effects	• The most common side effect is hypotension • A small deterioration in renal function is often seen upon starting the medication • Rarely can cause hyperkalaemia • May cause cough
Drug-Drug Interactions	• ARBs potentate the actions of other drugs that lower blood pressure • Avoid NSAIDs • Treatment along with diuretics increase the risk of hypotension
Patient Information	• The aim of this drug is to achieve the maximum tolerated dose • Patient should get blood tests to measure renal function every few months
Doses and Specific Names	• There are many different ARBs. The ones commonly prescribed by Dr. Kumar are Candesartan or Atacand, Irbesartan or Diovan, Losartan or Cozaar, Telmisartan or Micardis, Valsartan or Diovan

Hypertension

METHYLDOPA (ALPHA-METHYLDOPA)	
Uses of the Drug	• Treatment of Hypertension, especially in pregnancy
Cautions on the Drug	• Patients with renal insufficiency are more sensitive to the sedative and hypotensive effects of methyldopa • Patients with active liver disease • Patients with depression • Patients with porphyria or a phaeochromocytoma (can precipitate a hypertensive crisis)
How to Use the Drug	• Begin treatment with a low dose and gradually increase it • Do not stop the medication suddenly because it can cause rebound hypertension
Side Effects	• Side effects are uncommon if daily dose is below 1g • Causes a dry mouth in 40% of patients • Can cause diarrhea • Can cause a positive direct Coomb's test in 20% of patients • Very rate but serious effects include hepatitis and a lupus-like syndrome
Drug-Drug Interactions	• Methyldopa enhances the effect of other drugs that lower the blood pressure
Patient Information	• Can cause drowsiness that can interfere with skilled motor tasks (e.g. driving) • Alcohol enhances the sedative effect of methyldopa
Doses and Specific Names	• Start initially with 250mg • Can increase gradually to a maximum daily total of 3g

Calcium Channel Blockers

DIHYDROPYRIDINES Drug Names: Nifedipine, Amlodipine, Felodipine	
Uses of the Drug	• Treatment of hypertension • Prophylaxis of angina • Symptomatic treatment of Raynaud's syndrome • Prophylaxis of migraine • Prevention and treatment of ischemic neurological deficits after subarachnoid hemorrhage
Cautions on the Drug	• Avoid in pregnancy and breastfeeding • Can cause severe hypotension in patients with a fixed cardiac output (e.g.aortic stenosis, mitral stenosis)
Side Effects	• Major side effects that occur in 1-10% of the patients are flushing, headache and peripheral edema • Rarely it can cause gum hyperplasia
Drug-Drug Interactions	• These drugs will affect other drugs that lower blood pressure • The metabolic rate of the drugs are effected by grapefruit juice (except Amlodipine)
Patient Information	• There is a possibility of ankle swelling or headache • Avoid grapefruit juice
Doses and Specific Names	• Specific names: Nifedipine, Amlodipine, Felodipine • Doses are usually between 5mg and 20mg

Calcium Channel Blockers

BENZTHIAZEPINES Drug Names: Diltiazem	
Uses of the Drug	• Prophylaxis of angina • Treatment of hypertension
Cautions on the Drug	• Avoid in pregnancy and breast feeding • Avoid if you have heart failure • Avoid using if you have a 2nd or 3rd degree heart block or sick sinus syndrome
When to Use the Drug	• The major use of the drug is to treat angina
Side Effects	• 1-10% of the patients will experience flushing, headache and peripheral edema • Hypotension can also result
Drug-Drug Interactions	• Has an effect on other drugs that lower blood pressure • Can conflict with beta-blockers
Patient Information	• Can cause swelling of the ankles
Doses and Specific Names	• Doses typically range from 120mg a day to 360mg

Calcium Channel Blockers

PHENYLAKYLAMINES Drug Names: Verapamil	
Uses of the Drug	• Treatment of SVT • Treatment of hypertension • Prophylaxis of angina
Cautions on the Drug	• Take care in pregnancy and breastfeeding (but no clear evidence of harm) • Avoid using with 2nd or 3rd degree heart block or sick sinus syndrome • Low dose is needed if you have a liver impairment
Side Effects	• Can worsen cardiac failure in patients with impaired left ventricular function • Can cause hypotension • With long-term care, can cause gynacomastia and gingival hyperplasia
Drug-Drug Interactions	• Affects drugs that lower blood pressure • Do not take with beta-blockers • The drug is also affected by grapefruit juice
Patient Information	• Avoid drinking grapefruit juice
Doses	• SVT – 40mg to 120mg • Angina – 80mg to 120mg • Hypertension – 240mg to 480mg

Diuretics

LOOP DIURETICS Drug Names: Furosemide, Ethacrynic Acid, Edecrin	
Uses of the Drug	• Used for rapid diuresis and in long-term therapy
Cautions on the Drug	• Will not work on patients that are anuric • Can cause severe hypokalaemia and hyponatraemia in patients with preceding conditions • Can precipitate Type II diabetes mellitus or worsen glucose control in diabetes mellitus
Side Effects	• Can cause gastrointestinal disturbance, precipitation of attacks of gout and rashes
Drug-Drug Interactions	• Prior treatment with diuretics increases the risk of first-dose hypotension when starting treatment with ACE inhibitors
Patient Information	• Compliance is necessary when using a diuretic because patients tend to stop the drug when it starts to interfere with daily activities
Doses	• Does range from 40mg to a rarely used 2g for Furosemide • 50mg to 100mg for the Ethacrynic Acid

Diuretics

THIAZIDE AND THIAZIDE-LIKE DIURETICS Drug Names: Hydrochlorothiazide, Metazocore	
Uses of the Drug	• Treatment of hypertension • In combination with loop diuretics for the control of sever edema in chronic heart failure • Specialized use in the treatment of nephrogenic diabetes insipidus
Cautions on the Drug	• Thiazides can cause hypokalaemia • Can precipitate gout • Can precipitate Type II diabetes mellitus or worsen glucose control in diabetes mellitus
Side Effects	• Can rarely cause an allergic vasculitis • Commonly cause very mild rashes • Can raise plasma lipid concentrations
Drug-Drug Interactions	• NSAID interfere with the anthypertensive affect of Thiazides • The drugs can reduce the excretion of lithium salt
Patient Information	• Compliance is necessary when using a diuretic because patients tend to stop the drug when it starts to interfere with daily activities
Doses	• HCTZ doses are 12.5mg to 25mg

Diuretics

POTASSIUM-SPARING DIURETICS Drug Names: Amiloride, Triamterene	
Uses of the Drug	• Although these drugs have diuretic action, their major use is in combination with Thiazide or loop diuretics in order to conserve potassium
Cautions on the Drug	• Potassium-sparing diuretics are not the most appropriate treatment for edema
When to Use the Drug	• Patients who are at risk of developing hypokalaemia
Side Effects	• These drugs are usually well tolerated at first • Long term use can rarely cause interstitial nephritis
Drug-Drug Interactions	• There is a risk of hyperkalaemia if co-prescribed with an ACE inhibitor, NSAIDs or Trimethoprim
Patient Information	• Triamterene can cause the urine to fluoresce blue
Doses	• Doses are 50mg

SPIRONOLACTONE Drug Names: Amiloride, Triamterene	
Uses of the Drug	• Control of ascites and edema resulting from hepatic cirrhosis • Control of malignant ascites • As a potassium-sparing diuretic in heart failure patients • Symptomatic relief in the nephritic syndrome • Diagnosis and treatment of primary hyperaldosteronism
Cautions on the Drug	• Avoid if you have severe renal insufficiency • Avoid in pregnancy and breast feeding • Avoid in Addison's disease • Do not take with other potassium-sparing diuretics
Side Effects	• These drugs are usually well tolerated at first • Long term use can rarely cause interstitial nephritis
Drug-Drug Interactions	• There is a risk of hyperkalaemia if co-prescribed with an ACE inhibitor, NSAIDs or Trimethoprim
Doses	• Doses are 25mg to 100mg

Erectile Dysfunction

SILDENAFIL Drug Names: Viagra	
Uses of the Drug	• Treatment of erectile dysfunction
Cautions on the Drug	• Avoid if you are at risk of priapism • Halve the doses with moderate hepatic insufficiency; avoid it if the insufficiency is severe • Do not combine with drug treatments for erectile dysfunction
When to Use the Drug	• Sildenafil requires sexual stimulation in order to work • Begin with a low dose and increase according to the response • Do not take more than one dose every 24 hours • Sildenafil is not currently indicated for women. It is a treatment for erectile dysfunction, not an aphrodisiac
Side Effects	• The most common effect is headaches, flushing and dyspepsia • High doses of sildenafil can cause a colored tinge to the vision
Drug-Drug Interactions	• In combination with nitrates, patients are at a high risk of hypotension
Patient Information	• Do not have grapefruit juice while on the drug • Should be taken 1 hour before intercourse • Food will delay the onset of action • If you are prescribed a nitrate, DO NOT take Sildenafil
Doses	• Initial doses are 50mg • It can be increased to 100mg

Lipids (Cholesterol)

HMG COA REDUCTASE INHIBITORS ('STATINS') Drug Names: Atorvastatin, Crestor, Lovastatin, Lipitor, Simbastatin, Zocor	
Uses of the Drug	• Treatment of hyperlipoproteinaemia (Types IIa and IIb) • Primary and secondary prevention of coronary artery disease
Cautions on the Drug	• Statins are contraindicated during pregnancy • Patients with renal insufficiency may be at an increased risk of myositis • Patients with hepatic insufficiency or to ones with persistently raised transaminases should not use this drug
When to Use the Drug	• Very effective at reducing plasma cholesterol
Side Effects	• The most important adverse effect of these drugs is a myopathy. It is very rare but it can be fatal • A rise in creatine kinase (CK) is more common • Other common symptoms are headaches, nausea and abdominal cramps
Drug-Drug Interactions	• The risk of myopathy is increased when these drugs are used with fibrates or ciclosporin
Patient Information	• Patient should report any generalized muscle weakness or pain immediately • Patients should take the tablet at night-time, when the drug is supposed to have a slightly greater effect
Doses	• Doses 10mg to 40mg

Fibrates

Drug Names: Bezafibrate, Fenofibrate	
Uses of the Drug	• Treatment of hyperlipoproteinaemia (Types IIa, IIb, III, IV, V) • Primary prevention of coronary artery disease (license is for men only)
Cautions on the Drug	• Fibrates are contraindicated during pregnancy • Do not use this drug if you have primary biliary cirrhosis or gall bladder disease • Patients with renal insufficiency are at an increased risk of myositis from these drugs • Do not take if you have severe heptic insufficiency
When to Use the Drug	• Very effective at reducing plasma cholesterol
Side Effects	• The most important effect of these drugs is myositis. It is very uncommon, but can be fatal • Hypersensitivity to these drugs manifests as urticaria, pruritus and a photosensitive rash • Gastrointestinal effect, such as nausea and vomiting are common
Drug-Drug Interactions	• The risk of myositis is increased when these drugs are given with stains and ciclosporin • Fibrates enhance the anticocoagulant action of warfarin
Patient Information	• Patients are advised to report any generalized muscle weakness or pain immediately
Doses	• Fenofibrate doses are 100mg to 200mg

Calcium Channel Blockers

Action of Calcium Channel Blockers	• Dilates coronary arteries • Slows SA/AV node • Dilates peripheral arteries • Used for angina, dysrhythmias, blood pressure
Nursing considerations for Calcium Channel Blockers	• Monitor for dysrhythmias, edema • Contraindicated in persons with 2nd and 3rd degree heart block, sick sinus syndrom, hypotension of <90 systolic • Can be used to control ventricular response rate to atrial fibrillatin • Cardioprotective for patients that have experience an MI

Trade Name	**Generic Name**
Cardizem, Dilacor, Tiazac	Diltiazem
Apo-Verap, Calan, Isoptin, Verapamil, Verelan	Verapamil
Norvasc	Amlodipine
Plendil, Renedil	Felodipine
DynaCirc	Isradipine
Cardene	niCARdipine
Adalat, Apo-Nifed, Nifedical, Novo-Nifedin, Nu-Nifedin, Procardia	NIFEdipine

Anti-Platelet Medications

Action of Anti-Platelets Medication	• Reduces risk of blood clots after PCI, stenting and CABG • For patients who have had a heart attack, daily aspirin reduces the risk of a second heart attack by 1/3.
Nursing considerations for Anti-Platelets Medication	• Assess for bleeding, bruising, thrombocytopenia • Hepatotoxicity: dark urine, clay-colored stools, yellowing of skin/sclera, itching • Give with food to decrease gastric irritation

Trade Name	**Generic Name**
Plavix, Effient	Clopidogrel, Prasugrel
Ascriptin, Bufferin, Easprin, Ecotrin, Halfprin	Acetylsalicylic acid (Aspirin)

Statins

Action of Statins	• Cholesterol lowering agents
Nursing considerations for Statins	• For muscle pain, tenderness, obtain CPK baseline, drug may need to be discontinued

Trade Name	Generic Name
Lescol	Fluvastatin
Lipitor	Atorvastatin
Pravachol	Pravastatin
Zocor	Simvastatin

Diuretics

Action of Diuretics	• Reduce amount of salt and water in the body by increasing urine production
Nursing considerations for Diuretics	• B/P is reduced in hypertension, edema is reduced in CHF • Monitor I&O, skin turgor, and electrolytes • Supplemental potassium may be needed except with potassium sparing diuretics then potassium supplements may need to be decreased and/or discontinued • Can decrease lithium levels • IVP lasix should be given over a minimum of 2 minutes to avoid acute ototoxicity • * Potassium sparing medications have in front of name of this worksheet

Trade Name	Generic Name
Bumex	Bumetanide
Lasix	Furosemide
Diuril	Chlorothiazide
HydroDIURIL, Microzide	Hydrochlorothiazide
Hygroton	Chlorthalidone
Lozol	Indapamide
Zaroxolyn	Metolazone
Dema	Torsemide
Midamor*	Amiloride*
Aldactone*	Spironolactone*
Dyrenium*	Triamterene*

Ejection Fraction (EF): Describes the pumping ability of the heart. EF represents the amount of blood the left ventricle ejects with each heart beat. It is expressed as a percentage. Patients with heart failure typically have an EF less than 40% because their heart muscle is weak. Some patients with heart failure can have a normal EF. These patients have a stiff left ventricle that cannot relax normally to allow a normal amount of blood to flow in between heart beats. This reduces the amount of blood that gets pumped out. This is usually caused by high blood pressure over a long period of time.

UNDERSTANDING CARDIOVASCULAR MEDICATIONS

Source: http://health.howstuffworks.com/medicine/medication/understanding-cardiovascular-medications-ga.htm

Cardiovascular medications range from antianginals that pump more oxygen to the heart to vasodilators that widen blood vessels. Following are descriptions of some of the common categories for cardiovascular prescription medications.

Antianginals
Since the heart is a muscle that must work continuously, it requires a constant supply of nutrients and oxygen. Those nutrients and oxygen are carried to the heart muscle in the blood. The chest pain known as angina can occur when there is an insufficient supply of blood, and consequently of oxygen, to the heart muscle.

There are several types of antianginal medications. These include beta blockers (acebutolol, atenolol, betaxolol, bisoprolol, labetalol, metoprolol, nadolol, pindolol, propranolol, timolol), calcium channel blockers (diltiazem, nifedipine, verapamil), and vasodilators (nitroglycerin, isosorbide dinitrate). These drugs act by increasing the amount of oxygen that reaches the heart muscle.

Antiarrhythmics
If the heart does not beat rhythmically or smoothly (a condition called arrhythmia), its rate of contraction must be regulated. Antiarrhythmic drugs (disopyramide, mexiletine, procainamide, propranolol, amiodarone, tocainide) prevent or alleviate arrhythmias by altering nerve impulses in the heart.

Anticoagulants
The blood has a natural ability to clot; otherwise, we would bleed to death from the slightest wound. Sometimes, however, this natural clotting mechanism can be problematic; for instance, blood clots that develop on the interior wall of an artery can end up completely blocking blood flow. Drugs that prevent blood clotting are called anticoagulants (blood thinners). Anticoagulants fall into two categories.

The first category contains medications that must be given by injection. These medications are used in both the hospital and home-care settings. They work by preventing or treating blood clots that could interfere with circulation. Examples of such drugs are dalteparin, enoxaparin, and heparin.

The second category includes oral anticoagulants (those taken by mouth), principally derivatives of the drug warfarin. Warfarin may be used in the treatment of conditions such as stroke, heart disease, and abnormal blood clotting. Warfarin is also used to prevent the movement of a clot, a development that could cause serious problems. It acts by preventing the liver from manufacturing the proteins that are responsible for blood clot formation.

People who are taking warfarin must be careful to avoid using many other medications (including certain doses of aspirin, which itself can have a blood thinning effect), because the interaction of the other medications with the anticoagulant medication could cause internal bleeding. Indeed, patients who are taking warfarin should check with their pharmacist or physician before using any other medications, including any herbal products; natural or homeopathic remedies; vitamins, minerals, or other supplements; and any over-the-counter medications. People taking warfarin should also have their blood checked frequently by their physician to ensure that the correct degree of blood thinning is maintained.

Antihyperlipidemics
Medications for treating atherosclerosis, or hardening of the arteries, act to reduce the serum (the liquefied portion of blood) levels of cholesterol and triglycerides (fats), which form plaques (deposits) on the walls of arteries. Some antihyperlipidemics, such as cholestyramine, colestipol, and colesevelam, bind to bile acids in the gastrointestinal tract, thereby decreasing the body's production of cholesterol. Atorvastatin, simvastatin, lovastatin, and pravastatin also decrease the body's production of cholesterol.

Use of such drugs is generally recommended only after diet and lifestyle changes have failed to lower blood lipids to desirable levels. Even then, however, diet therapy should be continued.

Antihypertensives
Basically, high blood pressure is a condition in which the pressure of the blood against the walls of the blood vessels is higher than what is considered normal. High blood pressure, or hypertension, which can eventually cause damage to the brain, eyes, heart, or kidneys, is controllable. If medication for high blood pressure has been prescribed, it is very important that you continue to take it regularly, even if you don't notice any symptoms of hypertension. If hypertension is controlled, other damage can be prevented. Medications that counteract or reduce high blood pressure can prolong the life of people with hypertension.

Several different drug actions produce an antihypertensive effect. Some drugs block nerve impulses that cause arteries to constrict; others slow the heart rate and decrease its force of contraction; still others reduce the amount of a certain hormone in the blood that causes blood pressure to rise. The effect of any of these medications is to reduce blood pressure. The mainstay of antihypertensive therapy is often a diuretic, a drug that reduces body fluids.

Examples of antihypertensive drugs include beta blockers, calcium channel blockers, ACE (angiotensin-converting enzyme) inhibitors (including benazepril, captopril, enalapril, lisinopril, and quinapril), and the agents valsartan, losartan, prazosin, and terazosin.

Beta Blockers
Beta-blocking medications block the response of the heart and blood vessels to nerve stimulation, thereby slowing the heart rate and lowering blood pressure. They are used in the treatment of a wide range of diseases, including angina, high blood pressure, migraine headaches, arrhythmias, and glaucoma. Metoprolol and propranolol are examples of beta blockers.

Calcium Channel Blockers
Calcium channel blockers (diltiazem, nifedipine, verapamil) are used for the prevention of angina (chest pain). Verapamil is also useful in correcting certain arrhythmias (heartbeat irregularities) and lowering blood pressure. This group of drugs is thought to prevent angina and arrhythmias and lower blood pressure by blocking or slowing calcium flow into muscle cells, which results in vasodilation (widening of the blood vessels) and greater oxygen delivery to the heart muscle.

Cardiac Glycosides
Cardiac glycosides include drugs that are derived from digitalis (digoxin is an example). This type of drug slows the rate of the heart but increases its force of contraction. Cardiac glycosides act as both heart depressants and stimulants: They may be used to regulate irregular heart rhythm or to increase the volume of blood pumped by the heart in heart failure.

Diuretics
Diuretic drugs, such as chlorothiazide, chlorthalidone, furosemide, hydrochlorothiazide, and spironolactone, promote the loss of water and salt from the body (which is why they are sometimes called water pills). This loss of water and salt results in lower blood pressure. They also lower blood pressure by increasing the diameter of blood vessels.

Because some antihypertensive medications cause the body to retain salt and water, they are often used concurrently with diuretics. Most diuretics act directly on the kidneys, but there are different types of diuretics, each with different actions. This allows therapy for high blood pressure to be adjusted to meet the needs of individual patients.

Thiazide diuretics, such as chlorothiazide, chlorthalidone, and hydrochlorothiazide, are the most commonly prescribed water pills available today. They are generally well tolerated and can be taken either once or twice per day. Since patients do not develop a tolerance to their antihypertensive effect, these diuretics can be taken for prolonged periods.

However, a major drawback of thiazide diuretics is that they often deplete the body of potassium. This can be compensated for with a potassium supplement. Potassium-rich foods and liquids, such as apricots, bananas, and orange juice, can also be used to help correct a potassium deficiency. Salt substitutes are another source of potassium. If necessary, your doctor will direct you to a source of potassium appropriate for you.

Loop diuretics, such as furosemide, act more vigorously than thiazide diuretics. (Loop refers to the structures in the kidneys on which these specific diuretic medications act.) Loop diuretics promote more water loss than thiazide diuretics but they also deplete more potassium from the body.

To remove excess water from the body while retaining its store of potassium, manufacturers developed potassium-sparing diuretics. Medications such as amiloride, spironolactone, and triamterene are effective in treating potassium loss, heart failure, and high blood pressure. Potassium-sparing diuretics are combined with thiazide diuretics in combination medications such as amiloride and hydrochlorothiazide combination, spironolactone and hydrochlorothiazide combination, and triamterene and hydrochlorothiazide combination. Such blends of drugs enhance the antihypertensive effect and reduce potassium loss.

Vasodilators

Vasodilating medications cause the blood vessels to dilate, or widen. Some of the antihypertensive medications, such as hydralazine and prazosin, lower blood pressure by dilating the arteries or veins. Other vasodilating medicines are used in the treatment of stroke and diseases that are characterized by poor blood circulation. Ergoloid mesylates, for example, are used to reduce the symptoms of senility by increasing the flow of oxygen-rich blood to the brain.

Cardiac Medications

Action of **Ace Inhibitors (ACE-I)**	• Dilates blood vessels • Improves blood flow • Lowers blood pressure • Reduces work of heart
Nursing considerations for **Ace Inhibitors (ACE-I)**	• Do NOT hold unless systolic B/P <90 with symptomatic increase in heart rate of 20% (or according to physician order) • Watch for orthostatic hypotension • Monitor BUN and Creatinine when starting or increasing dose • Watch for potassium supplementation and potential for hyperkalemia • Cough is potential side effect

Trade Name	**Generic Name (ends with "pril")**
Accupril	Quinapril
Altace	Ramipril
Capoten	Captopril
Prinivil or Zestril	Lisinopril
Vasotec	Enalapril
Monopril	Fosinopril
Lotensin	Benazepril
Mavik	Trandolapril

Cardiac Medications

Action of **Angiotensin Receptor Blockers (ARBS)**	• Dilate blood vessels • Improves blood flow • Lowers blood pressure • Reduces work of heart
Nursing considerations for **Angiotensin Receptor Blockers (ARBS)**	• Used when patient cannot tolerate ACE inhibitors • Monitor renal function

Trade Name	**Generic Name (ends with "sartan")**
Atacand	Candesartan
Benicar	Olmesartan
Cozaar	Losartan
Diovan	Valsartan
Micardis	Telmisartan
Teveten	Eprosartan
Avapro	Iresartan

Cardiac Medications

Action of **Beta Blockers**	• Slows heart rate • Lowers blood pressure to decrease workload of heart
Nursing considerations for **Beta Blockers**	• Give if heart rate >55, SBP >100, and no respiratory distress or heart block • Do NOT discontinue abruptly • When patient is admitted, ask physician about continuation of beta blockers • Monitor heart rate for symptomatic bradycardia • Can cause initial activity intolerance • Can blunt the "stress" response

Trade Name	**Generic Name (ends with "olol")**
Coreg	Carvediolol
Lopressor	Metoprolol
Toprol	Metoprolol
Tenormin	Atenolol
Normodyne	Labetelol
Visken	Pindolol
Inderal	Propranolol
Betapace	Sotalol
Sectral	Acebutolol
Brevibloc	Esmolol

TAB

Common Cardiac Medications

COMMON CARDIAC MEDICATIONS

Source: http://www.gshs.org/body.cfm?id=1307

There are many medications your cardiologist may consider in caring for your condition. The list below and on the following pages contains the most common categories of cardiac medications routinely used to care for heart patients. Visit with your doctor, cardiologist or pharmacist if you have questions related to your medications.

Medication Category:	Purpose:
ACE Inhibitors Aceon, Accupril, Altace, Captoten, Lotensin, Mavik, Monopril, Prinivil, Univasc, Vasotec, Zestril Angiotensin II Receptor Blockers Atacard, Avapro, Cozaar, Diovan, Micardis, Teveten	Used to reduce high blood pressure. Helps to increase the "pumping strength" of the heart muscle.
Digitalis Medications Lanoxin (Digoxin)	Helps to improve the strength and efficiency of the heart. Also helps to slow a heart that is beating too fast and regulate an irregular heart rhythm, such as atrial fibrillation.
Beta Blockers Betapace, Coreg, Corgard, Inderal, Lopressor, Normaodyne, Sectral, Tenormin, Toprol XL, Trandate, Visken, Zebeta	*May be prescribed for several reasons:* To slow a rapid heart beat To prevent and treat the rapid, abnormal heartbeats that may occur after cardiac surgery To treat angina (it slows the heart rate, reducing the need for oxygen). These medications may lower blood pressure slightly
Calcium Channel Blockers Adalot, Calan, Cardene, Cardizem, Cartia XT, Covera, Dilacor, Diltia XT, Dynacirc, Isoptin, Sular, Tiazac, Vascor, Verelan, Norvasc, Procardia, Plendil	Helps to get rid of extra fluid that may accumulate after surgery or as a result of a heart condition. Also used to help reduce high blood pressure.
Diuretics Aldactone, Bumex, Demadex, Hydrochlorothiazide, Lasix, Maxide, Dyazide	Helps to get rid of extra fluid that may accumulate after surgery or as a result of a heart condition. Also used to help reduce high blood pressure.
Potassium K-Dur, K-Tabs, Micro-K	Helps to control heart rhythm. Potassium supplements may be recommended if a patient takes diuretics, which can cause the body to lose potassium.
Nitrates Indur, Ismo, Monoket, Nitrobid, Isordil, Nitrostat (under the tongue), Nitroquick (under the tongue), Ntorolingual spray, Nitrodur (patch), Transderm Nitro (patch)	Helps prevent or relieve angina (chest pain) attacks by expanding blood vessels and reducing the workload of the heart.
Anticoagulants (Blood Thinners) Coumadin (Warfarin)	Used to decrease the ability of the blood to form clots. Often prescribed for patience who have had valve replacement surgery or have an irregular heartbeat.

Cardiac Medications

AT-A-GLANCE

American Heart Association | American Stroke Association

Name of Medication	What the Medication Does	Reason for Medication
Anticoagulants (Also known as Blood Thinners) Commonly prescribed include: Dalteparin (Fragmin) Danaparoid (Orgaran) Enoxaparin (Lovenox) Heparin (various) Tinzaparin (Innohep) and Warfarin (Coumadin)	Decreases the clotting (coagulating) ability of the blood. Sometimes called blood thinners, although they do not actually thin the blood. They do NOT dissolve existing blood clots. Used to treat certain blood vessel, heart and lung conditions.	Helps to prevent harmful clots from forming in the blood vessels. May prevent the clots from becoming larger and causing more serious problems. Often prescribed to prevent first or recurrent stroke.
Antiplatelet Agents Commonly prescribed include: Aspirin, Ticlopidine, Clopidogrel and Dipyridamole	Keeps blood clots from forming by preventing blood platelets from sticking together.	Helps prevent clotting in patients who have had a heart attack, unstable angina, ischemic strokes, TIA (transient ischemic attacks, or "little strokes") and other forms of cardiovascular disease. Usually prescribed preventively, when plaque buildup is evident but there is not yet a large obstruction in the artery.
Angiotensin-Converting Enzyme (ACE) Inhibitors Commonly prescribed include: Benazepril (Lotensin) Captopril (Capoten) Enalapril (Vasotec) Fosinopril (Monopril) Lisinopril (Prinivil, Zestril) Moexipril (Univasc) Perindopril (Aceon) Quinapril (Accupril) Ramipril (Altace) and Trandolapril (Mavik)	Expands blood vessels and decreases resistance by lowering levels of angiotensin II. Allows blood to flow more easily and makes the heart's work easier or more efficient.	Used to treat or improve symptoms of cardiovascular conditions including high blood pressure and heart failure.

Some of the major types of commonly prescribed cardiovascular medications are summarized in this section. For your information and reference, we have included generic names as well as major trade names to help you identify what you may be taking; however, the AHA is not recommending or endorsing any specific products. If your prescription medication isn't on this list, remember that your healthcare provider and pharmacist are your best sources of information. It's important to discuss all of the drugs you take with your doctor and understand their desired effects and possible side effects. Never stop taking a medication and never change your dose or frequency without first consulting your doctor.

Cardiac Medications
AT-A-GLANCE

American Heart Association | American Stroke Association

Name of Medication	What the Medication Does	Reason for Medication
Angiotensin II Receptor Blockers (or Inhibitors) (Also known as ARBs, Angiotensin-2 Receptor Antagonists and AT-2) Commonly prescribed include: Candesartan (Atacand) Eprosartan (Teveten) Irbesartan (Avapro) Losartan (Cozaar) Telmisartan (Micardis) and Valsartan (Diovan)	Rather than lowering levels of angiotensin II (as ACE inhibitors do) angiotensin II receptor blockers prevent this chemical from having any effects on the heart and blood vessels. This keeps blood pressure from rising.	Used to treat or improve symptoms of cardiovascular conditions including high blood pressure and heart failure.
Beta Blockers (Also known as Beta-Adrenergic Blocking Agents) Commonly prescribed include: Acebutolol (Sectral) Atenolol (Tenormin) Betaxolol (Kerlone) Bisoprolol/ hydrochlorothiazide (Ziac) Bisoprolol (Zebeta) Carteolol (Cartrol) Metoprolol (Lopressor, Toprol XL) Nadolol (Corgard) Propranolol (Inderal) Sotalol (Betapace) and Timolol (Blocadren)	Decreases the heart rate and cardiac output, which lowers blood pressure and makes the heart beat more slowly and with less force.	Used to lower blood pressure. Used with therapy for cardiac arrhythmias (abnormal heart rhythms) and in treating chest pain (angina). Used to prevent future heart attacks in patients who have had a heart attack.

Some of the major types of commonly prescribed cardiovascular medications are summarized in this section. For your information and reference, we have included generic names as well as major trade names to help you identify what you may be taking; however, the AHA is not recommending or endorsing any specific products. If your prescription medication isn't on this list, remember that your healthcare provider and pharmacist are your best sources of information. It's important to discuss all of the drugs you take with your doctor and understand their desired effects and possible side effects. Never stop taking a medication and never change your dose or frequency without first consulting your doctor.

Cardiac Medications

AT-A-GLANCE

American Heart Association | American Stroke Association

Name of Medication	What the Medication Does	Reason for Medication
Calcium Channel Blockers (Also known as Calcium Antagonists or Calcium Blockers) Commonly prescribed include: Amlodipine (Norvasc, Lotrel) Bepridil (Vascor) Diltiazem (Cardizem, Tiazac) Felodipine (Plendil) Nifedipine (Adalat, Procardia) Nimodipine (Nimotop) Nisoldipine (Sular) and Verapamil (Calan, Isoptin, Verelan)	Interrupts the movement of calcium into the cells of the heart and blood vessels. May decrease the heart's pumping strength and relax blood vessels.	Used to treat high blood pressure, chest pain (angina) caused by reduced blood supply to the heart muscle and some arrhythmias (abnormal heart rhythms).
Diuretics (Also known as Water Pills) Commonly prescribed include: Amiloride (Midamor) Bumetanide (Bumex) Chlorothiazide (Diuril) Chlorthalidone (Hygroton) Furosemide (Lasix) Hydrochlorothiazide (Esidrix, Hydrodiuril) Indapamide (Lozol) and Spironolactone (Aldactone)	Causes the body to rid itself of excess fluids and sodium through urination. Helps to relieve the heart's workload. Also decreases the buildup of fluid in the lungs and other parts of the body, such as the ankles and legs. Different diuretics remove fluid at varied rates and through different methods.	Used to help lower blood pressure. Used to help reduce swelling (edema) from excess buildup of fluid in the body.

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Cardiac Medications

AT-A-GLANCE

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Name of Medication	What the Medication Does	Reason for Medication
Vasodilators (Also known as Nitrates. Nitroglycerin tablets are a form of vasodilator.) Commonly prescribed include: Isosorbide dinitrate (Isordil) Nesiritide (Natrecor) Hydralazine (Apresoline) Nitrates and Minoxidil	Relaxes blood vessels and increases the supply of blood and oxygen to the heart while reducing its workload. Prescribed to patients who cannot tolerate ACE inhibitors (another type of medicine that relaxes the blood vessels.) Can come in pills to be swallowed, chewable tablets and as a topical application (cream).	Used to ease chest pain (angina).
Digitalis Preparations (Also known as Digoxin and Digitoxin) Commonly prescribed include: Lanoxin	Increases the force of the heart's contractions, which can be beneficial in heart failure and for irregular heart beats.	Used to relieve heart failure symptoms, especially when the patient isn't responding to ACE inhibitors and diuretics. Also slows certain types of irregular heartbeat (arrhythmias), particularly atrial fibrillation.
Statins Common types of cholesterol-lowering drugs include statins, resins and nicotinic acid (niacin), gemfibrozil and clofibrate.	Various medications can lower blood cholesterol levels. They may be prescribed individually or in combination with other drugs. They work in the body in different ways. Some affect the liver, some work in the intestines and some interrupt the formation of cholesterol from circulating in the blood. Please see americanheart.org/cholesterol for detailed information on these complex drugs.	Used to lower LDL (”bad”) cholesterol, raise HDL (”good”) cholesterol and lower triglyceride levels.

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