

ANNUAL REORIENTATION & SKILLS ASSESSMENT WORKSHOP (Licensed Staff)



Nurses must attend and complete the annual reorientation* and clinical competency performance stations for identified skills in their work areas. Please review the Reorientation and Skills Assessment Workshop learning materials before attending. Refer to the back of this flyer for the identification of required skills to be completed.

Sunday, September 18, 2011	0700-1230	1930-0100
Monday, September 19, 2011	0700-1230	1930-0100
Sunday, September 25, 2011	0700-1230	1930-0100
Monday, September 26, 2011	0700-1430	1930-0130

Location: Assembly Room

(Please note: The ending time indicates the latest time an individual may arrive to begin the stations.)

*The 2011 Nursing Department Reorientation Self Study Guide can be found on the Harbor-UCLA intranet. Click on the *Nursing* tab to access it.

Please direct any questions to your:

Clinical Nurse Specialist, Clinical Nurse Educator, or Nurse Manager

Harbor-UCLA Medical Center
Department of Nursing
Skills Assessment Workshop Grid, 2011

AREA	Blood Draw through PICC	Restraints	Mock Code	Defibrillator	Internal Defibrillator	Medication Administration	Infection Prevention	Hand-off Communication: Tubing Misconnection	POCT
3W		X	X	X		X	X	X	HG
3E		X	X	X		X	X	X	HG
3WICU	X	X	X	X	X	X	X	X	HGI
3WCTU	X	X	X	X	X	X	X	X	HGI
4W		X	X	X		X	X	X	HG
4E		X	X	X		X	X	X	HG
4WCCU	X	X	X	X		X	X	X	HGI
5E	X	X	X	X		X	X	X	HG
5WRTU	X	X	X	X		X	X	X	HG
5EGCRC	X	X	X	X		X	X	X	HGMP
5WICU	X	X	X	X		X	X	X	HGI
6W		X	X	X		X	X	X	HG
6WICU	X	X	X	X		X	X	X	HGI
6E	X	X	X	X		X	X	X	HG
6EICU	X	X	X	X		X	X	X	HGI
6ENNU	X	X	X	X		X	X	X	HGIM
7W		X	X	X		X	X	X	HG
7E L/D		X	X	X		X	X	X	HGIM
7E NLII		X	X	X		X	X	X	HG
AMBULATORY CARE	Inf. Clinic Peds Clinic		X	X		X	X	X	Refer to: POCT Grid (see study materials)
BLOOD DONOR CENTER			X *			X	X	X	H
CATH LAB		X	X	X		X	X	X	
EMPLOYEE HEALTH			X *			X	X		
ENDOSCOPY		X	X	X		X	X	X	HG
ER	X	X	X	X	X	X	X	X	HGP(I) - RNs
HOME HEALTH			X *				X		
NIR		X	X	X		X	X	X	G
OR		X	X *	X	X		X	X	HGI
OSSA/PAT		X	X	X		X	X	X	HG
PACU		X	X	X	X	X	X	X	HGI
PEDS ER	X	X	X	X	X	X	X	X	HGIP
PFF			X	X		X	X	X	
PSYCH		X	X	X		X	X	X	G
URGENT CARE CLINIC (UCC)			X	X		X	X	X	HGMP
VASCULAR ACCESS (VAT)	X	X	X *	X		X	X	X	HG
WOUND CARE TEAM (WCT)		X	X *	X		X	X	X	

POCT

*H = Hemoglobin G = Glucose I = I-Stat M = Clinitek P = Pregnancy * = CPR Only*

POCT Grid, 2011

	Hemoglobin	Glucose	iSTAT	Pregnancy	Clinitek	Urine Dipstick
3E	X	X				
3W	X	X				
3WICU	X	X	X			
4E		X				
4W	X	X				
4WCCU	X	X	X			
5E	X	X				
5EGCRC	X	X		X	X	
5WICU	X	X	X			
5WRTU	X	X				
6E	X	X				
6EICU	X	X	X			
6ENNU	X	X	X		X	
6W	X	X				
6WICU	X	X	X			
7EL&D	X	X	X		X	
7ENLII	X	X				
7W	X	X				
BLOOD DONOR	X					
CATH LAB						
EMP HEALTH						
ER	X	X	X (RNs)	X		
HOME HEALTH						
NIR		X				
OR	X	X	X			
OSSA/PAT	X	X				
PACU	X	X	X			
PEDER	X	X	X	X		X
PFF						
PSYCH		X				
UCC	X	X		X	X	
VAT	X	X				
WCT						
Am Care Clinics						
CHP-Adults	X	X			X	
CHP-Peds	X	X				X
ENDO	X	X				
ENT						
EYECLN						
FMC	X	X	X	X		X
GMC	X	X		X	X	
MEDCLN						
N24CLN	X	X		X	X	
NIR						
OBGCLN	X	X		X	X	
ORTCLN						
PEDCLN	X	X		X	X	
UROCLN					X	
Gardena HS	X	X		X	X	

**Clinical Competency Program
Blood Draw from PICC
Clinical Competency Description**

Unit(s): 3WCTU, 3WICU, 4WCCU, 5E, 5EGCRC, 5W INFUSION CLINIC, 5WICU, 6E, 6EICU, 6ENNU, 6WICU, ER, PEDS CLINIC, PEDS ER, 5W INFUSION CLINIC (RN ONLY)

Competency Statement: Demonstrates the correct technique to access, care and draw blood from a peripherally inserted central venous catheter (PICC).

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Verbalizes the rationale for using a PICC for blood draw.</p> <p>Demonstrates correct technique for obtaining a blood sample from PICC.</p> <p>Verbalizes two potential complications when using a PICC for blood sampling.</p>	<p>Refer to Blood Draw from PICC performance checklist.</p>	<p>Demonstrates appropriate procedure of accessing a PICC line for blood draw and completes the competency checklist with 100% accuracy.</p>

Performance Criteria	Met	Not Met	Comments
<p>j. Obtains sample.</p> <ol style="list-style-type: none"> 1. Attaches a new empty syringe to the NAP, releases the clamp if applicable, on the PICC, and slowly withdraws the required amount of blood specimen. 2. Removes the blood specimen syringe from the NAP. 3. Transfers the blood specimen to the appropriate specimen container. Uses blood transfer device when appropriate. <p>Note: Attaching a vacutainer/blood transfer device to Vaxcel PICC is not recommended. The vacutainer method may cause the valve not to open normally, resulting in a forceful ejection of blood. This can result in red cell hemolysis and a falsely elevated potassium level.</p> <p>k. Disinfects the open end of PICC port with alcohol wipe(s) using friction, vigorously rubbing the septum of the NAP for 15 seconds in a twisting motion</p> <p>l. Clamps catheter if applicable and remove the NAP from the catheter.</p> <p>m. Attaches the pre-attached 10 mL normal saline flush solution with new NAP to the catheter, releases the clamp, if applicable, and flushes the PICC by using a “stop/start” or “pulse” technique and clamps the catheter, if applicable:</p> <p>Pediatrics: Flushes with 3 mL. Note: Only Vaxcel (Navilyst Medical) PICCs are flushed with normal saline. All other PICCs are flushed with heparin. In such cases the PICC is first flushed with 0.5 mL normal saline, then 2.5 mL of NS with heparin 100 units/mL.</p> <p>Adults: Flushes with 10 mL normal saline</p> <p>Neonates: Flushes with 1 mL of 0.45NS with 0.25 units of heparin</p> <p>In neonates the NAP is not changed frequently, the NAP change will depend on the type of the PICC and the frequency of blood sampling</p> <p>n. Discards the used syringes into appropriate receptacle.</p> <p>o. Removes gloves and washes hands.</p>			
<p>Verbalizes two potential complication(s) when using a PICC for blood sampling.</p>			

Signature of the Evaluator: _____

Date: _____

Harbor-UCLA Medical Center
Department of Nursing

Skills Assessment Workshop

**BLOOD DRAW FROM PERIPHERALLY INSERTED CENTRAL VENOUS CATHETERS
(PICC HANDOUT)**

A. The rationale for using a central line for blood draw:

- a. No available peripheral IV sites.
- b. Avoid multiple venipunctures.

Reinforce with the staff:

- a. Peripheral site is the ideal site for blood sampling.
- b. Review the laboratory results carefully to detect errors related to blood sampling, such as coagulation studies, high serum glucose, electrolyte values (i.e., potassium).

B. Potential complication(s) when using a PICC for blood sampling.

Answers:

- a. Infection (central line infections).
- b. Catheter damage.
- c. Hemolysis of the specimen.
- d. False laboratory reading due to hemolysis of red blood cells, infusion of heparin, TPN and electrolytes.

1. Obtain necessary supplies needed:

- a. 1 – pair of clean gloves
- b. Alcohol pad(s)
- c. 3 – 10 mL prefilled normal saline flush
- d. 2 – 10 mL or larger syringe
- e. Blood collection tubes
- f. Laboratory label(s)
- g. Biohazard transport bag
- h. Needle access port (NAP)

Note: Attach 10 mL normal saline flush to the NAP and flush the NAP prior to attaching to the catheter. Extra caution needed to maintain the sterility of NAP septum

- i. Blood transfer device (optional)

2. Steps in obtaining a blood sample from PICC:

- a. Perform hand hygiene either by washing hands with soap and water for 15 seconds or by rubbing hands with waterless, alcohol-based foam and letting it dry completely.
- b. Don gloves.
- c. Explain the procedure to the patient.
- d. Check the patient's identification (Name and MRUN on patient's ID band) against specimen label.
- e. If IV is in use, stop the infusion to all PICC lumen(s) and clamp the catheter if applicable.
- f. Attach a 10ml normal saline flush to the new NAP, prime the NAP and set aside.

Note: Use extra caution to maintain the sterility of the NAP septum.

- g. Disinfect the needleless access port (NAP) with alcohol wipe(s) using friction, vigorously rubbing the septum of the NAP for 15 seconds in a twisting motion.

***Note: 6EICU and 6ENNU uses 3 alcohol wipes using friction, vigorously rubbing the septum of the NAP for 10 seconds each to a total of 30 seconds.**

- h. Allow the septum of the NAP to air dry completely before accessing the catheter.
- i. Use aseptic technique when accessing the NAP (i.e., does not touch the septum of the NAP after disinfection, not touching the tip of the syringe that contains the flush).
- j. Perform pre-flush (adults only).
 1. Attach the prefilled 10 mL normal saline flush solution to the selected NAP.

Harbor-UCLA Medical Center
Department of Nursing

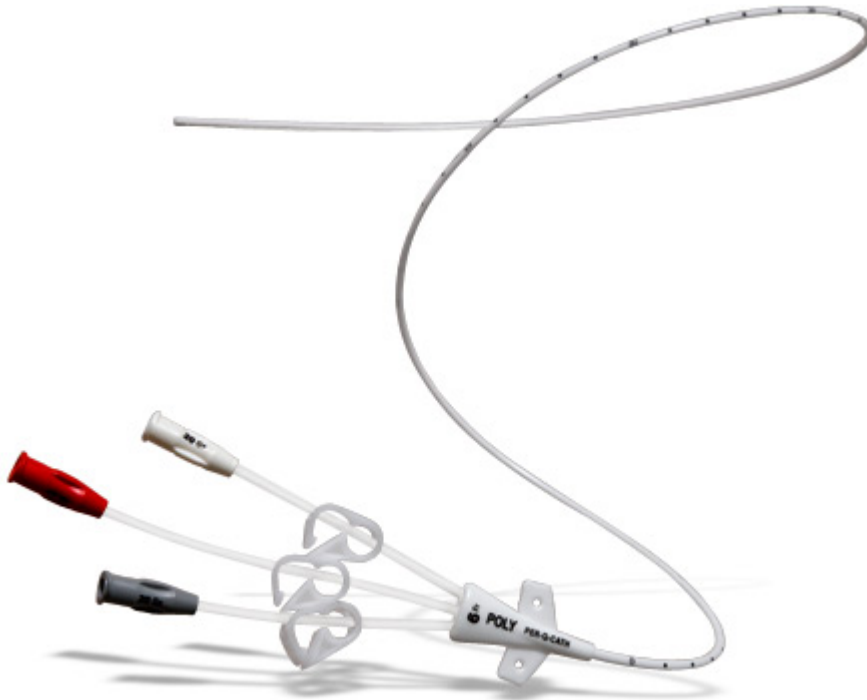
- Note:** When a multiple lumen catheter is used for blood sampling the proximal port is usually chosen for blood sampling.
2. Release the clamp, if applicable and flush the selected NAP with 5-10 mL normal saline.
Note: If the catheter is locked with heparin solution, caution needs to be taken if multiple blood sampling is needed.
 3. Clamp the catheter, if applicable, and remove flush syringe.
- k. Obtain sample.
1. Attach a new empty syringe to the NAP, release the clamp if applicable, on the PICC, and slowly withdraw the required amount of blood specimen.
 2. Remove the blood specimen syringe from the NAP.
 3. Transfer the blood specimen to the appropriate specimen container. Use blood transfer device when appropriate.
- Note:** Attaching a vacutainer/blood transfer device to Vaxcel PICC is not recommended. The vacutainer method may cause the valve not to open normally, resulting in a forceful ejection of blood. This can result in red cell hemolysis and a falsely elevated potassium level.
- l. Disinfect the open end of PICC port with alcohol wipe(s) using friction, vigorously rubbing the septum of the NAP for 15 seconds in a twisting motion
 - m. Clamp catheter if applicable and remove the NAP from the catheter.
 - n. Attach the pre-attached 10 mL normal saline flush solution with new NAP to the catheter, release the clamp, if applicable, and flush the PICC by using a “stop/start” or “pulse” technique and clamp the catheter, if applicable:
Pediatrics: Flush with 3 mL. **Note:** Only Vaxcel (Navilyst Medical) PICCs are flushed with normal saline. All other PICCs are flushed with heparin. In such cases the PICC is first flushed with 0.5 mL normal saline, then 2.5 mL of NS with heparin 100 units/mL.
Adults: Flush with 10 mL normal saline
Neonates: Flush with 1 mL of 0.45NS with 0.25 units of heparin
In neonates the NAP is not changed frequently, the NAP change will depend on the type of the PICC and the frequency of blood sampling
 - o. Discard the used syringes into appropriate receptacle.
 - p. Remove gloves and wash hands.

Pictures of catheters available at Harbor-UCLA Medical Center

Vaxcel™ (Navilyst Medical) PICC – Use Saline flush only



Bard PerQ PICC Catheter – Use saline/Heparin flush



References

1. Centers for Disease Control and Prevention. *Guidelines for the Prevention of Intravascular Catheter-Related Infections*; 2011
2. Infusion Nursing Standard of Practice. In: *Infusion Nursing Standards of Practice*. Norwood, PA: Lippincott Williams & Wilkins;2011:S78-S79
3. *Vaxel™ PICC with PSAV®: Peripherally Inserted Central Catheters with PASV Valve Technology*. Navalyst Medical: Marlborough, MA; 2008

Clinical Competency Program
USE OF RESTRAINTS
Clinical Competency Description

Unit(s): 3W, 3E, 3WICU, 3WCTU, 4W, 4E, 4WCCU, 5E, 5WRTU, 5EGCRC, 5WICU, 6W, 6WICU, 6E, 6EICU, 6ENNU, 7W, 7EL/D, 7ENLII, CATH LAB, ENDOSCOPY, ER, NIR, OR, OSSA, PACU, PAT, PEDS ER, PSYCH, VAT, WCT

Competency Statement: Demonstrates the safe, proper use, application and removal of restraints.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Identifies one justification for behavioral and non-behavioral restraints.</p> <p>Identifies the appropriately completed behavioral restraint/seclusion nursing observation and care record.</p> <p>Demonstrates proper application and removal of restraints.</p>	<p>Reviews policies/procedures related to restraints:</p> <p>The use of restraints including seclusion. In: <i>Hospital and Medical Administration Policy and Procedure Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2010. Policy No. 347.</p> <p>Harbor-UCLA Medical Center Department of Nursing. <i>Use of Restraints</i>. Chacon Taloma, G. Sterling, M, eds. In Orientation Self Study Guide; 2010: 41-62. Available on harbor intranet: http://harborucla.org/library/users/nursing_staff.htm</p>	<p>Completes Use of Restraints Performance Checklist with 100% accuracy.</p>

**Clinical Competency Program
USE OF RESTRAINTS
Performance Checklist**

Name _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
Identifies one justification for behavioral and non-behavioral restraints.			
Identifies a complete behavioral/non-behavioral restraint/seclusion nursing observation and care record.			
Demonstrates proper application and removal of restraints.			

Signature of Evaluator: _____

Date: _____

**Clinical Competency Program
MOCK CODE
Clinical Competency Description**

Unit(s): 3W, 3E, 3WICU, 3WCTU, 4W, 4E, 4WCCU, 5E, 5WRTU, 5EGCRC, 5WICU, 6W, 6WICU, 6E, 6EICU, 6ENNU, 7W, 7E L/D, 7ENLII, PACU, AMBULATORY CARE, CATH LAB, ENDOSCOPY, ER, NIR, OSSA, PACU, PAT, PEDS ER, PFF, PSYCH, UCC. * CPR ONLY FOR THE FOLLOWING AREAS: BLOOD DONOR CENTER, EMPLOYEE HEALTH, HOME HEALTH, OR, VAT, WCT

Competency Statement: Assesses, monitors, and takes necessary interventions, as well as assumes designated roles for a code blue/white emergency.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Verbalizes the different skills/roles of team members during a code situation.</p> <p>Demonstrates the initiation/activation of emergency response.</p> <p>Determines emergency interventions required, based on a scenario provided.</p> <p>*Demonstrates the initiation of cardiopulmonary resuscitation (CPR).</p> <p>Demonstrates effective ventilation using a bag-valve mask.</p> <p>Places cardiac leads on patient, connects to defibrillator and turns on monitor.</p> <p>Identifies age appropriate hands-free electrodes/paddles to defibrillator.</p> <p>Places defibrillation paddles/patches correctly on patient.</p> <p>Retrieves age-appropriate intubation tray.</p> <p>Locates suction set-up and demonstrates how to operate Duo-Vac.</p> <p>Gathers equipment necessary to establish IV access for peripheral and/or central lines.</p> <p>Locates emergency medications commonly used in a code situation.</p> <p>Demonstrates correct documentation on the Cardiopulmonary Resuscitation Record. RNs only</p>	<p>Reviews the following policies/procedures related to Code Blue/Code White:</p> <p>Adult and Pediatric Code Teams. In: <i>Hospital and Medical Administration Policy and Procedure Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2006. Policy 389.</p> <p>Cardiac Arrest Carts, Maintenance of. In: <i>Nursing Policy Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2011:75.0-75.1.</p> <p>Cardiac Arrest Cart Contents/ Locations. In: <i>Nursing Policy Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2011:80.0-80.16.</p> <p>Cardiopulmonary Resuscitation and Code Blue Participation for Adult Inpatient and Outpatient Areas in the Main Building and PCDC. In: <i>Nursing Policy Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2006:85.0-85.2.</p> <p>Electrical Countershock Emergencies (External Defibrillation/ Cardioversion) Nursing Responsibilities. In: <i>Nursing Procedure Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2006:126.0-126.6.</p>	<p>Completes the Mock Code Performance Checklist with 100% accuracy.</p> <p>Adequately performs and participates effectively as a team member in a Mock Code situation.</p>

**Clinical Competency Program
MOCK CODE
Performance Checklist**

Name _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
Verbalizes the different skills/roles of team members during a code situation.			
Demonstrates the initiation/activation of emergency response.			
Demonstrates the initiation of Cardiopulmonary Resuscitation (CPR) and Emergency Response: a. Establishes unresponsiveness. b. Calls Code Blue/Code White, if applicable to area. c. Initiates Basic Life Support Assessment – Compressions, Airway, Breathing (CAB) sequence.			
Demonstrates the following effectively: a. Assesses for signs and symptoms of circulation. b. Locates and places backboard under patient. c. Initiates and performs chest compressions, if necessary, based on new American Heart Association (AHA) Guidelines: • Adult - Hand Placement: places 2 hands at center of chest, between nipples - Compressions: 30:2 • Pediatric (child - 1 year until onset of puberty) - Hand Placement: places heel of 1 or 2 hands at center of chest, between nipples - Compressions: 30:2 (1 rescuer)/ 15:2 (2 rescuer) • Infant/neonate (under 1 year of age) - Hand Placement: 1 rescuer - places 2 fingers just below nipple line 2 rescuer - wraps hands around torso and places thumbs on the sternum (just below nipple line and fingers under the newborn (two thumb encircling hands technique) - Compressions: 30:2 (1 rescuer)/ 15:2 (2 rescuer) (NICU/L2 nurses may do 3:1 per NRP guidelines)			
Performs appropriate airway establishment and protection: a. Assesses and establishes airway. b. Selects appropriate size bag-valve mask. c. Assembles and connects to oxygen tank. d. Opens oxygen tank and turns oxygen up 10-15 liters per minute (Neonates 5-10 liters per minute) e. Performs ventilations.			
Applies leads and paddles/patches correctly on patient: a. Places leads on patient correctly. b. Locates gel for paddles and applies gel to paddles, if indicated. c. Identifies age-appropriate defibrillation paddles/patches and correctly places paddles/patches on chest.			

Performance Criteria	Met	Not Met	Comments
Simulates defibrillation correctly: a. Turns on monitor, selects joules, presses charge button, and simulates shock (while ensuring environmental, personal, and team safety). - Adult – 200 joules (Biphasic) - Peds/Neonate – 2 joules/kg			
Retrieves appropriate intubation tray.			
Locates suction set-up and demonstrates how to operate Duo-Vac.			
Demonstrates ability to locate peripheral and central IV access supplies: a. Locates peripheral IV supplies in crash cart. b. Locates central line supplies in crash cart. (Note: NICU and Level II Nursery locates umbilical catheter kit and supplies)			
Demonstrates ability to locate medications: a. Locates and identifies age appropriate medications.			
Demonstrates ability to document events on Cardiopulmonary Resuscitation (CPR) Record appropriate (RNs only): a. Verbalizes which team members names need to be documented on the CPR Record. b. Verbalizes who is responsible for completing the CPR Record. c. Demonstrates where and what to document during and after a Code.			

Signature of Evaluator: _____

Date: _____

**Clinical Competency Program
DEFIBRILLATOR
MEDTRONIC LIFEPAK 12
Clinical Competency Description**

Unit(s): 3W, 3WCTU, 3WICU, 4W, 4WCCU, 5WICU, 6EICU, 6WICU, ER, CATH LAB, PEDS ER

Competency Statement: Demonstrates proper use of defibrillator correctly.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Correctly differentiates age appropriate hands-free electrodes/paddles to Lifepak 12 defibrillator.</p> <p>Identifies correct placement of age appropriate hands-free electrodes/paddles on manikin.</p> <p>Demonstrates manual defibrillation.</p> <p>Demonstrates synchronized cardioversion.</p> <p>Demonstrates non-invasive pacing using hands-free electrodes.</p>	<p>Reviews equipment manual for operation of Medtronic LifePak 12 in assigned work area.</p> <p>Reviews policies/procedures related to Medtronic Lifepak 12.</p> <p>Cardiopulmonary resuscitation and code blue participation for adult inpatient and outpatient areas in the main building and PCDC. In: <i>Nursing Policy Manual</i>. Torrance, CA. Harbor-UCLA Medical Center; 2009: 85.0.-85.2.</p> <p>Cardioversion, assisting physicians with elective. In: <i>Adult Critical Care Specialty Manual</i>. Torrance, CA. Harbor-UCLA Medical Center; 2009: 68.0-68.1.</p> <p>Electrical countershock emergencies (external defibrillation/cardioversion): Nursing responsibilities. In: <i>Nursing Procedure Manual</i>. Torrance, CA. Harbor-UCLA Medical Center; 2009: 126.0-126.6.</p>	<p>Completes Medtronic Lifepak 12 performance checklist with 100% accuracy.</p>

**Clinical Competency Program
DEFIBRILLATOR
MEDTRONIC LIFEPAK 12
Performance Checklist**

Name: _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
<p>Manual Defibrillation</p> <ol style="list-style-type: none"> 1. Presses ON (#1) to turn on defibrillator. 2. IF USING ELECTRODES: <ul style="list-style-type: none"> • Opens age-appropriate hands-free electrodes and connects to defibrillator therapy cable. IF USING PADDLES: <ul style="list-style-type: none"> • Removes adult hard paddles and states to apply conductive gel over entire paddle surface. • Pediatrics < 10kg: Slides pediatric adaptor over adult hard paddles and states to apply conductive gel over entire paddle surface. 3. Places age-appropriate therapy electrodes/paddles on patient’s chest in anterior-lateral position: <ul style="list-style-type: none"> • STERNUM (anterior) below right clavicle and lateral to sternum. • APEX (lateral) lateral to left nipple with center of paddle on the midaxillary line. 4. Presses PRINT to record. 5. States to stop all motion including CPR, clears everyone from patient and states, “ALL CLEAR” to analyze rhythm and checks for pulse. 6. Presses ENERGY SELECT and selects appropriate energy. 7. Charge defibrillator: <ul style="list-style-type: none"> • IF USING ELECTRODES: Presses CHARGE on defibrillator. • IF USING PADDLES: Presses CHARGE on apex paddle. 8. States, “ALL CLEAR” and verifies staff, oxygen and tubing are clear of patient, bed, and any equipment connected to patient. 9. Delivers shock: <ul style="list-style-type: none"> • IF USING ELECTRODES: Presses SHOCK button on monitor to deliver shock. • IF USING PADDLES: Presses SHOCK buttons simultaneously on both paddles to deliver shock. 10. States “Continue CPR.” 11. Performs repeat defibrillation if necessary by following steps #5-11. 12. Presses CODE SUMMARY for documentation. 13. Presses ON to turn off defibrillator. 			
<p>Synchronized Cardioversion</p> <ol style="list-style-type: none"> 1. Presses ON (#1) to turn on defibrillator. 2. Opens age-appropriate hands-free electrodes and connects to defibrillator therapy cable. 			

Performance Criteria	Met	Not Met	Comments
<ol style="list-style-type: none"> 3. Places hands-free electrodes firmly on patient’s chest. <ul style="list-style-type: none"> • Anterior-Lateral placement: STERNUM paddle below right clavicle and lateral to sternum. APEX paddle lateral to left nipple with center of paddle on the midaxillary line. • Anterior-Posterior placement: STERNUM paddle anterior over left pericardium. APEX paddle posterior behind heart left scapula. 4. Presses SYNC. 5. Confirms triangle sense markers appear on each QRS complex. 6. Presses ENERGY SELECT and selects appropriate energy. 7. Presses CHARGE on front of defibrillator. 8. States “ALL CLEAR” and verifies staff, oxygen and tubing are clear of patient, bed, and any equipment connected to patient. 9. Presses SHOCK button and holds SHOCK button until energy delivered. 10. Repeats cardioversion if necessary by following steps #7-11. 11. Presses CODE SUMMARY for documentation. 12. Presses ON to turn off defibrillator. 			
<p>Non-Invasive Pacing using hand-free electrodes</p> <ol style="list-style-type: none"> 1. Presses ON (#1) to turn on defibrillator. 2. Connects ECG cable to the ECG electrodes and places ECG electrodes on patient’s chest. 3. Opens age appropriate hands-free electrodes and connects to defibrillator therapy cable (Note: Pediatric hands-free electrodes should only be used for patients < 15 kg): <ul style="list-style-type: none"> • Anterior-Lateral placement: STERNUM electrode below right clavicle and lateral to sternum, APEX electrode lateral to left nipple with center of paddle on the midaxillary line. • Anterior-Posterior placement: STERNUM electrode anterior over left precordium. APEX electrode posterior behind heart below left scapula. 4. Presses PACER. 5. Confirms triangle sense markers appear near the middle of each QRS complex. 6. Presses RATE button, then selects rate by using arrows or selector knob (Note: RATE button changes rate in 10 ppm increments, SELECTOR knob changes the rate in 5 ppm increments). 7. Presses CURRENT button then selects CURRENT by using arrows or selector knob until complete capture is noted (Note: CURRENT button changes rate in 10 mA increments, SELECTOR knob changes the rate in 5 mA increments). <ul style="list-style-type: none"> • After complete capture, increase current by 5 mA. 8. Presses PAUSE button to view patient’s intrinsic rhythm. 9. Presses PACER or reduces current to zero to stop pacing if necessary. 10. Presses ENERGY SELECT or CHARGE to defibrillate and stop noninvasive pacing if necessary. 11. Presses CODE SUMMARY for documentation. 12. Presses ON to turn off defibrillator. 			

Signature of Evaluator: _____

Date: _____

**Clinical Competency Program
DEFIBRILLATOR
HEWLETT-PACKARD CODEMASTER
Clinical Competency Description**

Unit(s): N-24, FMC

Competency Statement: Demonstrates proper use of defibrillator correctly.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Correctly differentiates age appropriate hands-free electrodes/paddles to Hewlett-Packard Codemaster.</p> <p>Identifies correct placement of age-appropriate hands-free electrodes/paddles on manikin.</p> <p>Demonstrates defibrillation using defibrillator.</p>	<p>Reviews equipment manual for operation of Hewlett-Packard Code Master defibrillator in assigned work area.</p> <p>Reviews policies/procedures related to defibrillation and electrical countershock.</p> <p>Electrical countershock emergencies (external defibrillation/cardioversion): Nursing responsibilities. In: <i>Nursing Procedure Manual</i>. Torrance, CA. Harbor-UCLA Medical Center; 2009: 126.0-126.6.</p> <p>Cardiopulmonary resuscitation and code blue participation for adult inpatient and outpatient areas in the main building and PCDC. In: <i>Nursing Policy Manual</i>. Torrance, CA. Harbor-UCLA Medical Center; 2009: 85.0-85.2.</p>	<p>Completes Hewlett-Packard Codemaster performance checklist with 100% accuracy.</p>

**Clinical Competency Program
DEFIBRILLATOR
HEWLETT-PACKARD CODEMASTER
Performance Checklist**

Name: _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
<p>Manual Defibrillation</p> <ol style="list-style-type: none"> 1. Turns on monitor by dialing selector to MONITOR. 2. Presses LEAD SELECT to view rhythm on monitor. 3. Prepares patient: <ul style="list-style-type: none"> • Bares patient’s chest. 4. IF USING PADDLES: <ul style="list-style-type: none"> • Removes age-appropriate paddles from defibrillator. • Applies conductive gel to paddles. • Places paddles correctly on patient’s chest. • Charges on right APEX paddle by pushing yellow button (may also charge on defibrillator by pressing CHARGE button). IF USING ELECTRODES: <ul style="list-style-type: none"> • Disconnects standard paddle output from monitor. • Connects defibrillator pads adaptor to monitor. • Attaches hands-free electrodes to adaptor. • Identifies and attaches appropriate electrodes to adaptor. • Places pads firmly on patient’s chest in anterior/lateral position. 5. States to stop motion including CPR, clears everyone from patient and states “ALL CLEAR” to analyze rhythm and checks for pulse. 6. Selects ENERGY by dialing selector up to 360 J. 7. Presses CHARGE on monitor or presses the yellow button on apex paddle. 8. States “ALL CLEAR” and observes that all personnel are clear of patient and immediate area. 9. Presses both orange buttons simultaneously on APEX and STERNUM paddles or presses shock button on defibrillator to deliver shock. 10. States to continue CPR, beginning with compressions. 11. Prepares for additional countershocks if needed by repeating steps #4-10. 12. Dials to OFF to turn defibrillator off. 13. Replaces hard paddles or hands-free electrodes on code cart. 			

Signature of Evaluator: _____

Date: _____

**Clinical Competency Program
DEFIBRILLATOR
MEDTRONIC LIFEPAK 20
(AED and Manual Mode or Manual Mode only)
Clinical Competency Description**

AED & Manual Mode Unit(s): 3E, 4E, 5E, 5EGCRC, 5WRTU, 7W, 7E L/D, AMBULATORY CARE, ENDOSCOPY, EMPLOYEE HEALTH, INFUSION CLINIC, NIR, OR, OSSA, PACU, PAT, PFF, PSYCH, UCC, VAT, WCT

Manual Mode only Unit(s): 6E, 6ENNU, 6W, 7ENLII

Competency Statement: Correctly demonstrates proper use of defibrillator.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Correctly differentiates age appropriate hands-free electrodes/paddles to Lifepak 20 defibrillator.</p> <p>Identifies correct placement of age appropriate hands-free electrodes/paddles on manikin.</p> <p>Demonstrates defibrillation using manual mode.</p>	<p>Reviews equipment manual for operation of Medtronic Lifepak 20 in assigned work area.</p> <p>Reviews policies/procedures related to Medtronic Lifepak 20.</p> <p>Cardiopulmonary resuscitation and code blue participation for adult inpatient and outpatient areas in the main building and PCDC. In: <i>Nursing Policy Manual</i>. Torrance, CA. Harbor-UCLA Medical Center; 2009: 85.0-85.2.</p> <p>Electrical countershock emergencies (external defibrillation/cardioversion): Nursing responsibilities. In: <i>Nursing Procedure Manual</i>. Torrance, CA. Harbor-UCLA Medical Center; 2009: 126.0-126.6.</p>	<p>Completes Medtronic Lifepak 20 performance checklist with 100% accuracy.</p>

**Clinical Competency Program
DEFIBRILLATOR
MEDTRONIC LIFEPAK 20
(Manual Mode Only)
Performance Checklist**

Name: _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
<p>Manual Defibrillation</p> <ol style="list-style-type: none"> 1. Presses ON #1 to turn on defibrillator. 2. Opens door to convert to manual mode (if applicable) <ul style="list-style-type: none"> • User may press energy select button if still on AED mode 3. IF USING ELECTRODES: Correctly differentiates, opens and connects age appropriate hands-free electrodes to defibrillator therapy cable. IF USING PADDLES: <ul style="list-style-type: none"> • Removes adult hard paddles and states to apply conductive gel over entire paddle surface • Removes adult hard paddles to expose pediatric paddles and states to apply conductive gel over entire paddle surface 4. Places age –appropriate therapy electrodes/paddles on patient’s chest on anterior-lateral position: <ul style="list-style-type: none"> • STERNUM (anterior) below right clavicle and lateral to sternum. • APEX (lateral) to left nipple with center of paddle on the midaxillary line or anterior/posterior. Pediatric paddle: <ul style="list-style-type: none"> • STERNUM=anterior over left precordium • APEX=posterior behind the heart on the infrascapular area 5. Presses PRINT to record. 6. States to stop all motion including CPR, clears everyone from patient and states “ALL CLEAR” to analyze rhythm and checks for pulse. 7. Presses ENERGY SELECT and selects appropriate energy 8. Charges defibrillator: <ul style="list-style-type: none"> • IF USING ELECTRODES: presses CHARGE on defibrillator • IF USING PADDLES: presses CHARGE on apex paddle 9. States “ALL CLEAR” and verifies staff including oxygen and tubing are clear of patient bed and any equipment connected to patient. 10. Deliver shock: <ul style="list-style-type: none"> • IF USING ELECTRODES: presses SHOCK button on monitor to deliver shock • IF USING PADDLES: presses SHOCK buttons simultaneously on both paddles to deliver shock 11. States continue CPR. 12. Performs repeat defibrillator if necessary by following steps #6-12. 13. Presses CODE SUMMARY for documentation. 14. Presses ON to turn off defibrillator. 15. Places new hands-free electrodes on code cart (if applicable). 			



Signature of Evaluator: _____


Date: _____

**Clinical Competency Program
DEFIBRILLATOR
MEDTRONIC LIFEPAK 20
(AED and Manual Mode)
Performance Checklist**

Name: _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
<p>Automated External Defibrillation (AED)</p> <ol style="list-style-type: none"> 1. Presses ON (#1) to turn on defibrillator. 2. Prepares patient: Bares patient's chest 3. Correctly differentiates, opens and connects age appropriate hands-free electrodes to defibrillator therapy cable. 4. Applies hands-free electrodes in correct anterior/lateral position: STERNUM (anterior) electrode (applies electrodes according to diagram) below patient's right clavicle, lateral to the sternum. APEX (lateral) electrode (applies electrode with ♥ symbol) lateral to patient's left nipple with the center of the electrode on the left midaxillary line. 5. Confirms defibrillator therapy cable is connected to lower right front of defibrillator. 6. Presses ANALYZE (#2) as instructed by voice prompt. 7. Responds to voice prompts and screen messages ANALYZING NOW, STAND CLEAR by stating "STAND CLEAR" (ensures no one is touching patient). 8. Observes screen message and voice prompt: SHOCK ADVISED! 9. Waits while tone indicates AED is charging. 10. Observes screen message and voice prompts: STAND CLEAR, PUSH  (SHOCK, # 3) BUTTON! 11. Discontinues oxygen and removes tubing (or bag-valve mask) from bed. 12. States "ALL CLEAR" and observes that all personnel are clear of patient and immediate area. 13. Presses  (SHOCK #3) button. Delivers first shock within three minutes of cardiac arrest. 14. Follows AED prompt and continues CPR. 15. Prepares for additional countershocks by repeating #6-14. 			
<p>Manual Defibrillation (Conversion from AED mode)</p> <ol style="list-style-type: none"> 16. Opens door to convert to manual mode (if applicable). 17. Presses PRINT to record. 18. States to stop all motion including CPR, clears everyone from patient and states, "ALL CLEAR" to analyze rhythm and checks for pulse 19. Presses ENERGY SELECT and selects appropriate energy. 20. Presses CHARGE on defibrillator. 			

Performance Criteria	Met	Not Met	Comments
21. States, “ALL CLEAR” and observes that all personnel including oxygen and tubing are clear of patient and immediate area. 22. Presses  (SHOCK #3) button. Delivers first shock within three minutes of cardiac arrest. 23. Immediately states, “Continue CPR starting with compressions” . 24. Performs repeat defibrillation if necessary by following steps #18-23. 25. Presses CODE SUMMARY for documentation. 26. Presses ON to turn off defibrillator.			

Signature of Evaluator: _____

Date: _____

Clinical Competency Program
ASSISTING WITH INTERNAL DEFIBRILLATION
Clinical Competency Description

Unit(s): 3WCTU, 3WICU, ER, PACU, PEDS ER, OR

Competency Statement: Prepares appropriate equipment and safely assists with internal defibrillation.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Demonstrates assembly of the internal paddles.</p> <p>Demonstrates operation of the defibrillator with internal paddle accessories.</p> <p>Describes appropriate safety measures with use of internal defibrillator paddles.</p>	<p>Reviews equipment manual for operation of defibrillator(s) in assigned work area(s)</p> <p>Reviews <i>Assisting with Internal Defibrillation Clinical Competency Self-Study Guide</i>. Torrance, CA: Harbor-UCLA Medical Center Department of Nursing; 2007.</p>	<p>Completes Assisting with Internal Defibrillation performance checklist with 100% accuracy.</p>

**ASSISTING WITH INTERNAL DEFIBRILLATION
 MEDTRONIC LIFEPAK 12 and LIFE PAK 20 INTERNAL PADDLES
 WITH DISCHARGE CONTROL (CAM LOCKING END)
 Performance Checklist**

Name: _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
Disconnects the standard paddles or therapy cable: a. Rotates black locking ring counterclockwise until a positive stop is reached. Grasps the connector body and gently pulls until the connector separates from the defibrillator.			
Selects the appropriate size of paddles (infant, peds, adult)			
Prepares internal defibrillator paddles using sterile technique: a. Opens package containing sterile internal paddles, maintaining sterility. b. Opens package containing sterile cables/handles for internal paddle. (end of cable will connect to defibrillator) c. Dons sterile gloves. d. Inserts paddle (maintaining sterility) fully into handle until a positive stop is reached. e. Presses and rotates paddle clockwise until a second stop is reached. f. Releases paddle to lock in place. If installed and locked correctly, the paddle cannot be directly withdrawn or rotated. g. Hands paddles to the physician for placement and discharge (discharge button will be in the physician's right hand).			
Connects internal handles to the defibrillator. a. Inserts the black connector into the defibrillator connector with the arrow facing up.			
Internal Defibrillation Procedure: <i>(The maximum amount of energy available with the internal paddles connected is 50 joules)</i> a. Presses ON . The Joules selected symbol appears on the screen. b. PRESSES ENERGY SELECT if energy amount other than 10 joules is desired. Selects energy c. States would press CHARGE The physician places conductive surface of paddles against the myocardium. d. Safety Measures States - "Stand Clear": ensures all personnel are clear of the patient, bed and any other equipment connected to the patient. <i>*(note: gel not necessary for internal defibrillation)</i> Note: When the defibrillator has reached the selected energy level, the physician presses discharge control button located on the right hand internal handle. The defibrillator will not discharge until the selected energy level is reached.			

Performance Criteria	Met	Not Met	Comments
<p>Note: If discharge control button is not pressed within 60 seconds, the stored energy is removed automatically.</p> <p>e. To manually remove an unwanted charge: LifePak 12 – press ENERGY SELECT OR SELECTOR KNOB. LifePak 20 – press ENERGY SELECT OR SELECTOR KNOB.</p> <p>Removes the paddles from the handles:</p> <p>a. Pushes paddles into handle until a positive stop is reached.</p> <p>b. Rotates handle counterclockwise until a second stop is reached.</p> <p>c. Slides paddle out of handle.</p>			
<p>Disconnects internal defibrillator paddles/handles:</p> <p>a. Rotates the black locking ring counterclockwise.</p> <p>b. Grasps the connector body and pulls gently.</p> <p>c. Reconnects with standard paddles or therapy cable.</p>			

Signature of Evaluator: _____

Date: _____

**Clinical Competency Program
 MEDICATION ADMINISTRATION
 Clinical Competency Description**

Unit(s): 3W, 3E, 3WICU, 3WCTU, 4W, 4E, 4WCCU, 5E, 5WRTU, 5EGCRC, 5WICU, 6W, 6WICU, 6E, 6EICU, 6ENNU, 7W, 7EL/D, 7ENLII, AMBULATORY CARE, BLOOD DONOR CENTER, CATH LAB, EMPLOYEE HEALTH, ENDOSCOPY, ER, NIR, OSSA, PACU, PAT, PEDS ER, PFF, PSYCH, UCC, VAT, WCT

Competency Statement: Demonstrates safe and appropriate knowledge for the administration of medications.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Identifies three appropriate devices used for the preparation and/or administration of medications.</p> <p>Identifies solid oral medications that can be altered by cutting, crushing, or opening in order to administer.</p> <p>Identifies four medications that require an independent double check.</p>	<p>Reviews the matrix for area specific medications: “Medication Administration Grid”.</p> <p>Reviews the “Medication Administration Devices Handout”.</p> <p>Reviews the “Altering of Oral Medications Handout”.</p> <p>Reviews policies/procedures related to Medication Administration:</p> <p>Handling high-alert medications-all sites of care. In: <i>Hospital and Medical Administration Policy and Procedure Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2009. Policy No. 396.</p> <p>Medication regulations and administration. In: <i>Nursing Policy Manual</i>. Torrance, CA: Harbor-UCLA Medical Center Department of Nursing; 2011:297.0-297.9.</p> <p>Prevention of tubing misconnections. In: <i>Hospital and Medical Administration Policy and Procedure Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2009. Policy No. 363A.</p>	<p>Completes Medication Administration Performance Checklist with 100% accuracy.</p>

**Clinical Competency Program
MEDICATION ADMINISTRATION
Performance Checklist**

Name _____




Pass / Fail





Performance Criteria	Met	Not Met	Comments
<p>Identifies appropriate device used for the preparation and/or administration of medications.</p> <p>RNs Given photographs of 5 medications (including parenteral nutrition), identifies the appropriate device used for the preparation and/or administration of. Refer to the "Medication Administration Grid" for area-specific medications.</p> <p>LVNs Identifies appropriate supplies used for the preparation and/or administration of the following:</p> <ul style="list-style-type: none"> • Insulin SQ • Heparin SQ • Liquid oral medication 			
<p>Identifies solid oral medications that can be altered by cutting, crushing, or opening in order to administer.</p> <p>a. Given photographs of 5 solid oral medications (e.g., tablets, capsules) identifies at least 1 that can be cut or altered in order to give a partial dose.</p> <p>b. Given photographs of 5 solid oral medications (e.g., tablets, capsules) identifies at least 2 that can be crushed prior to administration.</p>			
<p>Identifies medications that require an independent double check.</p> <p>a. Given photographs of 5 medications, identifies 4 medications that require an independent double check.</p>			



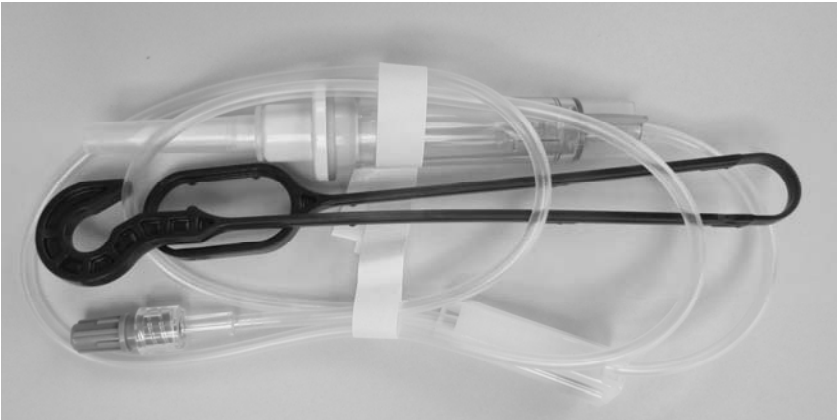
Signature of Evaluator: _____

Date: _____

**Skills Assessment Workshop, 2011
Medication Administration Devices Handout**

Medication	Device	Photo
<p>Dilantin IV Mannitol</p>	<p>0.22 micron filter</p>	 <p align="center">OR</p> 
<p>Insulin SQ</p>	<p>1 ml insulin safety syringe</p>	

Medication	Device	Photo
IV medication in a glass bottle	vented spike adapter	
Liquid oral medication	oral syringe	
Parenteral medication in an ampule	20 gauge filter needle	
Parenteral medication in a vial	Smartip cannula parenteral syringe	

Medication	Device	Photo
Heparin SQ	25 gauge needle and 3 ml syringe	
Parenteral Nutrition	Non-DEHP extension set with 1.2 micron downstream filter	
IVPB	Secondary IV tubing	

Skills Assessment Workshop 2011
MEDICATION ADMINISTRATION
Altering of Oral Medications

I. INTRODUCTION

Medications come in many forms. The most common preparation is the solid form that includes tablets and capsules. Often times, pills have to be altered prior to administration. Altering a medication includes cutting, crushing, and opening. Many patients in hospitals and clinics have swallowing difficulties and/or may be dependent on enteral feeding. These patients frequently use oral drugs that are usually administered through the feeding tube. This means that the solid oral dosage form must be altered (e.g., a tablet must be crushed, or a capsule must be opened) in order to be administered. If the medication cannot be altered, a liquid oral dosage form or alternative route of administration must be used. The cutting or crushing of tablets or capsules can cause a number of problems. Altering a medication destroys any protective coating that the drug may have and/or destroys specialized systems inside the pill/tablet/capsule designed to deliver a medication over an extended period of time. This handout will review common preparations of solid oral medications, the purpose of specially formulated delivery systems, and complications associated with altering these solid medications.

II. SCORED TABLETS

A tablet is a mixture of active substances that have been pressed or compacted into a solid. Tablets that are meant to be taken whole are generally smooth, and lack notches on the surface. These tablets are known as *unscored* tablets (Figure 1). Some tablets have one or more notches on the surface, which allows the tablet to be cut in half so that half the dose of the tablet can be given (Figure 2). Tablets with notches on the surface are known as *scored* tablets. For example, Synthroid is available in a 75 mcg scored tablet (Figure 2). If the physician prescribes a dose of 37.5 mcg, the 75 mcg tablet can be cut in half, and one half of the tablet given to the patient. Partial doses of solid medications should occur **only** if the medication is scored and able to be broken to the actual amount ordered. Take for example the Synthroid 100 mcg tablet seen in Figure 2. If the physician prescribes 25 mcg, the 100 mcg tablet can **not** be cut into quarters, because it is scored only once.

Figure 1. Unscored tablets. These must **NOT** be broken in order to give a partial dose

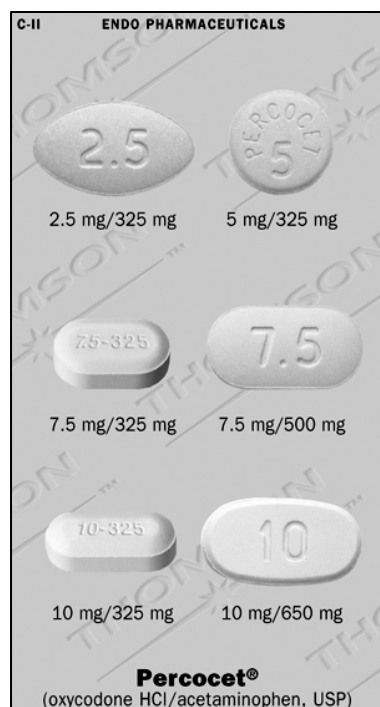
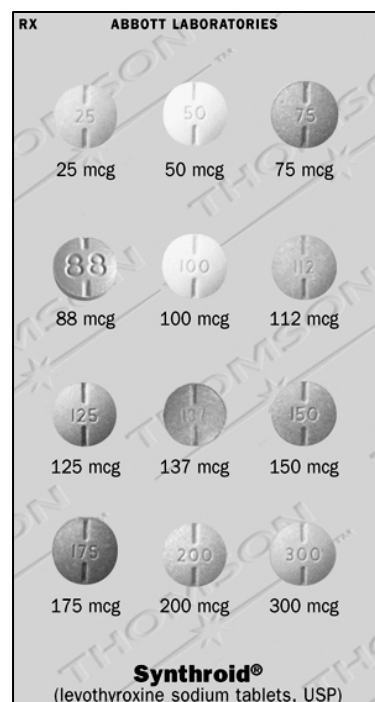


Figure 2. Scored tablets. These can be cut in half to give a half-dose.



III. CAPSULES

Encapsulation refers to a range of techniques used to enclose medicines in a shell known as a capsule. Hard shell capsules are generally used to encapsulate medicine that is in the form of a powder or granule (Figure 3). Soft shell capsules are usually used to hold medicine that is in the form of an oil. It is not possible to extract partial doses in exact amounts from capsules (Figure 4). Thus, capsules should **not** be opened, drained, or in any way altered in order to give a dose less than that contained in the capsule.

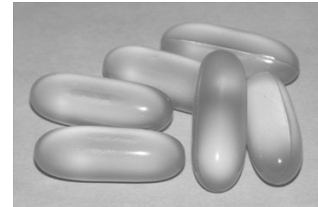
Figure 3. Hard shell capsule



IV. ORAL DISINTEGRATING TABLETS

An oral disintegrating tablet (ODT) is a solid dosage form containing medicinal substances which disintegrates rapidly, usually within a matter of seconds, when placed upon the tongue. ODTs can also be dissolved in water and administered via gastric tube. A common ODT is Prevacid Solutab. The ODT itself should **not** be cut in order to give a partial dose.

Figure 4. Soft shell capsule



V. COATED TABLETS

A. Film and sugar coated tablets

Some tablets are sugar coated (such as Premarin) or film coated (such as Motrin) to protect them from light.¹ Film and sugar coating serves a variety of purposes, including protecting the active ingredients from light and making the pill easier to swallow. Sugar and film coated tablets can be crushed, but if crushed must be administered as soon as possible to minimize the degradation of active ingredients by light.

B. Enteric-coated tablets

An enteric coated tablet is coated with a material that keeps the active ingredients from being released until they reach the small intestine. One reason for enteric coating is to prevent irritation to the gastric mucosa. Bisacodyl (Dulcolax) and Aspirin EC are coated for this reason. Splitting or crushing these tablets destroys the enteric coating and may lead to irritation of the gastric mucosa with subsequent gastrointestinal upset. Another purpose of enteric coating is to prevent disintegration of the drug in the stomach by gastric juices. Omeprazole (Prilosec) tablet is one such example. If the coating is destroyed, by crushing or chewing, the drug will be released in the stomach, where it may be improperly absorbed or inactivated and expose the stomach to potentially irritating ingredients. Cutting or crushing these tablets can lead to breakdown of the drug in the stomach, rendering it less effective. Enteric coated tablets are **not** to be split or crushed.

Enteric coated tablets can be identified by the initials "EC" on the label, eg, Aspirin EC, Videx EC (Figure 5).

Figure 5 Enteric coated tablet



VI. MODIFIED RELEASE PREPARATIONS

The rate of drug release from its solid form can be altered by modifying its design and composition. A modified release formulation can delay, prolong, sustain, or target drug delivery.² Modified release preparations allow the drug to be released over a predetermined time period, reducing the number of tablets/capsules the patient has to take each day without any loss of efficacy. Benefits of extended release preparations include improved compliance with taking medications and decreased side effects. Sustained-release or extended release preparations allow the dosage frequency to be halved compared with conventional dosing. For example, nifedipine (Procardia) comes as a 10 mg or 20 mg liquid filled capsule and as a 30 mg, 60 mg or 90 mg extended release tablet (Procardia ER). When prescribed for stable angina, the recommended adult dose of the *immediate* release preparation is 10 mg or 20 mg three to four times a day. However, the recommended adult dose of the *extended* release preparation is 30 mg or 60 mg once a day (Table 1). Therefore, it is imperative that the nurse reads the label prior to administering the medication to the patient and not administer an immediate release preparation if an extended release preparation has been prescribed and vice versa.

Table 1. Example of Immediate vs Modified Release Dosing (Usual Adult Dose)

Drug Name	Immediate Release Dose	Modified Release Dose
Nifedipine	Procardia 10 or 20 mg 3-4 times a day	Procardia ER 30 or 60 mg once a day
Phenytoin	Infatab 100 mg q 8 hours	Dilantin Extended Release 300 mg at bedtime

A drug can be made to release its ingredients slowly over time by a variety of methods. A common method is to encase the tablet or capsule granules with a highly specialized material designed for slow release. **This coating is different than film, sugar, and enteric coating.** Crushing or chewing a controlled release tablet or capsule destroys the extended-release properties, thereby shortening the duration of action, increasing serum drug levels, and increasing the risk of adverse effects or drug toxicity.^{3,4} Additionally, the drug's effect will not last as long and the patient's symptoms may recur before the next scheduled dose.

Modified release tablets should **not** be crushed or chewed.⁴ If the patient has swallowing difficulties or requires a liquid preparation for other reasons the provider should prescribe the liquid preparation. Cutting a modified release tablet in order to give a partial dose must be done only if the tablet is scored. For example, the Toprol-XL tablet is a scored tablet and may be cut in half to give a half-dose (Figure 6). However, an extended release tablet must **not** ever be crushed.

The technology in some capsules that renders them as modified release involves surrounding each granule inside the capsule with a specialized coating. These modified release capsules can be opened and the granules mixed with a liquid or other substance for administration. Often times, the substance in which the capsule can be mixed is very specific. For example, lansoprazole (Prevacid) extended release capsules can be opened and the granules sprinkled on applesauce, Ensure® pudding, cottage cheese, yogurt, or strained pears for easier swallowing.[†] Before opening any modified release capsule, the nurse **must** consult a drug reference, such as Micromedex, for complete drug administration recommendations.

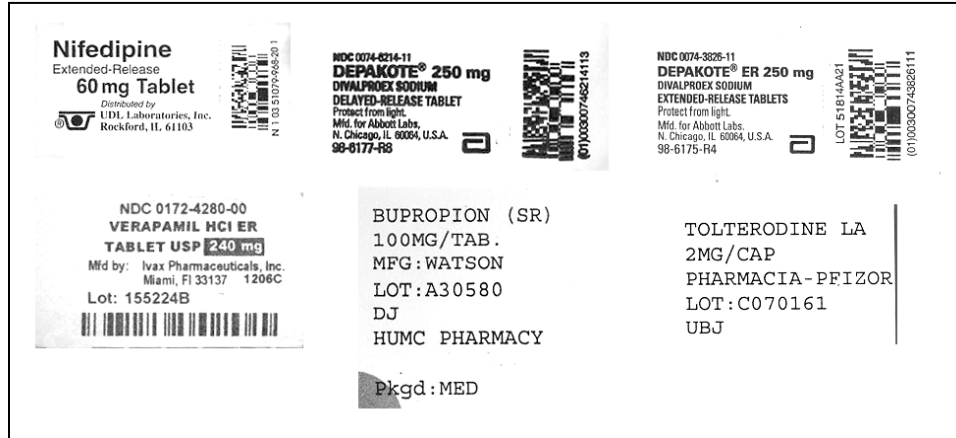
Figure 6. Toprol-XL. This extended release tablet is scored and may be cut in order to give a half-dose.



[†] For enteral tube administration, lansoprazole oral disintegrating tablet (ODT) is the preferred formulation.. This formulation can be mixed in water.

Modified release tablets and capsules can be identified by specific initials on the drug label (Figure 7).

Figure 7. Package examples of modified release pills.



There are many common abbreviations for modified-release formulations, including, but not limited to:

- CR – controlled-release
- CRT – controlled-release tablet
- ER/XR – Extended release
- LA – long acting
- MR – modified release
- SA – sustained action
- SR – sustained release/slow release
- TR – timed release
- TD – time delay
- XL – extended length

Understanding the abbreviations used on drug packaging to indicate extended release is helpful, however, relying on package label is not a substitute for verifying with a reference such as Micromedex. Drug labels do not always indicate that the drug is extended release. Avinza (morphine sulfate extended-release capsules) and Oxycontin (oxycodone controlled release) do not contain the familiar abbreviations on package label.

VII. SUBLINGUAL AND BUCCAL TABLETS

Sublingual and buccal tablets must be absorbed by the vasculature of the mouth. For this to happen, the drug (sublingual nitroglycerin, for example) must be placed under the tongue for several minutes and allowed to dissolve. If the nitroglycerin tablet is crushed and swallowed, the drug would be ineffective because the liver would rapidly metabolize most of the drug. Sublingual and buccal tablets should not be cut or crushed.

VIII. SUMMARY

Table 2 provides a summary of general rules for altering oral medications. In addition to physical characteristics about a drug's appearance (e.g., scored, not scored) and package labeling (e.g., identification of the medication as extended release), there are often other factors about a drug that make it safe or not safe to alter. The nurse should always consult a medication resource such as Micromedex prior to altering an oral medication for administration.

Table 2. General principles for cutting or crushing a medication.

Medication type	Safe to Cut?	Safe to Crush?
Scored tablet (immediate release)	Yes	Yes
Unscored tablet (immediate release)	No	Yes
Unscored tablet (extended release)	No	No
Extended release tablet or capsule	No*	No
Sublingual tablet	No	No
Oral disintegrating tablet	No	No
Scored sugar coated tablet (immediate release)	Yes	Yes
Enteric coated tablet	No	No

*If scored, an extended release tablet may be cut.

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2. Bauer LA. Individualization of drug therapy: Clinical pharmacokinetics and pharmacodynamics. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM (eds). *Pharmacotherapy: A Pathophysiologic Approach*. 3rd ed. Stamford, CT: Appleton & Lange; 1997:29-76.
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4. Morris H. Administering drugs to patients with swallowing difficulties. *Nursing Times*. 2005; 101 (39):28-30.

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**Clinical Competency Program
INFECTION PREVENTION
Clinical Competency Description**

Unit(s): 3W, 3E, 3WICU, 3WCTU, 4W, 4E, 4WCCU, 5E, 5WRTU, 5EGCRC, 5WICU, 6W, 6WICU, 6E, 6EICU, 6ENNU, 7W, 7EL/D 7ENLI, AMBULATORY CARE, BLOOD DONOR CENTER, CATH LAB, EMPLOYEE HEALTH, ENDOSCOPY, ER, HOME HEALTH, NIR, OR, OSSA, PACU, PAT, PEDS ER, PFF, PSYCH, UCC, VAT, WCT

Competency Statement: The nurse selects and demonstrates appropriate application of Personal Protective Equipment and hand hygiene technique for specific infection precaution categories.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>Lists two reasons for using infection prevention practices.</p> <p>Given a specific infection precaution: Identifies appropriate time frame and location for donning of Personal Protective Equipment.</p> <p>Demonstrates application of appropriate Personal Protective Equipment.</p> <p>Identifies appropriate location for removal of Personal Protective Equipment.</p> <p>Selects appropriate waste receptacle for disposal of Personal Protective Equipment.</p> <p>Identifies the proper hand hygiene technique for use before and after patient contact.</p>	<p>Reviews the following policies and materials:</p> <p>Precaution Guidelines handout in Skills Assessment Workshop packet.</p> <p>Policies and Procedures related to infection prevention and precaution categories.</p> <p>Isolation Policy. In: Infection Prevention and Control, Torrance, CA: Harbor-UCLA Medical Center, 2011. Available on Harbor Intranet: http://harborintranet/files/InfCont/IPC.2.pdf</p> <p>Personal Protective Equipment (PPE). In: Infection Prevention and Control, Torrance, CA: Harbor-UCLA Medical Center, 2011. Available on Harbor Intranet: http://harborintranet/files/InfCont/IPC.3.pdf</p> <p>Standard Precautions (SP). In: Infection Prevention and Control, Torrance, CA: Harbor-UCLA Medical Center, 2011. Available on Harbor Intranet: http://harborintranet/files/InfCont/IPC.12.pdf</p>	<p>Completes Infection Prevention performance checklist with 100% accuracy.</p>

**Clinical Competency Program
INFECTION PREVENTION
Performance Checklist**

Name _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
Lists two reasons to use infection prevention practices.			
Given a specific infection precaution: Identifies appropriate time frame and location for donning of Personal Protective Equipment: a. Standard b. Contact c. Droplet d. Airborne			
Demonstrates application of correct Personal Protective Equipment: a. Standard b. Contact c. Droplet d. Airborne			
States he/she would perform hand hygiene prior to contact with the patient.			
Identifies appropriate location for removal of Personal Protective Equipment.			
Selects appropriate waste receptacle for disposal of Personal Protective Equipment: a. Standard b. Contact c. Droplet d. Airborne			
Selects proper hand hygiene method to use after contact with the patient: a. Standard b. Contact c. Droplet d. Airborne			

Signature of Evaluator: _____

Date: _____

PRECAUTION GUIDELINES: In addition to Standard Precautions, use the following as appropriate to the patient's condition

	Airborne	Contact	Droplet
Personal Protective Equipment (PPE)	<p>Before entering the room, put on a mask (N-95 or higher respirator).</p> <p>If patient is not in an isolation room, patient must remain masked. Put on mask before entering patient bay.</p> <p>Wear additional PPE as indicated by patient condition and task.</p> <p>Dispose of mask outside of the room/patient bay.</p>	<p>Put on Personal Protective Equipment before any contact with the patient or his/her bedside environment.</p> <p>Wear Goggles/Mask/Face Shield if there is a possibility of splatter from blood or body fluids</p> <p>Use Gloves & Gowns when touching:</p> <ul style="list-style-type: none"> the patient's skin, wounds, or blood and body fluids environmental surfaces near the patient <p>Dispose of contaminated PPE inside of the room/patient bay.</p>	<p>Put on a mask (N-95 or higher respirator) before coming within three feet of the source of the patient's droplets (ie, mouth, nose, trach).</p> <p>Wear additional PPE as indicated by patient condition and task</p> <p>Dispose of contaminated PPE inside of the room/patient bay</p>
Hand Hygiene	<p>Use Hand Hygiene (an alcohol based hand rub or soap & water) before and after:</p> <ul style="list-style-type: none"> contact with the patient contact with patient environment (anything near or touching the patient) using gloves <p>See Hand Hygiene section of Standard Precautions.</p>	<p>Use Hand Hygiene (an alcohol based hand rub or soap & water) before and after:</p> <ul style="list-style-type: none"> contact with the patient contact with patient environment (anything near or touching the patient) using gloves use soap and water only if patient has C. difficile or B. anthracis. <p>See Hand Hygiene section of Standard Precautions.</p>	<p>Use Hand Hygiene (an alcohol based hand rub or soap & water) before and after:</p> <ul style="list-style-type: none"> contact with the patient contact with patient environment (anything near or touching the patient) using gloves <p>See Hand Hygiene section of Standard Precautions.</p>
Patient Placement	<p>Patients must be placed in a private negative pressure room. Keep door closed at all times.</p> <p>In clinics, patients with known or suspected airborne infections must wear a mask.</p>	<p>Private room, if possible. Cohorting is permissible if:</p> <ul style="list-style-type: none"> same disease/organism no immunocompromised patients in the same room <p>Refer to Infection Prevention & Control Manual.</p>	<p>Private room, if possible. Cohorting is permissible if:</p> <ul style="list-style-type: none"> same disease/organism no immunocompromised patients in the same room patients are at least 3 feet apart with the curtains drawn <p>Refer to Infection Prevention & Control Manual.</p>
Patient Transport	<p>Patient must wear a mask. No mask required for staff.</p>	<p>Cover all wounds when transporting patient.</p>	<p>Patient must wear a mask. No mask required for staff.</p>

Precaution Guidelines

Standard Precautions: Use For All Patients	
Personal Protective Equipment (PPE)	<p>Wear gloves when it can be reasonably anticipated that contact with blood or other potentially infectious materials (OPIM), mucous membranes, and non-intact skin will occur. Change gloves between patients and when moving between contaminated areas of the body, or from a contaminated to a clean area.</p> <p>Wear Gowns to prevent soiling of clothing.</p> <p>Use mask, eye protection, face shield when performing activities likely to cause splashes of blood or body fluids.</p> <p>Dispose of PPE inside of the room.</p> <ul style="list-style-type: none"> • <u>Exception</u>: masks are disposed of outside the negative pressure room if patient is on airborne precautions.
Hand Hygiene	<p>Use an alcohol-based hand product as the preferred means for routine hand antisepsis in clinical situations described below if hands are not visibly soiled. If alcohol-based hand product is not available, wash hands with soap and water before and after:</p> <ul style="list-style-type: none"> • contact with the patient • contact with anything near or touching the patient • using gloves <p>Use of Soap & Water is required:</p> <ul style="list-style-type: none"> • when hands are visibly dirty • after contact with patients with diarrhea • use soap and water only if patient has C. difficile or B. anthracis. • after using the restroom.
Respiratory Hygiene/ Cough Etiquette	<p>Cover nose/mouth when coughing or sneezing.</p> <p>Cough or sneeze into upper arm (“vampire cough”) instead of into hands.</p> <p>Dispose of tissues after use. Use hand hygiene after coughing or sneezing into hands or handling used tissues.</p>
Safe Injection Practices	<p>Do not recap, bend, break, or hand-manipulate used needles. Use the device safety feature, when available. If recapping is required, use a one-handed scoop technique only. Place used sharps in designated containers.</p>

Reviewed By Infection Preventionists June 29, 2011
 Alma Belis, RN
 Jenifer Ramsay, RN

**Clinical Competency Program
HAND-OFF COMMUNICATION/TUBING MISCONNECTIONS
Clinical Competency Description**

Unit(s): 3W, 3E, 3WICU, 3WCTU, 4W, 4E, 4WCCU, 5E, 5WRTU, 5EGCRC, 5WICU, 6W, 6WICU, 6E, 6EICU, 6ENNU, 7W, 7EL/D 7ENLII, AMBULATORY CARE, BLOOD DONOR CENTER, CATH LAB, ENDOSCOPY, ER, NIR, OR, OSSA, PACU, PAT, PEDS ER, PFF, PSYCH, UCC, VAT, WCT

Competency Statement: Identifies the purpose of hand-off communication, including the role of the nurse, when a discrepancy has been identified.

Critical Behaviors	Learning Activities	Method of Evaluation
<p>States one purpose of hand-off communication.</p> <p>Identifies three components of hand-off communication.</p> <p>Identifies the role of the nurse in the management of a patient with lines. [Psych/Ambulatory Care excluded]</p> <p>States responsibility when hand-off communication discrepancy is identified.</p> <p>Performs validation of a hand-off communication received.</p>	<p>Reviews the policies/manuals related to Hand-off Communication:</p> <p>Hand-off communication, nursing. In: <i>Nursing Policy Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2008:200.0-200.18.</p> <p>Harbor-UCLA Medical Center Department of Nursing. Patient care management, hand-off communication. In: <i>Reorientation: Self-Study Guide</i>; 2010: 42-47. http://harborintranet/files/nursing/2010%20Nursing%20Reorientation%20Manual.pdf</p> <p>Prevention of tubing misconnections. In: <i>Hospital and Medical Administration Policy and Procedure Manual</i>. Torrance, CA: Harbor-UCLA Medical Center; 2011. Policy 363A.</p>	<p>Completes the Hand-off Communication Performance Checklist with 100% accuracy.</p>

**Clinical Competency Program
HAND-OFF COMMUNICATION/TUBING MISCONNECTIONS
Performance Checklist**

Name: _____

Pass / Fail

Performance Criteria	Met	Not Met	Comments
States one purpose of hand-off communication.			
Identifies three components of hand-off communication.			
Identifies the role of the nurse during hand-off communication specifically related to lines/tubes/catheters present in a patient [Psych/Ambulatory Care excluded].			
States responsibility when hand-off communication discrepancy is identified.			
Performs validation of hand-off communication received.			

Signature of Evaluator: _____

Date: _____

Harbor- UCLA Medical Center
Department of Pathology
Point of Care

2011 Competency Assessment for Point of Care Testing

HEMOCUE HEMOGLOBIN TEST

Instructions to the Employee:

Read the following materials, and answer the Competency Assessment Test and Answer Sheet for each POCT test that you perform.

DEFINITION

Point of Care Testing (POCT) involves the performance of laboratory test at a location where patient receives care (inpatient or outpatient).

PURPOSE

Point of Care Testing in this facility is used for screening, as part of overall patient assessment or following a patient's response to therapy.

(See Hospital Policy Number 365)

The most significant use of POCT is for the immediate clinical assessment and efficiency in the management of seriously ill patients.

QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM

QA/QC Program are developed to assure compliance with the standards of regulatory and accreditation agencies. Most importantly, the program assures that test is performed properly and results are reported accurately for the overall benefit to patient care.

The key components of the QA/QC Program:

1. Licensed and trained staff identified with their employee ID number must perform POCT test.
2. Staff must be assessed for competency 6 months after training and annually thereafter. Staff must performed CAP approved Proficiency Testing.
3. Patient test must be identified with medical record number.
4. Quality control test must be performed as required for each test before performing patient test.
5. All reagents and controls must be kept in appropriate temperatures. Expiration date must be observed. Expired reagents and controls must be discarded.
6. POCT instrument must be cleaned and maintained as required.
7. Corrective action must be documented for each failed QC or each critical result.
8. Instrument data must be downloaded and reviewed weekly.
9. Appropriate corrective action must be done for non-compliance, which is reported to Pathology, Nursing, Medical and Hospital Administration and Clinical Laboratory Committee.

HEMOCUE

HemoCue analyzer is used for quantitative determination of hemoglobin in whole blood using specially designed photometer and microcuvettes.

Hemoglobin is an unstable analyte in which accuracy of results are affected by:

A. Proper Sampling Technique

- Make sure hand is warm and relaxed. Heat cold hands in warm water. This increases blood circulation. Patient's finger should be straight, but not tense, to avoid stasis.
- For best results, use middle finger or ring finger. Avoid fingers with rings.
- Clean puncture site with disinfectant and allow to dry.
- Using your thumb, lightly press finger from the top of the knuckle to the tip. This will stimulate the blood flow.
- With the thumb's gentle pressure at the tip of the finger, prick at the side of the tip with lancet. This is where blood flow is best and the least painful.
- Wipe away first **two drops of blood** to stimulate blood flow and to get rid of excess interstitial fluid. **AVOID MILKING.**
- Introduce the tip of cuvette into the middle of the drop.
- Fill cuvette in one continuous process.
- Wipe off excess blood on the outside of the cuvette tip (like wiping a butter knife).
Make sure blood is not drawn out in the process. Make sure there are no bubbles.
- Place the filled cuvette in the cuvette holder immediately and at the latest 10 minutes after it has been filled.
- If a second sample is to be taken from the same fingerstick, it must be obtained immediately after first testing. Wipe away the remains of the first drop and take a sample from a new drop of blood.

B. Proper Maintenance or Cleaning of the Analyzer.

Hemocue cuvette holder must be cleaned daily.

- Remove cuvette holder from the analyzer.
- Clean cuvette holder with mild soap and water and disinfect with alcohol /Super Sani wipes (2 minute "wet time").
- Clean outer surfaces with alcohol or Super Sani wipes (2 minute "wet time").
- Make sure cuvette holder is **completely dry**. Replace in the Analyzer.
- Document performance of this by recording "Cleaned Analyzer" in the Add Comment section after performing the quality control checks.

HemoCue Optronics Unit

- Moisten cotton swab with water and squeeze out excess moisture.
- Remove cuvette holder and insert cotton swab in the cuvette holder opening.

- Swab back and forth on the upper surface, especially the optronic eye. Repeat until cotton swab no longer exhibits any blood residue.
- Swab the area just cleaned with a dry, clean cotton swab.
- Document performance of this task by following procedure stuck on the analyzer.
- Perform Quality Control
- **DO NOT PRESS HARD ON THE “TOUCH” SCREEN NOR USE SHARP OBJECTS**

C. Proper Handling of Reagent and Controls

- Quality Control reagents must be kept in refrigerator to prevent deterioration.
- It is stable for 3 weeks after opening
- It must be tested at room temperature. Mix well by gentle inversion before testing.
- Microcuvettes must be kept at room temperature.
- It is stable for 3 months after opening. Always have an Open Date and Expiration Date on the vial.
- Cap must be replaced tightly to avoid contamination and moisture.

D. Critical Points to Remember When Performing Hemocue Test

- All appropriate safety guidelines should be followed and gloves should be worn at all times during testing procedure.
- Liquid quality controls (Low and Normal) should be performed every 24 hours or when unit is dropped.
- When QC fails, enter corrective actions in the Add Comment section and check for the following and repeat the test:
Is the analyzer clean? If not, clean cuvette holder and the Optronic unit with a moistened cotton swab and dry well.
Have you mixed the controls well?
Are the controls at room temperature? Are they returned to the refrigerator after using?
Are the controls stable? Have they been out at room temperature overnight? If so, obtain new controls.
Are you using the correct control? Check label on vial and lot number.
Are controls expired? Check expiration date.
If needed, obtain a new set of controls from the laboratory.
- When QC fails despite correcting the possible causes identified above, replace the instrument. Go the laboratory specimen processing window, fill the Replacement Instrument Form and obtain a replacement device.
Do not repeat QC more than 4 times if suspected problems have been checked out.
- When performing Patient Test and the result is CRITICAL as shown on the screen, enter the corrective action in the Add Comment area.
Follow the corrective action entered in the instrument. Example: If Sent to Lab is entered, make sure a specimen is sent to the laboratory for verification.
- When Low Bat appears on the screen place in the docking station to recharge.
- Turn on machine while docking to transfer data on a daily basis.
- When reviewing results, press the chart icon and go to Review Data. Follow the prompts to access results.

Harbor- UCLA Medical Center
 Department of Pathology
 Point of Care

2011 Competency Assessment for Point of Care Testing

TEST AND ANSWER SHEET FOR HEMOCUE

PRINT NAME (LAST NAME, FIRST)	Employee NO.	Job Class	Work Area/Shift	Date	Score	PASS or FAIL
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Signature

Instruction: Circle the best answer to each question. Submit completed test to Nurse Manager or designate.

- 1. After obtaining a fingerstick sample for Hemocue testing, it is important to wipe off excess blood**
 - a. By wiping the outside of the cuvette tip with a tissue or paper towel making sure that no blood is drawn out of the cuvette in the process.
 - b. Wiping the very tip of the cuvette where the blood was drawn in.
 - c. Wiping any way you like even if some blood has been drawn out.
 - d. Wiping is not necessary.

- 2. To assure that the instrument is cleaned daily as required,**
 - a. Clean cuvette holder and cuvette optronic unit before performing QC test.
 - b. Document the cleaning analyzer task right after performing the first QC of the day.
 - c. Use alcohol /Super Sani cloths on outer surfaces.
 - d. All of the above

- 3. The docking station is**
 - a. Used to recharge the HemoCue device.
 - b. Used to transfer data on a daily basis by turning on the device first.
 - c. Used as a printer as well
 - d. Only a and b are correct

- 4. When the Quality Control fails, you must**
 - a. Enter a corrective action comment.
 - b. Investigate why the QC fails, correct the cause and repeat the test
 - c. Just keep on repeating the test. It should pass somehow.
 - d. Only a and b are correct

- 5. When patient result is Critical, you must**
 - a. Pull out the cuvette holder; press the comment icon to document a comment.
 - b. Repeat the test to verify result and follow up on the comment message entered.
 - c. No repeat testing is necessary. It must be right. Record result and do nothing.
 - d. Only a and b are correct

METHODOLOGY DIRECT OBSERVATION: _____ **PASS** _____ **FAIL** **By:** _____

Harbor- UCLA Medical Center
Department of Pathology
Point of Care

2011 Competency Assessment for Point of Care Testing

LIFESCAN SURESTEP FLEXX GLUCOSE TEST

Instructions to the Employee:

Read the following materials, and answer the Competency Assessment Test and Answer Sheet for each POCT test that you perform.

DEFINITION

Point of Care Testing (POCT) involves the performance of laboratory test at a location where patient receives care (inpatient or outpatient).

PURPOSE

Point of Care Testing in this facility is used for screening, as part of overall patient assessment or following a patient's response to therapy.

(See Hospital Policy Number 365)

The most significant use of POCT is for the immediate clinical assessment and efficiency in the management of seriously ill patients.

QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM

QA/QC Program are developed to assure compliance with the standards of regulatory and accreditation agencies. Most importantly, the program assures that test is performed properly and results are reported accurately for the overall benefit to patient care.

The key components of the QA/QC Program:

1. POC test must be performed by licensed and trained staff identified with their employee ID number.
2. Staff must be assessed for competency 6 months after training and annually thereafter. Staff must perform CAP approved Proficiency Testing.
3. Patients' who have POC testing must be identified with their medical record number.
4. Quality control testing must be performed as required (e.g. every eight hours) for each test before performing patient tests.
5. All reagents and controls must be kept at the appropriate temperatures. Expiration dates must be observed. Expired reagents and controls must be discarded.
6. POCT instruments must be cleaned and maintained as required.
7. Corrective action must be documented for each failed QC or each critical result.
8. Instrument data must be downloaded and reviewed weekly.
9. Appropriate corrective action must be done for non-compliance, which is reported to Pathology, Nursing, Medical and Hospital Administration and Clinical Laboratory Committee.

LifeScan SureStep FLEXX Glucometer

LifeScan Sure Step Flexx Glucometer is used for quantitative determination of glucose in whole blood.

Accuracy of result is affected by:

A. Proper Sampling Technique

Obtain a drop of blood from finger or heel using a lancing device. When obtaining blood from finger,

- Make sure hand is warm and relaxed. Heat cold hands in warm water. This increases blood circulation. Patient's finger should be straight, but not tense, to avoid stasis.
- For best results, use middle finger or ring finger. Avoid fingers with rings.
- Clean puncture site with disinfectant and allow to dry.
- Using your thumb, lightly press finger from the top of the knuckle to the tip. This will stimulate the blood flow.
- With the thumb's gentle pressure at the tip of the finger, prick at the side of the tip with lancet. This is where blood flow is best and the least painful.
- Wipe away first drop of blood. **AVOID MILKING.**
- Carefully touch the PINK TEST square of the test strip to the drop of blood. The test area will quickly absorb.
- Test immediately. However, blood can be tested up to 2 minutes from the time sample is applied on the strip.

When obtaining blood from a syringe, touch the tip of the syringe to the pink test square. Gently apply pressure to the plunger. As the blood emerges from the tip of the syringe, it is absorbed by the test square.

If white pad becomes saturated you have applied too much blood. Repeat the application with a new strip

The confirmation dot on the back of the test strip should be completely blue for an accurate test. If white patches or streaks are visible on the confirmation dot, you have not applied enough blood. Repeat application with a new strip.

B. Proper Maintenance or Cleaning of the Analyzer

Harbor – UCLA follows DHS recommendation of cleaning the glucometer (test strip holder and lens) after each use.

- Press down on the left side of the strip holder (the end closest to the power button).
This releases the holder allowing you to slide it from the unit.
- Disinfect the test strip holder (cover and base), lens, and contact points with 10% bleach (Gluco-Chlor Wipes) or Super-Sani Cloths. Leave on for 5 minutes as a "wet kill" time.
- Follow with cotton swab dampened with water to remove any residue from the bleach.
- Dry test strip holder, lens and contact points with a soft cloth or lint free tissue
- Slide the closed test strip holder into the unit until it clicks into place.
- If necessary, wipe the surface of the analyzer with the above mentioned wipes followed with paper towel dampened with water and dry with a soft tissue.

- Document each cleaning by pressing Enter Notes, “Cleaned Meter” at least once per day.

C. Critical Points to Remember When Performing Lifescan Glucometer Test

- All appropriate safety guidelines should be followed and gloves should be worn at all times during testing and testing procedure.
- Glucose test strip and controls must be stored at room temperature in the tote box provided.
- Open and expiration date must be on the bottle each time a new bottle is opened. Use orange expiration stickers if possible. Test strips are stable for 4 months after opening. Glucose controls are stable for 3 months after opening.
- Quality Control (Low Control and High Control) must be performed at least once every 24 hours or when device is dropped. A drop of control is applied to the pink area of the test strip. Make sure the blue confirmation dot on the reverse side is of one color.
- When QC fails, you must ENTER NOTE, check for the following and repeat the test:
Did you use the correct control? Always read label on the vial and verify lot numbers and expiration date.
If you used the wrong control, you must enter note PROCEDURE ERROR. This will delete the data from the memory and will not affect statistical calculation of control values.
Did you shake the controls vigorously?
Are the controls expired?
Are you using the correct lot number of controls?
Are you using the correct lot number of test strips?
Is the analyzer clean?

If needed, obtain new controls from the laboratory
- When QC fails despite reading the POCT lab manual and correcting the possible causes identified above, replace the instrument. Go to the laboratory specimen processing window and fill out the Replacement Instrument Form to obtain a new device.
- When performing a patient test and the result is CRITICAL as shown on the screen, you must press Enter Note button and select up to 3 appropriate notes. Follow the corrective note entered in the instrument. Example: If Sent to Lab is entered, make sure a specimen is sent to the laboratory for verification.
- When LOW BAT appears on the screen or when the battery bar is low, replace the batteries. Obtain batteries from the Nurse Manager or Charge Nurse. Do not replace instrument with a new instrument if battery is low.

Harbor- UCLA Medical Center
 Department of Pathology
 Point of Care

2011 Competency Assessment for Point of Care Testing

TEST AND ANSWER SHEET FOR LIFESCAN SURESTEP FLEXX

PRINT NAME (LAST NAME, FIRST)	Employee No.	Job Class	Work Area/Shift	Date	Score	PASS or FAIL
Signature						

Instruction: Circle the best answer to each question. Submit completed test to Nurse Manager or designate. (PASS is score of equal to or greater than 80%)

1. **Although it is recommended that the test strip be tested immediately after application of sample, how much time is allowed for you to insert the test strip into the meter after the control solution and patient sample is applied to the strip?**
 - a. 30 seconds
 - b. 1 minute
 - c. 2 minutes
 - d. 5 minutes

2. **For Infection Control purposes, POCT follows DHS recommendation to clean Sure Step Flexx glucometer**
 - a. After each use, that is, after every patient with Gluco-Chlor wipes or Super-Sani Cloths
 - b. Only after testing a patient diagnosed with HIV or Hepatitis
 - c. Only once a day even if glucometer is used many times throughout the day
 - d. Only when you see blood

3. **When the Quality Control fails, you must**
 - a. Enter note. Select PROCEDURE ERROR if you have used the wrong control.
 - b. Investigate why the QC fails, correct the cause and repeat the test
 - c. Keep on repeating the test. It should pass somehow.
 - d. Only a and b are correct

4. **When patient result is Critical, you must**
 - a. Enter note.
 - b. Repeat the test to verify result and follow up on the note entered.
 - c. No repeat testing is necessary. It must be right. Record result and do nothing.
 - d. Only a and b are correct

5. **It is important to follow POCT QA/ QC program to assure that Harbor complies with regulation, analyzer and reagents are functioning properly, proper techniques are observed and patient results are accurate. Some key components are:**
 - a. When performing test, always enter correct operator ID (Your employee number) and enter correct patient ID (Medical Record Number)
 - b. Always write Open Date when opening reagents. Check expiration date before testing.
 - c. Clean analyzer and wait for a 5 minute “wet kill” time.
 - d. All of the above

METHODOLOGY DIRECT OBSERVATION: _____ **PASS** _____ **FAIL** **By:** _____

2011 Competency Assessment for Point of Care Testing

i-STAT ANALYZER

Instructions to the Employee:

Read the following materials, and answer the Competency Assessment Test and Answer Sheet for each POCT test that you perform.

DEFINITION

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PURPOSE

Point of Care Testing in this facility is used for screening, as part of overall patient assessment or following a patient's response to therapy.

(See Hospital Policy Number 365)

The most significant use of POCT is for the immediate clinical assessment and efficiency in the management of seriously ill patients.

QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM

QA/QC Program are developed to assure compliance with the standards of regulatory and accreditation agencies. Most importantly, the program assures that test is performed properly and results are reported accurately for the overall benefit to patient care.

The key components of the QA/QC Program:

1. Licensed and/or trained staff identified with their employee ID numbers must perform POCT tests.
2. Staff must be assessed for competency 6 months after training and annually thereafter. Staff must performed CAP approved Proficiency Testing.
3. Patients must be identified with their correct medical record number.
4. Quality controls must be performed as required by the POCT procedure manual for each test before performing testing on patients.
5. All reagents and controls must be kept in appropriate temperatures. Expiration dates must be observed. Expired reagents and controls must be discarded.
6. POCT instrument must be cleaned and maintained as required.
7. Corrective action must be documented for each failed QC or each critical result.
8. Instrument data must be downloaded and reviewed weekly.
9. Appropriate corrective action must be done for non- compliance, which is reported to Pathology, Nursing, Medical and Hospital Administration and Clinical Laboratory Committee.

The I- STAT handheld analyzer is used with I-STAT cartridges for quantitative measurement of various analytes, such as blood gases, electrolytes and ionized calcium in whole blood.

Accuracy of result is affected by:

A. Proper Sample Collection

Only fresh whole blood sample either without anticoagulant or with an appropriate heparin anticoagulant. Blood may be obtained by venipuncture, arterial puncture or skin puncture (fingerstick or heelstick)

Observe the following precautions.

- Do not draw from arm with IV lines. IV solutions will dilute the sample.
- Do not apply tourniquet for more than one minute while looking for a vein. This will cause localized stasis, which can increase potassium and pH result and decreased ionized results. Release and reapply after two to three minutes.
- Do not remove tourniquet until all blood is withdrawn to prevent changes in ionized calcium and pH.
- Do not clench or unclench the fist. This will increase potassium result.
- Do not expose sample to air.
- Avoid hemolysis. This will increase potassium result.
- Fill syringe with anticoagulant to capacity. Incomplete filling will cause higher heparin to blood ratio, which will decrease ionized calcium result and may affect other results.
- Gently mix blood immediately to avoid clotting. Mix by rolling between the palms for at least 5 seconds, then invert syringe repeatedly for at least 5 seconds.
- Do not ice the sample. Icing will increase potassium and will affect oxygen levels.
- For fingerstick or heelstick, wipe away first drop of blood as it contains excess tissue fluid, which can increase potassium result and dilute other result.
- Test blood immediately after draw. Test samples without anticoagulant within 3 minutes. Test samples with heparin within 10 minutes.

B. Proper Handling of the Cartridge

- Do not remove cartridge from its protective pouch until the pouch is at room temperature. Condensation on the cartridge pads may prevent proper contact with the analyzer. Use cartridge immediately after removing from the pouch.
- Do not contaminate contact pads with fingerprints or talc.
- Do not touch the central area of the label as the calibrant pack underneath could burst prematurely.
- Do not block the air vent, as the sample will not be able to flow to the fill mark.
- Do not use cartridge on which blood or other fluid is spilled.
- Do not use expired cartridge. Cartridge expires 2 weeks after leaving them at room temperature.

Always write open date and new expiration date on the box.

C. Proper Application of the Sample

- Place cartridge on a flat surface or hold it in a horizontal position.
- Do not hold cartridge between fingers if using a syringe with needle to fill.
- Direct the tip of syringe or capillary tube into the sample well.
- Dispense sample slowly and steadily until it reaches the fill mark on the cartridge level.

- Discard the cartridge and fill another if bubbles are trapped in the sample chamber. Bubbles will be detected as INSUFFICIENT SAMPLE.
- Fill sample well completely. If sample reaches fill mark, but sample well is empty, this will be detected as INSUFFICIENT SAMPLE.
- If sample well fills but the sample chamber does not, ensure air vent is not blocked. Tilt the cartridge slightly so that gravity aids the flow. If sample is short of fill mark, this will be detected as SAMPLE POSITIONED SHORT OF FILL MARK.
- If sample well is so full, do not wipe or absorb excess with a gauze or tissue. Draw excess back into the syringe or capillary tube.
- Avoid spreading the sample over the outside of the sample well. An airtight seal may not form upon closure of the cartridge. This will be detected as UNABLE TO POSITION SAMPLE.
- Fold the snap closure over the sample until it snaps into place.
- Do not exert excessive pressure on the closure as it may push the sample beyond the fill mark. This will be detected as SAMPLE POSITIONED BEYOOND FILL MARK.
- Closing cartridge before sample chamber is filled will stop the flow of the sample. This will be detected as SAMPLE POSITIONED SHORT OF FILL MARK.
- Make sure that cartridge is closed before inserting into analyzer. Failure to close prevents sample movement and can cause sample to flow backward. This will be detected as UNABLE TO POSITION SAMPLE.

D. Critical Points to Remember When Performing I-STAT Testing

- All appropriate safety guidelines should be followed and gloves should be worn at all times during testing procedure.
- I-STAT cartridges must be stored in the refrigerator. When ready to use, warm cartridge to room temperature. If the box of cartridge is to be left at room temperature, write open date and new expiration date on the box, which is 2 weeks after opening.
- Follow proper handling of cartridge and proper application of sample as indicated above.
- Do not remove cartridge from the analyzer while CARTRIDGE LOCKED appears on screen. If cartridge is removed while CARTRIDGE LOCKED is on, this will cause permanent damage to the analyzer.
- Quality control is by internal simulation automatically performed by instrument every eight hours. When simulation fails, an error code will show on the screen. Obtain a replacement instrument from the laboratory and fill Replacement Form completely. POCT will investigate the problem.
- When LOW BAT appears on the screen, replace batteries with 2 9V batteries. These batteries may be obtained from the laboratory if needed.
- Clean the surface of the analyzer with Gluco-Chlor wipes and leave on for 5 minutes “wet time”, followed with paper towel dampened with water. Wipe with dry paper towel. No other maintenance is necessary. Be careful not to contaminate the electronic and battery compartment with any liquid as this will cause permanent damage to the analyzer

Harbor- UCLA Medical Center
 Department of Pathology
 Point of Care

2011 Competency Assessment for Point of Care Testing

TEST AND ANSWER SHEET FOR I-STAT

PRINT NAME (LAST NAME, FIRST)	Employee No.	Job Class	Work Area/Shift	Date	Score	PASS or FAIL
Signature _____						

Instruction: Circle the best answer to each question. Submit completed test to Nurse Manager or designate. (PASS is score of equal to or greater than 80%)

1. **When obtaining whole blood for blood gas testing, remember:**
 - a. Fill syringe to the recommended capacity. Under filling a syringe, which contain heparin, will decrease results due to dilution and decrease ionized calcium results due to binding.
 - b. Mix blood and anticoagulant by rolling in between palms for at least 5 seconds and inverting syringe repeatedly for at least 5 seconds.
 - c. Test blood immediately after draw. Test heparinized samples within 10 minutes.
 - d. All of the above

2. **Improper handling of the cartridge and improper application of the sample will result to error codes such as:**
 - a. Preburst
 - b. Insufficient Sample or Unable to Position Sample
 - c. Sample Positioned Beyond Fill Mark or Sample Positioned Short of Fill Mark
 - d. All of the above

3. **Error codes may appear when:**
 - a. you touch the contact pads
 - b. you exert excessive pressure over the central area of the label as the calibrant pack
 - c. you do not fill the sample well completely
 - d. All of the above

4. **Clean the i-STAT analyzer by:**
 - a. Using Gluco-Chlor wipes and leave on for 5 minutes.
 - b. Using Alcohol Prep wipes for everything.
 - c. Using water only.
 - d. Washing under running water.

5. **It is important to follow POCT QA/ QC program to assure that Harbor complies with regulation, analyzer and reagents are functioning properly, proper techniques are observed and patient results are accurate. Some key components are:**
 - a. When performing test, always enter correct operator ID (Your employee number) and enter correct patient ID (Medical Record Number)
 - b. Always write Open Date when opening reagents. Check expiration date before testing.
 - c. Clean analyzer as required.
 - d. All of the above

METHODOLOGY DIRECT OBSERVATION: _____ **PASS** _____ **FAIL** **By:** _____

2011 Competency Assessment for Point of Care Testing

URINE PREGNANCY BY STANBIO TRUE 20 PLUS CC hCG

Instructions to the Employee:

Read the following materials, and answer the Competency Assessment Test and Answer Sheet for each POCT test that you perform.

DEFINITION

Point of Care Testing (POCT) involves the performance of laboratory test at a location where patient receives care (inpatient or outpatient).

PURPOSE

Point of Care Testing in this facility is used for screening, as part of overall patient assessment or following a patient's response to therapy.

(See Hospital Policy Number 365)

The most significant use of POCT is for the immediate clinical assessment and efficiency in the management of seriously ill patients.

QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM

QA/QC Program are developed to assure compliance with the standards of regulatory and accreditation agencies. Most importantly, the program assures that test is performed properly and results are reported accurately for the overall benefit to patient care.

The key components of the QA/QC Program:

1. POCT test must be performed by licensed and trained staff identified with their employee ID number.
2. Staff must be assessed for competency 6 months after training and annually thereafter. Staff must performed CAP approved Proficiency Testing.
3. Patient test must be identified with medical record number.
4. Quality control test must be performed as required for each test before performing patient test.
5. All reagents and controls must be kept in appropriate temperatures. Expiration date must be observed. Expired reagents and controls must be discarded.
6. POCT instrument must be cleaned and maintained as required.
7. Corrective action must be documented for each failed QC or each critical result.
8. Instrument data must be downloaded and reviewed weekly.
9. Appropriate corrective action must be done for non- compliance, which is reported to Pathology, Nursing, Medical and Hospital Administration and Clinical Laboratory Committee.

The TRUE 20 PLUS is a rapid and sensitive immunoassay for the qualitative detection of hCG in urine. It is intended for use as an aid in the diagnosis of early pregnancy.

Factors affecting accuracy are:

A. Correct amount of urine sample

- For control test, dispense THREE (3) drops of control from the control vial.
- For patient test, dispense THREE (3) drops of urine from a patient using the pink disposable dropper supplied in the kit.
- Urine collected any time of the day may be used. For optimal results, test the first urine voided in the morning as it contains the greatest concentration of hCG.

B. Proper Handling of Reagent and Controls

- Quality Control reagents must be kept in refrigerator to prevent deterioration.
- It is stable for up to the expiration date indicated on the bottle if stored in refrigerator right after use. If it is kept at room temperature, expiration date changes to 30 days after it's opened. Always write open date and new expiration date if needed.
- Reaction units are stored at room temperature.
- Reaction unit must remain in the foil until you are ready to perform test.

C. Critical Points to Remember When Performing Urine hCG Test

- All appropriate safety guidelines should be followed and gloves should be worn at all times during testing.
- **YOU MUST READ RESULT AT 3 MINUTES AFTER DISPENSING THE 3 DROPS OF SAMPLE. You will miss weak positive result if you read sooner than 3 minutes.**
- Perform Quality Control consisted of Quantimetrix Level 1 and Quantimetrix Level 2 once on each day of testing. This is a requirement by regulatory agencies.
- Write results of quality control on appropriate logsheets. Remember to write the cartridge lot number and expiration date.
- The colored line in the C (control) zone must be present with each test. This is an internal control which validates that the reaction unit is working properly and the test was performed correctly. A clear background that does not interfere with the reading is another internal control that needs to be documented with every test.
- If the colored line is not present in the C zone, the test is invalid. **DO NOT READ THE RESULT. DO NOT REPORT. REPEAT TEST OR SEND TO THE LAB.**
- A colored line only in the C zone, with a clear background is negative.
- The presence of a colored line in the T (test) zone, along with the colored line in the C zone is interpreted as positive. Any presence of a line should be interpreted as positive.
- If the result is not clear, repeat the test or send the urine sample to the laboratory for testing. Record this action in the log sheet.
- Record patient name, MRUN number, patient result, control result, lot number and expiration date of reaction unit on log sheet if applicable.

Harbor- UCLA Medical Center
 Department of Pathology
 Point of Care

2011 Competency Assessment for Point of Care Testing

TEST AND ANSWER SHEET FOR URINE PREGNANCY TEST

PRINT NAME (LAST NAME, FIRST)	Employee NO.	Job Class	Work Area/Shift	Date	Score	PASS or FAIL
Signature						

Instruction: Circle the best answer to each question. Submit completed test to Nurse Manager or designate. (PASS is a score of equal to or greater than 80%)

1. **When testing for hCG in urine (Urine Pregnancy Test), it is important to remember**
 - a. Write the name and/or MRUN of the patient on the cartridge.
 - b. Add 3 drops of urine collected in a properly labeled container
 - c. Wait 3 minutes and interpret result
 - d. All of the above

2. **Quality Control must be performed once for each day of testing. When performing Quality Control, it is important to**
 - a. Add 3 drops of Quantimetrix Level 1 and 3 drops of Quantimetrix Level 2 on reaction unit labeled Level 1 and Level 2 respectively
 - b. Wait 3 minutes, interpret result, record result. Compare result with expected result written on the logsheet. Record lot number and expiration date of reaction unit and controls used.
 - c. If the results do not match with expected results, investigate the cause and repeat test.
 - d. All of the above

3. **When a colored line fails to appear in the C zone, the operator should**
 - a. Continue to report the test
 - b. Repeat the test. It is an indication that the unit is not working properly or the procedure was not performed correctly. Do not report result and record all actions on the logsheet
 - c. Ignore the C zone completely because you need the result ASAP
 - d. Report the result. The C zone is not important.

4. **The following are some critical points to remember when performing Urine Pregnancy Test EXCEPT:**
 - a. Make sure that Quality Control Level 1 and Level 2 have been tested for the day. If not, run QC before performing a patient test.
 - b. Make sure that you add 3 drops of control or sample into the sample well.
 - c. Make sure that you wait **3 minutes** before you interpret result
 - d. Make sure results of controls (external and internal) are recorded on the logsheet.
 - e. It's ok to read result at 2 minutes when you need result of patient ASAP.

5. **When interpreting a urine hCG result, the operator noted that a colored line in the C zone is present. Then, in the T zone, there seemed to be a very faint colored line. You should**
 - a. Repeat the test to verify the result. If you see the same faint pink vertical line, the result is positive. Send the urine specimen to the lab to verify the result if there is any doubt.
 - b. Report as negative. It's faint and the line did not cross all the way.
 - c. Report as negative, you may be seeing a ghost line.
 - d. Report as positive WITHOUT VERIFICATION. You are always sure of what you see.

METHODOLOGY DIRECT OBSERVATION: _____ **PASS** _____ **FAIL** **By:** _____

Harbor- UCLA Medical Center
Department of Pathology
Point of Care

2011 Competency Assessment for Point of Care Testing

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The key components of the QA/QC Program:

1. Licensed and trained staff identified with their employee ID number must perform POCT test.
2. Staff must be assessed for competency 6 months after training and annually thereafter. Staff must performed CAP approved Proficiency Testing.
3. Patient test must be identified with medical record number.
4. Quality control test must be performed as required for each test before performing patient test.
5. All reagents and controls must be kept in appropriate temperatures. Expiration date must be observed. Expired reagents and controls must be discarded.
6. POCT instrument must be cleaned and maintained as required.
7. Corrective action must be documented for each failed QC or each critical result.
8. Instrument data must be downloaded and reviewed weekly.
9. Appropriate corrective action must be done for non- compliance, which is reported to Pathology, Nursing, Medical and Hospital Administration and Clinical Laboratory Committee.

URINE DIPSTICK TESTING BY SIEMENS MULTISTIX 10 SG

Siemens Multisix 10 SG are reagent strips with several reagent areas used to test for glucose, bilirubin, ketone, specific gravity, blood, pH, protein, urobilinogen, nitrite, leukocytes in urine.

Test results may provide information regarding the status of carbohydrate metabolism, kidney and liver function, acid- base balance, and urinary tract information.

Factors that affect accuracy are:

A. Sample Collection and Preparation

- Collect urine in clean container and test as soon as possible. If testing cannot be done within an hour after voiding, refrigerate the sample and let it return to room temperature before testing. Prolong exposure to room temperature may result in bacterial proliferation which result to changes in pH, false positive protein, false positive blood and leukocytes. Record date and time of collection on label.

B. Proper Handling of Reagent and Controls

- Quality Control reagents must be kept in refrigerator to prevent deterioration.
- It is stable for up to the expiration date indicated on the bottle if stored in refrigerator right after use. If it is kept at room temperature, expiration date changes to 30 days after it's opened. Always write open date.
- Siemens Multistix must be kept at room temperature. Close cap tightly after each use to maintain reagent reactivity. It should be good up to the expiration date indicated on the bottle.

C. Critical Points to Remember When Performing Urine Dipstick Test

- All appropriate safety guidelines should be followed and gloves should be worn at all times during testing.
- Perform Quality Control that consists of Quantimetrix Level 1 and Quantimetrix Level 2 once on each day of testing. This is a requirement by regulatory agencies.
- Write results of quality control on appropriate logsheets. Remember to write the lot number and expiration date.
- Remove one strip from bottle and replace cap. Completely immerse reagent of the strip in FRESH urine and remove immediately to avoid dissolving out reagents.
- While removing, run the edge of the entire length of the strip against the rim of the container to remove excess urine and blot edge on paper towel while pressing the START button.
- Hold the strip in a horizontal position to prevent possible mixing of chemicals from adjacent reagent areas and/or contaminating the hands with urine.
- If reading visually, compare reagent areas to corresponding flat color chart in each testing area at the times specified on the bottle.
HOLD STRIP CLOSE TO COLOR BLOCKS AND MATCH CAREFULLY.
- Avoid laying the strip directly on the color chart, as this will result in the urine soiling the chart.
- Proper read time is critical for optimal results.
- Write results on the logsheet.

Harbor- UCLA Medical Center
 Department of Pathology
 Point of Care

2011 Competency Assessment for Point of Care Testing

TEST AND ANSWER SHEET FOR URINE DIPSTICK TEST

PRINT NAME (LAST NAME, FIRST)	Employee NO.	Job Class	Work Area/Shift	Date	Score	PASS or FAIL
Signature						

Instruction: Circle the best answer to each question. Submit completed test to Nurse Manager or designate. (Pass is a score of equal to or greater than 80%)

1. **When performing Urine Dipstick testing, it is best to test the urine as soon as possible. If unable to perform testing within one hour after voiding, refrigerate the sample and let it return to room temperature before testing. Sample exposed to room temperature for a long time will:**
 - a. Bacterial proliferation with resultant changes to pH.
 - b. False positive blood and leukocyte reactions
 - c. False positive protein
 - d. All of the above

2. **Quality Control must be performed once for each day of testing. When performing Quality Control, it is important to**
 - a. Add a drop of Quantimetrix Level 1 on each of the color block of the strip. Holding the strip in horizontal position, tap excess control against a paper towel. Read result for each color block following the time specified for each color block. Repeat using Level 2.
 - b. Write results for Level 1 and Level 2 on the logsheet provided by POCT. Compare results of QC to the expected result indicated on the sheet.
 - c. If the results do not match with expected results, investigate the cause and repeat test.
 - d. All of the above

3. **When any result of the Urine Dipstick does not meet the expected result, do not perform patient test until the problem is resolved. The possible causes of failed QC are:**
 - a. Quality Control reagents have deteriorated. Open a new set of QC reagent. Repeat test.
 - b. Quality Control reagent lot number has been changed or has expired. Make sure that the lot numbers and expiration date of controls match the ones written on the logsheet. Repeat test.
 - c. Bayer Multisitix reagent have deteriorated or have been contaminated. Open a new bottle. Repeat test.
 - d. All of the above

4. **The following are some critical points to remember when performing Urine Dipstick Test.**
 - a. Do not transfer the strips to another bottle. This will contaminate the strips, cause deterioration making them unreactive.
 - b. Do not remove strip from the bottle until immediately before use for testing. Replace cap immediately and tightly. Write open date.
 - c. Do not touch test areas of the strip. Dip test areas completely, but briefly and read test results carefully at specified times. Record result on log sheet.
 - d. All of the above

5. **When any of the patient's result is abnormal, you must**
 - a. Repeat the test to verify result
 - b. Inform the doctor ASAP
 - c. Send a fresh specimen to the lab for verification
 - d. All of the above

METHODOLOGY DIRECT OBSERVATION: _____ **PASS** _____ **FAIL** **By:** _____

Harbor- UCLA Medical Center
Department of Pathology
Point of Care

2011 Competency Assessment for Point of Care Testing

URINE DIPSTICK TESTING BY CLINITEK STATUS

Instructions to the Employee:

Read the following materials, and answer the Competency Assessment Test and Answer Sheet for each POCT test that you perform.

DEFINITION

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QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM

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5. All reagents and controls must be kept in appropriate temperatures. Expiration date must be observed. Expired reagents and controls must be discarded.
6. POCT instrument must be cleaned and maintained as required.
7. Corrective action must be documented for each failed QC or each critical result.
8. Instrument data must be downloaded and reviewed weekly.

9. Appropriate corrective action must be done for non-compliance, which is reported to Pathology, Nursing, Medical and Hospital Administration and Clinical Laboratory Committee.

URINE DIPSTICK TESTING BY CLINITEK STATUS

The Clinitek Status is an automated urine dipstick reader using the Siemens Multisix 10 SG reagent strips with several reagent areas used to test for glucose, bilirubin, ketone, specific gravity, blood, pH, protein, urobilinogen, nitrite, leukocytes in urine.

Test results may provide information regarding the status of carbohydrate metabolism, kidney and liver function, acid-base balance, and urinary tract information.

Factors that affect accuracy are:

A. Sample Collection and Preparation

- Collect urine in clean container and test as soon as possible. If testing cannot be done within an hour after voiding, refrigerate the sample and let it return to room temperature before testing. Prolong exposure to room temperature may result in bacterial proliferation which result to changes in pH, false positive protein, false positive blood and leukocytes. Record date and time of collection on label.

B. Proper Maintenance and Cleaning of the Status

- Clean exterior with mild detergent and a damp cloth or gauze. **DO NOT USE PAPER TOWELS** on the display. Use paper towels to blot strips.
- Clean table insert with water dampened gauze, soft cloth or tissue.
- Clean test table with water and cotton swab
- Avoid white calibration areas unless dirty
- Do not use solvents, alcohol or bleach.

C. Proper Handling of Reagent and Controls

- Quality Control reagents must be kept in refrigerator to prevent deterioration.
- It is stable for up to the expiration date indicated on the bottle if stored in refrigerator right after use. If it is kept at room temperature, expiration date changes to 30 days after it's opened. Always write open date.
- Siemens Multistix must be kept at room temperature. Close cap tightly after each use to maintain reagent reactivity. It should be good up to the expiration date indicated on the bottle.

D. Critical Points to Remember When Performing Urine Dipstick Test

- All appropriate safety guidelines should be followed and gloves should be worn at all times during testing.
- Perform Quality Control that consists of Quantimetrix Level 1 and Quantimetrix Level 2 once on each day of testing.
- Add the Quantimetrix Level 1 on each of the color block of the strip without touching the tip of the control. Holding the strip in horizontal position, blot excess control against a paper towel. Repeat using Level 2.

- Write results of quality control on appropriate logsheets. Remember to write the lot number and expiration date.
- For patient testing, remove one strip from bottle and replace cap. Completely immerse reagent strip in FRESH urine and remove immediately to avoid dissolving out reagents..
- While removing, run the edge of the entire length of the strip against the rim of the container to remove excess urine and blot edge on paper towel while simultaneously pressing the START button.
- You have a full 8 seconds to properly place the strip into table insert slot channel.
- NEVER MANUALLY PUSH TEST TABLE FULLY INTO THE DEVICE.
- The entire test table automatically feeds into the Clinitek Status
- Improperly placed test strips will be rejected by the device. DISCARD AND USE A NEW STRIP. DO NOT USE OLD STRIP.
- Results will come out in approximately 45 seconds.
- Record results on POCT result form or on patient chart.
- PRINTED TAPE OF RESULTS ARE NOT PERMANENT, DO NOT PLACE IN CHART.
- Wipe table insert clean with a tissue or gauze.
- Repeat any abnormal to verify the result.
- Inform physician of any positive analyte or abnormal result.
- Send off fresh specimen to the laboratory for confirmation if requested by the physician.

Harbor- UCLA Medical Center
 Department of Pathology
 Point of Care

2011 Competency Assessment for Point of Care Testing

TEST AND ANSWER SHEET FOR URINE DIPSTICK TEST

PRINT NAME (LAST NAME, FIRST)	Employee NO.	Job Class	Work Area/Shift	Date	Score	PASS or FAIL
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Signature

Instruction: Circle the best answer to each question. Submit completed test to Nurse Manager or designate. (Pass is a score of equal to or greater than 80%)

- 1. What is the proper storage of the Multistix strips and controls for maximum shelf life?**
 - a. Multistix and controls refrigerated
 - b. Multistix refrigerated, controls at room temperature
 - c. Multistix at room temp, controls refrigerated
 - d. Multistix and controls at room temperature

- 2. Quality Control must be performed once for each day of testing. When performing Quality Control, it is important to**
 - a. Add the Quantimetrix Level 1 on each of the color block of the strip without touching the tip of the control. Holding the strip in horizontal position, blot excess control against a paper towel. Repeat using Level 2.
 - b. Write results for Level 1 and Level 2 on the logsheet provided by POCT. Compare results of QC to the expected result indicated on the sheet.
 - c. If the results do not match with expected results, investigate the cause and repeat test.
 - d. All of the above

- 3. The test table bar can be fully inserted manually into the Clinitek Status:**
 - a. TRUE
 - b. FALSE

- 4. Press the "START" button:**
 - a. Before the Multistix is removed from the container
 - b. After the Multistix is placed on the table insert
 - c. At the same time as the strip is being "rimmed" then blotted on a paper towel
 - d. After the Multistix is blotted on a paper towel

- 5. When any of the patient's result is abnormal, you must**
 - a. Repeat the test to verify result
 - b. Inform the doctor ASAP
 - c. Send a fresh specimen to the lab for verification
 - d. All of the above

METHODOLOGY DIRECT OBSERVATION: _____ **PASS** _____ **FAIL** **By:** _____