Name of Policy:	**Vascular Access Management Standards**
Policy Number:	3364-109-GEN-705
Department:	Infection Control Hospital Administration
Approving Officer:	Chairman, Infection Control Committee Sr. Vice President & Executive Director, UTMC Chief of Staff
Responsible Agent:	Infection Control Practitioner
Scope:	The University of Toledo Medical Center and its Medical Staff

THE UNIVERSITY OF TOLEDO 1872

Effective Date: 6/20/2011

Initial Effective Date: 6/30/1986

_____ New policy proposal
_____ Major revision of existing policy
__X__ Minor/technical revision of existing policy
_____ Reaffirmation of existing policy

(A) Policy Statement

All vascular catheters will be managed by the following guidelines taken from the recommendations by the Centers for Disease Control (CDC), 2011. Any deviations from these guidelines will require a written order from the patient's primary physician.

(B) Purpose of Policy

To prevent infection risk associated with the use of vascular access therapy and to provide guidelines for appropriate management of intra-vascular therapy management.

(C) Procedure

Education and Training

Only trained personnel who demonstrate competence will be designated to insert and maintain vascular catheters
Healthcare workers involved in the insertion and management of intravascular catheter use will be educated regarding the following, prior to inserting, assisting or managing an intravascular catheter and annually thereafter:

1. Indications for catheter use
2. Procedures for insertion and maintenance of intravascular catheters
3. Infection control measures to prevent intravascular catheter related infections

Annual competency training will be accomplished by skills events and will be documented in the HCW training record.

Catheter Site Dressing Regimens:

1. Use transparent dressing or sterile gauze to cover the catheter site.
2. Replace catheter-site dressings when the device is removed or replaced, or when the dressing becomes damp, loosened, or soiled. Change dressings more frequently in diaphoretic patients.
3. PICC line dressings are to be changed within 24 hours of insertion, including the antimicrobial disc.
4. Avoid touching the catheter insertion site when the dressing is replaced.

Changing Intravenous Catheters and Administration Sets:

Remove peripheral venous catheters when the patient develops signs of phlebitis (i.e., warmth, tenderness, erythema, and palpable venous cord) at the insertion site.

Remove an intravascular device as soon as its use is not clinically indicated.

In adults, change peripheral venous catheters and rotate peripheral venous sites every 96 hours to minimize the risk of phlebitis. Catheter changes in pediatric patients will be changed per physician discretion or only if clinically indicated.

In adults, remove catheters inserted under emergency conditions, where breaks in aseptic technique are likely to have occurred. Insert a new catheter at a different site within 48 hours.

Change intravenous tubing, including "piggyback" tubing no more frequently than at 96 hours (UMC policy), unless clinically indicated.

Exceptions to 96 hour tubing changes:

- If otherwise indicated by pharmacy
- Change tubing used to administer blood, blood products, and TPN or lipid emulsions within 24 hours of completing the infusions.
- Propofol infusions – the tubing is changed every 12 hours

Barrier Precautions during Catheter Insertion:

It is generally accepted that good handwashing before and attention to aseptic technique during insertion of peripheral venous catheters, provides adequate protection against infection. Central venous catheterization, including PICC lines, however, carries a significantly greater risk of infection, and the level of barrier precautions needed to prevent infection during insertion of CVC's should include gloves and sterile gown, large sterile drape, and mask. All assisting should also garb up for the procedure.

Studies have shown that the maximum barrier precautions used during catheter insertion and catheter dressing changes are most effective in preventing infection over location of activity i.e. Intensive care Unit vs. operating suite.

General Recommendations for Peripheral Intravascular-Device Use:

WASH YOUR HANDS using an antiseptic-containing product and don clean gloves before palpating, inserting, changing or dressing any intravascular device.

Palpate the catheter insertion site for tenderness daily through the intact dressing. Visually inspect the catheter site if the patient develops tenderness at the insertion site, fever without obvious source, or symptoms of local or bloodstream infection.

In patients who have large, bulky dressings that prevent palpation or direct visualization of the catheter-insertion site, remove the dressing and visually inspect the catheter site at least daily and apply a new dressing.

Record the date and time of catheter insertion in an obvious location near the catheter-insertion site (i.e., on the dressing).

Wear clean disposable gloves during peripheral IV changes. Sterile gloves should be used with all central line dressing changes.

Catheter Site Care:

Cleanse the site with single unit dose chlorhexadine scrub applicator to remove any dried secretions or drainage, then apply the sterile chlorhexadine gluconate swab in a back and forth manner around the insertion site, from the site to the outside perimeter (See Nursing Service Standard of Practice C7).

See attached chart: Vascular Access Standards.

Approved by:		**Review/Revision Date:**
Julie Westerink, MD Chairman, Infection Control Committee	Date	6/16/87 1/9/89 11/27/89 1/8/90 9/11/91 7/8/92 2/5/96 5/1/99 8/19/02 5/16/05 1/23/06 6/20/2011
John Kane, MD Chief of Staff	07/06/4 Date	
Scott Scarborough, PhD Sr. Vice President & Executive Director, UTMC	7/11/11 Date	
Review/Revision Completed By: *Infection Control Committee*		**Next Review Date:** 6/1/2014
Policies Superseded by This Policy: 31:GEN-705		

Vascular Access Guidelines

	"Hang Time" for solution bag change	Administration Set (Tubing Change)	Dressing Change	Vascular Site Change	Comments
Peripheral Venous Catheters	24 hours if there are no additives 24 hours for solutions with additives	96 hours	96 hours	Every 96 hours	1. Palpate the catheter insertion site for tenderness daily through the intact dressing 2. Visually inspect the site if the patient develops tenderness at site, fever without obvious source, or symptoms of local or bloodstream infection.
Central Venous Catheters (Hickmans, Broviacs, Portacaths)	24 hours if there are no additives 24 hours for solutions with additives	96 hours	96 hours	Per physician discretion	CDC has no recommendation for the frequency of change of peripherally inserted central venous catheters when the duration of therapy is expected to exceed 6 weeks. Antireflux valve: change at 72 hours
Intermittent Infusions (saline lock-unless specified by physician to use heparin)	n/a	96 hours	96 hours	Every 96 hours for peripheral sites. (If unable to change due to patient having poor venous access, change dressing; notify doctor and document in patient care record.)	Following each infusion, place a new Lever Lock Cannula on the end of the tubing. Do not allow tubing to hang disconnected and uncapped between infusions.
Blood/Blood products	No longer than 4 hours	24 hours			If two or more units are administered consecutively (within a 4-hour period), the tubing need not be changed unless suspected contamination of integrity of product has been compromised. If two units are run consecutively, change tubing after second unit. In ICUs, micro-aggregate filters may be used with up to 10 units of blood; however the primary filter tubing must be changed every 4 hours.
TPN	24 hours	24 hours			Do NOT leave parenteral nutrition fluids hanging longer than 24 hours.
Lipids	24 hours	24 hours			
Peripherally Inserted Central Catheter (PICC Line)	See practice guideline, C26				

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Pulmonary Artery Catheters				At least q 5 days	Use guide wire assisted catheter exchange to replace a malfunctioning catheter or to convert an existing catheter if there is no evidence of infection at the catheter site. If catheter-related infection is suspected, but there is no evidence of local catheter-related infection (e.g., purulent drainage, erythema, tenderness), change the catheter over a guide wire. Send the removed catheter for semi-quantitative or quantitative culture. Leave the newly inserted catheter in place if the catheter culture is negative. If the catheter culture indicates colonization/infection, remove the newly inserted catheter and insert a new catheter at a different site.
Catheter and Pressure-Monitoring System Changes				In adults change Peripheral arterial catheter and rotate catheter-insertion sites q 4 days.	Replace disposable or reusable transducers at 96-hour intervals. Replace other components of the system, including the tubing, continuous-flush device, and flush solution at the time the transducer is changed. In pediatric patients, peripheral arterial catheters are to be changed every 96 hours or per physician discretion. Keep sterile all devices and fluids that come into contact with the fluid of the pressure-monitoring circuit (e.g., calibration devices, heparinized saline). Minimize the number of manipulations and entries into the pressure-monitoring system. Use a closed-flush system (i.e., continuous flush), rather than an open system (i.e., one that requires a syringe and stopcocks), to maintain the patency of the pressure-monitoring catheters.
Injection Caps (Central & Peripheral)				96 hour & PRN	Any stopcocks incorporated into the system should be changed at the time of tubing change. The stopcock port should be cleansed carefully with alcohol before and after each use for a minimum of 15 seconds and recovered with a new sterile non-vented cap.
Lumbar Epidural infusion for pain control					0.2 micron flat epidural filter will be attached to distal portion of epidural tubing.

Reference:
Guidelines for the Prevention of Intravascular Catheter-related Infections, January 2011, National Institutes of Health

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Guidelines for the Prevention of Intravascular Catheter-related Infections, January 2011, National Institutes of Health Clinical Infectious Diseases: 2011; 52(9):1087-1099 Summary of Recommendations: Guidelines for the Prevention of Intravascular Catheter Related Infections.