Solutions with anticoagulant added are used to prevent thrombus formation in arterial and central venous catheters. There is a paucity of research examining the efficacy of this practice. A study showed prolonged life of umbilical artery catheters when a heparinized solution was infused. However, another study showed no benefit of adding heparin to PICC lines in prolonging the duration of the catheter. Based on findings of a recent practice audit conducted by the Collaborative Practice and Quality Improvement Committee for the Northern Alberta Neonatal Intensive Care Program to further study heparin use in neonates, the following practice recommendations have been made:

<table>
<thead>
<tr>
<th>Type of Line</th>
<th>Heparin Use</th>
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| 1. Peripheral venous lines and central venous lines | • 1 unit/1mL heparin solution is used for insertion of central venous lines.  
• No heparin required except when parenteral nutrition is infusing (see additional point #2).  
• Peripheral & central venous lines are flushed with a commercially prepared sterile syringe containing normal saline solution without heparin.  
• See additional points #1 and #3. |
| 2. Arterial Lines                   | • 1 unit/1mL heparin solution is used for insertion of all arterial lines.  
• Continuous infusion of 0.5 unit/1mL heparinized 0.45% sodium chloride solution, unless otherwise ordered.  
• Arterial lines are flushed with 1 Unit/mL heparin solution. |
Additional Points

1. Peripheral intravenous devices and central venous lines are to be locked with the use of a positive pressure valve, and do not need heparin locks. In the event that a locked central line is considered “precious”, for example, an infant has very limited access and has required insertion of subclavian, jugular, femoral or broviac catheters, a Heparin Lock may be used at the discretion of the ordering clinician. In this instance, a 10 units/mL heparin flush solution is used, and requires an order from the clinician.

2. Heparin 0.5 units / mL will be added to Amino Acid Dextrose Solution (AADS), regardless of the site of infusion because it aids in the metabolism of a co-infusing lipid emulsion. Heparin will not be added to Enhanced Dextrose Solution (EDS) as it is a short term solution that is used while waiting for AADS to be initiated.

3. Heparin affects the stability of Standard Concentration medications and will not be added to these infusions.

Related Documents
Regional Parenteral Manual – Edmonton Zone - Heparin
Heparin Use – Recommendations, September 2010
Intravenous locks P & P

Revisions
December 2007
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October 2015
Signing

Original Signed

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