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| **Huron Perth Healthcare Alliance** |
| **1. Clinical Policies and Procedures** | Original Issue Date:  | June 30, 1983 |
| **IV – Intravenous, Peripheral: Initiation, Maintenance and Discontinuation** | Review/Effective Date:  | March 15, 2021 |
| **Approved By: VP People and Chief Quality Executive** | Next Review Date:  | March 15, 2023 |

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| https://intranet.hpha.ca/myalliance/imgs/spacer.gif |
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| **Scope**This policy applies to all nurses who have received appropriate theoretical preparation to care for adult patients requiring interventions related to Peripheral Intravenous (PIV) catheters (excluding Midline PIV catheters)at Huron Perth Healthcare Alliance (HPHA). Initiation of peripheral intravenous access is a controlled act that nurses have authority to perform, provided the nurse has the appropriate training, knowledge, skill and judgement as per the *Regulated Health Professionals Act* 1991. Please refer to the [College of Nurses of Ontario standard – “Decisions about Procedures and Authority."](https://www.cno.org/globalassets/docs/prac/41071_decisions.pdf#:~:text=Making%20decisions%20about%20procedures%20and%20authority%20is%20a,describe%20a%20nurse%E2%80%99s%20accountabilities%20when%20performing%20any%20procedure.)  |
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| **Policy**This policy describes the essential steps required for insertion, care and maintenance, and removal of Peripheral Intravenous Catheters by nursing staff at HPHA.  |
| **Purpose**The purpose of this policy is to provide guidelines for the RNs, RPNs and their managers at HPHA related to the care of patient requiring Peripheral Intravenous access. It is expected that all staff shall adhere to the principles outlined in this policy.  |
| **Definitions**Peripheral Intravenous (PIV) Catheter– a short term venous access device that is inserted into a peripheral vein, typically the superficial veins of the upper extremities. The catheter may range in length and diameter (gauge).**Peripheral Parenteral Nutrition (PPN):** a specialized form of nutrition support administered parenterally via peripheral access for a short duration or via CVAD if one is obtained. PPN solutions with 5% or less Amino Acid & 10% or less Dextrose solution can be administered via a midline for up to 14 days or short peripheral IV catheter (i.e. 20G) for less than 7 days, until a CVAD can be obtained.  |
| **Indications:*** PIVs (**excluding Midline PIV catheters**) are indicated for patients requiring short term (e.g. less than 7 days) intravenous administration of IV medications and/or fluids.
	+ Refer to the [HPHA Midline IV Catheters – Insertion, Care, Maintenance and Removal policy](https://intranet.hpha.ca/myalliance/Default.aspx?cid=13396&lang=1) and/or the HPHA IV – Intravenous, Peripheral: Initiation, Maintenance and Discontinuation policy for additional considerations specific to PPN administration.

PPN solutions with 10% Dextrose concentration or less can be administered via a short peripheral IV catheter (i.e.; 20 G) for less than 7 days for situations in which obtaining a CVAD is not currently feasible and delay of nutrition support would be detrimental to the patient (Infusion Nurses Society, 2016). Lipids must infuse at the same time as Amino Acid/Dextrose solution when infusing via a peripheral line. PPN can never be ordered without lipids. **Note:*** If peripheral IV access on standard IV fluids has been changed 2-3 times within 48 hours, PPN should not be administered peripherally.
* See documents entitled:
	+ [HPHA IV Selection Guide](https://intranet.hpha.ca/myalliance/doc.aspx?id=7994)
	+ [HPHA Midline IV Catheters - Insertion, Care, Maintenance and Removal policy](https://intranet.hpha.ca/myalliance/Default.aspx?cid=13396&lang=1)

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| **Contraindications:**PIV access should not:* Be attempted in an extremity containing a dialysis access
* On the same side as a mastectomy
* Be attempted in an extremity with diminished blood flow (e.g. due to a Deep Vein Thrombosis [DVT] or paralysis post stroke).
* Be used to administer infusions requiring IV access in the central vasculature (i.e.; TPN using solution greater than 5% Amino Acid and/or 10% Dextrose)

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| **Considerations:*** When it is determined that the patient will need an intravenous access for prolonged periods of time or when dealing with a fragile peripheral venous system, early consultation with a physician about alternate IV access may improve clinical outcomes and comfort for patients.
* PIV catheters will be used with extension sets and needleless access devices (caps). Infusion tubing will not be connected directly to the catheter hub.
* 2% chlorhexidine with 70% Alcohol swabs are used to cleanse caps and ports of infusion tubing connected to any IV prior to access.
* PIV catheters may be left insitu as long as clinically indicated (in other words, still actively required for medication and/or fluid administration) as long as they remain free from related complications.
* Except in the event of an emergency, it is required that an infusion pump be utilized for IV medication and/or fluid administration through a PIV.

PPN solutions can cause phlebitis. The risk/benefit decision to use PPN solutions should include close monitoring of the IV site and nursing interventions to prevent phlebitis. To prevent vein degradation and risk of extravasation, PIV should only be used for irritating and vasoactive infusions in emergency situations and for limited durations. In these cases:* + Access should be preferentially obtained in a larger vessel (the antecubital fossa or more proximal vein), using a using a #20 gauge or larger catheter.
	+ It is strongly recommended that CVAD access be obtained if the duration of the infusion is expected to exceed 4 hours.
	+ If the healthcare team determines the risk of CVAD insertion outweighs the need, nursing staff must be vigilant in their continued assessment of the PIV insertion site to detect potential complications and intervene early.

Although a written physician's order is not required for the standard flushing routines, nurses will need to enter an electronic order to ensure Saline Flush appears on the electronic Medication Administration Record (eMAR).Flushing recommendations:

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| **Peripheral IV catheters** | **Frequency of flush** | **Recommended amount of 0.9% sodium chloride** |
| Line not in use | Once every 24 hours | 3-10 mL |
| Intermittent use | Before and after each medication administered | 10 mL |
| Blood administration | Post blood administration | 10 mL |
| Continuous infusion | Pre and post drug administration | 10 mL |

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| **Competency Requirements:**An RN or RPN having appropriate theoretical preparation and understanding of the underlying condition for which this treatment is proposed and having demonstrated the appropriate knowledge, skills and judgement may perform this treatment on the order of a physician.The Learner will:* Complete the Intravenous Therapy course on eTRAIN (which re-directs user to Elsevier) and post-test obtaining a minimum of 90%.

**Note:** Elsevier post-test must be completed while logged into eTRAIN profile to receive credit for course.* Under the supervision of a nurse experienced in IV initiation, complete 3 successful IV initiations in accordance with the IV Initiation Checklist located in the same Elsevier module.
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**Procedure Chart:**

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| **Procedure** | **Rationale** |
| Follow all steps as outlined in the Elsevier Skills Modules:* I[ntravenous Therapy: Initiation](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=5)
* [Intravenous Therapy: Maintenance and Dressing Change](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=607)
* [Intravenous Therapy: Administration Set Change](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=395)
* [Intravenous Therapy: Discontinuation](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=396)

**Note:** Be sure to click on the Extended Text tab to see the full list of steps with rationale |

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**HPHA Related Documents*** [HPHA IV Selection Guide](https://intranet.hpha.ca/myalliance/doc.aspx?id=7994)
* [HPHA Policy: Medication – Infusion Pumps](https://intranet.hpha.ca/myalliance/Default.aspx?cid=10199&lang=1)
* [HPHA Policy: Medication - Direct Intravenous (IV) Medication Administration for Nurses (RNs and RPNs)](https://intranet.hpha.ca/myalliance/Default.aspx?cid=12462&lang=1)
* [HPHA Policy: Medication-Vasoactive Infusions](https://intranet.hpha.ca/myalliance/Default.aspx?cid=8371&lang=1)
* [HPHA Policy: Midline IV Catheters – Insertion, Care, Maintenance and Removal](https://intranet.hpha.ca/myalliance/Default.aspx?cid=13396&lang=1)

Elsevier Skills Modules:* [Intravenous Therapy: Dose and Flow Rate Calculation](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=154)
* [Intravenous Therapy: Solution Change](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=608)
* [Intravenous Therapy: Regulation of Flow Rate](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=894)
* [Intravenous Therapy: Initiation (Pediatric)](http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=1046880&SkillID=874)

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