

IV Infiltration – Prevention, Treatments and Resources

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Purpose

To engage the IV Therapy Nurses in a partnership with Direct Care Nurses and the patient and family for early recognition of an IV infiltrate, reliability of Grading, early intervention to minimize adverse outcomes and follow-up of the infiltrate until it is resolved.

Introduction

Infiltration is the most common adverse outcome of IV therapy. The Infusion Nurse Society (INS) Standard of practice (2006) require the RN to be competent to assess the site, determine the need for intervention/treatment. Infiltrates must be documented using a standard scale to measure the grade and severity of the infiltrate.

Strategies and Implementation

- Step 1:** The IV nursing team developed a tool to record and track IV infiltrates using the standard Infiltrate Grading Scale from INS. (2006)
- Step 2:** After the IV Nursing Team developed interrater reliability in grading IV infiltrates they then worked with direct care nurses to build the same level of competency in this assessment. (2008)
- Step 3:** A database was developed to track the location, grade, IV solution and the duration of infiltrations. Data was also collected regarding the age of the child and the last time the IV site was assessed. (2008)
- Step 4:** The IV team developed reference cards with the Infiltration Scale and a single page handout for patient and family education. (2009)
- Step 5:** Working with Nursing Shared Governance Practice Council, a Nursing Plan of Care was developed to standardize the first response and continued treatment of IV infiltrates.
- Step 6:** The IV team worked with clinical informatics and placed the IV Infiltration Scale in the Electronic Medical Record so that every nurse could easily access & use this scale and also document their assessment. (2009)

Patient and Family Education

Educate patient and family of signs and symptoms of an IV infiltrate.

The child's nurses will check the IV **hourly** while the IV is running. They will check the area for: pain, swelling redness, bruising, and wetness

by touching, looking, and comparing



even when the child is sleeping



Families should be encouraged to ask their nurse if they have any questions or concerns about their child's IV site.

Methods

IV Therapy INTRAVENOUS INFILTRATION FOLLOW UP

Medical Record #: _____ Patient Name: _____ Patient Location: _____
1. Infiltration Detected: Date: _____ Time: _____ Age of Child: ≤ 2 years or > 2 years old

Catheter insertion date	Catheter gauge	Insertion site	Documentation of last time IV site evaluated	Was a medication infusing at time of infiltration?
				YES / NO

Grade infiltration site: (0 – 4) _____
immediate Day 1 Day 2 1 week

Infiltration Scale

Grade 1
Skin blanched
Edema < 1 inch in any direction
Cool to touch
With or without pain



Grade 2
Skin blanched
Edema 1-6 inches in any direction
Cool to touch
With or without pain



Grade 3
Skin blanched, translucent
Gross edema > 6 inches in any direction
Cool to touch
Mild-moderate pain
Possible numbness

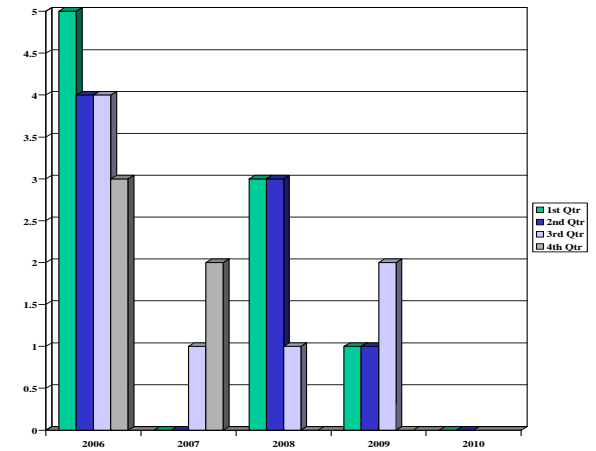


Grade 4
Skin blanched, translucent
Skin tight, leaking
Skin discolored, bruised, swollen
Gross edema > 6 inches in any direction
Deep pitting tissue edema
Circulatory impairment
Moderate-severe pain
Infiltration of any amount or blood product, irritant, or vesicant.



Results

NDNQI Peripheral Intravenous Infiltration Report



Data Table

	2006	2007	2008	2009	2010
1st Quarter	5	0	3	1	0
2nd Quarter	4	0	3	1	0
3rd Quarter	4	1	1	2	0
4th Quarter	3	2	0	0	

Data is shared with the Nursing Shared Governance Quality Council quarterly

Implications for Practice

The partnership between the IV Nurse, the Direct Care Nurse and the patient/family lead to improve patient outcomes through early recognition, reliable assessment, timely intervention and tracking. These steps work together to reduce the frequency, grade level and severity of IV infiltrates.

References

Alexander, M.; Corrigan, A.; Gorski, L.; Hankins, J.; Perucca, R.; (2010) *Infusion Nursing: An Evidence-Based Approach* (3rd edition). St Louis Missouri: Saunders Elsevier.

Infusion Nurses Society (2006). Infusion nursing standards of practice. *J. Infusion Nursing*, 29(1S).