RN Initiated Intravenous Therapy Improvement Project

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St. Mary Mercy Hospital is a 304 bed not for profit teaching hospital in Livonia Michigan. We are a member of St. Joseph Mercy Health System and Trinity Health. 63% of our patients are older than 65 years of age.

Background
- Endoscopy Nurse noticed patients coming down for procedures with non-functional, infiltrated, or infected IVs needed for their procedures.
- This presented a quality and safety risk by delaying procedures and decreasing patient satisfaction.
- Collected data included IV restarts, patient age, and unit of origination
- RN from 3 South medical unit then started a project on her unit to increase IV monitoring awareness and decrease IV complications from her unit

Literature Review
- Clinical knowledge and technical proficiency is vital when providing IV therapy to vulnerable populations including older patients with special consideration of vein selection, insertion techniques, and maintenance (Dougherty, 2013).
- Considerations with this population include changes to skin physiology, sensory deficits, and impaired short term memory (Smith and Hannum 2008).

Goals
- To improve the quality of care by reducing the number of IV restarts done in endoscopy, reducing delay and increasing patient satisfaction.
- To decrease the rate of phlebitis, infiltrates, and infection
- Increase RN education & awareness of IV complications and intervention strategies in the senior population

Implementation

Endoscopy
- IV log – for monitoring restarted IVs
- PLUE – to monitor for trends in age
- Input into VOICE – our internal computer based online incident reporting
- Notify floor RN of specific IV complication their patient had
- Graph data results by unit and patient age

3 South
- Nurse from South (3S) identified need for improvement due to data presented, then started interventions to reduce number of restarts needed by endoscopy staff
- IV tubing is color coded to bring attention to tubing expiration date
- Text message alerts each shift are sent to remind 3S staff to assess IV site and tubing twice a day
- Presentation to hospital Quality & Safety Committee of the above
- Develop real time audit tool, posters, and flyers on unit for visual reminders
- Educational dissemination of IV care related to the senior population

Evaluation
- 77 of 109 or 71% endoscopy IV restarts were on patients older than 75
- 43% reduction of IV restarts in endoscopy since January of 2015
- 3 South has achieved a 55% reduction in the number of IV restarts needed on patients going to endoscopy.
- 56% reduction of IV restarts in those older than 75 years of age

Implications for Senior Care
- Anchoring the vein prior to insertion is needed because veins roll more in older patients.
- The indirect method is more suitable for older patients because it enables less traumatic entry and prevents puncturing the posterior wall of the vein, which can happen in smaller veins when using the direct method (Dougherty 2008, Perucca 2010).
- Rosenthal (2005) recommended pulling the skin taut with the non-dominant hand and anchoring the vein with the thumb to keep the vein stable during the insertion procedure. This one-handed cannulation technique is appropriate for older patients because it prevents damage and bruising (Hadaway 2000, Weinstein 2007, Perucca 2010).
- Older patients need to be asked how the site feels because they may be unable to self-report any problems with the cannula or infusion, particularly if they are cognitively impaired (Toth 2002).

References

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