Introduction

Two major goals of caring for patients receiving therapy by intravenous peripheral short catheters are to minimize patient discomfort and maximize the effectiveness of the medications. These goals can be simultaneously accomplished by increasing dwell time of catheters. When catheters stay in longer, it means fewer insertions, which add up to less discomfort to the patient and less material (dressing) costs to the facility. The Infusion Nursing Society (INS) Standards of Practice currently recommend replacing peripheral short catheters every 72 hours immediately upon suspected contamination, complications, or therapy discontinuation (Infusion Nursing Society, 2006). Likewise, CDC guidelines state that peripheral short catheters should be replaced (with rotation of site) no more frequently than 96–72 hours (O’Grady et al., 2002). These are lofty goals, considering catheters rarely stay in place 72 hours, let alone 96 hours with traditional tape securement methods. Restart rates for catheters secured with traditional tape methods range from 41% to 80% (Hanchett, 2002; Royer, 2003; Schears, 2006). These caveats raise the need for improvement in securement techniques in a skilled nursing facility.

RESEARCH

A Clinical Trial of a New All-in-One Peripheral-Short Catheter

Elizabeth E. McNeill, RN, BSN, MA, CCRN, Nicole L Hines, RN, BSN, CIC, Regina Phariss, RN

The objectives of this study were to: 1) understand current peripheral IV stabilization practices within our hospital and compare them with current guidelines; 2) evaluate the use of a new closed IV catheter system with a built-in stabilization platform; and 3) evaluate the use of a new catheter system and dressing combination that was sought, as well as a vote on willingness to change to the new catheter system and dressing.

Methods

During this study, we discovered that evaluating the needs of an entire hospital for an IV catheter and securement system requires input from all stakeholders within the facility. Different units have different needs and concerns and all must be addressed (Figure 1). Results of this clinical survey study reveal that all of these stakeholders needs within our institution can be met with the combination of products evaluated in this study.

Limitations

This study has several limitations. First, the IV practices surveyed during the pre-trial baseline period represent the practices of only one facility. Further research is necessary to better understand IV stabilization practices across a larger and more representative number of facilities. Likewise, the impact of changing IV stabilization practices is limited to data gathered at one large institution. A second limitation is that the data collection tools were self-developed and not previously validated. Finally, a third and perhaps more significant limitation is the scope and survey design of the study. This study was intended to be a simple user acceptance evaluation of a newly available and uniquely designed product. It was paired with a transparent absorbent dressing. The study was not powered or designed for statistical comparisons, which limits the conclusions that can be made. Additional research using more rigorous and adequately powered randomized, controlled experimental designs are warranted.

References

securement to a manufactured stabilization device greatly increases dwell times, reduces unshodded restarts, and decreases complication rates (Frey & Scheur, 2006; Royer, 2003; Scheur, 2006; Sheppard et al., 1999, Smith, 2006; Smith & Royer, 2007; Stephenson, 2005; Wood, 1997). Additionally, in those studies that examined the costs associated with making the switch, catheter stabilization devices were either cost-neutral (Royer, 2003; Stephenson, 2005) or more economical than traditional securement methods (Scheur, 2007). The material and labor cost savings associated with longer dwell times, fewer restarts, and fewer complications offset the added cost of the device.

As part of an ongoing quality improvement initiative at Covenant Health System, our Nursing Research Council seeks to evaluate new methods and technologies that are available to improve patient outcomes and to reduce the cost of healthcare. In 2006 we focused significant effort on peripheral IV securement. Through various surveys we identified seven key requirements for our peripheral IV systems (Figure 1).

Figure 1: Seven key requirements for peripheral IV systems within Covenant Health System based on key stakeholder discussions

1. A catheter system with a luer lock access device that allows for high flow IV to accommodate power injections during medical emergencies.
2. A system with a luer lock access device that minimizes hematoma of blood draw site.
3. A system with a luer lock access device that minimizes the risk of contamination/infection.
4. A tunable dressing with good securment that allows easy visualization of the insertion site.
5. A system capable of up to 96 hour dwell time.
6. A system with a luer lock access device that is not disturbed during needle withdraw and tubing attachment.
7. A system with a luer lock access device that minimizes the risk of contamination/infection.

After comparing our needs with the devices and technologies currently available, we selected a uniquely designed and commercially available IV catheter system for trial that appeared to meet all of our needs for easy access, high flow rate, and catheter stabilization in a single device. We paired this with a commercially available transparent absorbent IV dressing and sought to evaluate the combination using evidenced based procedures. This paper summarizes our experience and the data we gathered while evaluating the combination of products.

Objectives

This study was conducted in three phases, with the primary objective of each phase being: 1) To understand current peripheral IV stabilization practices within our hospital, 2) To trial the use of a commercially available closed IV catheter system with a built-in stabilization platform in combination with a commercially available transparent absorbent IV dressing, and 3) To collect post-use opinions of the clinicians involved in the study.

Methods

Study materials

The catheter system we evaluated was the Nexiva™ Closed IV Catheter System (Becton, Dickinson and Company, Franklin Lakes, NJ), which is shown in Figure 2. This system combines into a single device, an IV catheter with a built-in stabilization platform and a pre-attached extension tube. The flat design does not require her connection at the hub or near the IV insertion site, so there is no need to lift the hub as is common with traditional IV catheters. The new design decreases motion of the catheter within the vessel, and there is less catheter kinking and a larger radius of coverage by the sterile dressing without interfering with connection sites. Additionally, the system utilizes a Q-Syte™ Luer Access Slip Septum (Becton, Dickinson and Company, Franklin Lakes, NJ), which combines her access with a high flow rate and easy cleaning. All tubing changes and access to the IV catheter are implemented at the extension luer lock, therefore the catheter is not disturbed near the IV insertion site during these procedures. The catheter is also a closed system offering an immediate blood flash back which continues up the extension tubing as the needle is withdrawn assuring presence in the vein throughout the procedure and protection against blood exposure without applying pressure to the vein during needle withdraw and tubing attachment.

The new IV catheter system was paired with a transparent absorbent IV dressing, SorbaView® 2000 Window Dressing (Tri-State Hospital Supply Corp., Manufacturers of Centurion Healthcare products, Howell, MI), which is shown in Figure 2 with the new IV catheter system. This dressing combines a transparent thin film dressing with an absorbent window frame to help wick moisture away from the catheter hub. The fabric adhesive stays securely in place and is easy to remove from fragile skin. Also shown in Figure 2 is the HubGuard™ Catheter Securement Dressing (Tri-State Hospital Supply Corp., Manufacturer of Centurion Healthcare products, Howell, MI), which was evaluated by one specialty unit of the hospital for added catheter securement.

Study design

This study was an open-label, non-randomized pre- and post-use survey study which was conducted over an 18-month period (July 2006 through December 2007). The study was conducted in three phases within a single 851-bed acute care facility located in Lubbock, Texas. Phase 1: This phase consisted of a hospital-wide survey of baseline (pre-trial) peripheral IV securement practices which was conducted over a 3-day period. All medical-surgical patients with peripheral IVs in place were evaluated for: 1) method of IV securment, 2) quality of securement (nurse rating on a 1-5 scale with 1 = loose/slippery and 5 = Very Secure), 3) approximate catheter dwell time (in hours), and 4) signs of complications (from a protocol). A self-developed evaluation tool was used to record the data across all IV nurse evaluators involved in the study. IV restart data were additionally collected from a single 35-bed renal telemetry unit within the hospital.

Phase 2: This phase consisted of a 2-week evaluation of the Nexiva™ closed IV catheter system and the SorbaView® 2000 dressing within four selected hospital units. The units were chosen based on their high use of peripheral-short catheters, which included the Emergency Department, Radiology, Oncology, and Renal Telemetry. Prior to this phase of the study, all clinicians responsible for inserting and caring for IV catheters as part of the study were provided with training and practice on proper use of the Nexiva™ closed IV catheter system and the SorbaView® 2000 dressing. Service representatives from the two product manufacturers provided the training and were available throughout the trial to answer questions and provide additional training as needed.

During the 2-week trial, a self-developed evaluation tool was used to collect the opinions of the 42 clinicians involved in the study for each of the catheter and tubing systems. Clinicians were asked to score rate the Nexiva™ closed IV catheter system, the Q-Syte™ access port, and the SorbaView® 2000 dressing on a variety of performance attributes (see Table 3). Clinicians were asked to score as part of the rate performance using a 5-point system (1 = Excellent, 2 = Good, 3 = Average, 4 = Fair, 5 = Poor). IV restart data were additionally collected from the renal telemetry unit of the hospital for comparison to similar data collected during the pre-trial period. As additional devices were evaluated in the system with respect to special concerns within their department. The emergency department evaluated the system for the incidence of hemolysis with blood draws, the radiology department evaluated the system for the tolerance of CT power injections, and a PreOp/OR team evaluated the addition of the HubGuard™ securement dressing.

Phase 3: A final survey was conducted among all of the clinicians involved with evaluating the trial products. The survey was a simple written vote on whether they wished to change to the new catheter/dressing combination versus continued use of their current catheter and means of securement.

Ethics review

This study was conducted in compliance with Good Clinical Practice (U.S. Food and Drug Administration), and the Health Insurance Portability and Accountability Act regulations (U.S. Department of Health and Human Services). All products involved in this study were commercially available and used in accordance with approved labeling. Data collection procedures assured pa...
securement to a manufactured stabilization device greatly increases dwell times, reduces unscheduled restarts, and decreases complication rates (Frey & Scheur, 2006; Royer, 2003; Scheur, 2006; Sheland et al., 1999, Smith, 2006; Smith & Royer, 2007; Stephenson, 2006; Wood, 1997). Additionally, in studies that examined the costs associated with making the switch, catheter stabilization devices were either cost-neutral (Royer, 2003; Stephenson, 2006), or more economical than traditional tape securement methods (Scheur, 2007). The material and labor cost savings associated with longer dwell times, fewer restarts, and fewer complications offsets the added cost of the device. As part of an ongoing quality improvement initiative at Covenant Health System, our Nursing Research Council seeks to evaluate new methods and technologies that are available to improve patient outcomes and to reduce the cost of healthcare. In 2006 we focused significant effort on peripheral IV securement. Through various surveys we identified seven key requirements for our peripheral IV systems (Figure 1). After comparing our needs with the devices and technologies currently available, we selected a uniquely designed and commercially available IV catheter system for trial that appeared to meet all of our needs for easy access, high flow rate, and catheter stabilization in a single device. We paired this with a commercially available transparent absorbent IV dressing and sought to evaluate the combination using evidenced-based procedures. This paper summarizes our experience and the data we gathered while evaluating the combination of products.

**Objectives**

This study was conducted in three phases, with the primary objective of each phase being: 1) To understand current peripheral IV stabilization practices within our hospital, 2) To trial the use of a commercially available closed IV catheter system with a built-in stabilization platform in combination with a commercially available transparent absorbent IV dressing, and 3) To collect post-use opinions of the clinicians involved in the study.

**Methods**

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**Phase 1:** This phase consisted of a hospital-wide survey of baseline (pre-trial) peripheral IV securement practices which was conducted over a 3-day period. All medical-surgical patients with peripheral IVs in place were evaluated for: 1) method of IV securement, 2) quality of securement (nurse rating on 1-5 scale with 1 = No Secure and 5 = Very Secure), 3) approximate catheter dwell time (in hours), and 4) signs of complications (from a predetermined list). A self-developed evaluation tool was used to record the data across all IV nurse evaluators involved in the study. IV restart data were additionally collected from a single 35-bed renal telemetry unit within the hospital.

**Phase 2:** This phase consisted of a 2-week evaluation of the Nexiva™ closed IV catheter system and the SorbaView® 2000 dressing within four selected hospital units. The units were chosen based on their high use of peripheral-short catheters, which included the Emergency Department, Radiology, Oncology, and Renal Telemetry. Prior to this phase of the study, all clinicians responsible for inserting and caring for IV catheters as part of the study were provided with training and practice on proper use of the Nexiva™ closed IV catheter system and the SorbaView® 2000 dressing. Service representatives from the two product manufacturers provided the training and were available throughout the trial to answer questions and provide additional training as needed.

During the 2-week trial, a self-developed evaluation tool was used to collect the opinions of the 42 clinicians involved in the study for each of the catheter/dressing combinations. Clinicians were asked to rate the Nexiva™ closed IV catheter system, the Q-Syte™ access port, and the SorbaView® 2000 dressing on a variety of performance attributes (see Table 1). Clinicians were asked to rate performance using a 5-point scale (1 = Excellent, 2 = Good, 3 = Average, 4 = Fair, 5 = Poor). IV restart data were additionally collected from the renal telemetry unit for comparison to similar data collected during the pre-trial period.

**Ethics review**

This study was conducted in compliance with Good Clinical Practice (U.S. Food and Drug Administration), and the Health Insurance Portability and Accountability Act regulations (U.S. Department of Health and Human Services). All products involved in this study were commercially available and used in accordance with approved labeling. Data collection procedures assured pa.
Table 3: Post-use performance evaluation of the new catheter stability protocol that included use of the Nexiva™ Closed IV Catheter System and SorbaView® 2000 Window Dressing (n=42 study nurses).

<table>
<thead>
<tr>
<th>Nexiva™ Closed IV Catheter System</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Fair or Poor*</th>
<th>NA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to start &amp; advance IV</td>
<td>93 (68%)</td>
<td>36 (26%)</td>
<td>7 (5%)</td>
<td>0 (0%)</td>
<td>1 (1%)</td>
<td>137 (100%)</td>
</tr>
<tr>
<td>Ability to penetrate vessel</td>
<td>96 (72%)</td>
<td>35 (26%)</td>
<td>2 (2%)</td>
<td>1 (1%)</td>
<td>0 (0%)</td>
<td>134 (100%)</td>
</tr>
<tr>
<td>Ability to visualize fluid path</td>
<td>111 (81%)</td>
<td>24 (18%)</td>
<td>1 (1%)</td>
<td>0 (0%)</td>
<td>1 (1%)</td>
<td>137 (100%)</td>
</tr>
<tr>
<td>Safety of IV at start</td>
<td>108 (81%)</td>
<td>23 (17%)</td>
<td>2 (2%)</td>
<td>1 (1%)</td>
<td>0 (0%)</td>
<td>134 (100%)</td>
</tr>
<tr>
<td>Securement of IV</td>
<td>99 (74%)</td>
<td>30 (22%)</td>
<td>3 (2%)</td>
<td>1 (1%)</td>
<td>1 (1%)</td>
<td>134 (100%)</td>
</tr>
<tr>
<td>Reliability of IV</td>
<td>93 (73%)</td>
<td>31 (24%)</td>
<td>3 (2%)</td>
<td>0 (0%)</td>
<td>1 (1%)</td>
<td>128 (100%)</td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>99 (74%)</td>
<td>36 (27%)</td>
<td>5 (4%)</td>
<td>2 (2%)</td>
<td>0 (0%)</td>
<td>134 (100%)</td>
</tr>
<tr>
<td>Total Responses</td>
<td>691 (100%)</td>
<td>215 (23%)</td>
<td>23 (2%)</td>
<td>5 (&lt;1%)</td>
<td>4 (&lt;1%)</td>
<td>93 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q-Syte™ Adapter</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to clean surface</td>
<td>120 (88%)</td>
</tr>
<tr>
<td>Attaches securely to IV sets &amp; Luer Locks</td>
<td>112 (84%)</td>
</tr>
<tr>
<td>Flow rate unrestricted</td>
<td>101 (78%)</td>
</tr>
<tr>
<td>Performs reliably</td>
<td>106 (79%)</td>
</tr>
<tr>
<td>Total Responses</td>
<td>439 (82%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SorbaView® 2000</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to apply</td>
<td>92 (67%)</td>
</tr>
<tr>
<td>Kept IV sterile &amp; secure</td>
<td>86 (64%)</td>
</tr>
<tr>
<td>Ability to visualize IV site</td>
<td>96 (70%)</td>
</tr>
<tr>
<td>Reliability</td>
<td>92 (71%)</td>
</tr>
<tr>
<td>Total Responses</td>
<td>366 (68%)</td>
</tr>
</tbody>
</table>

* Categories Fair & Poor combined due to low number of responses.

Patient privacy at all times, and none of the collected information could be traced back to individual patients. From a regulatory perspective, this clinical trial was considered to be a consumer acceptance study (U.S. Code of Federal Regulations). Since there was no randomization or experimental intervention, and all data were deidentified of protected patient information, IRB review and informed consent were not necessary for this study (U.S. Code of Federal Regulations). The lead author (and IRB member) discussed these points with the Covenant IRB chairperson prior to conduct of the study, and it was agreed that the study fit exempt classification and did not require further IRB review.

Results

Phase 1

A total of 353 patients with peripheral short IV catheters were available within the medical-surgical units and were evaluated during the pre-trial baseline period. Catheters were stabilized by a variety of methods, as there was no hospital-wide standard in place. Catheters were secured with clear plastic tape (35.3%), a thin film transparent dressing (32.2%), a thin film dressing with an adhesive foam stability frame (20.4%), a first aid bandage (7.2%), paper tape (2.4%), or other method (2.4%).

The majority (62.3%) of all catheters were in place for 24 or fewer hours, 8% for 36 hours, 12.1% for 48 hours, and only 9.5% were in place 72 hours or longer. Quality (nurse rating) of the catheter securement is presented in Table 1, and restart data from the renal telemetry unit are presented in Table 2. The majority of catheters (70.3%) showed no signs of complication; however, 11.3% had blood at the insertion site and nearly 20% showed signs of phlebitis (9.1% pain, 7.0% erythema, 2.4% swelling).

Phase 2

A total of 122 catheter insertions occurred during the 2-week trial period. Dwell-time data were not recorded during this phase of the study. Securement data and restart data (from the renal telemetry unit) for both the pre- and post-trial periods are presented in Table 1 and Table 2 respectively. Opinions of the 42 nurses involved in the study are summarized in Table 3. The
emergency room data showed three hemolyzed specimens out of 59 blood draws through the product (5% hemolysis) and the radiology department showed no lost IV sites with CT power injections. Out of 26 uses for CT power injection only 1 was rated as poor with the use of a 22-gauge catheter.

The PreOP/OR team provided 70 evaluations of the Sobiview®/HubGuard® combination and found it easy to apply (89% Excellent, 11% Good), that it kept the IV site sterile and secure (91% Excellent, 9% Good), that it was easy to visualize the IV site (64% Excellent, 6% Good), and that the combination of dressings performed reliably (91% Excellent, 6% Good). They also provided 27 evaluations of catheter securement and found 26 (96%) of the sites to be very secure and the remaining site to be secure (4%). Only 2 IVs required a restart through the patients' entire stay, both due to infiltration. No IVs showed any signs/symptoms of phlebitis throughout the needed dwell time (up to 96 hours).

Phase 3

A total of 42 nurses that were involved with IV starts during the study were asked to vote on their preference to change to the new catheter system and IV dressing, or stay with their current system and method of securement. Nurses were asked to separately vote on the Nexiva™ closed IV catheter system, the Q-Syte™ access port, and the SorbaView® 2000 dressing. The results are presented in Figure 3. The vast majority of nurses were positive to neutral toward the change for all three components. Only 5% of the nurses did not wish to convert to the Nexiva™ closed IV catheter system, and only 7% did not wish to convert to the SorbaView® 2000 dressing.

Discussion

Both INS Standards of Practice and CDC guidelines recommend that peripheral-short catheters should be rotated no sooner than 72-hour intervals unless there is suspected contamination, complications or therapy discontinuation (Infusion Nurses Society, 2006; O’Grady et al., 2002). Numerous studies have documented that this is a realistic goal, but only if adequate catheter stabilization is implemented. There are numerous methods for securing IV catheters, but clearly results of this study and previous studies show that adhesive tape is not adequate (Frey & Schears, 2006; Royer, 2003; Schears, 2006; Sheppard et al., 1999; Smith, 2006; Smith & Royer, 2007; Stephenson, 2005; Wood, 1997). INS recommends that whenever possible, manufactured stabilization devices, such as the one tested in this study, should be the preferred method of catheter stabilization (Infusion Nurses Society, 2006).

Prior to implementing this clinical trial, we sought a better understanding of the current catheter stabilization practices within our institution. To our knowledge, no previous study has collected this type of catheter stabilization information. Our survey results show that even within a single institution, methods can vary considerably. Clear adhesive tape and thin film dressings comprise the bulk of the methods (approximately 35% and 32%, respectively), followed by specialty IV framed dressings (20%), first aid bandages (7.2%), paper tape (2%) and other methods (2%).

Our study also reveals that these methods are only marginally effective, as nearly 15% of the 353 catheters at the time of the survey were loose, very loose, or unsecured (Table 1). Furthermore, catheter dwell time data collected during the baseline period show that the bulk of the catheters (~62%) were lost before 36 hours, with only 9.5% surviving 72 hours or beyond. This is consistent with previous literature reports that show that with traditional tape securement, only 15% of catheters survive to 72 hours and only 8% to 96 hours (Smith, 2006; Smith & Royer, 2007). Our study also reveals that implementation of an IV protocol which includes a closed IV catheter system with a built-in stabilization platform can greatly improve the overall securement of catheters, even out to 96 hours of dwell time (Table 1).

Catheter restarts are a costly and painful ramification of short dwell times. This study reveals that when catheter securement is changed from traditional methods to a catheter with a built-in stabilization platform, that the total number of restarts decreases substantially (Table 2). During the baseline period of this study, data collected from one unit of this hospital show that approximately 62% of all catheters required a restart. This is consistent with literature reports indicating that from 41% to 80% of catheters require restarts when secured with traditional tape methods (Hanchett, 2002; Royer, 2003; Schears, 2006). After implementation of the new protocol with the self-stabilized catheter, restart rates in this same unit dropped to just 28%, far below the

![Figure 3: Results of a post-use survey of 42 study nurses on their willingness to change practice from their current IV and securement system to the new study protocol that included use of the Nexiva™ Closed IV Catheter System and SorbaView® 2000 Window Dressing.](image-url)
Frey, A. M., & Schears, G. J. (2006). Why are we stuck on tape for peripheral-short catheters. Bierman, S. (2003). Tape: a dirty business. it takes us one step closer to the goal of 72-96 hour dwell times IV securement methods with adhesive tapes and film dressings study also provides initial evidence that changing practice to alone are not adequate to progress to the INS and a CDC goals randomized, controlled experimental designs are warranted. comparisons, which limits the conclusions that can be made. Ad dressing. The study was not powered or designed for statistical design of the study. This study was intended to be a simple more representative number of facilities. Likewise, the impact of involved in this study reveals that the vast majority of study nurs tools were self-developed and not previously validated. Finally, a third and perhaps more significant limitation is the scope and sur involved in this study. This included 97% for the Nexiva™ closed IV catheter system, 98% for the Q-Syte™ access port, and 90% for the SorbaView™ dressing (Figure 3). During this study, we discovered that evaluating the needs of an entire hospital for an IV catheter and securement system requires input from all stakeholders within the facility. Different units have different needs and concerns and all must be addressed (Figure 1). Results of this clinical survey study reveal that all of these stakeholder needs within our institution can be met with the combination of products evaluated in this study. Limitations This study has several limitations. First, the IV practices sur veied during the pre-trial baseline period represent the practices of only one facility. Further research is necessary to better un derstand current IV administration practices across a larger and more representative number of facilities. Likewise, the impact of changing IV stabilization practices is limited to data gathered at one large institution. A second limitation is that the data collection tools were self-developed and not previously validated. Finally, a third and perhaps more significant limitation is the scope and survey design of the study. This study was intended to be a simple user acceptance evaluation of a newly available and uniquely designed securement device paired with a transparent absorbent dressing. The study was not powered or designed for statistical comparisons, which limits the conclusions that can be made. Ad ditional research using more rigorous and adequately powered randomized, controlled experimental designs are warranted. Conclusions and Implications for Practice Research to provide updated evidence that traditional IV securement methods with adhesive tapes and film dressings alone are not adequate to progress to the INS and a CDC goals of 72-96 hour dwell times for peripheral-short catheters. This study provides additional evidence that changing practice to a catheter with a built-in stabilization platform can positively influence clinical outcomes, is well accepted by IV nurses, and it takes us one step closer to the goal of 72-96 hour dwell times for peripheral-short catheters. References Bierman, S. (2003). Tape: a dirty business. CICT, 7(6). Frey, A. M., & Schears, G. J. (2006). Why are we stuck on tape and sutures? A review of catheter securement devices. J Infus Nurs, 29(1), 34-38. Gorski, L. A. (2007). Infusion nursing standards of practice. J Infus Nurs, 30(1), 15-21. Hanchar, M. (2002) An approach to needle safety primary prevention. Managing Injection Control, March 16-20. 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L., & O’Connor, K. (1999). A prospective study of two intravenous catheter securement techniques in a skilled nursing facility. J Intravenous Nurs, 22(3), 151-156. Smith, B. (2006). Peripheral intravenous catheter dwell times: a comparison of 3 securement methods for implementation of a 96-hour scheduled change protocol. J Infus Nurs, 29(1), 14-17. Smith, B., & Royer, T. J. (2007). New standards for improving peripheral i.v. catheter securement. Nursing, 37(3), 72-74. Stephenson, C. (2005). The advantages of a precision-eng ineered securement device for fixation of arterial pressure-monitoring catheters. JAVA, 8(3), 130-132. U.S. Code of Federal Regulations. Standards of Practice. 21 C.F.R. Parts 11, 312, 314, 40, 54, 56, 679 catheters of the 96-hour indwell time range (O’Grady et al., 2002). These are lofty goals, considering catheters rarely stay in place for 72 hours, let alone 90 hours with traditional tape securement methods. Restart rates for catheters secured with traditional tape methods range from 41% to 80% (Hanchar, 2002; Royer, 2003; Scears, 2006), with only 15% surviving to 72 hours and 8% to 96 hours (Smith, 2006; Smith & Royer, 2007). Typical catheter dwell times range from only 1.9 to 2.5 days (Powell, Tarrnow, & Petrouca, 2008; Royer, 2003, Sheppard, LeDesma, Morris, & O’Connor, 1999). Additionally, as catheter dwell time increases, so does the risk of complications (O’Grady et al., 2002). A recent study of 679 catheters with documented dwell times found that the risk rate for phlebitis was 1.5%, 2.3% and 11.7% for catheters re maining in place for up to 1, 2, and 3 days, respectively (Powell et al., 2008). Micro-motion of the catheter inside the lumen of the vein is thought to be the cause of most complications of peripheral-short catheters (Bierman, 2003; Royer, 2003; PERRUCK et al., 1999). Therefore, the importance of catheter stabi lization at the site of insertion is increasingly being recognized for reducing complications as well as increasing dwell times. To accomplish improved stabilization, the INS Standards of Practice recommends that whenever possible, manufactured catheter stabilization devices should be the preferred method of catheter stabilization over other methods such as sterile tapes and surgical strips (Infusion Nurses Society, 2006), but INS does not endorse any particular device (Gorski, 2007). Numerous studies have shown that converting from tape A Clinical Trial of a New All-in-One Peripheral-Short Catheter Elizabeth E. McNeill, RN, BSN, MA, CCRN, Nicole L. Hines, RN, BSN, CIC, Regina Pharris, RN Abstract The objectives of this survey were to: 1) understand current peripheral IV stabilization practices within our hospital and 2) evaluate a new closed IV catheter system with a built-in stabilization platform. All medical-surgical patients within an 851-bed acute care hospital with peripheral-short catheters were evaluated within a 3-day period for catheter securement, dwell time, and signs of complications. Additionally, catheter restart data were collected from a renal telemetry unit for 2 weeks. Catheter and dressing protocols were then standardized to a new catheter system with a built-in stabilization platform (Nexiva™ Closed Catheter System) and an absorbent transparent dressing (SorbaView®). After a 2-week trial of the new protocol, catheters were again evaluated for securement and restart data were again collected from the renal telemetry unit. Staff nurse (N = 42) opinions on the new catheter system and dressing combination were sought, as well as a vote on willingness to change to the new catheter system and dressing. Results demonstrate improvement in catheter stabilization (out to 96 hours of dwell-time), decreased restarts, a high clinical preference for the new catheter/dressing system, and a high willingness to convert to the new system. Results indicate that the new closed IV catheter system with a built-in stabilization platform and the transparent absorbent dressing evaluated in this survey may help to improve catheter securement and increase dwell-time. Research studies utilizing more rigorous randomized, controlled comparisons are warranted. Introduction two major goals of caring for patients receiving therapy by intravenous peripheral short catheters are to maximize patient comfort and minimize cost. Both of these goals can be simultaneously accomplished by increasing dwell time of catheters. When catheters stay in longer, it means fewer reinsertions, which add up to less discomfort for patients and less material costs to facilities. The Infusion Nursing Society (INS) Standards of Practice currently recommends replacing peripheral-short catheters every 72 hours and immediately upon suspected contamination, complications or therapy discontinuation (Infusion Nurses Society, 2006). Likewise, CDC guidelines state that peripheral-short catheters should be replaced (with rotation of site) no more frequently than 72-96 hours (O’Grady et al., 2002). These are lofty goals, considering catheters rarely stay in place for 72 hours, let alone 90 hours with traditional tape securement methods. Restart rates for catheters secured with traditional tape methods range from 41% to 80% (Hanchett, 2002; Royer, 2003; Scears, 2006), with only 15% surviving to 72 hours and 8% to 96 hours (Smith, 2006; Smith & Royer, 2007). Typical catheter dwell times range from only 1.9 to 2.5 days (Powell, Tarrnow, & Petrouca, 2008; Royer, 2003; Sheppard, LeDesma, Morris, & O’Connor, 1999). 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