

InfoGraphic Educational Tool Validation to Aid in Minimizing Accidental Dislodgement

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Purpose/Design

The purpose of this qualitative study was to validate the use of an infographics educational tool to promote greater operational understanding by clinicians of a safety release valve (Orchid Safety Release Valve™, Linear Health Sciences, Oklahoma City, OK) for use with intravenous devices. While use of infographics in professional education is becoming more common, validation of content by targeted clinicians provides a higher level of credibility for the education process. The validation process creates an opportunity to improve the content and user understanding that equates to a better educational tool. The combination of visual, text and qualitative input improvement is designed to work together to provide the most effective learning process for the clinician.

Methods

The educational materials were developed in accordance with the safety valve instructions for use and in conjunction with infographics experts. For initial evaluation of the infographics, the concept of content validity and appearance were assessed. A validation tool of six open ended questions was created and revised by two clinicians. The revised validation tool was then tested with a group of nursing clinicians attending a professional continuing nursing educational meeting on the topic of Accidental Dislodgement of Intravenous Catheters. The selection of clinician reviewers was voluntary and included those with nursing licensure working within a clinical setting using intravenous devices with patients. Participation was voluntary as demonstrated in completion of the validation tool.

Educational Tool and Discussion

Educational Tool

Majority results from the validation study reflected complete agreement for understanding, relevance, clarity, quality of illustrations and motivation to use device effectively. Additional responses in lower range and qualitative comments identified areas within the tool that needed improvement.

Limitations

Responses associated with qualitative research are subjective in nature, based on opinion and judgment of the individual. Qualitative assessments present limitations in the dependence on individual skill of the researcher and are easily influenced by personal bias.



Results

Clinician reviewer responses provided support and content validity for clarity, relevance and suitability of design for use with nursing education of the Orchid device. Table 1 represents the validation and summary of responses to the qualitative questions and Table 2 is a breakdown of respondent comments to the content contained in the Infographics and Quick Reference Guide.

Evaluation of Infographics Education Tool Validation

Respondents ____15____
Date ____May 29, 2018____

Using the chart below, rate the following aspects of the infographic education and quick reference guide

Evaluation Questions	1 Completely Agree	2 Mostly Agree	3 Neutral	4 Mostly Disagree	5 Completely Disagree
1. Was the information on the Infographics and Quick Reference Guide easy to understand? If not, please describe, page 2.	9 60%	4 27%	2 13%	0	0
2. Was the content covered relevant information for education of a product in the clinical setting? If not, please describe on page 2.	9 60%	3 20%	2 13%	0	0
3. Were any terms ambiguous or with unclear meanings? If so, please describe and suggest alternative text. No 3. No 2 3rd sentence - minimize	7 47%	1 6%	1 6%	1 6%	1 6%
4. Did the illustrations and text provide clarity for the subject understanding? Were they clear and comprehensive? If not, please describe on page 2.	7 47%	6 40%	1 6%	0	0
5. Were the illustrations and the Quick Reference Guide steps easy to follow? If not, please indicate which parts.	9 60%	3 20%	2 13%	0	0
6. Did the illustrations and Quick Reference Guide text and steps provide education that would motivate appropriate device use? If not, please describe.	9 60%	3 20%	2 13%	0	0

Following your review of the infographic Orchid Safety Release Valve and Quick Reference Guide, we would ask you to provide additional comments as applicable:

- Was the information easy to understand? If not, please describe.
Yes - 4
Please highlight. Would like to see larger font. Loved how device for all the data to connect.
- Was the content covered relevant information for education in the clinical setting?
If not, please indicate which parts.
Yes - 6
Content covered in presentation was much more diverse than specific quick reference guide for the product which made the evaluation a little confusing.
- Were any terms ambiguous or with unclear meanings?
If so, please describe and suggest alternative text.
No - 1. Lessen measurement should include drawing. "Sterile Valve" Although it says do not place on sterile field - confusing and questionable. Yes - Dislodgement I thought was referring to PICC coming out not disconnection of tubing.
Male/Female (can't) (unable to read text word) (I didn't know what electronic means.
Tension event was ambiguous
What is electronic unit?
Suggest "NIC Compander" and "Laser flow"
- Did the illustrations and text provide clarity for the subject understanding? Was the text clear and comprehensive?
If not, please describe.
Yes - 6
I liked the illustrations of the hand, page 1, very easy to understand.
Text too hard to read. How hard do you have to pull for product to "break away"? I like it.
I would like to see a clear picture of the device once activated by a tension event, so one can see the closed end. Only because...a picture is worth 1000 words.
The drawing on the hand looks nice but it is incorrect. The drawing would completely cover the valve - the hub of the PICC does not really have anything at that location - remove the drawing right.
Picture with breaking - wording should state: Dislodgement is most frequently caused by patient confusion or removal of the catheter, later drawing on tape or tubing tangled to the text or lines.
- Were illustrations and the Quick Reference Guide steps easy to follow?
If not, please describe.
Yes - 6
I would use a picture for step 4 showing the device connected to the IV tubing, capped off and the lower end of the IV extension set. Just to be very clear how to disconnect after intermittent infusion. On step 4 I worry that clinicians are going to not follow the step where you do NOT leave the device attached to the patient. This should be bolded and be in a font to emphasize this.
- Did the illustrations and Quick Reference Guide text and steps provide education that would motivate appropriate device use? If not, please describe.
Yes - 4
Not by itself (Quick Reference Guide) Page 1 is motivating (seeing the back of the ORS).

Conclusions

The information represented in the qualitative study provided valuable feedback for improving an educational guide with applicability to the type of clinician likely to use the device. Following completion of the validation study the tools were modified according to the ratings and responses. The final tool results are suggestive that the infographics tool will be beneficial in providing relevant information and education for the use of this safety release valve.

Quick Reference Guide

