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Improving PICC Line Dressing Adherence by Using Tissue Adhesive and Liquid Adhesive

BACKGROUND

- Central venous catheter (CVC) dressing adherence is consistently identified as related to care and maintenance of central lines
- The Infusion Nurses Society (INS) Standards of Practice require CVC dressings be changed every 7 days to reduce the risk of central-line associated bloodstream infection (CLABSI)
- Richardson (2015) demonstrated that only 3% of central line dressings lasted the entirety of their intended 7 days with most dressings lasting less than 48 hours
- Timsit (2012) reported that 67% of over 11,000 dressing changes occurred earlier than scheduled due to soiling or non-adherence
- Premature dressing changes can increase risk of infection, skin erosion, pain, and costs
- Our database showed premature dressing changes ranging from 46 (5%) to 99 (12%) dressings per month in 2020

PURPOSE

- This quality improvement project aims to increase PICC line dressing adherence in accordance to Infusion Nurses Society evidence-based infection prevention guidelines by adding liquid adhesive and tissue adhesive
- To determine PICC line dressing disruption rates at SJO pre and post implementation of tissue and liquid adhesive application after line placement

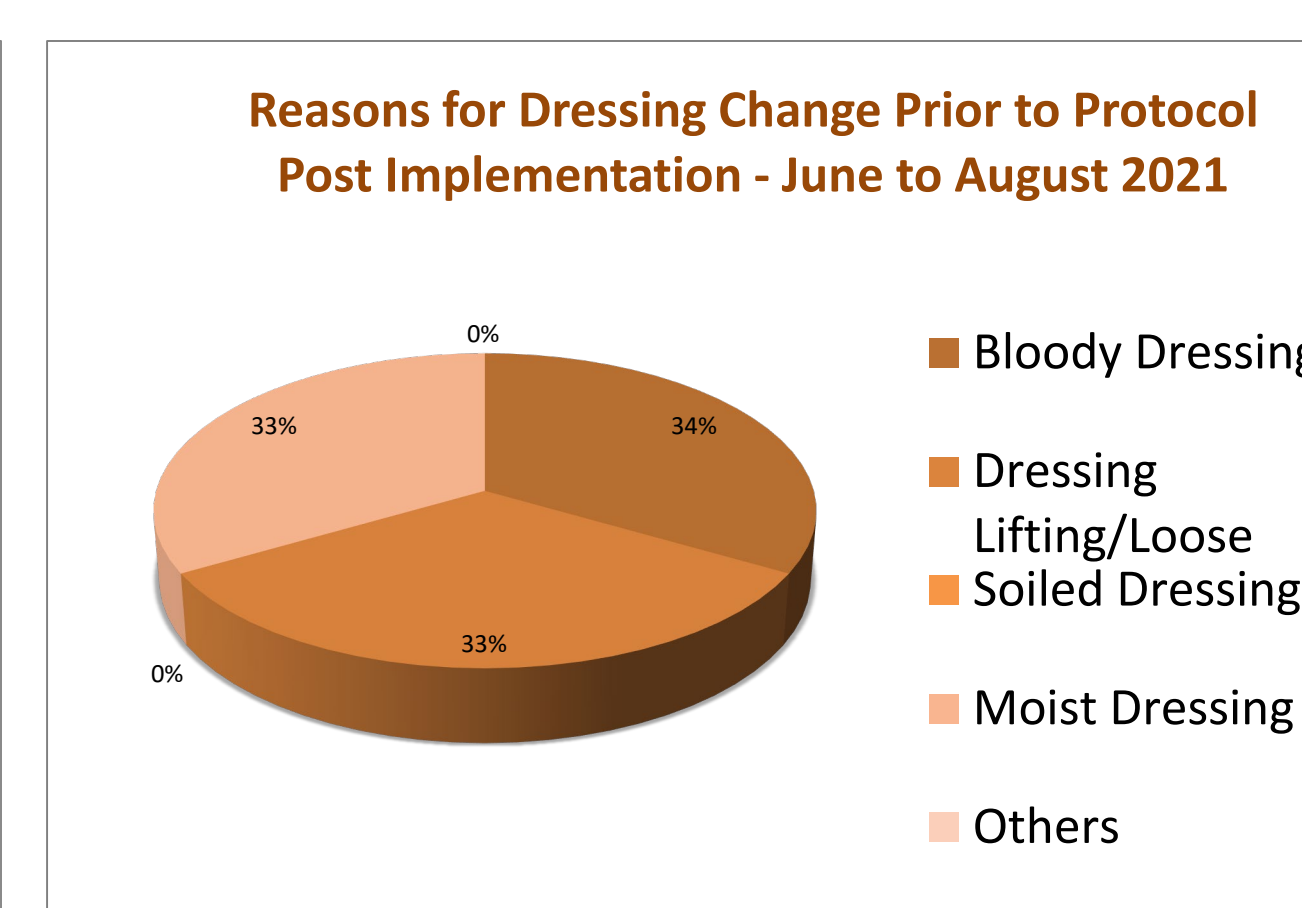
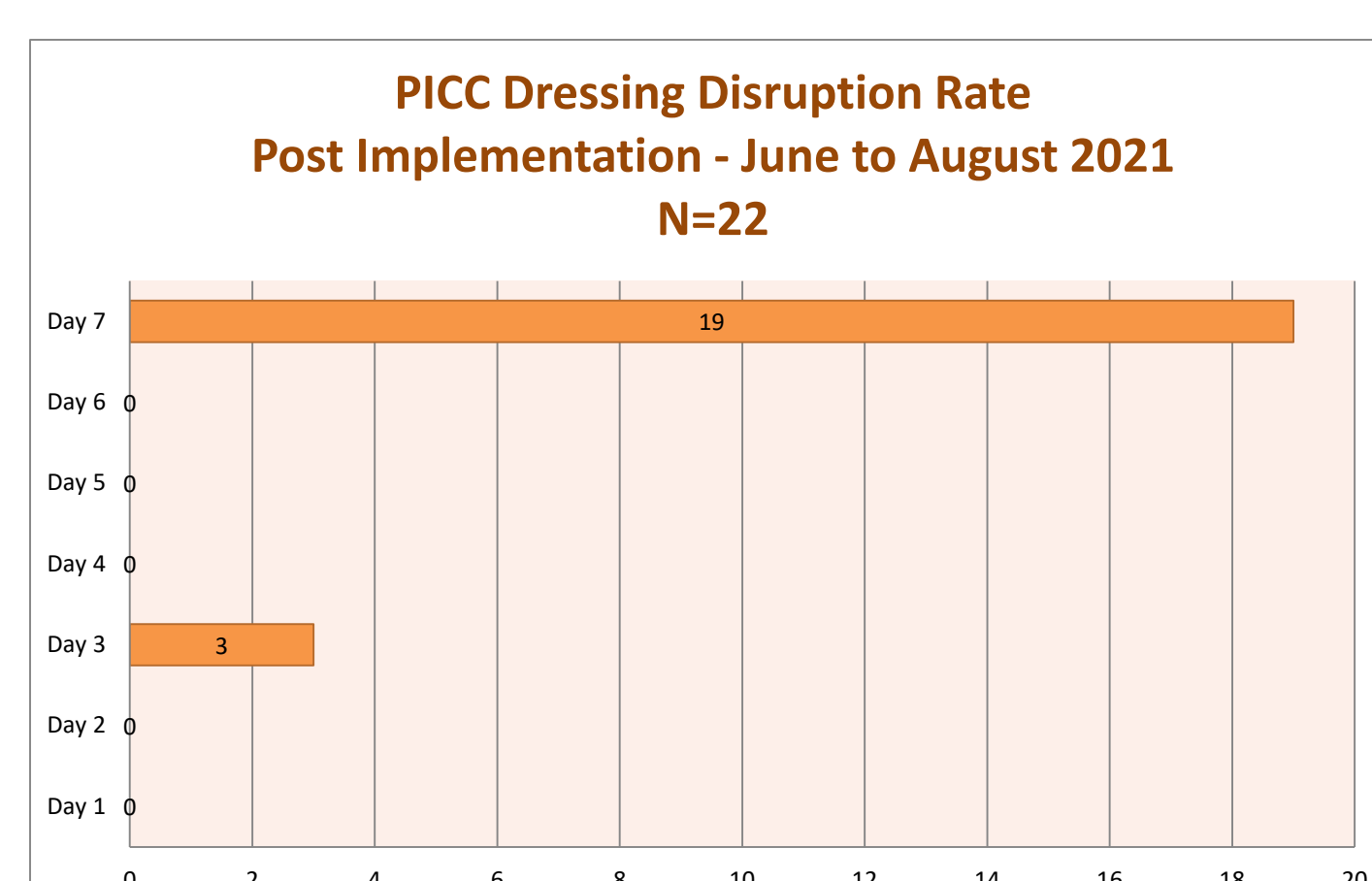
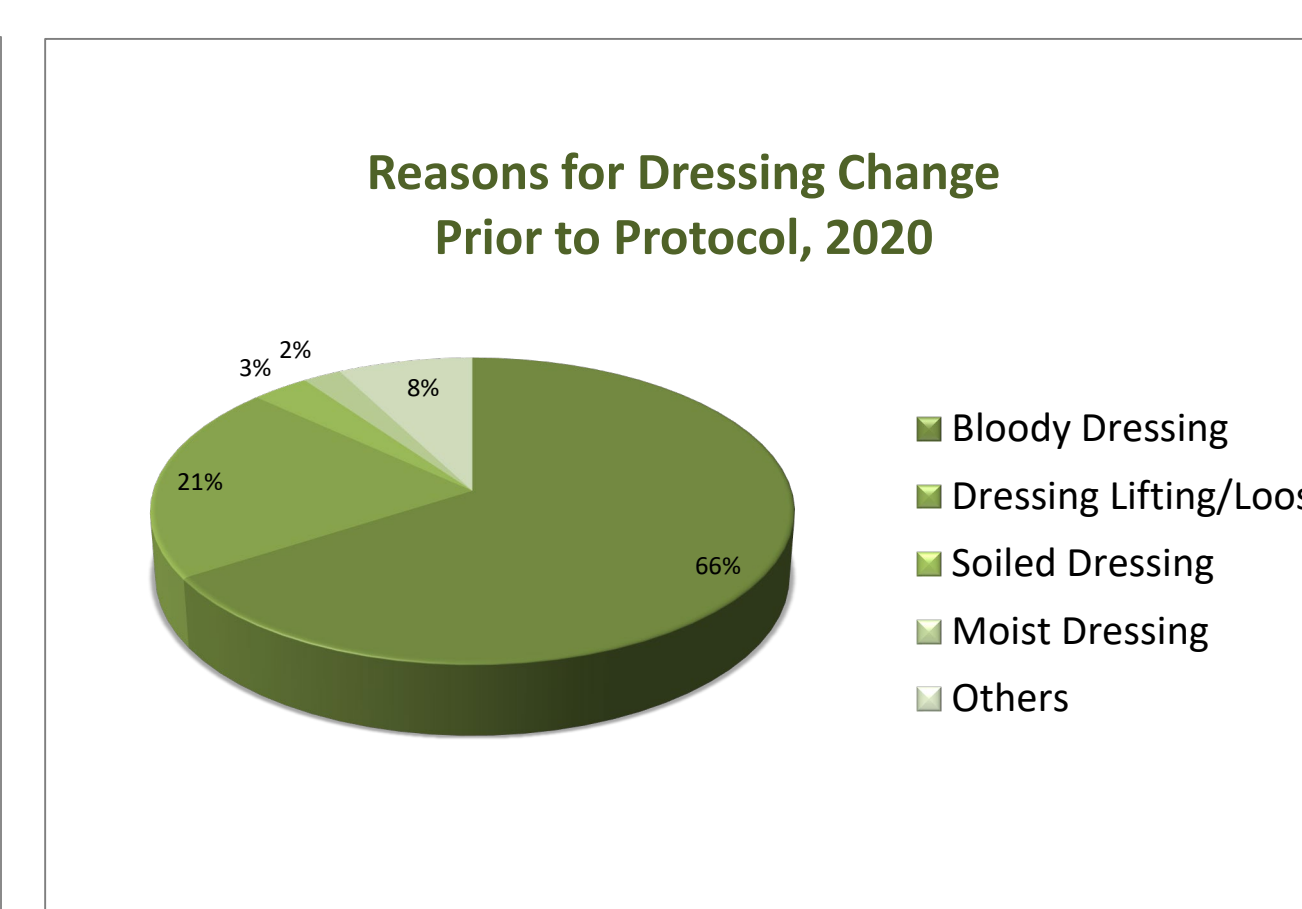
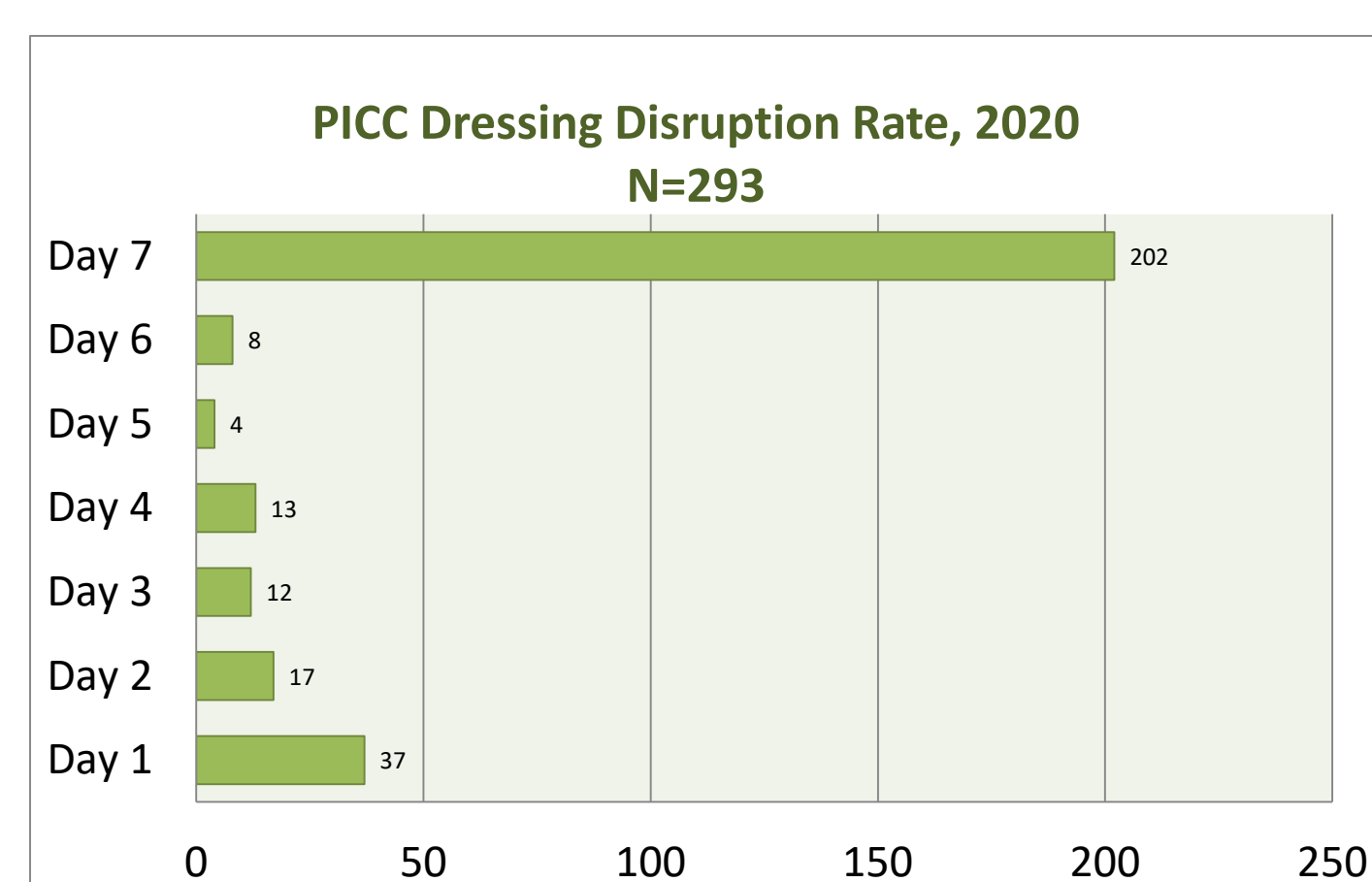
REFERENCES

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METHODS

- **Study population:** Adult in-patients (>18 yrs.) with successful PICC placement by VAT and hospital stay of at least 7 days
- **Exclusion criteria:** Only PICC lines are monitored in the project. No other central line types were involved. Patients who received PICC lines prior to discharge and outpatient placements were not included
- **Education** was provided to VAT members on how to apply the tissue and liquid adhesives post PICC line placement prior to implementation
- **Daily assessment** was performed by VAT throughout implementation to ensure compliance and to monitor outcome
- **Pre and Post data** were collected using a point prevalence assessment tool

RESULTS



RESULTS (continued)

- Analysis of premature PICC dressings in 2020, demonstrated dressing disruption rate of **31%**; bleeding (66%) and loose dressing (21%) are the two main causes of PICC dressing disruption. The number of intact PICC dressing was at **69%**
- Implementation phase was delayed due to late approval of products used in the project
- Preliminary report showed that the use of tissue and liquid adhesives resulted in a **24%** increase in intact dressing per protocol. Premature dressing changes were decreased by **55%**
- There were no reported skin injuries during intervention

DISCUSSION

- Due to limited data to support findings, we plan to collect more data and monitor dressing adherence prior to implementing a hospital-wide change in nursing practice
- Findings will be reported to management for consideration of including liquid and tissue adhesives in central line dressing kit
- Plan to replicate the project with other types of central lines

CONCLUSION

The use of tissue and liquid adhesives offers an encouraging solution to central line dressing adherence. Adhesive use minimizes costs associated with frequent dressing changes, offers time savings due to fewer dressing disruptions and improves patient satisfaction by avoiding complications and unnecessary procedures.