



Safety and Efficacy of Securement Options for 2.6 Fr. Peripherally Inserted Central Catheters



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Purpose/Design

This is a retrospective study comparing two methods of securement, Subcutaneous Anchored Securement System (SASS) and Adhesive Securement Device (ASD) to establish if the use of a SASS is safe and effective alternative to an ASD in the pediatric patient population.

Methods

This retrospective review of 946 medical records from January 2018 - December 2023 at two children's hospitals- Golisano Children's Hospital and Cook Children's Medical Center. Inclusion criteria of consented patients requiring the placement of a 2.6 Fr peripherally inserted central catheter. Data points included the reason for removal, complications, location of insertion and general demographics. The data was shared with an independent research consultant for comparative analysis of SASS vs ASD securement devices, focusing on complication rates which lead to premature catheter removal. Results include p-value, odds ratios.

Limitations

Retrospective analysis always has notable concerns particularly for the need to exclude data due to incomplete documentation in the medical records.

Conclusion

Safety and efficacy of securement for PICCs in the pediatric population have been understudied. The evolution of engineered products to support the infant and pediatric population has been slow. This study demonstrates the SASS is as safe and effective as the ASD to support PICC securement and that SASS is superior in preventing catheter migrations and dislodgements, on 2.6F PICCs.

REFERENCES:

Kleidon TM, Schults J, Gibson V, et al. Securement to Prevent Noncuffed Central Venous Catheter Dislodgement in Pediatrics: The SECURED Superiority Randomized Clinical Trial. JAMA Pediatr. 2024;178(9):861-869. doi:10.1001/jamapediatrics.2024.2202
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Results

- SASS significantly reduces the risk of catheter dislodgement compared to ASD, with strong statistical and clinical evidence.
- Other complications (DVT, CLABSI, infection) show no significant difference between SASS and ASD, with very low event rates overall.
- The findings support SASS as a clinically advantageous securement method primarily for reducing dislodgement risk.

