AVA 2024
September 28-30 Denver, Colorado
This poster was presented at the AVA Annual Scientific Meeting

Promoting Ultrasound-Guided Peripheral Insertion (UGPIV) to Reduce Midline Utilization, Lower Costs, Safeguard Vasculature, and Enhance Patient Outcomes.

Jona Caparas, MSN, RN, VA-BC, Chris Dotoratos, MSN, RNC, NEA-BC, Cynthia Valcorza, BSN,RN,VA-BC

NewYork-Presbyterian Westchester

Purpose

To optimize patient care and resource utilization, this quality improvement project seeks to enhance clinician understanding of ultrasound-guided intravenous peripheral intravenous (UGPIV) versus midline catheters. This initiative aims to improve patient outcomes, reduce healthcare costs, and preserve long-term venous access.

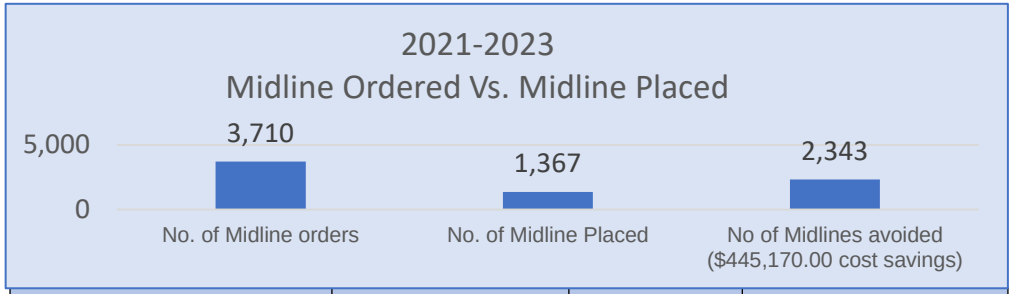
Background and Significance

- The Vascular Access Team (VAT) of a 288 hospital bed hospital places Midlines for peripheral infusions and poor venous access.
- Ultrasound-guided intravenous catheters (UGPIVs) were not used as an alternative access. Patients were getting standard peripheral intravenous catheters (PIVCs) from unit nurses.
- This puts patients at risk for potential infections and unnecessary additional sticks.
- Midline utilization is more costly than placement of a UGPIV; the cost of a midline catheter is $190 and the 20g 1.88 inches peripheral intravenous catheter used costs $1.53.
- Infusion Therapy Standards of Practice states “Use ultrasound for PIVC and Midline insertion. Adult- studies report fewer venipuncture attempts and decreased escalation to central venous access.” ^[3]

Results

Midline Placement 55.5% ↓
UGPIV Placement ↑86.73%

Year	2021	2022	2023	Total
# of Midlines orders	1854	913	943	***3710***
# of Midline placed	420	491	456	***1367***
# of Midlines avoided	1434	422	487	***2343***
# of UGPIV placed	1,056	1414	1969	***4,439***
Cost Savings	***$272,460***	***$80,180***	***$92,530***	***$445,170***



2021-2023	Cost	# of lines	total amount
Midline Avoided	$190	2,343	$ 445,170.00
Replaced with UGPIV	$1.53	2,343	$ 3,584.80
Cost Savings	$188.47		***$441,585.20***

2021-2023	Cost	# of lines	total amount
Midline Avoided	$190	2,343	$ 445,170.00
UGPIV placed	$1.53	4,439	$ 6,791.67
Cost Savings	$188.47		***$ 438,378.33***

Method

- The VAT diligently assessed all midline placement orders.
- Ensured clinical justification based on factors like medication type, therapy duration, and potential future midline needs.
- Data-driven approach helped optimize catheter selection and minimize unnecessary Midline placement.

Conclusion

- **UGPIVs Improve Patient Outcomes:** Promoting UGPIVs leads to fewer needle sticks and faster placements, enhancing patient comfort.
- **UGPIVs Optimize Resource Utilization:** By reducing unnecessary midline placements, UGPIVs help healthcare institutions utilize resources more effectively.
- **UGPIVs Deliver Cost-Effective Care:** The estimated cost savings demonstrate the financial benefits of adopting UGPIVs over midlines.

For more information, please contact:
Jona Caparas, RN at:joc9126@nyp.org
Chris Dotoratos,.RN at: cjd9008@nyp.org
Cynthia Valcorza, RN at:
cyv9007@nyp.org

References