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City of Hope

Advancing Safety in Central Venous Access Device Blood Waste Management Across a Comprehensive Cancer Center

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PURPOSE

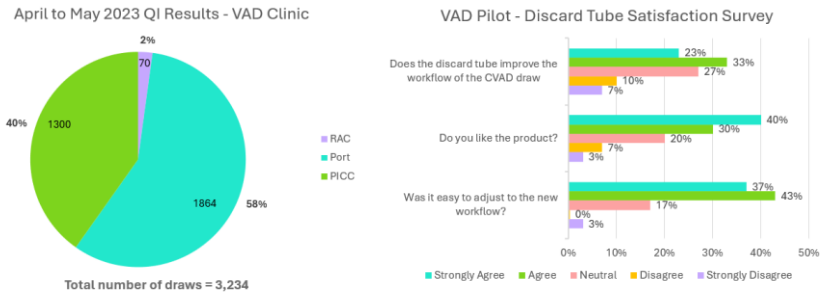
The discard method is a common wasting technique for collecting blood waste from a central venous access device (CVAD). Implementation of the option to use either syringe or discard tube with a vacutainer was evaluated within a Comprehensive Cancer Center to assess impact on repetitive motion injuries and blood-borne and cytotoxic exposures.

BACKGROUND

- Previous practice involved wasting blood with a syringe only.
- Between 2020 and 2022, CVAD draw-related **repetitive motion injuries** (many attributed to the 'pulling motion') incurred a **cost of over $630,000** in medical treatment.
- Incorrect or uncapped handling of the waste syringe posed a risk for blood splashing events resulting in **blood-borne** and **cytotoxic exposures** to the healthcare provider.

METHODOLOGY/PILOT

- With 54% of repetitive motion injuries occurring in the Vascular Access Device clinic, a one-month quality improvement (QI) pilot was performed:



- Zero blood-borne and cytotoxic exposures were reported during the QI pilot.

62% of nurses perceived an **increase** in **safety** with using a discard tube when drawing blood



DISCARD TUBE

Instructions:

1. Perform hand hygiene
2. Don gloves
3. Verify patient and gather supplies needed
4. Clean needleless connector
5. Flush the CVAD with normal saline
6. Remove syringe
7. **Clean needleless connector**
8. **Attach vacutainer**
9. **Waste blood with discard tube, fill completely, and discard tube in biohazard container.**
   a. ***** for TPN, please use 2 discard tubes.**
10. Obtain necessary blood specimens and continue the process per policy.

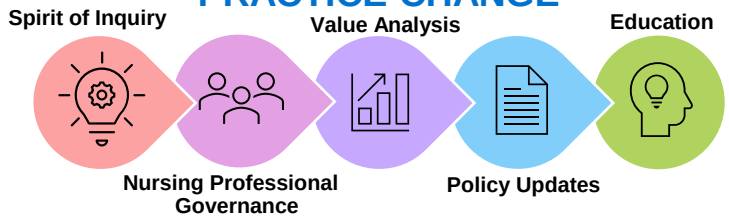
SCAN FOR MORE DETAILS

FULL SCALE IMPLEMENTATION

In October 2023, the discard tube was implemented across 9 inpatient units, 21 outpatient clinics, and 22 clinical network sites.

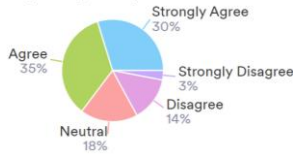
Worker's comp cost of treatment 2020 to 2022 = **- $630,000**
Cost of implementation across main campus ($0.10 per tube) = **- $14,000 per year**
Potential cost savings impact = **+ $602,000 per year**

PRACTICE CHANGE



RESULTS

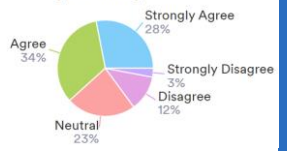
Do you feel that using a discard tube reduces your risk of blood-borne pathogen exposure?



Do you feel that using a discard tube reduces your risk for repetitive motion injury?



Do you feel that using a discard tube during the blood draw process improves your safety?



- One potential repetitive motion injury from October 2023 to May 2024 identified.
- Zero blood-borne and cytotoxic exposures were reported during this period.

CONCLUSION

- Nursing staff perception of increased safety in draw practices was 62% within 90 days of adopting the discard tube.
- Improved perceptions of reduced risk of repetitive motion injuries and blood-borne pathogen exposure.
- Full implementation of the discard method aligns our organization with evidence-based practices and fosters a culture of safety.
- Continuing efforts - monitor reported injuries, exposures, and cost savings