

Sequential Hazardous Drug Wipe Testing in an Ambulatory Cancer Center

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Background

Exposure to hazardous drugs (HDs) poses a number of significant risks to healthcare workers.

Research has shown that HD contamination can spread from pharmacy areas and administration areas to other clinical and non-clinical locations within the healthcare facility.

Interventions

Areas sampled included:

- biologic safety cabinet (BSC)
- air foil grate
- floor in front of the BSC
- floor of the PPE doffing area
- transport bin
- legs of one designated IV pole
- telephone handset at a nursing station

Purpose

A sequential quality improvement project was initiated to test for the presence of HD residue in 6 pharmacy compounding areas and 2 administration areas. The drugs included:

- paclitaxel
- 5-FU
- cyclophosphamide
- methotrexate
- doxorubicin

Testing occurred between December 2020 and June 2021 and was performed at baseline, 3 months and at 6 months using the sampling technique specified by ChemoGLO.

HD compounding was performed using the ChemoLock. Secondary tubing used a ChemoLock (proximal end) and Spiros (distal end).

Discussion/Innovation

Test number 1 revealed two areas above the level of detection (LOD): the bin for drug transport and the IV pole legs. Test numbers 2 and 3 were below the LOD for all drugs in all areas.

USP requires a 4-step cleaning / decontamination process for sterile compounding of HDs. That process was not utilized for the transport bin and could explain initial HD residue. Cleaning processes were subsequently modified.

While the IV pole was wiped down with an anti-microbial cloth between each patient, the legs were not included in the cleaning procedure. No paclitaxel spills were reported in the bay with the IV pole, and it is not known how long the trace contamination had been on the legs.

Disclosure: Seth Eisenberg has received honorarium from ICU Medical for previous speaking engagements and consulting services.



Conclusion

This project demonstrated value of sequential wipe testing and performance of the ChemoLock CSTD, while highlighting areas for improvement in cleaning of the IV poles.

	December 2020	March 2021	June 2021
IV Pole Legs	.03ng/cm ² (paclitaxel)	ND	ND
Telephone	ND	ND	ND
C-PEC Airfoil	ND	ND	ND
Floor near BSC	ND	ND	ND
Transport bin	.10 ng/cm ² (5FU)	ND	ND
Cleanroom floor	ND	ND	ND

ND = Not Detected

Lower limit of detection established as 0.01ng/cm²

CSTD and Tubing

