

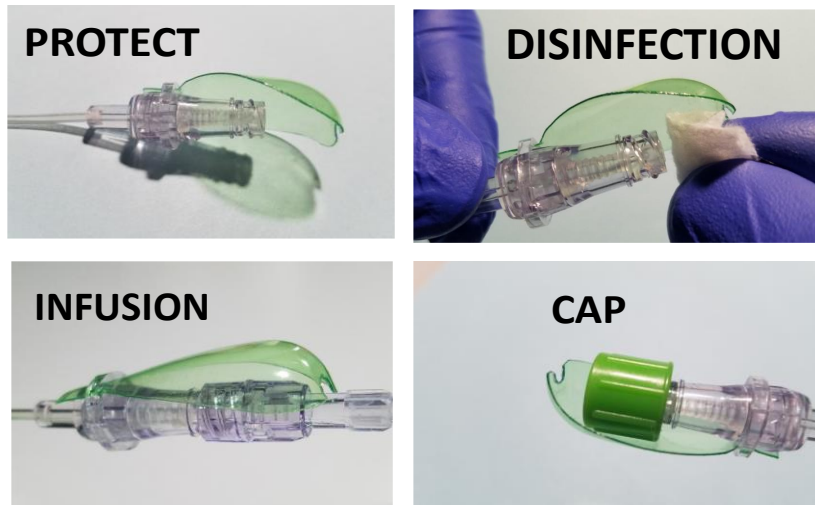
Human Factor Considerations in Support of a **Flexible IV Connector Safeguard** to Prevent Central Line Associated Bloodstream Infections (CLABSI)

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ABSTRACT IV-Line connectors become contaminated **between infusions** which lead to **LINE INFECTIONS**. A flexible shield was developed to prevent contamination while a connector is not capped. It has been successfully tested and should be used in patients with central lines, on hemodialysis, and in homecare.

CHALLENGE 23 % of all IV-line connectors are found to be contaminated prior to infusion (1). HCPs for various reasons i.e. workload, distraction, or patient moves, **do not** disinfect 3-4 % of connectors used for infusions (2,3).

FLEXIBLE IV CONNECTOR CONTAMINATION SHIELD



STUDY:

Shielded and unshielded needleless valve connectors were disinfected and placed on a person's skin to be studied under identical conditions. A total of 16 connectors, 8 shielded and 8 unshielded, were placed upon skin in four sessions. Connectors were covered by a T-shirt and the person was free to move around for three hours. Imprints of the connector tips were made on blood agar and the plates incubated at 36.5 degrees Celsius for 36 h.

RESULTS:

The eight connectors without a shield yielded colonies, whereas the eight connectors protected by the shield remained colony free, $p < 0.00002$. Bacteria were not carried to the connector tips through air, validating this design.

POINT  **A novel flexible IV connector contamination shield performs well and is ready to be used on oncology patients with central lines, those on hemodialysis, and in home IV care.**