

Implementing New Joint Commission Requirements Using Revised Protocol to Disinfect Intravenous Access Ports/Needleless Connectors

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OVERALL SUMMARY OF PROJECT

The purpose of this project was to create a verifiable way to meet the new Joint Commission requirement for “a standardized protocol to disinfect catheter hubs and injection ports before accessing the ports.” Until recently, an urban hospital in the northeastern United States used a protocol widely recommended by infection control experts: Have a nurse continuously scrub the port exterior for 15 seconds with a cloth wipe moistened with a disinfectant such as isopropyl alcohol (IPA). The nurse is then required to wait an additional 30 seconds for the disinfectant to dry before accessing the port (total = 45 seconds).

This initial approach presents two major problems: 1) Nurses are often pressed for time, so it is unrealistic to expect compliance with the required 45 seconds to disinfect each port before moving on to more urgent tasks; 2) Unless a supervisor observes each clinician regularly, there is no way to verify compliance with the protocol.



Old protocol: swabbing of hubs and ports with an isopropyl alcohol wipe.

APPLICATION OF PROJECT TO PATIENT SAFETY

The hospital evaluated a new FDA-cleared device designed to solve both stated problems. The device was evaluated by trialing it with 40 beds in the NICU, coronary care unit, and step-down unit, with 18 participating nurses. The device consists of a plastic cap that twists onto the threads of swab-able luer access ports, all incorporated in a small bag/kit. Inside the cap is a foam pad impregnated with 70% isopropyl alcohol (IPA).

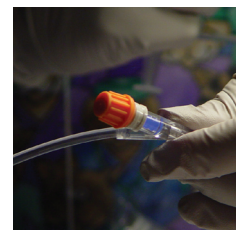


The act of twisting the cap onto the port depresses the foam pad and releases the IPA, bathing the threads and sponging the port top

in the disinfectant. The cap remains on the port in-between line access, maintaining disinfection. The cap also provides a physical barrier against airborne contamination or other contamination such as the port coming in contact with bed linens or contaminated gloves.

The cap created a scenario where the foam pad and twisting action is more likely than alcohol wipes to fully disinfect the

recessed openings of ports/needleless connectors, thus reducing contamination to patients and increasing safety.



New protocol: plastic cap containing isopropyl alcohol impregnated pad.

CONCLUSIONS

The new protocol and cap met the 2009 Joint Commission requirement for disinfection. The results were oriented to protection and disinfection of intravenous access ports. The new disinfection procedure proved an excellent fit with busy nursing schedules, allowing speed with application and extended action reducing disinfection time at the next access. The bright-orange cap provided visual verification that each port has been disinfected and continued to be protected from touch and airborne contamination.

Compliance with disinfection improved to 100%, easily measurable by visual inspection at patient bedside. Clinical evaluation results posted positive answers to all points on the questionnaire. All 18 nurses agreed that the disinfecting kit “eliminated unnecessary steps,” performed a more thorough job than alcohol swabbing alone with disinfection of the crevices of the intravenous port, and improved compliance with infection prevention practices. All 18 supported use of the cap in the hospital.

Infection Control assessed the financial impact of this procedure, considering cost of the device, nursing time saved, and materials eliminated for swabbing/flushing. The analysis concluded a savings of \$25,000 annually.

LESSONS LEARNED

Working within the parameters of realistic and optimal clinical procedures for patient safety created some challenges that we faced head-on. A revised protocol incorporated a disinfecting cap/kit and provided a simple, practical resolution of the compliance problems associated with traditional port/needleless connector disinfection practices.

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