

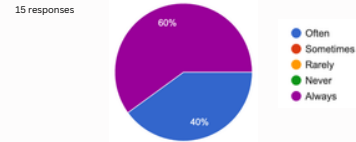
## PLAN

During our clinical rotation on a hematology/oncology unit, a gap in central line infection prevention was identified. Chlorhexidine Gluconate (CHG) wipes were routinely used for bathing but not consistently applied to central line dressings and tubing, increasing CLABSI risk in immunocompromised patients. This gap was identified through observation, staff discussions, and knowledge assessment. Many nurses and CNAs were unsure about proper CHG use, indicating a knowledge deficit and the need for a targeted quality improvement intervention focused on education and standardization.

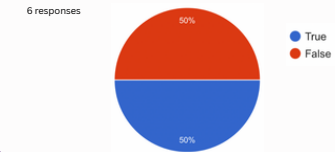
## DO

Data for this quality improvement project was collected using structured surveys distributed to nursing staff, including registered nurses and CNAs on the hematology/oncology unit. The surveys assessed knowledge, confidence, and current practices related to CHG bathing and central line care. Questions focused on frequency of CHG use, understanding of proper technique, and perceived barriers to consistent implementation.

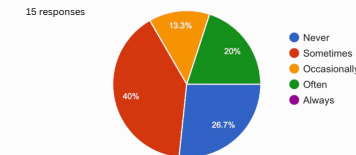
**Multiple Choice:** How often are you able to complete CHG baths and central line care for all of your assigned patients within a given shift?



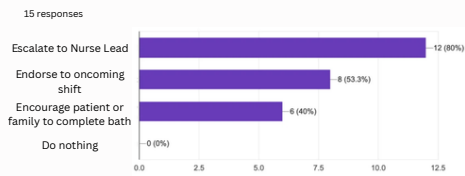
**True or false:** I can clean the central line catheter hubs and tubing when bathing my patients.



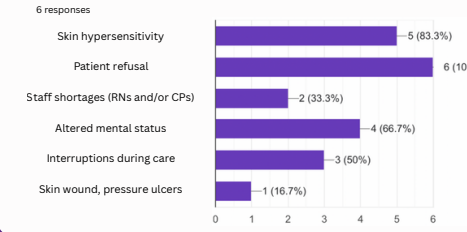
**Multiple Choice:** To what extent do interruptions in care (e.g., other patient needs, bed alarms, competing tasks) interfere with your ability to complete central line care?



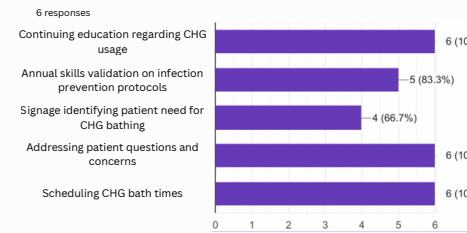
**Select all that apply:** What is the most appropriate intervention if a CHG bath and central line care could not be completed on your shift?



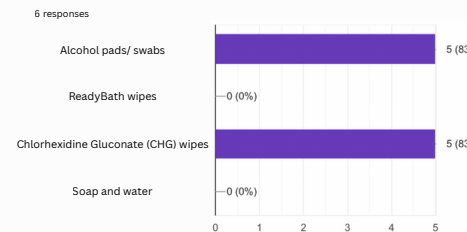
**Select all that apply:** Which of the following do you consider to be barriers to performing CHG baths during your shift?



**Select all that apply:** Which of the following interventions would you consider to be effective in improving CHG usage and/or minimize risk of CLABSI?



**Select all that apply:** Which of the following are appropriate for cleaning central line catheter hubs and tubing?



## CHECK

**Inconsistent completion of care:**

- Majority of responses report completing CHG baths and central line care “often”, though a notable portion report only “sometimes,” indicating variability in adherence to CLABSI prevention practices

**Workflow and time-related barriers:**

- The end of shift is identified as the most difficult time to complete care
- Competing priorities and task overload contribute to missed or delayed care

**Frequent interruptions:**

- Alarms, competing patient needs, and other nursing responsibilities can delay or prevent completion of central line care.
- Suggests that workflow inefficiencies impacting consistency

**Identified knowledge gaps:**

- ~50% of staff correctly identified proper central line cleaning practices.
- Supports that inconsistency is partly due to uncertainty in best practices, not just noncompliance.

**Overall interpretation of the gap:**

- Inconsistencies in CLABSI prevention is multifactorial:
  - Workflow inefficiencies
  - Patient-care related barriers
  - Knowledge deficits
- Validates the need for improved education, standardization, and workflow-focused interventions to promote consistency in care for immunocompromised patients.

## ACT

Based on our findings, the intervention focuses on improving consistency in CHG bathing and central line care through education, workflow standardization, and teamwork. Although many staff reported completing care, inconsistencies remain, with interruptions and end-of-shift workload identified as major barriers.

### Proposed Interventions

**Targeted Staff Education:**

- Reinforce evidence-based practices:
  - Dressing changes should occur routinely (per protocol) and PRN—not only when soiled
  - Central line hubs must be disinfected before every access
  - Appropriate agents: alcohol or CHG (not soap/water or bathing wipes)
- Use brief in-services, skills validation, and visual reminders

**Standardized Central Line Maintenance Bundle:**

- Implement and reinforce:
  - CHG bathing
  - “Scrub the hub” protocol
  - Dressing change schedule
- Use checklists to improve compliance

**Improve CHG Bathing Compliance:**

- Address identified barriers:
  - Patient refusal → patient education and scripting
  - Skin sensitivity → monitoring and alternative approaches
  - Altered mental status → increased staff assistance
- Ensure CHG supplies are readily accessible
- Workflow and System Support:**
  - Minimize interruptions during care
  - Promote teamwork during bathing and line care
  - Encourage consistent staffing when possible

### Evidence to Support Intervention

- Evidence shows that education, care bundles, and standardized protocols improve adherence and reduce CLABSI rates (Pronovost et al., 2006; Buetti et al., 2022; O’Grady et al., 2011; Secola et al., 2012; Alshahrani et al., 2023).
- Implementation of central line bundles and education is associated with decreased bloodstream infection rates.
- Proper hub disinfection with antiseptics (alcohol or CHG) is essential to prevent contamination and infection.

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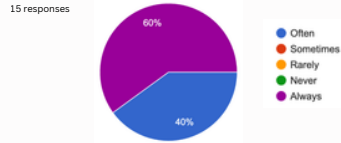
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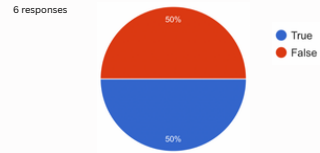
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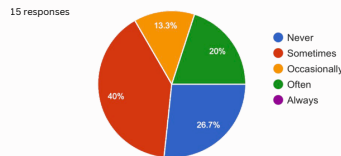
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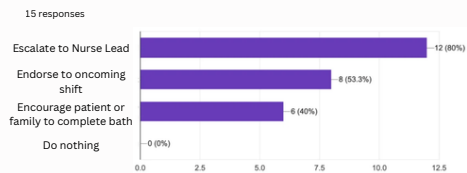
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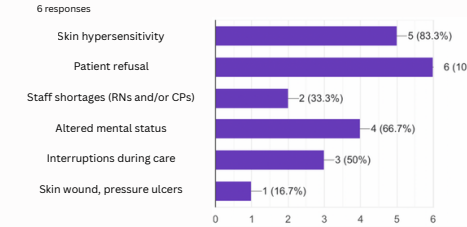
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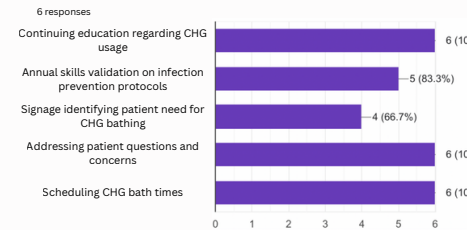
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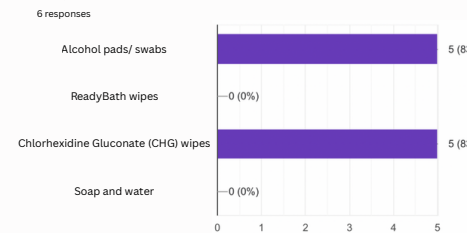
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