A Nurse-Led Quality Improvement Initiative to Improve OR-to-CVICU Handoff and Early Post-Operative Care in Pediatric Cardiac Surgery

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BACKGROUND

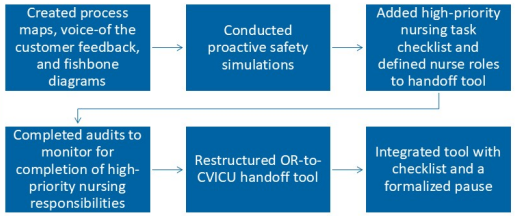
- Nurses often encounter competing priorities where they must maintain focus on their current task or redirect attention to a new, often urgent, issue. This can lead to increased cognitive demands[1].
- The number of tasks or protocols that a nurse must manage simultaneously can range from 5 to 29 tasks, which may increase depending on the patient population and clinical setting[1].
- Checklists and standardized protocols serve as structured handoff tools that can reduce cognitive demand[2].
- Incomplete or delayed information exchange as well as inconsistent task execution can result in adverse events[3].
- Despite national patient safety goals emphasizing standardized handoff practices, variability persists in interdisciplinary communication and nursing workflows.

PURPOSE

Develop and implement a structured interdisciplinary OR-to-CVICU handoff tool and standardize post-operative nursing workflows to improve completeness and timeliness of information transfer, role clarity, task reliability, and overall safety during the first 15 minutes of a patient's arrival to the CVICU.

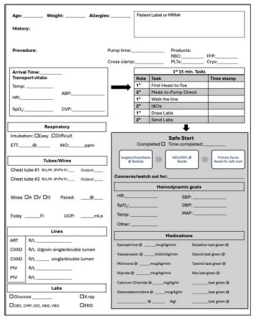
METHODS

An adapted version of the Institute for Healthcare Improvement Model was used to guide the project's progression. This included:



OR-to-CVICU Handoff Tool

- Handoff tool provides key information, including history, diagnosis, surgery details, high-priority nursing tasks, and post-operative goals.
- Six high-priority tasks include a full assessment, medication verification, IV-line checks, documentation of intake and output, and post-op labs (obtaining and sending).
- 12 checklists were reviewed before the intervention, and 32 after. Completion was defined as all six tasks being done within 15 minutes.



RESULTS

Compliance with tasks increased from **0%** to **61%**.

Run Chart – High-Priority Nursing Task Completion within 15 min.

Note: x-axis shows the audited forms in order received (1= first, 44=last). y-axis shows whether all priority tasks were completed on time (1=all tasks completed within 15-mintes; 0=tasks not completed within 15-minutes).

- **PDSA Cycle 1:** Creation of high-priority nursing task list.
- **PDSA Cycle 2:** Delegation of high-priority tasks to primary and secondary nurse role and addition of hemodynamic goals.

CVICU Staff Satisfaction Survey with Surgical Handoff

Survey Question	Pre-Intervention (n=6)	Post-Intervention (n=5)
I am satisfied with the current OR-to-CVICU handoff.	4 (67%) Disagree/Strongly Disagree	↑ 4 (80%) Agree/Strongly Agree
Handoff is structured.	3 (50%) Disagree 3 (50%) Neutral/Agree	↑ 4 (80%) Agree
I am distracted during handoff.	4 (67%) Agree/Strongly Agree	↑ 4 (80%) Disagree/Strongly Disagree
I can ask questions during handoff.	3 (50%) Disagree 3 (50%) Agree/Strongly Agree	↑ 5 (100%) Agree/Strongly Agree
Handoff is clearly heard by all members of the receiving team.	3 (50%) Disagree/Strongly Disagree 3 (50%) Neutral/Agree	↑ 4 (80%) Agree
After handoff, I often have questions requiring calling the provider for clarification.	4 (67%) Agree/Strongly Agree	↓ 3 (60%) Agree/Strongly Agree 2 (40%) Neutral/Disagree

- Among 30 surgical cases over 14 weeks, completion of the structured handoff tool reached **89.6%**.
- Completion of handoff form improved by **3.9%**, and time to transition of care from OR to CVICU decreased by **13.2%**.

CONCLUSION

- Nurse-led improvement science strengthened the operational components of the OR-to-CVICU transfer of care between teams.
- Clear role delineation and checklists use enhanced task completion and reduced process variability.
- Top three missed priorities in the first 15 minutes were completing a full assessment, drawing and sending post-op labs; future cycles of improvement will be implemented to improve OR-to-CVICU handoff and early post-op care.
- This project provides a scalable model for surgical pediatric cardiac programs and clinical contexts with elevated risk during care transitions.

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