

**Standardization of Pediatric Pre-Operative Preparation and Handoff**

**Quality Improvement Capstone Project**

University of San Francisco, Orange County

NURS 653: Internship

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# **Standardization of Pediatric Pre-Operative Handoff**

## **Statement of Problem**

Patients arriving to the pre-operative unit unprepared can be a cause for concern. Without the resources to facilitate a better process of transferring patients from the surgical unit to the pre-operative unit, delays and a decrease in efficiency of the workflow can occur. A lack of a standardized handoff tool between the two units leaves room for gaps and miscommunication during the handoff process. Creating a standardized communication tool can improve nursing satisfaction of handoff communication, the handoff quality, and the number of prepared patients prior to a procedure. The communication tool that will be implemented is called the “Job Aide” (Appendix A). The Job Aide serves as a checklist whereby each nurse will go through prior to the patient being transferred to the pre-operative unit.

## **Rationale**

Based on the needs assessment, surveys on nurse satisfaction as well as concerns regarding patient pre-operative handoff were gathered. The surveys showed that only 52.8% of nurses were satisfied with how well the patient was prepared during the handoff process. Overall, 20.5% of nurses were either neutral or dissatisfied with the handoff process. With this data, a standardized handoff called the Job Aide was introduced in order to increase nurse handoff satisfaction rates as well as mitigating and medical errors due to poor patient handoff.

Contributing factors that cause such low nurse satisfaction rates include missing important patient information as well as patients not being physically prepared for surgery. Common trends that included CHG not being performed on patients and gowns not being changed. In addition patients would arrive without updated COVID-19 test results and inaccurate NPO status. Missing information such as consents, isolation status, and updated H&P must be

addressed. With the overarching trend of patients being handed off not well prepared for their operation, it is crucial for the implementation of the new Job Aide.

The root cause analysis (Appendix B), determines the factors that contribute and form the main problem of patients being unprepared prior to arriving at the preoperative unit. It evaluates several categories including equipment, process, staff members, materials, environment, and management. Within each category, factors are identified to determine how they contribute and where it plays a part in the overall problem. The root cause analysis serves as evidence and an outline on what factors need to be addressed and changed.

### **Literature Review**

Handoff communication is an essential part of patient care and is often overlooked. Inadequate handoff between providers allows for more room for error and can put the patient at risk. Handoff communication is between all staff who care for the patient which can mean having multiple doctors, nurses, and nursing assistants. With multiple people being involved in a patient's plan of care, improving handoff to have the best handoff practice used between providers can minimize errors (Jewell, 2016). The role of standardization will vary between provider groups that have different disciplines in the pediatric field. The standardized handoff will have multiple points to cover when providing handoff communication, in addition handoff communication should be in a consistent distraction free environment, include other staff in the handoff if needed, using real time process, and clarify the plan of care (Jewell, 2016). Using just these few tools and modifications of patient care handoff may significantly reduce errors.

Errors are bound to occur making this a vulnerable occurrence for a child with lack of communication and direction during handoff. Wheeler and Rychman (2018) found utilizing the appropriate personnel at the bedside for handoff, sterile cockpit rule, checklists, double checks of

orders, and safety policy and procedures can contribute as best practices during handoff. The sterile cockpit rule consists of having one spokesperson at a time to avoid errors and translating information appropriately. Although this study focuses on postoperative the team's recommendation may be used just as effectively in the preoperative phase.

In addition, inefficient handoff can cause increased anxiety to children expecting to undergo surgery. Already, 75% of children experience anxiety related to the awaited surgical experience, and 67% developed behavioral changes of negative quality post-procedure as a result according to a study (Aranha et al., 2017). Not only is it important for equipment and paperwork to be ready, but preoperative psychological preparation is identified as a responsibility of the health-care workers.

In recent review reports from the Anaesthetic Incident Monitoring Study (AIMS), it indicated that communication failure was the second most common factor to adverse events in the recovery room (Methangkool et al., 2019). Contributing factors that affect communication include distractions, transfer of information, and personnel dynamics. Studies demonstrate that these factors have significantly affected patients due to task errors and lost information. Using standardized perioperative handovers may reduce potential harm during transition of care and surgical procedures.

Another recent quality improvement project that was implemented in a pediatric ambulatory surgery center after organizational leadership challenged units to improve patient satisfaction. An interdisciplinary unit-based task force was assembled to evaluate areas of improvement. Upon evaluation of current patient satisfaction scores and analysis of handoff, they decided that communication between staff and with families were the biggest priority. After implementation, improvements were noted in hand off time (reduction of 30%), increased

efficiency in nursing workflow as evidenced by a quicker documented RN assessment (28% faster), nursing satisfaction with workflow (100%) and increased patient satisfaction (11.6% improvement) (Gates et al., 2021).

Communication errors are more likely to happen when there is no standardization of protocol for healthcare personnel to follow. Transferring a high risk patient from the ICU to the operating room relies heavily on interdisciplinary communication, but an article finds that rarely are healthcare providers communicating and instead are relying heavily on documentation (Karamchandani et al., 2018). Furthermore, most patients being transferred from the ICU to the operating room are unable to take part in their plan of care, which could put them at higher risk for medical error. This research involved a team of healthcare providers including nurses, doctors, and respiratory therapists for both pediatrics and adults to develop and implement a standardized handoff tool between the ICU and the operating room. The study found that zero patient errors occurred over the 60 days that the handoff tool was used, and 74% of the participants found the handoff tool to be effective. Overall, by standardizing handoff and focusing on communication between teams, patient safety and health outcomes can be improved.

### **Cost Analysis**

The cost for the standardized hand off tool (Job Aide) is based on the amount of copies that are printed out each month. Each handoff tool is estimated at costing \$0.02 per copy, if 300 copies were printed per month, the average monthly cost would be \$6 and average annual cost of \$72. Using this handoff tool can help decrease the unit's expenditures by improving turnaround time, increasing nursing satisfaction, and improving the amount of patients prepared prior to transferring to the pre op unit. This in turn could be potentially cost saving by preventing

significant safety events and improving the productivity of the unit, which would allow for funds to be distributed in other areas of the unit that need more attention.

### **Project Overview**

At the pediatric teaching hospital, patients arrive at the pre-operative unit unprepared and there is currently no standardized handoff. A lack of standardization during the handoff process impacts the patient's experience due to poor organization and communication between nurses. Improving handoff protocols can help minimize medical errors and improve nursing satisfaction (Jewell, 2016). In order to improve nursing satisfaction during inpatient surgical transfer within the preoperative unit, a handoff checklist called Job Aide, was developed. Post-intervention surveys are expected to show improvements in nursing satisfaction scores concerning patient handoff communication and zero safety events related to handoff.

Prior to implementing the Job Aide a survey was distributed to inpatient surgical nurses and pre-operative unit nurses in order to improve the handoff process between nurses. After analyzing these survey results, trends of concern included inadequately dressed patients, delay in COVID and HCG testing, and lack of communication were identified; the Job Aide was developed to address those needs. The Job Aide is a standardized handoff checklist that each inpatient nurse will go through before handing off the patient to the pre-operative unit. Overall, the objective of this project is to develop and implement a standardized preparation and handoff tool to improve communication and outcomes.

### **Methodology**

The methodology for this project is the Plan-Do-Study-Act (PDSA) cycle. The “planning” phase involved the creation of the Job Aide (Appendix A) to address the needs of the

nurses on all units during the pre-operative process. Prior to creating the Job Aide, however, surveys given out to nursing staff showed low satisfaction with the hand-off process. These survey results were used as a guide to address concerns and further strengthen the hand-off and pre-operative process.

The Job Aide was designed to help prevent the occurrence of delays in care for patients undergoing surgery as part of their plan of care. Because patient pre-operative preparation is an important component in the continuum of care, the Job Aide will help the nursing staff before, and during the handoff process of patients. The Job Aide will enhance communication and care during a very important point of transition. The Job Aide is composed of a built-in checklist for preparation for transfer to pre-operative as well as the 5P's standardized hand-off category. The 5P's standardized hand-off category includes Patient, Problem, Plan of care, Pending, and Precautions. In sum, the Job Aide is one page in length and will be accessible to the nursing staff.

The educational module survey was developed for the Continuum of Care Committee to assess the effectiveness of the educational module and acquire the appropriate feedback from the staff in regard to the Job Aide through a series of five questions. The questions pertained to the level of confidence using the Job Aide, understanding the Job Aide, a short explanation of its purpose, where to locate the actual document, and the provision of voluntary suggestions to supplement the purpose of the Job Aide within the units. The "do" stage of the PDSA cycle is addressed here to receive nursing staff feedback and suggestions prior to project implementation of the Job Aide.

Following the application of the Job Aide for the nursing staff, there will be periodic, ongoing measurements of satisfaction between the nursing staff and patient satisfaction via

scheduled mandatory surveys. Surveys will be conducted at the 3rd, 6th, and 9th month points that will help identify how effective the change was. The “study” and “act” stage of the PDSA cycle is to be addressed here to review and analyze survey results and improve the change based on staff feedback. The PDSA cycle will be then repeated in the event that the Job Aide does not fulfill nursing staff satisfaction. This will allow the team to make any further necessary changes to the Job Aide and overall handoff process.

In regard to the safety reporting system, any incident or adverse event that occurs will be monitored, data shows that there currently are zero negative patient outcomes. The Risk Management department will continue to communicate anything related to this topic in a timely manner.

### **Timeline**

The team utilized a Gantt chart to illustrate the project timeline (Appendix C). The timeline has three phases: Plan, Implementation, and Results which will carry over a course of four months. During phase one, the team conducted a literature review and an evidence-based quality improvement to utilize as a guide during the planning phase. Initial survey results from the inpatient surgical unit were analyzed to format the Job Aide. The team created an educational module to provide to the Continuum of Care Committee introducing the Job Aide. The unanimous revision to the original surgical checklist included the title change to Job Aide. Member meetings were conducted on a weekly basis for the preparation of these tasks.

Phase two consists of a continuation of weekly member meetings and weekly module survey results. The Job Aide’s implementation is anticipated to launch for all hospital units from December 1, 2021 to December 8, 2021. Nurses will be able to locate the Job Aide in paper document format within their nursing station, through the hospital's intranet form bank and

virtually within the Electronic Medical Record via eCoach. These three availability formats of the Job Aide will be included within the project implementation. Within phase three, implementation survey results will be analyzed for project review.

### **Expected Results**

Standardizing the pre-operative hand-off process is not only expected to increase satisfaction scores amongst surveyed nurses, but also is expected to increase patient safety. The Job Aide will increase consistency during handoff and both nurses will have the same understanding of what needs to be accomplished prior to handoff. With the introduction of the standardized pre-operative hand-off nurses will be more likely to select “satisfied” with the hand-off in the post-intervention survey.

Surveys prior to the Job Aide showed that only 52.8% of nurses were satisfied with how well their patients were prepared for surgery prior to being transferred to the pre-operative team. Furthermore, surveys also showed that 20.5% of nurses were either neutral or dissatisfied with the hand-off process prior to the intervention. The new pre-operative hand-off process is expected to increase nursing satisfaction in terms of how well patients are prepared for surgery and the overall satisfaction with the hand-off process. The Job Aide is expected to increase nursing satisfaction and work efficiency as the nurse will have an accessible checklist to follow prior to transferring a patient. Overall, after introduction of the Job Aide through assigned education for applicable nurses an increase in satisfaction is expected to be seen in a post-intervention survey.

### **Nursing Relevance**

With the implementation of the new Job Aide and the data collected on nurse pre-operative hand-off process satisfaction rates, the Job Aide can positively impact the

pre-operative hand-off process. This project will contribute to the understanding of how nurses from both ends feel about the pre-operative report given on patients. The pre-implementation surveys were used to gather input from different nurses on what issues they were facing during the hand-off report. Using the issues that were brought up, the implementation of the Job Aide will address the important topics that nurses need to become aware of when providing handoff information. Ultimately, this builds awareness of incomplete handoffs that can negatively affect health outcomes and nurse satisfaction. In result, nurses will be able to identify the cause and change what is not being done correctly.

Clinical Nurse Leaders (CNL) play a vital role as a risk anticipator, educator, and outcomes manager. By performing a needs assessment and creating a root cause analysis, a CNL is able to identify the current barriers of pre-operative handoff. With the implementation of the new Job Aide, CNLs will provide staff members with proper education and additional resources as needed. The CNL will observe nurses utilizing the Job Aide and make sure it is correctly being used. Lastly, for outcomes management, CNLs collect survey data on how comfortable nurses are with the new Job Aide. Overall, the CNL role and staff nurses play a crucial role in identifying and implementing new assessment tools to help improve nurse handoff satisfaction rates.

### **Summary Report**

Due to the lack of communication within the pre-operative hand-off process, a significant amount of nursing staff raised concerns. Main areas of concern were related to poor nursing communication and patient satisfaction. Thus, the need for a standardized pre-operative checklist was created to decrease delays in pre-operative transferring, increase nursing staff satisfaction, efficiency, and patient safety within the unit. Furthermore, the purpose of the tool is to act as a

quick guide to ensure proper patient preparation when being transferred to the operative room. The implementation of this tool would essentially serve as a cohesive report and streamline care between units to eliminate the gaps in their current preoperative process. By implementing the standardized handoff tool, this will allow us to evaluate the quality of care delivered, patient safety, and the satisfaction among the nursing staff.

In continuation of the standardization handoff project, changes that address the concerns of the pre-operative registered nursing (RNs) staff were implemented. These changes were influenced by feedback from the RNs such as “tasks,” needed to be completed during the pre-operative process. The hand-off cover sheet now includes the following items: COVID testing, HCG test, updated H&P, obtained and documented vitals signs within the last 2 hours, and NPO time/substance. Furthermore, upon analyzing the data supplied by the pediatric community hospital, the nurses' satisfaction responses were condensed into groups categorized as “Satisfied,” “Neutral,” and “Dissatisfied” to reduce variance in the metric results.

Moreover, materials utilized that were different from the prospectus included copies of the standardized cover sheet; an education powerpoint that was presented to the Continuum Care Committee; literature review articles; the Zoom platform to meet with the committee, data/pie charts provided by the pediatric hospital; and a survey, composed of 5 questions, provided as a link at the end of the presentation.

After implementing the education component, the hospital's Continuum Care Committee provided feedback through a survey assessment tool. The education presentation was delivered on October 19, 2021 to 868 nursing staff. Out of the 868 inpatient nurses, 172 nurses participated: (139, 80.8%) marked “Confident,” (33, 19.2%), marked “Neutral,” and (0,0%) marked “Not Confident” when asked how comfortable they felt utilizing the tool (Appendix D).

Data is still pending and subject to change. Moreover, other feedback suggested to title the tool as Job Aide. After analyzing the feedback, the nurses demonstrated a general understanding of the Job Aide purpose. Additional feedback included making and distributing laminated copies of the Job Aide tool. Updates on feedback will continue to be monitored and will be given on a weekly basis. Data is still pending and is subject to change.

Due to time-constraints, data collection for this project will not be provided, however, a sustainability plan to measure the results will be implemented. The sustainability plan would include providing follow-up surveys to nurses on a tri-monthly basis. This would be the measurement tool in determining if the change has been successful. After receiving feedback, pre-implementation data will be compared with the current data, which would reveal whether patients are better prepared/equipped prior to surgery. Moreover, it would analyze the nursing satisfaction rates. It is important to continue to monitor safety events as a result of inadequate preparation/hand off communication failure. In addition to time-constraints, other limiting factors included the inability to visit the pediatric hospital due to the COVID-19 pandemic. As a result, in-person meetings with the nursing staff were restricted, thus, the education component was delivered virtually. These contributing factors may lead to a decline in the feedback responses received, which would affect the data. After the implementation of this tool, it is expected that nursing satisfaction rates will increase and minimize patient safety risks. The tool has the potential to be utilized similarly throughout all microsystems in the healthcare setting.

## References

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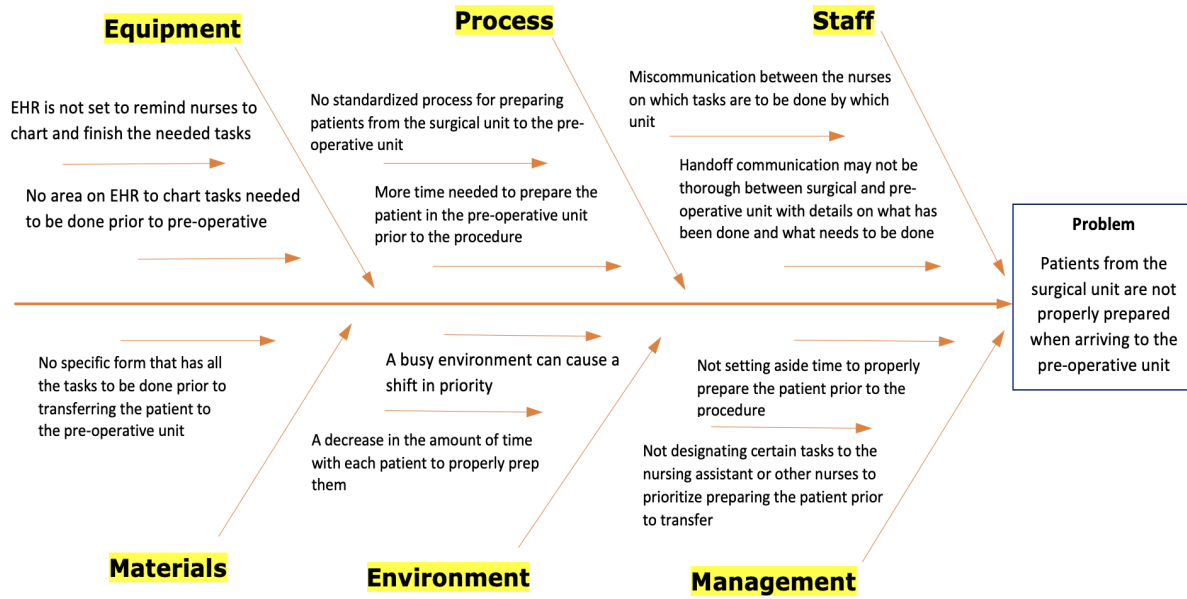
## Appendix A

### Job Aide: Preparing a Patient for Surgery

<b>Preparation for Transfer to Pre-Op</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Check patient ID Band for correct patient identification per policy</li> <li><input type="checkbox"/> Consent in correct language labeled in the chart</li> <li><input type="checkbox"/> Labels (20) / face sheets (10) in chart</li> <li><input type="checkbox"/> Patient in clean gown only (underwear/clothes/jewelry removed)</li> <li><input type="checkbox"/> Empty bladder and document urine output</li> <li><input type="checkbox"/> HCG for females <math>\geq 10</math> years</li> <li><input type="checkbox"/> Running IV with extension tubing added (no saline lock)</li> <li><input type="checkbox"/> Blood pressure cuff and pulse ox probe to be transported with patient</li> <li><input type="checkbox"/> Obtain and document vital signs (must be within 2 hours of sending patient)</li> <li><input type="checkbox"/> Complete adhoc Pre-Procedural Checklist (must be within 2 hours of sending patient)</li> </ul>
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<b>5P Standardized Hand-Off</b>	<b>Patient</b>	<ul style="list-style-type: none"> <li>• Identification (two patient identifiers per policy)</li> <li>• History (surgical, anesthesia, family, complications)</li> <li>• Communication barriers (language, developmental status)</li> <li>• Behavioral issues</li> <li>• Patient family needs &amp; belongings</li> <li>• Existing skin abnormalities (pressure ulcers, rashes, repositioning, positioning devices)</li> <li>• Loose or missing teeth</li> <li>• NPO exact time and substance</li> <li>• COVID-19 test date and results</li> <li>• Pregnancy test date and results</li> </ul>
	<b>Problem</b>	<ul style="list-style-type: none"> <li>• Pre-Op Diagnosis &amp; Planned Surgical Procedure</li> <li>• Implants, metal, jewelry unable to remove</li> <li>• Complications &amp; Abnormal Vitals</li> <li>• Equipment (trach/vent, seizure pads, restraints)</li> </ul>
	<b>Plan of Care</b>	<ul style="list-style-type: none"> <li>• Drains, dressings, incision sites</li> <li>• PIV lines (indicate site)</li> <li>• Central lines (indicate site)</li> <li>• Medications (local, pain, antibiotics &amp; re-dose, hemostatic agents)</li> </ul>
	<b>Pending</b>	<ul style="list-style-type: none"> <li>• Follow up labs, diagnostic testing</li> <li>• X-rays ordered/completed</li> <li>• EKG/ECHO ordered/completed</li> <li>• Other pending orders</li> </ul>
	<b>Precautions</b>	<ul style="list-style-type: none"> <li>• Isolation</li> <li>• Other Precautions (seizure precautions, restraints)</li> </ul>

## Appendix B



## Appendix C

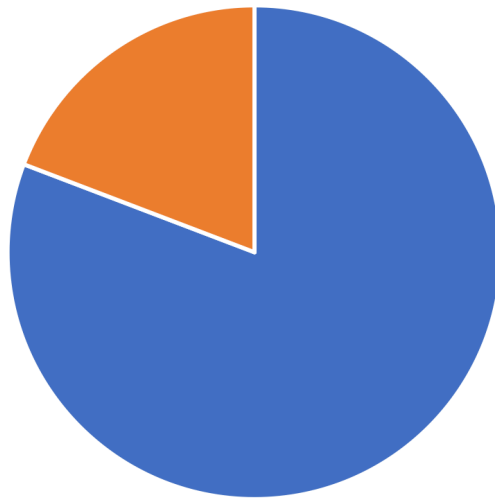
# GANTT CHART

Angel Alberto, Polly Chan, Larizza Felin, Krystalynn James, Tandy Johnson, Sarvenaz Momeni, Isela Nuno, and Evelyn Rodriguez

WBS NUMBER	TASK TITLE	START DATE	END DATE	% OF TASK COMPLETE	PHASE ONE			PHASE TWO				PHASE THREE							
					August	September	October	November	December 1st-31st	December 1st	January	February	March	April	May	June	July	August	September
<b>Phase 1 Plan</b>																			
1.1	Literature Review	8/9/21	9/7/21	100%															
1.1.1	Evidence Based-QI Improvement	8/7/21	8/14/21	100%															
1.2	Revise Survey Results	8/14/21	8/21/21	100%															
1.3	Surgical Packet Cover Sheet	8/21/21	9/21/21	100%															
1.4	Member Meeting	9/22/21	9/22/21	100%															
1.5	Educational Module	10/5/21	10/15/21	100%															
1.6	Educational Module Survey	10/19/21	10/19/21	100%															
1.7	Present Educational Module	10/19/21	10/19/21	100%															
1.8	Committee Approval Name Change	10/29/21	10/29/21	100%															
<b>Phase 2 Implementation</b>																			
2.1	Weekly Meetings	11/8/21	11/20/21	100%															
2.2	Weekly Module Survey Results	11/1/21	11/20/21	100%															
2.3	Anticipated Project Implementation	12/1/21	12/8/21																
2.4	Deployment of Paper Copy	12/1/21																	
2.5	Posting on the Intranet Copy	12/1/21																	
2.6	Posting in the Electronic Medical Record	12/1/21																	
<b>Phase 3 Results</b>																			
3.1	Creation of Follow up Surveys	10/8/21	1/8/22																
3.2	Survey 6-month Mark	6/1/22	4/1/22																
3.3	Survey 6-month Mark	6/1/22	7/1/22																
3.4	Survey 6-month Mark	6/1/22	10/1/22																

## Appendix D

## How confident do you feel using the Job Aide?



■ Confident ■ Neutral ■ Not Confident