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### Improving the patient repositioning process: A quality improvement project

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**Improving the patient repositioning process: A quality improvement project**

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### Abstract

**Background:** Research has shown that visual turn reminders can improve patient repositioning to prevent pressure injuries. The aim of this quality improvement project was to improve adherence to repositioning by increasing the perceived usefulness of the visual turn reminder.

**Methods:** A pre-intervention survey was distributed to 70 staff members with 22 responses. Staff were given the opportunity to recommend changes to the visual reminders and were informed that feedback would lead to the identification of common themes. Based on feedback, high visibility turn reminders were developed and implemented on the unit. A post-intervention survey was distributed to the same 70 staff members with 17 responses to determine the impact the improvement had on the unit.

**Results:** A pre-intervention mean score of 3.18 (SD 0.89, Range 1-5) was noted for a question about turn reminder use which improved to 4.00 (SD 0.59, Range 1-5) following the intervention. For the question regarding whether or not the turn reminder helps communication, the pre-intervention score of 3.59 (SD 0.65, Range 1-5) improved to 3.64 (SD 0.58, Range 1-5).

**Conclusions:** Perceived usefulness of the turn reminder improved as noted by more reported use and the perception that the reminder facilitated communication. This project supports the implementation of high visibility turn reminders and emphasizes the importance of incorporating staff feedback into interventions at the point of care.

*Keywords:* pressure injury, turn reminders, visual reminders

## **Introduction**

The macrosystem is a flagship hospital within a large health system that boasts more than 10 locations throughout New England. As a leader in the healthcare field, the macrosystem strives to improve the health of its patients through research, education, clinical practice, and community partnerships (DHMC, 2022). Within the macrosystem, the microsystem is a 35 bed unit that specializes in thoracic, vascular, colorectal, and transplant surgical care and also houses the progressive care unit (PCU). The microsystem also admits overflow from other surgical services such as trauma, plastic surgery, oncology and general surgery. Being that this is a surgical unit, pressure injury prevention is at the forefront of care. The goal of this project was to consult with staff at the point of care and find ways to improve this process.

## **Problem Description**

Pressure injuries are one of the most reported adverse events that occur in hospitals (Chew et al., 2017). Pressure injuries are responsible for many medical complications like infection, prolonged hospitalization, and permanent disabilities depending on the severity (Chew et al., 2017). While some pressure injuries may be unavoidable, the large majority are preventable due to interventions such as repositioning patients every two hours, the use of specialized beds, application of barrier cream, and protective dressings. These interventions have been shown to have a positive impact on patients, reducing the rates of pressure injuries among those hospitalized in inpatient units. Surgical patients are an at risk population when it comes to the development of pressure injuries since their independent mobility is often restricted due to the procedures they have had done and medications they are taking. Pain with movement deters patients from moving themselves so having nursing staff to assist with repositioning is vital to the prevention of pressure injuries among this population. Nurses and licensed nursing assistants

(LNAs) have many responsibilities during their shift, without clear communication it is easy for aspects of patient care to be missed. Many patients in the microsystem require assistance with bed mobility, so staff are tasked with assisting in repositioning their patients every two hours. This is a task that easily gets pushed to the bottom of the priority list as many of the other tasks, like assessing vital signs and medication administration are perceived as more important. A baseline survey was distributed to staff in order to gain some insight as to how they perceive their adherence to turning protocol, if they use visual reminders, and how the reminders could be improved. The results of these surveys support that visual reminders are helpful, but current practice on the unit needs improvement to be more beneficial to staff. According to data collected from the baseline surveys sent out to staff members in the microsystem, 68% of staff reported that patients sometimes refuse their reposition attempts while another 14% report that patients almost always decline the intervention. It was observed on the night shift that patients were less likely to agree to repositioning, most of the time citing that they were tired and did not want to be bothered so frequently. Staff also made several comments that *current visual reminders blend in too much so they do not get used*. Other comments collected from the survey, such as *more staffing support* and *better communication and documentation* also point to a need for reeducation regarding repositioning practice. In an effort to increase quality of care and better patient outcomes, finding an intervention that addresses both the usefulness of the visual reminder and education about repositioning would be the most beneficial to this unit.

### **Available Knowledge**

Pressure injuries have been a problem plaguing the healthcare system for decades. Perioperative patients are at an increased risk of developing pressure injuries due to many different additional risk factors such as surgical positioning and the duration of surgery along

with the support surfaces (Betts et al., 2021). There is a wealth of research surrounding pressure injury prevention, but patients are still developing them. This is a problem not only for the patients who may experience infection, longer hospitalizations, and potential disability, but also on the healthcare systems as they are not reimbursed for the care of pressure injuries developed in their facility. Much of the early research on pressure injury prevention is contradictory, making it difficult to identify interventions that have worked. More recently, research has been able to identify best practice guidelines for the prevention of these costly injuries. Prevention is truly the best way to mitigate the damage and cost that pressure injuries can have on patients and the healthcare system (Betts et al., 2021, Wang et al., 2018).

### ***Assessment for Risk Factors***

One way perioperative nurses can best prevent pressure injuries is by assessing patients for risk factors, which can be done numerous ways but most commonly by using the Braden Risk Assessment Scale (Betts et al., 2021, Wang et al., 2018). While this assessment was not initially developed for perioperative patients, most of the tools developed for this population were based off of this seminal pressure injury risk assessment and it is used by the staff in this microsystem (Betts et al., 2021). The Braden Risk Assessment Scale looks at six indicators for skin integrity: sensory perception, moisture, activity, mobility, and nutrition (Betts et al., 2021). The use of this tool helps healthcare providers to be more aware of pressure injury risk in their patients and prevent their development.

### ***Repositioning***

Pressure injuries can develop in under an hour if constant pressure above 32 mmHg as this restricts the blood flow which can lead to tissue anoxia in the area (Wang et al., 2018). While undergoing surgery, the patient is usually in the same position for an extended period of time,

leaving them even more vulnerable for the development of pressure injuries than the average patient. The use of pressure redistribution devices are considered a fundamental intervention in the care of surgical patients in relation to pressure injury prevention (Betts et al., 2021). If patients are able to independently move pre- and post-surgery, then healthcare workers should be encouraging them to offload, if they are unable to do it themselves then the healthcare staff should be assisting in repositioning the patient (Betts et al., 2021, Wang et al., 2018). This is a central issue when it comes to pressure injury prevention as those that are independently mobile will shift their weight when they begin to feel pain, but those that are immobile or impaired are unable to do so, depriving the affected area of blood flow and risking the development of a pressure injury.

Best practice guidelines recommend repositioning patients every two hours for optimal effect, though there is not much evidence to support that this prevents the development of pressure injuries (Moore & Cowman, 2015). Turning patients every two hours also interrupts sleep, which can lengthen recovery time and suppress the immune function. These side effects of fragmented sleep related to repositioning, along with limited research to support turning every two hours may be enough of a reason to change repositioning protocol all together. Since the introduction of pressure-relieving mattresses, turning patients every two hours is no longer cost effective (Chew et al., 2017). The use of these pressure-relieving mattresses poses the potential for longer intervals between repositioning meaning that patients would be able to sleep longer, but also lessen the demands on staff.

### ***Clinical Practice***

The unit is in the process of phasing in new beds which have pressure reducing technology built-in. From the research, these mattresses have many positive clinical outcomes.



Pressure injury incidence while using one of these mattresses is no different compared to patients being repositioned at any frequency, so even if reposition attempts are declined the patient is at no greater risk of developing a pressure injury (Chew et al., 2017). These pressure relieving mattresses in combination with a turning schedule would put the patients at very low risk for developing pressure injuries. The use of these mattresses also means that repositioning attempts can be less frequent which decreases staff demand and patients will have the opportunity to sleep longer throughout the night (Chew et al., 2017).

### **Rationale**

The Plan-Do-Study-Act (PDSA) cycle will be used in order to best address this improvement. During the *planning phase*, it was recommended by staff that making the visual reminders to be more eye-catching will increase their use, thus increasing adherence to the patient repositioning schedule. The next step will be to propose this intervention to the supervisor and educator in the microsystem, and once approved, the *doing phase* consisted of providing education to staff and distributing the new visual reminders to each patient room. A survey sent to staff during the *study phase* helped to determine if this intervention improved the repositioning procedure on the unit. Data helped determine if this intervention should be adopted, adapted, or abandoned during the *act phase*. By following the Plan-Do-Study-Act cycle it will be easy to continue working on this issue and will push for further improvement to better patient outcomes.

### **Specific Aims**

As we know, pressure injuries are a very common and costly hospital acquired injury. In the microsystem, there have been four reported pressure injuries since January 2022. It is important to note that the only pressure injuries that are considered in this report are stage three

and stage four pressure ulcers. This is neglecting to capture the full picture as it is estimated that over 85% of pressure injuries fall within the categories of stage one and two (Padula & Delarmente, 2019). Stage three and stage four injuries have more cost associated with them, but that does not mean that stage one and two are cost free (Padula & Delarmente, 2019). The prevention of these injuries is important in efforts to reduce injury among patients and cost for the hospital. The aim of this project is to increase use of the visual turn reminders from *sometimes* with an aggregate mean of 3.00 to *almost always* with an aggregate mean of 4.00 by increasing its visibility on the unit by the end of July 2022. The global aim is to have a positive impact on adherence to the repositioning process on the unit, thus decreasing the number of pressure injuries sustained. In conjunction with this, education will be provided to staff to reiterate the importance of repositioning on the prevention of pressure injuries, reaffirm that this is a shared responsibility between both the nurses and LNAs, and that the new visual reminder can help with this by increasing the communication between all parties involved.

## **Methods**

### **Context**

Pressure injuries impact around 2.5 million patients each year in the United States (Vitale & Dzioba, 2021). The cost associated with pressure injury treatment is absorbed by the hospital, so finding ways to prevent them is of particular interest. A single pressure injury has the potential to cost the hospital as much as \$70,000 and is the second most common hospital lawsuit claim, adding even more cost to the hospital (Vitale & Dzioba, 2021). Not only is there cost associated with the treatment, but also in prevention efforts. Having adequate staff to reposition patients frequently has cost not only in paying the staff but also costs the staff time in their shift. There is also the potential for staff injury while repositioning patients, which the

hospital would then be responsible for paying. While the cost of pressure relieving devices seems high, in the long run they are more cost-effective than paying for the treatment of pressure injuries (Chew et al., 2017). Simple interventions, such as implementing a visual turn reminder, cost less in comparison to what hospitals spend on pressure injury care each year. The more intense interventions, like the implementation of pressure relieving devices, may seem more expensive but are still more cost effective than paying for pressure injury treatment.

### **Intervention**

There have been multiple attempts to implement a visual turn reminder on this unit. Different styles were tested, but they were never routinely used by staff. Staff reported a difficulty in keeping up with turning patients every two hours while patients report frustration in being woken up every two hours. The premise behind this intervention was to incorporate staff feedback about the current visual repositioning reminders to identify strategies they would find more useful in their practice. Suggestions from staff along with current research aided in the development of an improved visual reminder. The reminder is set up as a checklist, with the hour the patient was turned listed next to the check box. This reminder will be in 4 hour time intervals as research recommends longer intervals with the concurrent use of pressure relieving mattresses (Chew et al., 2017). The longer interval between repositioning patients will decrease staff demand and address patient reports of frustration related to fragmented sleep. There will also be a space for the staff that performed the reposition to circle how the patient was repositioned; to the left (L), right (R), supine (S), or if they were up to the chair (C). By having all of this information readily available on the visual reminder, any staff member that walks in the room would be able to identify when the patient was last turned and to which position. This would address a communication barrier and help staff adhere to the repositioning schedule. From the

surveys it was identified that the current visual repositioning reminders were not eye catching so it was easy to miss. To improve this, the visual reminders for this intervention will be printed on bright colored paper.

To address another barrier identified from the baseline surveys and observation on the unit, education was provided to explain the rationale behind the new visual reminder, the importance of repositioning on a surgical unit, and that both nurses and LNAs are responsible for this aspect of patient care. Education will be done through a slideshow shown in the conference room where the staff huddles before their shift and takes their breaks in order to reach all staff members responsible for patient repositioning. This intervention was implemented with the support of the unit supervisor and unit educator. The staff responsible for repositioning patients, registered nurses (RN), licensed practical nurses (LPN), and LNAs, were all encouraged to use these reminders in their practice.

### **Study of the Intervention**

RNs, LPNs, and LNAs were surveyed both before and one month after implementation of the intervention in order to gain an understanding of the use of the new visual reminder and if education was perceived as helpful to clinical practice. Survey data was then used to determine if the intervention is something that should be adopted, adapted, or abandoned. The same survey was used for both pre- and post-implementation in order to see if the staff perception and use have changed at all after implementing this new repositioning reminder. If staff report more success in following repositioning procedures on the unit, increased use of the visual reminder, and perceived increase in communication between providers then it will show that the intervention worked. If the survey results remain the same or get worse, it will be clear that the intervention was not successful and further assessment of barriers.

**Measures**

To collect the data, both quantitative and qualitative elements were measured. A survey was given to staff to rate their adherence and experiences with repositioning procedures on a Likert scale of one to five: 1-Never, 2-Rarely, 3-Sometimes, 4-Almost Always, 5-Always. In the survey they were given the opportunity to offer suggestions via a free text box on how to improve the visual turn reminders further. This survey addresses barriers to repositioning and also gives staff the opportunity to share their experiences to improve practice on the unit. The purpose of this was to increase staff buy-in for the proposed intervention. There is not one type of visual turn reminder that is recommended over another, but what is important is that the staff find it useful (Betts et al., 2021).

The post-intervention survey sent out to staff was identical to the baseline survey in order to identify the impact that the intervention has on clinical practice. Staff were first asked their job title: RN, LPN, LNA, or Other with a section to enter their role. Respondents then rated five statements on a scale of one to five, one being never and five being always. Statements included:

1. I turn my patients every two hours.
2. I forget to turn my patients.
3. My patients refuse my attempts to turn them.
4. I use one of the turn reminders (clock, checklist, etc) to remember to turn my patients.
5. The use of the turn reminder helps communication between providers caring for each patient.

Questions one, two, and four in the Likert scale section address each staff members' individual practice in the clinical setting. Question three allows for staff to report if patients are refusing

attempts as this was an occurrence both verbally reported and observed on the unit as would suggest future quality improvement projects to address the barrier. Question five addresses a communication barrier related to repositioning and helped identify if the new turn reminders had an impact on interprofessional communication. At the end of the survey, respondents were asked one open response question, *What would make the turn reminders better?*, along with a space to leave any additional comments. Once the intervention is implemented and in practice for a month, the second survey was emailed to staff by microsystem leadership to assess if staff practices, patient refusal, and communication between providers has changed regarding repositioning patients after implementation of the visual reminder and staff education.

### **Analysis**

In order to understand the impact the intervention had on staff, the same survey as the one used to gather baseline data was distributed. Staff were once again asked to rate their attitudes towards turning practices and if the visual reminders are helpful in their practice on a scale of one to five. There was also an open response section for more descriptive feedback and suggestions. Descriptive statistical analysis was used for the categorical data obtained in the question asking staff for their job title and will be reported as a frequency and percentage. The Likert-style items were reported as mean, standard deviation and range typical of continuous data. The free text responses were analyzed for repetitive themes to identify areas for future improvement.

### **Ethical Considerations**

The main ethical consideration of this project is to ensure that participant feedback is kept private. Surveys will be sent out by the unit supervisor to get an honest representation of staff experiences regarding repositioning. Survey data was kept confidential to ensure that

participant's responses remain private. Confidentiality allows participants to be truthful, and share their feedback without worry of repercussions for reporting their current practice. Staff were made aware that survey responses are going to be used as part of the quality improvement project and have the right to ask for more information or not participate whatsoever. This project was reviewed and approved by the University of New Hampshire Department of Nursing Quality Review Committee.

### Results

Upon presentation of this intervention to the supervisor and educator there was support and understanding for the proposed improvement. Unfortunately, due to hospital protocol, making the change to turning patients every four hours was not going to be feasible in this time frame, though it is something they expressed interest and support for in the future. Given that the original intervention was not going to be implemented, staff feedback on current turning procedures was gathered and a new intervention was developed. The pre-intervention survey was sent to 70 staff members on the unit, this included 52 registered nurses (RN), 3 licensed practical nurses (LPN), and 15 licensed nursing assistants (LNA). The surveys were sent via email from the supervisor and participation was voluntary and confidential. 22 responses were collected from: 17 RNs (33%), 2 LPNs (67%), and 3 LNAs (20%) (Table 1). The majority of the statements on the survey were Likert-style with the values being the following: 1-Never, 2-Rarely, 3-Sometimes, 4-Almost Always, and 5-Always. The statement, *I forget to turn my patients*, scored the lowest with the mean of 2.77 (SD 0.42, Range 1-5) falling between *rarely* and *sometimes*. This is a good thing as it means staff are not forgetting to turn their patients. The statement, *The use of the turn reminder helps communication between providers caring for each patient*, scored a mean of 3.59 (SD 0.65, Range 1-5) falling between *sometimes* and *almost*

always. The statement *I use one of the turn reminders (clock, checklist, etc.) to remember to turn my patients*, scored a 3.18 (SD 0.89, Range 1-5) falling between *sometimes* and *almost always*.

All of the Likert-style statements from the baseline survey along with the mean, standard deviation, and range can be found in Table 2. Staff were then offered free text boxes to offer their opinions as to what would make turn reminders better and if there were any additional comments. There was a 100% response rate on all Likert items, 77% response rate on the free text, *What would make the turn reminders better?*, and 32% response rate on the free text, *Any additional comments*.

**Table 1**  
***Pre-Intervention Demographic Data***

<u>Demographic Data</u>	<u>Total Sample (N=22) n (%)</u>
<b>Job Title</b>	
Registered Nurse	17 (77)
Licensed Practical Nurse	2 (9)
Licensed Nursing Assistant	3 (13)
Other	0 (0)

**Table 2**  
***Pre-Intervention Key Variables in Repositioning***

<u>Variable</u>	<u>M</u>	<u>SD</u>	<u>Range</u>
<b>I turn my patients every 2 hours</b>	3.64	0.48	1-5
<b>I forget to turn my patients</b>	2.77	0.42	1-5
<b>My patients refuse attempts to turn them</b>	2.95	0.56	1-5
<b>I use one of the turn reminders (clock, checklist, etc.) to remember to turn my patients</b>	3.18	0.89	1-5
<b>The use of the turn reminder helps communication between providers caring for each patient</b>	3.59	0.65	1-5

In order to develop an intervention the responses to the question, *What would make turn reminders better*, were considered. Themes from the responses include, increased visibility, audible alarms, and adequate staffing. In an effort to also address continuity of use, a turn



reminder already implemented in the microsystem was used as inspiration for the new turn reminder. The main difference between the two being that the improved one was printed on brightly colored paper to increase the visibility and hopefully cause staff to interact with it throughout the shift by filling out when the patient was last repositioned and to which side. In addition to this, an educational slide for the conference room slideshow was developed to inform all staff about the importance of repositioning and address that it is a shared responsibility between RNs, LPNs, and LNAs.

Post-Implementation surveys were sent out to staff to assess for improvement. The same survey and population used to gather baseline data were used to collect post-intervention data. There were only 17 respondents to this survey: 12 RNs (70%), 2 LPNs (12%), and 3 LNAs (18%) (Table 3). The Likert-style item, *I forget to turn my patients* scored the lowest with a mean of 2.17 (SD 0.61, Range 1-5) falling between *rarely* and *sometimes*. This is lower than the pre-intervention mean response which can be interpreted as staff are less likely to forget repositioning their patients. The statement *I use one of the turn reminders (clock, checklist, etc.) to remember to turn my patients* had a mean response of 4.00 (SD 0.59, Range 1-5) meaning turn reminders were *almost always* used. All statements, means, and standard deviations can be found in Table 4. Staff were once again offered free text space to offer suggestions about how to make turn reminders more useful to their practice. There was a 100% response rate on all Likert items, 47% response rate on the free text, *What would make the turn reminders better?*, and 23% response rate on the free text, *Any additional comments*.

**Table 3*****Post-Intervention Demographic Data***

<b><u>Demographic Data</u></b>	<b><u>Total Sample (N=17) n (%)</u></b>
<b>Job Title</b>	
Registered Nurse	12 (70)
Licensed Practical Nurse	2 (12)
Licensed Nursing Assistant	3 (18)
Other	0 (0)

**Table 4*****Post-Intervention Key Variables in Repositioning***

<b><u>Variable</u></b>	<b><u>M</u></b>	<b><u>SD</u></b>	<b><u>Range</u></b>
<b>I turn my patients every 2 hours</b>	3.71	0.57	1-5
<b>I forget to turn my patients</b>	2.17	0.61	1-5
<b>My patients refuse attempts to turn them</b>	2.88	0.47	1-5
<b>I use one of the turn reminders (clock, checklist, etc.) to remember to turn my patients</b>	4.00	0.59	1-5
<b>The use of the turn reminder helps communication between providers caring for each patient</b>	3.64	0.58	1-5

This intervention brought forward some great solutions to improve patient turning, but unfortunately some were not feasible due to a multitude of barriers. For example, many of the staff members recommended the implementation of a turn team which has a lot of evidence to support its benefits but there was not the time or budget to support this. This project did help management on the unit get a glance at what their staff want and need in order to improve this practice and they are open and willing to address everything they can. This is a positive sign for future interventions related to turning patients in an effort to improve the practice for both the staff involved and the patients.

## Discussion

### Key Findings

Overall, all responses trended favorably following the implementation of the visual turn reminder. While the intervention was adapted from the proposed, it still met the aim of this project. The specific aim was to increase perceived usefulness of the turn reminder from a 3.00 to a 4.00. By using feedback, a new and improved turn reminder was developed, and it is seen that use went from a self-reported average of 3.18 to 4.00 meaning that staff are *almost always* using the visual reminder. Along with those results, staff reported an increase in communication between care providers regarding patient repositioning from a mean of 3.59 pre-intervention to a mean of 3.64 post intervention which can be interpreted as useful for communication. Staff also reported an increase in remembering to turn their patients every 2 hours and an increase in communication between providers related to the turn reminders. All of this data can be used to infer that staff found the new visual reminders useful. Seeing as only one variable was changed, not all of the changes staff proposed could be made, so some may not find the reminder helpful, but leadership staff on the unit have plans to continue implementing new interventions to improve this practice. The education that was provided to staff readdressed the importance of turning, current hospital protocol, and encouraged the use of the turn reminders. Seeing as not all staff feedback was used during this Plan-Do-Study-Act cycle, future cycles can be done incorporating more suggested interventions such as audible reminders and changing how reminders in the electronic medical record work. As improvements continue to be made, staff perception of usefulness should only continue to increase given the improvements are based on their recommendations.

***Strengths of the Project***

A strength of this project is that it highlighted the importance of getting staff perspective on workflow and best practice. If the intervention had been developed without their input, many would not have used it or understood why the change was made. By involving staff in the improvement, an intervention was developed with their help so they were able to find it useful in their personal practice and support the importance of gaining staff buy-in. Proposed future interventions can address more of the adaptations so all staff can have a reminder that works best for them.

**Interpretation**

The implementation of the new turn reminder was performed to increase its visibility as staff identified that to be a reason why the original reminders were not being used consistently. The bright colored paper the new reminder was printed on stands out making it so that staff, and even patients, are more inclined to look at it. Other reminders on the unit are also printed on bright paper so staff are already trained to pay attention to those signs, so by making this small adjustment to the preexisting turn reminder staff are more likely to not only see it, but hopefully use it too by noting the time and position change on the reminder. These results support the idea from a study conducted by Betts, Scott, & Makic in 2021, that no one turn reminder is better than another, but the staff must find it useful if it is to be put into clinical practice. Staff identified that the turn reminder on the unit was not being used, why it was not being used, and different solutions. By taking these suggestions, the turn reminder was able to be personalized to the needs of staff on this unit specifically. Through survey data it was clear that staff reported the turn reminders were helpful in communication between patient care providers and reminders are now almost always used by the majority of respondents. Along with this, it was also found that there

may be a lack of understanding that this is a shared responsibility between the nurses (RNs and LPNS) and the licensed nursing assistants. Many of the respondents mentioned in the free text section that they wish there was more staff to share the workload with, and while assembling a designated turn team would alleviate this responsibility, making sure all staff have the same understanding of who is responsible for turning patients can also help address this. Education was developed in the form of an educational slide to be shown on the television in the conference room used for pre-shift huddle. By re-educating staff that patient repositioning is a shared responsibility, this will hopefully distribute the workload between staff. The original proposed intervention of changing the turn schedule to be every four hours was also meant to address this, but at this point we are unable to implement a longer interval rather than every two hours. Research supports both the implementation of a turn team and longer intervals between turns to reduce some of the nursing workload, but seeing as neither of these interventions were feasible in this timeline, making sure staff were educated that all nursing staff are responsible for this aspect of patient care was important in distributing the workload. The results of the surveys support not only the implementation of high visibility turn reminders to increase their use and improve patient repositioning practice, but also highlights the importance of getting staff input when developing interventions for their microsystem.

### ***Impact of the Project on the Microsystem***

This intervention had very little impact on the expected workflow on the unit. Nursing staff are tasked with repositioning patients every two hours and had turn reminders that are very similar to the ones implemented, the new and improved visual reminders provided were printed on bright paper to increase visibility on the unit. There were many different suggested interventions by staff, all of which are supported by research, but due to the timeframe and

budget for this project they were not feasible. This is not to say that they will never be implemented on this unit, data has been shared with the leadership team for them to continue to improve this practice.

### ***Opportunity Costs***

This intervention was not very costly both monetarily and in staff time. The majority of necessary materials were already used on the unit, meaning the purchase of bright colored paper was the only monetary cost. Staff already had the foundational knowledge of repositioning practice on the unit, and were even exposed to the style of turn reminder before, so the only time they were asked for was for an approximately 1 minute re-education and to fill out the turn reminder after repositioning their patients. Compared to the costs of pressure injuries on the healthcare system, both monetary and in staff time and resources, spending upfront for prevention saves money and time compared to treatment.

### **Limitations**

One limitation of this project was that the original intervention was not able to be implemented. This intervention was designed to address more of the barriers identified by staff so there is the potential that the intervention could have been perceived as more useful by staff. Another limitation is that only 31% of staff responded to the initial survey and only 24% responded to the post-intervention survey, so the data was not as comprehensive as it could have been with a larger staff response. The survey was voluntary, so in the future, offering an incentive to encourage participation may bring better results.

This quality improvement project was implemented on a surgical unit, so patients are at a higher risk for developing pressure injuries and staff are very familiar with turning procedures. With this in mind, the intervention was rather simple as the staff had a strong understanding for

repositioning practice and why they do it for their patients. If this were to be done on a different unit, more information and education may need to be provided to staff for the importance to be understood. Due to this, generalizability to other microsystems is limited.

### **Conclusions**

This quality improvement project emphasizes the importance of involving staff in change within the microsystem. Clinical Nurse Leader (CNL) competencies value inter professional partnerships, collaboration between providers, and the involvement of key stakeholders when developing and implementing improvements. Without the involvement of microsystem staff, an intervention may have been developed, but it would not necessarily be perceived as useful in practice. The use of high visibility turn reminders proved to be useful within this microsystem and may be something to implement on similar units, but what matters most in developing an intervention is staff recommendations. This project also leaves a lot of room for further improvement as there were many suggestions that were not used in this improvement project. While this intervention is something to adopt on this unit, there are still more improvements that can be made to hopefully further better this process for nursing staff.

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**Appendix**

Repositioning Survey

If you are willing, please fill out this survey to help inform a quality improvement project related to patient repositioning. Answers will remain confidential. Your participation is appreciated!

Job Title: RN / LPN / LNA / Other: \_\_\_\_\_

I turn my patients every two hours.

Never	Rarely	Sometimes	Almost Always	Always
1	2	3	4	5

I forget to turn my patients.

Never	Rarely	Sometimes	Almost Always	Always
1	2	3	4	5

My patients refuse my attempts to turn them.

Never	Rarely	Sometimes	Almost Always	Always
1	2	3	4	5

I use one of the turn reminders (clock, checklist, etc) to remember to turn my patients.

Never	Rarely	Sometimes	Almost Always	Always
1	2	3	4	5

The use of the turn reminder helps communication between providers caring for each patient.

Never	Rarely	Sometimes	Almost Always	Always
1	2	3	4	5

What would make the turn reminders better?

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Any additional comments:

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Thank you for completing this survey!