World Union for Wound Healing Societies 2016

Pressure ulcer prevention: Driving to zero
Pressure Ulcer Prevention: Driving Closer to Zero

Making Pressure Ulcer Prevention a Priority
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Reducing Hospital-Acquired Pressure Injuries in the Cardiovascular Operating Room and Intensive Care Unit Population
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Former Enterprise Manager, Wound Care Team
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Hospital-acquired Pressure Injuries: Nurse Managers Enhancing Sustained Outcomes at the Point of Service
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Healthcare Consultant
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In acute care settings, the estimated incidence and standard of care for hospital acquired pressure ulcers (HAPUs) varies widely around the world, and leaves behind an immense economic burden.1 Preventing HAPUs is important for healthcare organisations, and at the World Union for Wound Healing Societies, which took place in Florence, Italy in September 2016, Smith & Nephew sponsored a symposium to help communicate, and further educate, on its importance within the healthcare community. Three speakers, Mark Collier, Molly Sammon and Jeanine Frumenti gave delegates an evidence-based overview of real-life examples of how quality improvement and HAPU prevention programmes can work.

Mark Collier, highlighted the need to make pressure ulcer prevention a priority worldwide by revealing costs to healthcare systems. He further demonstrated that monitoring and clearly identifying the prevalence and incidence of HAPUs helps reduce their number in the United Kingdom. Mark practically demonstrated this by showing his development of a pressure ulcer notification tool. By advocating for clear and concise HAPU prevention guidelines, he is working towards ensuring HAPU prevention becomes a priority in the United Kingdom.

Molly Sammon, and her programme within the Cleveland Clinic, highlighted that by understanding how patients developed HAPUs, a hospital could address and ultimately solve the problem. A comprehensive and collaborative programme between the Heart and Vascular Institute’s operating room (OR) and intensive care unit (ICU) teams, along with the Wound Care Consult Team, discussed ways of preventing HAPUs. The HAPU prevention protocol resulted in the Cleveland Clinic reducing its HAPU rate to 1.5%, and showed cost savings of $88,000 for the system during the 5-month review period for its protocol that included ALLEVYN LIFE.

Lastly, by assessing leadership and potential organisational failures, Jeanine Frumenti used methodologies typically used within the business world, to assess and improve HAPU incidence within an in-patient unit. She addressed staff satisfaction, communication barriers and nursing pitfalls by empowering the organisation’s leadership and staff. As a result, the root cause of high rates of HAPU incidence was identified and addressed.
A goal of many healthcare professionals (HCPs) and hospital staff around the world is to reduce, and ultimately, prevent HAPUs; incidence and prevalence rates are seen as key quality indicators. To help, there are many national and international guidelines to guide treatment of HAPUs; these include The National Institute for Health and Care Excellence (NICE) guidelines and the joint consensus between the European and National Pressure Ulcer Advisory Panels (EPUAP/NPUAP) and Pan Pacific Pressure Injury Alliance (PPPIA) guidelines; however, it has proved to be a daunting task among clinicians to thoroughly read the available information, due to time limitations and results in not having a standardised, global HAPU prevention programme in hospitals. In order to ensure quality-improvement programmes achieve sustainable outcomes, a number of strategies and tools to support hospital teams in preventative care must be implemented.

Additionally, HAPUs are costly to treat and are typically not reimbursed by insurance payers as they are largely preventable. The annual costs of HAPUs on a global scale are extraordinary, and the cost of treatment is 3.6 times more expensive than prevention. In the Netherlands, HAPUs cost an estimated €2.5 billion, the United Kingdom sees costs around £2.5 billion, while the United States manages a cost of roughly $11 billion. Standard recommendations for prevention have helped to drive down the incidence of HAPUs, but there remains room for further improvements.

Since 2004, the United Lincolnshire Hospitals NHS Trust has seen incidences for Category III and IV HAPUs decrease significantly to 0.35%. Within the orthopaedic clinical area, the cost of managing heel pressure ulcers has been reduced by £240,000, and £1.5 million for all categories of damage across all hospital sites. In addition to the cost savings, a number of other benefits were also recognised, including:

- Nursing care time saved as nurses were able to focus their needs elsewhere
- Patients not delayed in being discharged
- An increase in the patient’s HRQoL
- No complaints related to tissue viability for 2 years
- No legal fees or settlements needed to be paid

In summary, three key elements need to be implemented to ensure the success of a prevention programme.

**1. Organisation**
The change should fit within the culture of the organisation and there is evidence of an infrastructure to support the change.

**2. Process**
Evidence needs to be robust for an accurate depiction of improvement; there are benefits beyond the health of the patient.

**3. Staff**
Involve staff at all elements of the change process. Stimulate support with positive attitude, and motivate all professionals, including senior management to clinical leaders, by providing dedicated training sessions.

“**What might seem to be a small pressure ulcer can really be life-changing for a patient, and affect all aspects of their life – the physical, the psychological, the social, the emotional, and if they are of working age, their ability to work.”**
Reducing Hospital-Acquired Pressure Ulcers in the Cardiovascular Operating Room and Intensive Care Unit Population

Cleveland Clinic is ranked the number 2 hospital in the US and the number 1 hospital for heart surgery. In order for the Cleveland Clinic to maintain its high standing among hospitals in the US, it developed an improvement programme in an effort to identify nursing quality indicators and causes of HAPUs, which would ultimately help prevent such incidences from occurring. Upon completing literature reviews and research, the Wound Care Consult Team identified time in the OR and emergency room (ER) as key factors to the development of HAPUs.

Specifically, when reviewing the feasibility of HAPU programmes in the ER, a study determined that 99.2% of patients who developed HAPUs occurred after being in the ER for longer than 2 hours. Additionally, separate studies noted 5.0–53.4% of patients were developing HAPUs within 72 hours post-operatively. In fact, it was found that the duration of a patients’ stay in the OR was the only factor in whether a patient developed a HAPU; for every 30 minutes of surgery, beyond 4 hours, the risk of developing a HAPU increased by 33%.  

In considering what additional interventions could be used intra-operatively to try and reduce the incidence of OR-acquired pressure ulcers, one study revealed foam dressings could be used as a key prevention tool. As such, the team reviewed all pressure ulcers, one study revealed foam dressings could be used intra-operatively to try and reduce the incidence of OR-acquired pressure ulcers. Beyond 4 hours, the risk of developing an OR-acquired pressure injury as:  

- A pressure ulcer that develops in the operating room  
- A pressure ulcer that is evident within 3 days of a patient who underwent surgery lasting longer than 3 hours  

While the Wound Care Consult Team had a special interest in preventing HAPUs resulting from the OR, they also made improvements to the prevention protocol in the ICU for patients considered to be higher than average-risk of developing HAPU:  

- Surgeries >7 hours  
- ICU stay lasting >24 hours  
- Anticipation of multiple procedures  
- Patients ≥80 years  
- Patients on dialysis  
- History of diabetes  
- If patients had open chest and/or have ECMO, LVAD, BIVAD, artificial heart or IABP

The Wound Care Consult Team then developed a definition of an OR-acquired pressure injury as:  

A. A pressure ulcer that develops in the operating room  
B. A pressure ulcer that is evident within 3 days of a patient who underwent surgery lasting longer than 3 hours

The existing protocol for treating high-risk patients included:  

- Turning patients every 2 hours with pillows for back support, and between knees for a 30-degree tilt  
- Use of low air loss beds  
- Use of therapeutic foam head cushion in a loose pillow case  
- Use of a heel suspension boot device; removed for assessment every 8 hours  
- Application of skin moisturiser  
- Cleaning of the skin to the areas affected by friction with Dimethicone cleansing wipes  
- Application of moisture barrier ointment daily and as required  
- Ensuring the patient was fed, as soon as it became medically appropriate  
- Documentation of areas of hyperaemia (persistent but blanchable skin redness) in skin/wound section of the patients medical record in the ‘other’ category  
- Consult with Wound Care Team for any HAPU that develops and any pressure ulcer present on admission (POA) at stage III, IV, DTI/sDTI or unstageable  
- Post-review of the protocol, the Wound Care Team then added: Application of a Foam dressing, left in place for 3 days, with skin assessments carried out with each change in caregiver and as required

Significant improvements in PU incidence were noted with the addition of foam dressings into their prevention protocol in the ICU and OR. However, due to increasing costs, the Wound Care Consult Team was asked to re-evaluate foam dressings in the market place. As such, the nursing team reviewed alternative foam dressings available, and made the decision to move forward with the use of ALLEVYN™ LIFE. The team found that in comparison to a similar-month period, the incidence of HAPUs dropped from 3.8% to 2.3% as a result of switching the choice of foam dressing to ALLEVYN™ LIFE, and in the fourth quarter of 2014, the incidence dropped even further to 1.5%.  

“As it relates to unit incidences - know there are some obstacles in the OR that you can't change, but look for those that you can. Look for those dressings that can provide a benefit and will make it easiest for your nurses to prevent pressure injuries. Make sure you maintain all your nurses interventions and maintain leadership – motivate nursing personal at the bedside to help get your pressure ulcer injuries down.”

The following interventions were found to be suitable for use:  

- Dimethicone cleansing wipes  
- Use of a heel suspension boot device; removed for assessment every 8 hours  
- Use of therapeutic foam head cushion in a loose pillow case  
- Use of low air loss beds  
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$ALLEVYN™ LIFE showed a cost savings of $64,300 for the main campus and $88,000 for the whole Cleveland Clinic system.  

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Presentation 3
Hospital-acquired Pressure Injuries: Nurse Managers Enhancing Sustained Outcomes at the Point of Service

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Healthcare Consultant, Bronx-Lebanon Hospital Center, USA

In hospitals where HAPU incidence is higher than normal, it is important to understand what could potentially be going wrong, as opposed to, the assumed cause of the problem when trying to affect change. Dr Frumenti entered an in-patient unit to assess and review the reason behind a high HAPU incidence. She reviewed the presence of ‘transactional versus transformational’ leadership and whether organisational failure was present. The results showed this organisation had a lack of leadership, evidence of organisational failure and low staff satisfaction.

There were indicators pointing to HAPU incidence being high: HAPU prevalence over 10%, and staff satisfaction surveys revealing a lack of communication and trust among staff and managers.

As a result, three goals were identified:

1. To determine baseline leadership skills and abilities of three Patient Care Managers (PCM)
2. To evaluate the impact of executive coaching on the prevalence of nosocomial pressure injuries and performance indicators of HAPU management on staging, positioning and completing of Braden Scale
3. To determine the impact of executive coaching by the CNO on the leadership skills of the three PCMs as perceived by their nursing staff and by the pressure ulcer prevalence study

The first method of intervention was learning the Toyota Production Model (TPM) process and how it can be applied in the hospital setting. TPM is a rigorous problem solving process, which requires a detailed assessment of the current conditions and a specific plan for improvement, which is an experimental test of the proposed changes.

Nurse Managers were encouraged to be present on the hospital floors, and observe and record the protocols in place, interactions among staff and identify potential issues. Weekly team meetings were held to discuss the experimental measures that demonstrated progress and others that should be discounted. The team efficiently tracked all countermeasures.

The Nurse Managers quickly identified the root causes of HAPUs and developed countermeasures specific to: the issues of repositioning, documentation of Braden Scale scores and staging of pressure injuries.

Previous research on ‘transactional versus transformational’ leadership has highlighted the benefits of executive coaching in improving leadership skills. As such, the second method of intervention was executive coaching. This included weekly one-to-one coaching sessions for 8 weeks with the Chief Nursing Officer (CNO). The purpose of the meetings were to:
- Help improve communication between Patient Care Manager (PCM) and the staff so that effective staff development could take place
- Enhance scientifically the quality improvement methodology provided to PCM and staff that stressed the guidance of a manager at the point of care
- Discuss HAPU management using the established leadership growth goal and continue to ensure that the PCM understood the impact of the integration of the A3/PI data and leadership skill

Allow the Chief Nursing Officer to ascertain from those being coached successes and gains since the previous session.

The third, and final, intervention was measuring outcomes - pressure ulcer-performance improvement (PU-PI) data – including staff compliance rates in implementing and recording re-positioning and turning frequency, staging, Braden Scales, as well as pressure ulcer prevalence rates.

As a result, a major difference was seen throughout the organisation. There was a change in leadership from transactional to transformational, staging was only conducted by nurses, the Braden scale was used accurately and coaching sessions helped build stronger leaders.

In summary, it is crucial the team owns and addresses the change process, and management should reinforce and support. There needs to be open communication and trust between all levels of staff, and there needs to be a true assessment of the current conditions, as opposed to, the assumed cause of the problem when trying to affect change.

Further recommendations for success, include:

1. Executive coaching
   - A productive and effective way to assist and sustain gains

2. Ownership
   - Staff need to own the process

3. Open communication between staff and leaders
   - Then all will be clear on what is working versus not working, and will be able to put a process in place that is sustainable

In the future for advanced wound management, I would really love to see the teams own the process; they have a significant amount of equipment and medication to really manage pressure injuries; however, it’s what they do with it and how they can engage that in their daily activities. Hopefully, hopefully one day minimize and pressure injuries as much as possible.

Conclusion
By clearly explaining benefits to patients and carers, potential cost savings and its effect on the perception of healthcare organisations around the world, our three presenters showed real-world examples of how HAPU prevention programmes can be successful.

As a leader in advanced wound management, Smith & Nephew is dedicated to help reduce the human and economic cost of wounds and to support HCPs.
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References: