Pressure Injury Root Cause Analysis

Cleveland Clinic

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Points criteria:

Criteria	Under performance <3 points per criteria	Basic 3 – 3.9 points per criteria	Proficient 4.0 – 4.4 points per criteria	Distinguished 4.5 – 5 points per criteria
Required content objectives	Content objectives are missing or sparsely covered.	Content objectives are not consistently addressed. Demonstrates minimal understanding of content.	Content objectives consistently addressed. Demonstrates understanding of content.	Content objectives consistently addressed. Demonstrates mastery of content.
Academic writing standards	Writing lacks scholarly tone & focus. Sparse content. Multiple grammatical, spelling, & factual errors. Reliance on bullet points rather than effective writing in speaker notes. 4 or more direct quotes per project.	Writing is unclear and/or disorganized. Inconsistent scholarly tone. Inadequate depth of content. Grammatical and spelling errors. No more than 3 direct quote of less than 40 words per project.	Writing demonstrates general exploration of content. Responses are clearly written using scholarly tone. Few grammatical and/or spelling errors. No more than 2 direct quote of less than 40 words per project.	Writing demonstrates comprehensive exploration of content. Responses are clearly written using scholarly tone. Rare grammatical and/or spelling errors. No more than 1 direct quote of less than 40 words per project.
APA formatting	References and citations have multiple errors or are missing.	References and citations have errors.	References and citations have few errors.	References and citations have rare errors.

Carefully review the above rubric on how points are awarded. Select one (not both) of the case studies listed on page three. Then, using academic writing standards and APA formatting of references and citations, respond to each of the learning objectives listed on page two. Each response should be 150-350 words in length, and should be entered below each objective on this document. Save the completed document as the assignment title with your name and submit to the dropbox.

1. Define root cause analysis & its role in pressure injury prevention.
   Root cause analysis (RCA) is a systematic review of the causes associated with an adverse event or outcome. It is a method of solving problem by identifying where the failure or problem initiated and not result or evidence of the problem. It examines what led to the opportunity for a problem or failure to occur. Mandated by the Joint Commission in 1997, an RCA must be completed after sentinel events (Black, 2019). The goal of completing an RCA is to identify where improvements or corrections in a process can be established. RCA was first utilized in industrial accidents, yet can be applied to a variety of situations with in the healthcare setting. For pressure injury prevention the role of an RCA is to identify the underlying cause that led to the pressure injury and how to make improvements or corrections. Hospital-acquired pressure injuries (HAPI) are categorized as "never events" by Centers for Medicare & Medicaid Services (CMS) (Miller et. al, 2019). When a patient develops a stage 3 or 4 pressure injury during their hospital admission, the additional cost to provide wound care is not reimbursed by CMS (2023). The importance of pressure injury prevention is two-fold. First and foremost, the development of a pressure injury is harm to the patient. Pressure injuries cause pain, extend recovery, have increased expense for the patient and, are associated with increased morbidity and mortality. Pressure injuries can happen to any patient, but have higher incident in the vulnerable populations: aging, neonates, critically ill and immobile (Edsberg, 2022). The Braden Scale for Predicting Pressure Sore Risk© (Braden Scale), provides categories and subscale scores that are used to predict the patient's likelihood of developing a pressure injury (Borchert, 2022). Once the pressure injury develops it is a wound that needs to be treated. Most of the categories of risk on the Braden Scale are also risk factors associated with poor wound healing. Pressure injuries typically heal via secondary intention, there is both physical and emotional pain associated with extended healing (Chen et al., 2020). Additionally, there is an overall increase in cost to the entire health care system related to the treatment of pressure injury wounds. As stated above, HAPI are not reimbursable by Medicare & Medicaid, and are increasingly expensive to treat, especially if surgical or antibiotic therapy is needed. It is estimated that there is a cost exceeding $26.8 billion to treat Stage 3 and 4 HAPI in the United State, care for a single HAPI ranges from $500-$70,000. (Padula & Delarmente, 2019). Completing a root cause analysis to determine the cause and more importantly the prevention of HAPI is imperative for the patient and health care system.

2. Analyze one (not both) of the case studies from page three of this document, and describe the system failures that led to the pressure injury in that situation.

Case Study b.
A 58 year old patient with a history of uncontrolled diabetes is admitted to the ED. He was discovered unconscious in his back yard by neighbors who called 911. He was transported to the ED of Acme Hospital where he regained consciousness. His blood glucose was 220 mg/dL, and his HbA1c is 13.2%. He is also experiencing mild chest pain, nausea, and tingling in his left arm. He is admitted to the hospital to rule out MI and to gain control of his blood glucose level. On admission, his risk assessment for skin breakdown indicated a 20 or very low risk. After several tests to determine the cause of his chest pain, he is diagnosed with coronary artery disease and is in need of bypass surgery to open three coronary arteries. He goes to surgery on day three of his admission and is in the OR for 8 hours in a supine position. 18 hours after surgery, his nurse notices he has a painful deep purple bruised area in the coccyx region and contacts the WOC nurse to evaluate the lesion. At this point the patient is placed on an active alternating pressure powered air mattress. Five days later the bruised area in the coccyx begins to show evidence of an open wound, with measurements of 4.0 length x 1.0 cm width, and deep in the natal cleft there is dense slough with mild serous drainage. The surrounding skin is indurated with redness and evidence of a resolving bruise. Explain what risk factors led to the sacral injury and how you would set up his plan of care.

On the initial read of this case study the first system failure that stood out to me was that the patient was found down for an unknown period of time outside, and did not regain consciousness until arriving at the hospital emergency department. Even though information regarding amount of time down, position, and surface of time down or related trauma injuries is unknown, being found down is a red flag, this event alone should be considered a risk factor for the development of a deep tissue pressure injury. According to the National Pressure Injury Advisory Panel (NPIAP) a deep tissue pressure injury (DTPI) occurs at the muscle-bone interface and can take up to 48-72 hours after the injury occurs to present on the skin surface (2021). While down and unconscious the patient is experiencing 2 of the 3 most important risk factors of developing a pressure injury, immobility and sensory loss and/or the inability to communicate pain. The system failure was lack of knowledge of the admitting team of the high risk for pressure injury development after a found down event. This patient is likely also experiencing reduced perfusion related to his diagnosed coronary artery disease (CAD) which is the third most significant risk factor to the development of pressure injury. This patient also has a known diagnosis of uncontrolled diabetes, which is one of the general medical conditions that is a common risk factor for pressure injury development (Edsberg, 2022). When assessing risk for pressure injury immobility and loss of sensory, and/or the inability to communicate pain can be permanent or temporary. For this patient it is assumed his immobility was temporary, however due to his uncontrolled diabetes, he may have peripheral neuropathy and chronic sensory perception limitations (Edsberg, 2022). Even though a full patient description, and history/physical is not provided, a few additional assumptions can be made about a 58-year-old male with CAD and uncontrolled diabetes, HbA1c of 13.2%. There is a high probability this patient is not leading a healthy lifestyle with a balanced diet and exercise. Under or over weight, he may have malnutrition from not consuming the proper amount of protein, fluids, vitamins and minerals (Borchert, 2022). “Malnutrition is associated not only with reduced body mass index, but also with obesity, in which adipose tissue is also a source of inflammatory cytokines” (Kobylińska et al., 2022, p20).

A more thorough examine of the patient admitted, even prior to his surgical procedure on day 3, should have constituted a significantly lower Braden Scale score, in the 16-14 range, giving the patient a mild to moderate risk for breakdown (Borchert, 2022). Understanding and use of the Braden Scale for risk assessment is inadequate in this case study. Had this patient risk assessment been more accurate, interventions and prevention measures could have been implemented sooner. Furthermore, the patient risk assessment should have been routinely updated each day/shift during his admission. Undergoing an 8-hour surgery in the supine position under anesthesia with potential post-operative bed rest, additional limited activity and held diet orders would have also decreased the patient's score.

On day 4 of admission a hospital-acquired DTPI is identified and then evolved as expected to an open wound with dense slough, mild serous drainage and surrounding indurated and redness. Had the risk factors been properly assessed at time of admission, the active alternating pressure powered air mattress could have been ordered at time of admission and a protective silicone foam sacral dressing placed. Additionally, nursing staff should have initiated an every 2-hour turn and reposition schedule for this patient with heel off-loading. A wound care and dietician consults should be entered at time of admission due to the patient being found down, pressure injury risk factors, uncontrolled diabetes, and likely poor nutrition status. The wound care nurse would have a good understanding of the probability this patient will develop a DTPI. Therefore, clear documentation of the potential initial pressure event, 48 to 72-hour follow-up assessment to confirm evolution and strict turn and reposition schedule would be part of the patient's proactive plan of care (POC) immediately. While these measures may not have prevented the presentation of a DTPI, they could have lessened the likelihood of the wound evolving or even resolved without skin disruption. Part of the POC is communication with both the patient and staff nurse about the importance of assessing under the protective foam every shift, strict repositioning schedule, off-loading, and frequent assessment to identify a developing DTPI in the window of opportunity. If the patient is stable for mobility or chair transfers, a reactive chair cushion should be placed when sitting in a chair, with every 1-hour repositioning. This patient's risk assessment and potential for DTPI development should have also be communicated to the operating room nurse. Long operating times, greater than 3 hours is also a common risk factor for pressure injury development (Edsberg, 2022). This patient experienced 2 major events that significantly increased his risk for pressure injury development. While in surgery positioning aids such as foam or gel pads should have been utilized for smaller off-loading and positioning throughout the procedure, with a protective silicone foam sacral dressing and heel protectors.

3. Based on these findings, develop a comprehensive pressure injury prevention plan for the organization.

Base on the findings of this particular patient event an organization wide prevention plan would include 2 key elements of implementation. First is education on found down patients and second re-education on use of The Braden Scale for Predicting Pressure Sore Risk©. A systemwide initiative to communicate the implementation of an initial wound care nurse consult at time of admission for all patients admitted after a found down event. This initiative would be communicated through emails, screen savers, intranet posting, and unit-based education presentations. The primary focus of the initiative will be a departmental initiative with the emergency department nursing and physician staff since they are the frontline of most admissions (Borchert, 2022). Once all emergency room staff has been educated the information will be filtered to the intensive care and standard care nursing units. The interdepartmental collaboration and communication between the emergency room nurse and unit nurse is key in follow through with the implementation of prevention measures (Borchert, 2022). The wound care nurse would complete a thorough skin assessment and follow-up assessment within 48-72 hours. Positioning devices can be initiated in the emergency department such as positioning wedge, or cushions and heel boots (Borchert, 2022). If appropriate and safe for the patient an active alternating pressure powered air mattress would be ordered for when the patient transfers out of the emergency room and can be place directly on the specialty mattress on arrival to the unit. If the patient is not incontinence a silicone sacral foam dressing can be placed for prevention. Recommendations would be placed for heel off-loading and every 2-hour turn and reposition schedule if self-repositioning is not possible, or pain is unbale to be sensed or communicated. Moisture management and incontinence care can be addressed as needed.

The next area of focus is the re-education and examination of the use and effectiveness of the Braden Scale for Predicting Pressure Sore Risk© at this particular acute care hospital. The focus of a prevention plan includes current health status and comorbidities, skin condition, overall risk and specific risk factors. (Borchert, 2022). A mandatory education presentation can be pushed out to all nurses with a knowledge assessment test at the end. The wound care department can round on units and provide real-time education during unit huddles to answer specific questions. The wound care department can work with nursing administration to add a pressure injury prevention bundle into nursing yearly competencies. When education is being provided the focus of the Braden scale should be on the assessment and understanding of the subscale details. Educating the nurse to score lower when in doubt, completing their assessment independent of the previous nurse's assessment, recognizing that a patient's risk score can change from day to day (Borchert, 2022).

4. Propose a plan of care to monitor the results of the organization wide, comprehensive pressure injury prevention plan.

To monitor the results of the organization wide pressure injury prevention plan (PIPP), strategies several steps can be taken to validate effectiveness and monitor change. A retrospective data collection can be completed to identify patients admitted after a found down event who developed a HA, DTPI with focus on the time frame from admission to identification. A similar data collection can be completed for each unit for number of patients who developed HAPI before risk assessment education was complete. This information would provide a baseline for comparison so that prevalence and incident rates can be reported. Current data collection will also be established to identify if the education and prevention measures are effective or further efforts are needed (Borchert, 2022). Other methods of monitoring the PIPP could include collaborating with the Information Technology department to develop a safety net. The safety net would either create an automatic system consult trigger or a report that would notify the wound care department of patients admitted after found down events, regardless of the staff entering the consult. Randomized spot check audits can be completed on patient pressure injury and skin assessment charting to assess if the Braden Scale score of the wound care nurse is similar to the bedside nurse. This would provide an opportunity for real-time education and understanding of the Braden scale details. (Borchert,2022). Toolkits and resources are available through the several agencies that provide evidence-based data to help organizations build and implement plans for pressure injury prevention. Two of these organizations are The Agency for Healthcare Research and Quality© (AHRQ) and the National Pressure Injury Advisory Panel© (NPIAP) (Borchert, 2022).

5. List the references used & cited in this assignment.

References

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