Name: __Bernadette Fulweiler_____ Date: __3/27/24_____

Specialty Focus: Wound __X___ Ostomy _____ Continence _____

Pertinent Medical/Nursing History	Pertinent lab/diagnostic test results

PC is a 74-year-old female with a past medical history of asthma, severe protein calorie malnutrition, hypertension, hypothyroidism secondary to thyroid removal, history of bilateral DVT, stage IV anapestic thyroid cancer diagnosed in September 2023 with metastasis to the left supraclavicular lymph nodes, calvarium, and bilateral lungs, and radiation dermatitis to the base of the neck/upper chest. History of sulfa allergy. She underwent a tracheostomy 2/9/24 due to tracheal stenosis complicated by mucus plugging. PC underwent radiation at Seidman Cancer Center starting 2/7/24 and completed her last treatment 2/27/24. This was completed in conjunction with paclitaxel chemotherapy. Prescribed silver sulfadiazine cream for radiation associated dermatitis at an outside facility but discontinued due to known sulfa allergy. Prior to this admission, PC was residing at Bath Creek Estates skilled nursing facility. She was transferred on 3/11/24 due to increased oxygen demand from baseline and increased tracheal secretions. Upon admission to the ICU on 3/11/24, PC was noted to be hypoxic and was placed on 10 L NC for an oxygen saturation of 74%. Thick yellow and blood-tinged sputum present which was able to be expectorated via the trach. PC ambulates with assist around the room; relies on wheelchair for longer distances. Chest x-ray demonstrated low lung volumes with mild basilar opacities and atelectasis. Tracheostomy site with moderate amount of foul smelling secretions and erythema. Patient started on broad spectrum antibiotics vancomycin and piperacillin/tazobactam for tracheostomy site infection. Tracheostomy aspirate cultured and was positive for gram-negative bacilli, gram-positive bacilli, and gram-positive cocci. Antibiotic course completed. In light of acute on chronic respiratory failure, acetylcysteine and ipratropium-albuterol ordered via nebulizer treatments. Due to malnutrition and aspiration risk, PEG tube placed 3/21/24 and tube feeds initiated. Nutrition consulted and involved in management of PC's malnutrition. WOC nursing consulted due to sub-stomal ulceration which developed over radiated skin. PC was awake and alert, communicating through a writing pad. Dry desquamation to the anterior base of the neck and upper chest down to the collarbone. Aquaphor at bedside for dry desquamation, however due to its proximity to the trach collar oxygen source this was not deemed appropriate, and a water-based lotion was recommended for the patient.	Medications: apixaban 5 mg BID ipratropium-albuterol 3 mL nebulizer solution QID D51/2NS IV 30-150 mL/hr bisacodyl suppository 10 mg daily morphine 2 mg IV Q3h PRN decussate sodium 100 mg BID PRN Polyethylene glycol 17 g Daily acetylcysteine 4 mL BID atorvastatin 40 mg Nightly cyanocobalamin 1000mcg daily folic acid 1 mg daily Synthroid 137 mcg before breakfast daily acetaminophen 650 mg Q6H PRN ondansetron 4 mg Q6H PRN Vitals/Labs/Tests 3/27/24 BP: 115/58 Pulse: 86 Resp: 18 Temp: 36.4 C SpO2: 94% Sodium: 139 Potassium: 3.8 Chloride: 27 BUN: 17 Creatinine: 0.74

Tracheostomy site with peri-stomal erythema and friable skin secondary to radiation. Old dressing removed. Inferior to the stoma there was a 2 cm x 1 cm x 0.3 cm ulceration. Moderate yellow malodorous drainage. Wound edges erythematous and macerated. Wound bed pink with 40% slough. Ulceration and peri-stomal area cleansed with normal saline soaked gauze. Silver impregnated contact layer cut to size and applied distal to stoma over ulceration, followed by a layer of calcium alginate sheet cut to size. This was then covered with a sterile gauze sponge. Dressings held in place by tracheostomy collar, no additional adhesive applied as the skin is extremely friable. No signs of pain or distress with wound care. Reviewed and discussed with patient and nursing the danger of petroleum or oil containing emollients in close proximity to an oxygen source. Discussed several options for water-based lotions, including CeraVe Moisturizing Gel. Patient was turned to the side, and her coccyx was assessed for skin breakdown. No signs of pressure injury present at this time. Patient was repositioned, and her heels were assessed for pressure injury. Bilateral heels with blanchable erythema but no signs of pressure injury at this time. TruVue offloading boots applied to prevent pressure to heels. Patient and bedside nursing updated in regard to wound care plan, and demonstrated understanding of plan. Orders updated in Epic.	Glucose: 96 Calcium 8.6 Magnesium: 2.2 Phosphorus: 4.2 Albumin: 2.1 (L) eGFR: 85 WBC: 5.05 RBC: 3.9 HGB: 8.6 (L) HCT: 27.7 (L) Platelets: 171 MCV: 94.9 MCH:29.5 MCHC: 31 MPV: 10.1 RDW: 17.3 (H) Tracheostomy aspirate culture: gram-negative bacili, gram-positive bacilli, and gram-positive cocci. Sensitive to Vancomycin. CXR: low lung volumes with mild basilar opacities and atelectasis CTA Chest: patchy scattered and strands lung opacities suggestive of adjacent soft tissue gas and diffused enlarged irregular thyroid with cervical lymphadenopathy.

Assessment	Plan/Interventions/Alternative	Evaluation	Rationale
Braden Score: - Sensory Perception: 3. Slightly limited - Moisture: 3. Occasionally moist - Activity: 3. Walks occasionally - Mobility: 3. Slightly limited - Nutrition: 3. Adequate (since initiation of tube feeds) - Friction/Sheer: 2. Potential problem - Score: 17 Mild Risk Assessment: - Blanchable erythema to bilateral heels. - PT and DP pulses 2+. - Bilateral feet pink and warm. - Patient in Centrella hospital bed at time of assessment wearing hospital socks. No additional offloading.	Pressure Injury Interventions for Mild Risk (17): - Initiate early mobilization program. - Offload heels with TruVue boots while in bed. - Continue Centrella Smart Bed. - Utilize low-friction textiles for bedding. - Careful placement of tubing for IV, oxygen, pulse oximeter and telemetry leads (Borchert, 2022). - Review nutrition plan in regard to protein intake via PEG tube feeds. **Alternative**: - Utilize foam heel pads (Allevyn Heel) while patient is in bed.	- Once per shift nursing documentation of skin integrity. - Nursing documentation each shift of appropriate interventions to prevent pressure injury. - Hospital wide surveillance of pressure injury through a pressure injury task force.	- Early mobilization reduces the amount and length of time boney prominences are exposed to pressure (Borchert, 2022). - Heel offloading with a specialty boot redistributes the weight of the lower extremity along the leg without increasing pressure to the Achilles and popliteal vein (Borchert, 2022). - Low air loss mattresses assist in a therapeutic microclimate while the pressure redistribution surface evenly distributes the body's pressure in order to prevent injury over bony prominences (Borchert, 2022). - Low friction textiles, such as low CoF linens and gowns, help reduce moisture and reduce the risk for friction and sheer injury (Borchert,

			2022). - Medical device related pressure injuries (MDRPI) risk can be reduced by eliminating sources of injury from directly under a patient, as well as monitoring the patient throughout the day for sources of MDRPI (Borchert, 2022). - Adequate protein, vitamins, minerals, vitamins, and calories are required for wound healing (Borchert, 2022). - Foam dressings can be utilized on bony prominences to prevent pressure injury (Jaszarowski & Murphree, 2022).

Assessment	**Plan/Interventions/Alternative**	**Evaluation**	**Rationale**

Radiation Dermatitis - Erythema and dry desquamation present to anterior base of the neck and upper chest down to the collarbone region. - Patient complaint of pruritic and flaking skin. - Products utilized: pH balanced soap (Medline pH balanced soap), water-based moisturizer (CereVe recommended), topical mometasone (prescription offered for continued pruritus).	- Wash neck and chest radiated skin daily with pH-balanced and fragrance-free soap. Take care to keep water and soap out of tracheostomy. - Moisturizer applied to chest and neck dermatitis, taking care to avoid sub-stomal ulceration. - Water-based moisturizer only utilized due to close proximity to oxygen source. This should be applied twice daily. - Consider topical corticosteroid, such as mometasone, for persistent pruritus. This would be applied twice daily. **Alternative** - Alternative topical treatment to reduce inflammatory response would be silver	- Assessment and documentation of skin every shift for reduction in erythema and flaking. - Documentation of patient reported reduction in pruritus after application of topical steroid. - Medical photographic documentation of radiation dermatitis decreasing in severity over the course of the hospital stay.	- Washing irradiated skin with potable water and pH balanced soap reduces the severity of radiation associated dermatitis (Zhang et al., 2022). - Fragrance and dry-free moisturizers should be applied to dry desquamation twice daily (Bauer, 2022). - Vaseline-based products can be flammable when exposed to oxygen sources (Bauters, 2016). - Topical steroid (Mometasone furoate 0.1%) application twice daily to affected skin can reduce discomfort and itching during and after radiation (Wong et al., 2013). - There is some evidence that silver sulfadiazine cream can reduce the severity of radiation

	sulfadiazine cream, however this is not appropriate considering patient sulfa allergy.		dermatitis (Wong et al., 2013).

Assessment	Plan/Interventions/Alternative	Evaluation	Rationale

Medical Device Related Pressure Injury (MDRPI) to base of the neck; Stage 3 - Secondary to pressure from tracheotomy flange over radiated skin. - Wound: There is a 2 cm x 1 cm x 0.3 cm ulceration inferior to the stoma site. Moderate yellow malodorous drainage. Wound edges erythematous. Wound bed pink with 40% slough. - Products utilized: Woven gauze sponge (MsKesson gauze sponge), silver contact layer (UrgoTul Restore Ag), alginate sheet (Algisite M), and normal saline.	- Cleanse wound with gauze pad soaked in normal saline. - Cut silver contact layer to size and apply to wound bed. - Cut alginate sheet to size and apply to wound bed. - Apply woven gauze sponge as a third layer. - Secure under tracheostomy flange and refrain from utilizing additional adhesive. - Assess patient for discomfort or tightness of the tracheostomy, including the flange, after applying the dressing. - Dressing change to be performed once daily. - Discuss the use of a tracheotomy foam collar for pressure injury	- Assessment of ulceration size/measurements with daily dressing change to determine progression of wound healing. - Documentation of wound bed characteristics including color, presence of non-viable tissue, edges, undermining, peri-wound skin, evidence of granulation, and evidence of epithelialization. - Medical photography completed weekly or with any new concerns and uploaded to the patient's chart for comparison. - Close monitoring of the exudate color, consistency, odor, and volume form the ulceration. Documentation of any change in exudate characteristics.	- Normal saline is a non-cytotoxic wound cleanser (Jaszarowski & Murphree, 2022). - Silver dressings have a bactericidal effect against pathogens and can be effective in wounds with a high risk of infection (Jaszarowski & Murphree, 2022). - Contact layer dressings protect and keep the wound bed moist, while allowing exudate to pass through to a secondary dressing (Jaszarowski & Murphree, 2022). - Gauze dressings are an effective cover dressing due to the ability to absorb exudate (Jaszarowski & Murphree, 2022). - Expert opinion recommends the avoidance of adhesive tapes in the radiation

	prevention after wound care for the ulceration has been completed. **Alternative:** - Silver foam dressing (Mepilex Ag Foam) cut to size and applied over cleansed ulceration.		treatment region (Bauer, 2022). - Tracheostomy flanges are one of the most common sources of tracheostomy site pressure injuries (Moser et al., 2022). - Alginate dressings are changed every 1-3 days depending on the level of exudate (Jaszarowski & Murphree, 2022). As per Jaszarowski and Murphree (2022), contact layer dressings do not require changing with every dressing change, however the WOC practitioner determined that for this patient's risk for infection, large amounts of tracheostomy sputum, and wound exudate it would be appropriate to change daily. - Foam collars are an effective tool to decrease pressure related injuries in

			critically ill tracheostomy patients (Moser et al., 2022). - Foam dressings are able to absorb moderate to large amounts of drainage, do not stick to the wound bed, and come in silver antimicrobial varieties (Jaszarowski & Murphree, 2022).

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