N311 Care Plan 3

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Lakeview College of Nursing

N311: Foundations of Professional Practice

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Demographics (5 points)

Date of Admission 10/08/2024	**Client Initials** SG	**Age** 55	**Gender** Female
Race/Ethnicity Caucasian	**Occupation** Works from home.	**Marital Status** Married for 20 years	**Allergies** **Em[agliflozin- Nausea and Vomiting Penicillin G- Rash**
Code Status **FULL CODE (no ACP docs)**	**Height** 5'3	**Weight** 265lbs	

Medical History (5 Points)

Past Medical History: Hypertension, Type 2 Diabetes melilites, coronary artery disease 10/21/2023 cardiac cath and stent placement, unstable angina admitted to OSF with cardiac and stent placement 10/20/2023, Diabetic ketoacidosis admitted to OSF 10/27/2023

Past Surgical History: Cardiac Catheterization, cesarean section, tonsillectomy.

Family History: Mother has arthritis Maternal grandmother, hypertension and liver disease.

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use):

Former smoker1985-2019 1 pack a day for 34 years. Drug use: marijuana 5x a week.

Admission Assessment

Chief Complaint (2 points): Left leg swelling and drainage.

History of Present Illness – OLD CARTS (10 points): Client arrived to OSF ED swelling of the left foot and unstable angina. Client notices the swelling two days prior to coming to the ED. Client states it started when she was scaping a callus off. Wound has slowly worsened and recently became red and swollen. She was seen at urgent care 2 days and started on clindamycin. She admits fever yesterday of 101. She has no other complaints. No fever today. She says she feels good. No URI symptoms. No headache, nausea, vomiting. No chest pain or shortness of breath. No abdominal pain, diarrhea, constipation. Client states that she hasn't been able to feel her lower left. Client states that she has had this happened before but not so serve. Client states that she feels like her leg has no circulation.

Primary Diagnosis

Primary Diagnosis on Admission (3 points): Diabetes ulcer on the left foot.

Secondary Diagnosis (if applicable): N/A

Pathophysiology

Pathophysiology of the Disease, APA format (20 points):

Pathophysiology References (2) (APA):

A diabetic foot ulcer can be a severe complication of diabetes because it can lead to many different health problems and can even require an amputation if not taken care of. As Bandyk states, “Inattention to skin care, such as failure to use moisturizing creams or prompt recognition of dermal trauma (redness, blister formation), can lead to ulceration and the development of invasive soft-tissue infection. If not treated promptly, tissue breakdown will continue, especially if the individual continues to walk. Risk for ulceration increases dramatically (by 32 times) in the presence of neuropathy, foot deformity, or prior digit amputation” (Bandyk 2018, pg44). Risk factors for DFUs include, Neuropathy, which reduces pain sensation. Peripheral arterial disease, which decreases blood flow. A weaker immune system. Impaired foot function, most often causing pressure sores.According to Bandyk, Destruction of the type C sensory fibers leads to an inability to appreciate painful stimuli, leading to the statement, “The warmth and swelling of the inflammatory stage of neuroarthropathy can mimic infection”(Bandyk 2018, pg 44). By learning how these factors interact, we can prevent and treat DFUs.

One common ulcer of diabetic foot disease is neuropathy. High blood sugars damage the nerves, impairing someone’s sensitivity to pain and pressure in the feet. This means they can’t feel a minor injury such as a cut or a blister, so it progresses to an ulcer. Autonomic neuropathy affects the blood flow and the sweat glands and makes the skin dry, allowing it only to crack and re-injure. “Autonomic system dysfunction, with impaired microvascular thermoregulation and

anhidrosis, adds to the motor and sensory disturbances. The skin be- becomes dry and prone to fissuring, which diminishes its effectiveness as a barrier to micro-organism invasion, becoming susceptible to dermal infection, that is, cellulitis" (Bandyk 2018 pg 44).

Another is poor circulation, usually due to peripheral vascular disease (PVD). Diabetes can cause the hardening of the arteries, improving the pressure in the arteries that carry the blood but diminishing the supply of oxygen-rich blood to the feet and other extremities. A minor injury can consequently unfurl into an ulcer. Long states, "Microvascular and macrovascular diseases are the two types of diabetic complications. Endothelial cellular dysfunction and smooth muscle abnormalities develop in people with diabetes as a result of a decrease in endothelium-derived vasodilators, resulting in constriction of blood arteries in the foot [11]" (Long 2023, para7). Without an adequate blood supply, a wound won't heal. Cellular tissue grows poorly without sufficient oxygen and nutrients.

People with a history of diabetes are less able to fight infections, which can result in an infected, poorly healing-ulcer. Infection can spread through the bloodstream to other body parts or become so severe that it leads to sepsis, which is the leading cause of death in hospitals.

Biomechanical factors are also important. Many people with diabetes have foot deformities or weaknesses, which means they experience uneven pressure on their feet when they walk and run, making areas of the skin thin until they break down into ulcers. As stated in Long research, "Walking-related repetitive stress, along with diminished sensation and proprioception, predisposes to skin damage by producing atrophy and displacement of protective plantar fat pads, leading to ulceration and infection with inadequate skin protection or inappropriate footwear [15]" (Long 2023, para9). Shoes that don't fit well also contribute to increased risk as the friction and pressure points from poorly fitted shoes can be concentrated

against points of skin weakness and deformity, triggering breakdown. According to Long, “Motor neuropathy causes structural changes in the structure of the foot; as a result, many regular shoes are inappropriate for diabetic patients” (Long 2023, para9).

Poorly controlled blood sugar is one of the leading causes of diabetic foot ulcers. High blood sugar worsens nerve and blood vessel damage and increases a person’s risk of developing an ulcer even from a minor injury that they don’t feel.

The disease also has implications beyond the local site of an ulcer. A foot ulcer can cause pain, swelling, and discharge, while infected wounds can lead to complications such as osteomyelitis or sepsis, which are severe systemic complications. Long states, “ Diabetic foot infection, osteomyelitis and cellulitis, acute inflammatory arthropathy, gout, acute thrombosis and trauma are all causes of a Charcot deformity [20]” (Long 2023, para 15). Unnoticed foot ulcers can translate into considerable physical as well as psychological trauma, with a pronounced effect on health-related quality of life indicators, reduced mobility, often depression or anxiety.

In conclusion, diabetic foot ulcers are an extremely challenging problem due to nerve damage, impaired circulation, immune dysfunction, and mechanical foot dysfunction. It is important to understand the pathophysiologic principles if the goal is to stop and treat development of DFUs. If patients with diabetes maintain their feet by wearing the correct type of shoe, and keeping their blood sugars in the target range, the risk of any form of foot ulcer will be reduced, and their overall health will dramatically improve. It is important to educate the client on foot wear because “Diabetics with peripheral neuropathy, foot defor- mity, absent pedal pulses or toe pressure <40 mm Hg, prior ulceration, and who are at high risk for development of a diabetic foot condition would benefit from a multidisciplinary diabetic foot care program. Prospective studies have demonstrated the risk for diabetic ulcer formation to be 5/100 person-

years. The goals of treatment are to heal diabetic foot ulcers and keep the patient ambulatory" (Bandyk, 2018 pg48).

References:

Bandyk, D. F. (2018). The diabetic foot: Pathophysiology, evaluation, and treatment. *Seminars in Vascular Surgery*, *31*(2–4), 43–48. https://doi.org/10.1053/j.semvascsurg.2019.02.001

Long, I. (2023). Insight of the pathophysiology of diabetic foot ulcer. *Diabetic Foot - Recent Advances*. https://doi.org/10.5772/intechopen.108190

Laboratory Data (20 points)

If laboratory data is unavailable, values will be assigned by the clinical instructor

CBC Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value	Today's Value	Reason for Abnormal Value
RBC	4.5-5.0 million/mm3	**3.89**	**3.67**	**Blood loss from the ulcer.**
Hgb	12.0-16.0 g/dL	**10.2**	**9.7**	**Low hemoglobin due to the blood being lost from no circulation.**
Hct	36-46%	**31**	**28.7**	**Low Hematocrit indicates anemia which reduces the oxygen of the blood.**
Platelets	140,000-450,000 cells/mcL	**419000**	**376000**	
WBC	4,500-11,000/mm3	**12.50**	**12.80**	
Neutrophils	47-73	**81.9**	**91.5**	**The high level of neutrophils shows there's an infection.**
Lymphocytes	18.0- 42	**8.9**	**5.2**	**Low lymphocytes indicate risk of infection and a complicated healing process for the ulcer.**
Monocytes	4-12	**6.8**	**3.0**	**Monocytes may mean an infection in the bone marrow.**
Eosinophils	**0-3%**	**1.8**	**0.0**	
Bands	**0-5%**	**N/A**	**N/A**	

Chemistry Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value	Today's Value	Reason For Abnormal
Na-	135-145mEq/L	**136**	**135**	
K+	3.5-5mEq/L	**4.5**	**4.6**	
Cl-	98 – 107 mEq/L	**106**	**104**	
CO2	22 -30 mEq/L	**20**	**23**	**This can be caused by diabetic ketoacidosis which is a**

				complication of type 2 diabetes.
Glucose	70 – 99 mEq/L	**185**	**246**	**This may be caused by the blood vessels that are damaged which causes high blood sugar levels that leads to poor circulation and restricted to blood flow in a affected area.**
BUN	10 – 20 mg/dL	**10**	**10**	
Creatinine	0.6 – 1.00mg/dL	**1.03**	**.91**	**This can be related to impaired kidney due to diabetes complications.**
Albumin	3.5 – 5.0 g/dL	**10**	**3.0**	**High albumin levels in diabetic ulcers can be caused by increased protein synthesis due to inflammation and tissue repair processes, as well as dehydration, which concentrates albumin in the blood.**
Calcium	8.7 – 10.5 mg/dL	**8.8**	**8.9**	
Mag	1.6 – 2.6	**2.0**	**1.0**	
Phosphate	**N/A**	**N/A**	**N/A**	
Bilirubin	0.2 – 1.2 Mol/L	**0.4**	**0.3**	
Alk Phos	40-150 U/L	**74 U/L**	**74 U/L**	

Urinalysis Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
Color & Clarity	**Clear Yellow**	**Dark Yellow Turbid**	**N/A**	
pH	**5.0-9.0**	**5.5**	**N/A**	
Specific Gravity	**1.003-1.030**	**1.025**	**N/A**	
Glucose	**1.003-1.030**	**3+!**	**N/A**	**The blood sugar are elevated, which causes the kidney to not be**

				able to absorb glucose from the bloodstream.
Protein	**Negative**	**2+!**	**N/A**	**High protein in urine.**
Ketones	**Negative**	**1+!**	**N/A**	**This means that the body is breaking down fat instead of glucose.**
WBC	**0-5 hpf**	**11-20!**	**N/A**	**This indicates that there is an infection.**
RBC	**Negative (0-2/hpf)**	**6-10!**	**N/A**	**This can indicate hypoxia.**
Leukoesterase	**N/A**	**N/A**	**N/A**	

Cultures Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	**Normal Range**	**Value on Admission**	**Today's Value**	**Explanation of Findings**
Urine Culture	N/A	N/A	N/A	N/A
Blood Culture	N/A	N/A	N/A	N/A
Sputum Culture	N/A	N/A	N/A	N/A
Stool Culture	N/A	N/A	N/A	N/A

Lab Correlations Reference (1) (APA):

Diagnostic Imaging

All Other Diagnostic Tests (10 points): X-ray on foot

Diagnostic Imaging Reference (1) (APA): The Xray shows subtle cortical defect of the base of the proximal phalanx 5th toe suggesting a hairline fracture. It also shows that there are some overlying soft tissue swelling and cutaneous ulceration but there is no evidence for periosteal reaction. And lastly it shows the mild arthropathy at the bases of the 3rd, 4th and 5th metatarsals. X- rays are used to help assess for any underlying bone infection such as gangrene "by

identifying soft tissue gas, swelling, and other signs of bacterial infection, necrosis, oedema, and inflammation" (Adegboyega pg 66). X-ray helps identify the difference between soft tissue and bone. "Mostly affecting individuals with diabetic foot ulcers, cellulitis is a bacterial skin infection that is primarily identified by clinical indications" (pg 66)

Reference

Adegboyega, O. A., Amisu, M. A., Dada, A. O., & Ogundele, S. O. (2024). X-RAY FINDINGS IN DIABETES FOOT MELLITUS SYNDROME. *Annals of Clinical Sciences*, 60–69. https://doi.org/https://www.researchgate.net/profile/Adegboyega-Ademola/publication/378041981_X-RAY_FINDINGS_IN_DIABETES_FOOT_MELLITUS_SYNDROME/links/65c4a6d51e1ec12eff7bfa27/X-RAY-FINDINGS-IN-DIABETES-FOOT-MELLITUS-SYNDROME.pdf

Assessment

Physical Exam (18 points) – HIGHLIGHT ALL PERTINENT ABNORMAL FINDINGS

General, Psychosocial/Cultural, and ONE focused assessment specific to the client is required.

The student and instructor may complete these assessments together.

GENERAL: **Alertness:** Alert **Orientation:** Oriented x4. **Distress:** NO signs of distress **Overall appearance:** Client appears to be in a good mood no pain.	
INTEGUMENTARY: **Skin color:** Pink, Tannish. **Character:** **Temperature:** Normal Temperature **Turgor:** Intact **Rashes:** No **Bruises:** **Wounds:** left foot, pink toe is amputated. **Braden Score:** 21 **Drains present:** **Y☐** **N ☒** **Type:** N/A	
HEENT: **Head/Neck:** Symmetrical no lesion or brusihes. Skin color is tan and dry with no lesions or brusies. Head full of hair. **Ears:** Symmetrical, **Eyes:** anicteric, sclera moist conjunctiva no lid lag PERRLA **Nose:** Symmetrical **Teeth:** Teeth missing	.
CARDIOVASCULAR:	**Ankle left edema 2+ mild, Ankle right edema 2+**

Heart sounds: Normal S1 S2 **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** Tachycardic **Peripheral Pulses:** Dorsalis pedis, radial **Capillary refill:** yes less than 3 seconds **Neck Vein Distention: Y ☐ N ☒ Edema Y ☒ N ☐** **Location of Edema:**	**mild Foot left edema 1+ trace foot right edema 1+ trace**
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character:** Normal breathing.	.
GASTROINTESTINAL: **Diet at home:** regular **Current Diet:** Diabetic **Height:** 5'3 **Weight:** 265 **Auscultation Bowel sounds: N/A** **Last BM:** 10/7/2024 **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** No **Incisions:** No open wounds. **Scars:** No **Drains:** No **Wounds:** Yes **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒**	.

Size: N/A **Feeding tubes/PEG tube Y ☐ N ☒** **Type:** N/A	
GENITOURINARY: **Color:** Clear and slightly yellow **Character:** voids spontaneously without difficulty. No odor. **Quantity of urine:** Voids in toilet. **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** No **Catheter: Y ☐ N ☒** **Type:** N/A **Size:** N/A	
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** No **Supportive devices:** Gait belt and walker **Strength:** generalized. weakness **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** **Activity/Mobility Status:** Able to do all task on mobility decision guide. No lift equipment needed. **Independent (up ad lib)** ☐ **Needs assistance with equipment** ☒ gailt belt and walker **Needs support to stand and walk**☒	.

NEUROLOGICAL: **MAEW: Y ☐ N☒** **PERLA: Y ☒ N☐** **Strength Equal: Y ☐ N ☒ if no - Legs ☒ Arms ☐ Both ☐** **Orientation:** Alert x4 **Mental Status:** She is alert. **Speech:** Clear coherent **Sensory:** Coherent appropriate **LOC:** Awake	.
PSYCHOSOCIAL/CULTURAL: **Coping method(s):** making proper choices **Developmental level:** appropriate for her age. **Religion & what it means to pt.:** N/A **Personal/Family Data (Think about home environment, family structure, and available family support):** Husband lives at home.	.

Vital Signs, 1 set (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0734	96	130/83	18	97.7	98

Pain Assessment, 1 set (5 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0735	0-10	Left foot	2	Intermittent: dull.	Non verbal. Indicators absent. Decreased pain goal met.

Intake and Output (2 points)

Intake (in mL)	**Output (in mL)**
960mL (oral)	no void during my shift.

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components • Listed in order by priority – highest priority to lowest priority pertinent to this client	**Rationale** • Explain why the nursing diagnosis was chosen	**Interventions (2 per dx)**	**Outcome Goal (1 per dx)**	**Evaluation** • How did the client/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Risk for infection related to Diabetes as evidence by left toe amputation and previous diabetic foot ulcers.	The client came into the hospital due to drainage and swelling and low circulation on left foot.	1. Monitor vital signs every 4 hours. **2.** Offer high protein supplements.	Patient will remain within normal vitals. (Phelps, pg365)	Patient vitals were normal during my shift.
2. Fluid imbalance related to dehydration as evidence	The client stated that's she hasn't been able to keep fluid down.	**1.** Help patient maintain hydration. **3.** Provide patient foot care.	**1. "P**atient will attain relief from immediate signs and	Patient reported no signs of pain during my shift.

by impaired tissue integrity.			symptoms (pain, ulcers, color changes)" (Phelps 698).	

Other References (APA):

Reference:

Phelps, L. L. (2023). ***Nursing diagnosis reference manual*****. Wolters Kluwer.**

Concept Map (20 Points):

Subjective Data

Client left pinky toe has been amputated.

Swelling and drainage in the left foot.

Pulse: 96 Blood Pressure: 130/83 Resp Rate: 18 Temp: 97.7 Oxygen: 98 room air.

Objective Data

Nursing Diagnosis/Outcomes

Sarah Grace 55 years of age Female Caucasian Married. Works from home. Code Status: FULL (has ACP docs) Empagliflozin- Nausea and Vomiting

Penicillin G- Rash

Client Information

Diabetic.

Nursing Interventions