

**N311 Care Plan 1**

Tyranny Davis

Lakeview College of Nursing

N311: Foundations of Professional Practice

Professor Michele Hartke

September 25, 2023

### Demographics (5 points)

<b>Date of Admission</b> 09/18/2023	<b>Client Initials</b> N.H.	<b>Age</b> 87	<b>Gender</b> F
<b>Race/Ethnicity</b> White/Caucasian	<b>Occupation</b> Retired- Bookkeeper	<b>Marital Status</b> Widowed	<b>Allergies</b> None
<b>Code Status</b> Full Code	<b>Height</b> 4' 7"	<b>Weight</b> 166 lbs	

### Medical History (5 Points)

**Past Medical History:** Obstructive sleep apnea, restless leg syndrome, closed right patellar fracture (2019), Diabetes Mellitus type 2 with diabetic neuropathy induced from insulin use\*\*, vitamin D deficiency, Hypokalemia, essential hypertension, vitamin B12 deficiency, iron deficient anemia, peripheral artery disease.

**Past Surgical History:** Colonoscopy (2013), left cataract (2014), cardiac catheter (2017), trans catheter aortic valve replacement TAVR (2017), right cataract (2018).

**Family History:** Father-stomach cancer, daughter- diabetes and hypertension, son- cancer of ear.

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

No reported use of past or current alcohol, drug, or tobacco use. Did report exposure to tobacco smoke from husband and at work.

### Admission Assessment

**Chief Complaint (2 points):** Non-healing wound/ulcer at base of great left toe.

History of Present Illness – OLD CARTS (10 points): Client reported wound began when having her toe nails trimmed the worker “left a cut but put on a band aid and didn’t say anything” 3 months prior (June 2023). The wound is on the underside of the left big toe. Client reported pain increasing in the last couple months but intermittent. Client states “a burning sensation” when ambulating, but not very severe. Client reported pressure and ambulation make the pain worse,

but it does not manifest in other ways. Client states that “rest and immobility” ease the foot pain some. Treatment attempts have included pain medication PRN and antibiotics beginning within 3 weeks of wound, neither of which have been effective. Client stated severity as “not that bad” and referenced “diabetic neuropathy” as a reason.

### Primary Diagnosis

**Primary Diagnosis on Admission (3 points):** Acute Osteomyelitis of left big toe.

**Secondary Diagnosis (if applicable):** Diabetic neuropathy and Peripheral artery disease.

### Pathophysiology

**Pathophysiology of the Disease, APA format (20 points):** (Last 2 pages)

**Pathophysiology References (2) (APA):** (Last 2 pages)

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

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0722	71	125/48	18	97.3 F orally	93%

### Pain Assessment, 1 set (5 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0751	3-4 (numeric scale)	L big toe	Not bad when laying down	Burning	Rest, pain med PRN

## **Pathophysiology of Osteomyelitis**

Osteomyelitis breaks down to osteo- which means bones, myel- which relates to bone marrow, and -itis which refers to inflammation. This means that osteomyelitis is inflammation in bone marrow. Typically, osteomyelitis originates from a wound infection either with *Staphylococcus aureus* or another form of Staphylococci (Hofstee et al., 2020). *S. aureus* is a bacterium that is part of the regular human flora. While not typically a concern, *S. aureus* can enter the body through as infection through wounds and wreak havoc (Chen et al., 2021). This is not an uncommon result of surgeries, and the bacterium infects the bone (Hofstee et al., 2020). *S. aureus* microbes present adhesins which bind to host cells such as collagen, fibrinogen, and fibronectin so that they aren't killed off by the body's immune response, and can multiply (Chen et al., 2021). The bacteria is able to create a film on the tissue of the host and the tissue can become resistant to antibiotic treatments (Chen et al., 2021). Signs and symptoms associated with osteomyelitis include skin breakdown, fever, pain and swelling, drainage, and localized warmth (Hofstee et al., 2020). Osteomyelitis can cause weakness throughout body and infection can spread to surrounding tissues. Cultures and gram-staining, as well as evaluation of bone damage, tissue examination, and leukocyte counts are methods for diagnosing osteomyelitis (Hofstee et al., 2020). For acute cases of osteomyelitis, a course of antibiotics for 4-6 weeks can be effective in ridding of the disease (Hofstee et al., 2020). On the other hand, chronic cases that do not respond to antibiotic treatment can require debridement, in which a provider carves out diseased bone and tissue and this treatment has about an 80% success rate, but can require additional revisions, and may eventually require amputation (Hofstee et al., 2020).

## References

Chen, J., Xiong, A., Ma, Y., Qin, C., & Ho, C. L. (2021). Impact of the Host-Microbiome on osteomyelitis pathogenesis. *Frontiers in Molecular Biosciences*, *8*, 702484.

<https://doi.org/10.3389/fmolb.2021.702484>

Hofstee, M. I., Muthukrishnan, G., Atkins, G. J., Riool, M., Thompson, K., Morgenstern, M., Stoddart, M. J., Richards, R. G., Zaat, S. A. J., & Moriarty, T. F. (2020). Current concepts of osteomyelitis from pathologic mechanisms to advanced research methods. *The American Journal of Pathology* *190*(6), 1151-1163.

<https://doi.org/10.1016/j.ajpath.2020.02.007>