

Medications

Brand/Generic: Dobutamine (Dobutrex)

- **Therapeutic classification:** Inotropic
- **Pharmacologic classification:** Adrenergic
- **Reason for taking:** Increases cardiac contractility and blood pressure.
- **Key assessment:** Assess blood pressure and monitor ECG.

Brand/Generic: Norepinephrine bitartrate (Levophed)

- **Therapeutic classification:** Vasopressor
- **Pharmacologic classification:** Sympathomimetic
- **Reason for taking:** To manage blood pressure in acute hypotensive states.
- **Key assessment:** Check blood pressure by direct intra-arterial monitoring.

Brand/generic: Vancomycin hydrochloride/ Vancocin

- **Therapeutic classification:** Antibiotic
- **Pharmacologic classification:** Glycopeptide
- **Reason for taking:** Antibiotic injection for the MRSA infection in her right knee.
- **Key assessment:** Serum trough concentrations should be drawn before.

Demographic Data

Date of Admission: 10/06/2023

Admission Diagnosis/Chief Complaint: Septic shock

Age: 71 (06/13/1952)

Gender: Female

Race/Ethnicity: White

Allergies: No known allergies

Code Status: DNR

Height in cm: 160 cm

Weight in kg: 72.4 kg

Psychosocial Developmental Stage: Integrity vs. Despair

Cognitive Developmental Stage: Formal operational

Braden Score: 11 (high risk for skin breakdown)

Morse Fall Score: 23 (high fall risk)

Infection Control Precautions: Contact isolation due to MRSA in the wound on the right knee.

Pathophysiology

Disease process: A serious medical condition known as septic shock can develop when an infection in your body results in extremely low blood pressure and organ failure from sepsis. Septic shock is a serious medical condition that must be treated immediately. It is sepsis's most serious stage. When your immune system overreacts to an infection, sepsis results. When your organs start to malfunction, you could develop severe sepsis. Low blood pressure and widespread bodily inflammation are to blame for this. Not all infections will result in sepsis or septic shock, although they can if they create significant inflammation. Although bacterial infections are the most frequent, sepsis can also be brought on by viruses and fungi.

S/S of disease: Tachycardia, hypothermia, shaking or chills, warm, clammy skin, confusion, hyperventilation, and shortness of breath are some early symptoms of septic shock (Cleveland Clinic, 2022). As the condition worsens, you might also have oliguria, pallor, and chilly limbs.

Method of Diagnosis: If you've had an infection and your physician notices that you've developed a fever, have a rapid heartbeat, are breathing more heavily, or have low blood pressure, they may suspect sepsis. To check for infection, the doctor will request lab tests. These comprise the CBC, blood oxygen saturation, and blood chemistries, such as lactate (Cleveland Clinic, 2022). The physician may also order a chest X-ray, CT scan, and an MRI. This patient had blood work done and a chest X-ray.

Treatment of disease: Your physician will start you on antibiotics immediately to treat septic shock. They will also give fluids through an IV to help rehydrate you and increase your blood pressure. They may also give you oxygen and perform surgery to remove the source of infection. This patient had to have her knee replacement removed, and she was started on antibiotics and norepinephrine (Levophed), which help to narrow blood vessels and increase the blood flow to organs.

Lab Values/Diagnostics

Labs

WBC: 13.47 (elevated) due to infection and inflammation of the right knee.

Normal value of WBC: (4.00 – 11.00)

Absolute neutrophils: 11.96 (elevated) due to physical or emotional stress/ acute infection in the knee.

Normal value of absolute neutrophils: (1.60 – 7.70)

Diagnostics

X-ray of right knee AP/LAT: X-ray showed soft tissue swelling and joint effusion, this patient has a history of right knee infection, right knee osteomyelitis, and osteopenia. The hardware appears intact.

Admission History

Ms. D.O. is a 71-year-old female with a PMH significant for PVD, and endometrial cancer currently undergoing chemo/radiation, hypothyroidism, and bilateral knee arthroplasty with recurrent osteomyelitis infections. She presents as a transfer from Carle Richard Memorial Hospital. The patient was initially presented to Clay County Hospital with right knee pain and was noted to be febrile and hypotensive and was found to have a right thigh and deep space tissue infection. She was initiated on broad-spectrum antibiotics and vasopressors and then transferred to Carle Richard for ICU-level care. She was continued on IV vancomycin and vasopressor support during her admission. A right knee aspirate was performed, showing faint MRSA growth. Despite continued antibiotics, midline, and albumin boluses, she could not be weaned off Levo. She was seen by an orthopedic surgeon who felt they had little to offer, palliative care was consulted, and the patient felt she wasn't ready for palliative/ hospice care. The decision was made to transfer to CFH for a higher level of care and orthopedic consultation.

Medical History

Previous Medical History: The patient has a past medical history that includes endometrial cancer (06/2019), GERD, a history of heart attack, heart failure, hypotension, MRSA of the right knee(12/12/2020), peripheral artery disease (PAD), Deep Vein Thrombosis (DVT) bilateral lower extremities, rheumatoid arthritis (bilateral finger and knees).

Prior Hospitalizations: The patient was previously hospitalized for septic shock (10/6/2023), sepsis (10/1/2023), knee pain (10/1/2023), and a fall (9/20/2023).

Previous Surgical History: The patient has a past surgical history that includes a right breast biopsy, colonoscopy (7/31/2020), hysterectomy; total abdominal (6/17/2019), total knee arthroplasty (left) (12/05/2021), total knee arthroplasty (right) (04/05/2022), upper gastrointestinal endoscopy (07/28/2020), upper gastrointestinal endoscopy (09/27/2023).

Social History: The patient's chart states that she never smoked cigarettes, used smokeless tobacco, or used alcohol or drugs.

Active Orders

CBC W/diff: Monitoring WBCs and checks blood count.

Vancomycin Trough: Used to dose antibiotic.

Basic metabolic panel: Monitor for causes of cardiac arrhythmias.

Contact isolation: For MRSA of the right knee.

Cardiac monitoring: Monitor cardiac function related to cardiac output.

Physical Exam/Assessment

General: Alert, mild distress, moaning due to right knee pain.

Integument: Skin color, texture, turgor is normal. No rashes. Bandage to left lower extremity intact. Right knee edematous, warm to touch, healed midline, knee incision intact, puncture site from previous aspirate.

HEENT: Normocephalic, without obvious abnormality. Corneas clear, PERRLA, EOMs intact, Fundi benign.

Cardiovascular: Regular rate and rhythm, S1, S2 present no murmurs, rubs, or gallops, pluses 2+ and symmetric, distal pulses strong and equal.

Respiratory: Clear to auscultation bilaterally, respirations unlabored, on 4L NC.

Genitourinary: Catheter insertion, urine yellow and clear.

Gastrointestinal: Abdomen soft, non-tender. Bowel sounds active, no masses, no organomegaly.

Musculoskeletal: Extremities normal ROM, atraumatic, no cyanosis, significant swelling noted to the right knee, warm to touch.

Neurological: Opens eyes to voice, oriented to self, answers some questions, intermittently follows commands, constantly moaning with stimulation or movement.

Most recent VS (include date/time and highlight if abnormal): 10/9/2023 (1600) B/p: 100/60, Temp: 97.9, RR: 10, P: 74, O2: 97%

Pain and pain scale used: CPOT (critical care pain observation tool): ranges from 2 - 6.

<p align="center">Nursing Diagnosis 1</p> <p>Risk for decreased cardiac output related to tachycardia as evidenced by alterations in blood pressure (Phelps, 2020).</p>	<p align="center">Nursing Diagnosis 2</p> <p>Deficient knowledge related to poor knowledge of risk factors as evidenced by recurrent DVT (Wagner, 2022).</p>	<p align="center">Nursing Diagnosis 3</p> <p>Ineffective tissue perfusion related to inadequate blood flow as evidenced by decreased blood pressure (Nurse Together, 2022).</p>
<p align="center">Rationale</p> <p>This diagnosis was chosen because the patient suffers from heart failure and decreased blood pressure.</p>	<p align="center">Rationale</p> <p>This nursing diagnosis was chosen because the patient had recurrent DVTs.</p>	<p align="center">Rationale</p> <p>This nursing diagnosis was chosen because the patient has poor cardiac output and low blood pressure.</p>
<p align="center">Interventions</p> <p>Intervention 1: Monitor at least every 4 hours and report immediately any irregularities in heart rate, rhythm, and blood pressure (Phelps, 2020). Intervention 2: Monitor at least every 4 hours for dyspnea, fatigue, or jugular distention (Phelps, 2020).</p>	<p align="center">Interventions</p> <p>Intervention 1: Discuss the individual risk factors for developing a DVT (Wagner, 2022). Intervention 2: Educate the patient on preventing recurrences (Wagner, 2022).</p>	<p align="center">Interventions</p> <p>Intervention 1: Administer Fludrocortisone and midodrine to improve blood flow (Nurse Together, 2022). Intervention 2: Encourage the patient to wear anti-embolic or compression stockings (Nurse Together, 2022).</p>
<p align="center">Evaluation of Interventions</p> <p>The patient's blood pressure stays within limits (Phelps, 2020).</p>	<p align="center">Evaluation of Interventions</p> <p>The patient will identify their risk factors and three ways to prevent recurrent DVT(Wagner, 2022).</p>	<p align="center">Evaluation of Interventions</p> <p>The patient will maintain peripheral pulses and capillary refill time within acceptable limits (Nurse Together, 2022).</p>

References (3) (APA):

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