

### Medications

- **Amlodipine (Norvasc)**
  - Class: calcium channel blocker; Antihypertensive (Nurse's Drug Handbook, 2022)
  - Patient taking for hypertension
  - Educate to take with food (Nurse's Drug Handbook, 2022)
- **Cefepime (Maxipime)**
  - Class: antibiotic (Nurse's Drug Handbook, 2022)
  - Patient taking for moderate to severe pneumonia (Nurse's Drug Handbook, 2022)
  - Assess bowel pattern daily (Nurse's Drug Handbook, 2022)
- **Enoxaparin (Lovenox)**
  - Class: anticoagulant (Nurse's Drug Handbook, 2022)
  - Patient taking to prevent DVT (Nurse's Drug Handbook, 2022)
  - Drug isn't recommended for patients with heart valve (Nurse's Drug Handbook, 2022) – why did this patient receive it?
- **Lisinopril**
  - Class: Antihypertensive
  - Patient taking for hypertension
  - Monitor blood pressure before giving and during (Nurse's Drug Handbook, 2022)
- **Setraline**
  - Class: SSRI; anti anxiety/depressant (Nurse's Drug Handbook, 2022)
  - Patient taking to treat anxiety and depression
  - Monitor closely for GI bleeding if patient takes NSAID (Nurse's Drug Handbook, 2022)
- **Trazodone**
  - Class: antidepressant (Nurse's Drug Handbook, 2022)
  - Patient taking for depression
  - Use cautiously with heart disease, can cause arrhythmias (Nurse's Drug Handbook, 2022)
- **Levalbuterol hydrochloride (Xopenex)**
  - Class: bronchodilator; beta agonist (Nurse's Drug Handbook, 2022)
  - Patient taking to treat and prevent bronchospasm in obstructive airway (Nurse's Drug Handbook, 2022)
  - Observe for dyspnea, coughing, wheezing
- **Formoterol**
  - Class: beta adrenergic agonist; bronchodilator (Nurse's Drug Handbook, 2022)
  - Patient taking to treat long-term COPD
  - Monitor vital signs (Nurse's Drug Handbook, 2022)

### Demographic Data

**Date of Admission: February 15th**  
**Admission Diagnosis/Chief Complaint: SOB, acute respiratory failure, mass/brain lesion**  
**Age: 71**  
**Gender: Female**  
**Race/Ethnicity: Caucasian**  
**Allergies: iodinated dyes and iodine**  
**Code Status: full code**  
**Height in cm: 163**  
**Weight in kg: 83.1**  
**Psychosocial Developmental Stage: appropriate for age**  
**Cognitive Developmental Stage: appropriate for age**  
**Braden Score: 18**  
**Morse Fall Score: 60**  
**Infection Control Precautions: n/a**

### Pathophysiology

**Disease process:** Novel bio markers known as exosomes are associated with the physiological and pathological condition of lung cancer because they are nanovesicles (Amiri et al., 2021). These exosomes are released from cells, specifically cancer cells, and typically alter the behavior of targeted cells through the transfer of their cargo; this affects DNA, mRNA, RNA, etc. (Amiri et al., 2021). It is currently an insight that these exosomes are the leading patho genetic cause of lung cancers (Amiri et al., 2021). There is a possibility that these vesicles could be used in future treatment and prevention (Amiri et al., 2021).  
**S/S of disease:** fatigue, persistent cough with tinged sputum, hoarseness, altered breathing pattern, wheezing, shallow breaths, chest pain, dyspnea, weight loss, finger clubbing  
**Method of Diagnosis:** There are many different diagnostic methods for lung cancer such as cytology testing, thoracoscopy, bronchoscopy, x-ray/CT, thoracentesis with biopsy, arterial blood gasses and pulmonary functioning tests, (Institute, 2023). This patient specifically had an endobronchial ultrasound in which they discovered the cancer in the lungs.  
**Treatment of disease:** Patient has not yet received biopsy results, therefore the type of cancer has not been staged and there cannot be any treatment established yet but the patient has been prescribed bronchodilators and corticosteroids. Forms of treatment for general lung cancer include chemotherapy, photodynamic therapy, radiation therapy, medications (bronchodilators and corticosteroids), radio frequency ablation, targeted therapy, surgery for tumor removal or removal of a lung (Institute, 2023).

### Lab Values/Diagnostics

- **White blood cells 15.8 (elevated)**
  - Normal range= 4.5-11
  - Elevated indicating some sort of infection (lung cancer in this patient)
- **Lymphocytes 6.7 (elevated)**
  - Normal range=0.8-5
  - Altered lymphocytes could indicate tumor (Zhao et al., 2020)
- **Basophils 0.1 (decreased)**
  - Normal range=0.5-1
  - Decreased basophils goes hand-in-hand with acute exacerbation and comorbidity of lung cancer (Wang et al., 2022)
- **Neutrophil absolute 13.7 (elevated)**
  - Normal range=2.5-7
  - Elevation coming from infection and also is an indicator of small-cell lung cancer (Qui et al., 2020)
- **Albumin 3.3 (decreased)**
  - Normal range=3.4-5.4
  - Goes in adjunct with wbc differential labs in diagnosing small cell lung cancer (Qui et al., 2020)

### Admission History

**February 15<sup>th</sup>- inpatient 3East post endobronchial ultrasound (ebus) (physician referral)**

### Medical History

**Previous Medical History:** CAD, broken nose, anxiety, depression, arthritis, COPD, high cholesterol, hypertension, myocardial infarction, heart stent insertion, restless leg, DJD, torn rotator cuff

**Prior Hospitalizations:** ED 12/17/2018- left hip pain ; 3East 11/14/2018- surgery; 3East 2/15/2024- ebus

**Previous Surgical History:** colonoscopy 11/07/2023; left hip arthroplasty total anterior approach 11/14/2018; coronary artery stent 4/30/2017; cholecystectomy (no date), carpal tunnel decompression (no date), stress test (no date), arthroscopy of knee (no date), mammogram 4/21/2022 & 6/21/2023, rotator cuff repair (no date), right hip replacement (no date)

**Social History:** 10+ (1/2 pack) cigarettes per day in the last 30 days, no alcohol or substance use

### Active Orders

- **Monitor patient oxygen levels**
- **Medication administration**
- **Auscultation of lung sounds**
- **Maintain oxygen above 92**

**Physical Exam/Assessment**

**General:** Patient is alert and oriented x4 with no distress and seems comfortable. Patients physical condition is slightly limited.

**Integument:** Skin is pale color, smooth with no apparent lesions, rashes, or wounds. Temperature warm and skin turgor receded immediately. Patient was an 18 on Braden scale, skin risk. No drains present. Patient has 20 gauge IV in left hand from 2/17 and 22 gauge IV saline locked in left AC from 2/16.

**HEENT:** Head and neck are normal cephalic shape, range of movement intact, no lesions, bumps, or wounds. Trachea is midline and no lymph nodes palpable. No drainage or lesions from the ears, mouth, or nose. Pupils were size 3, PERRLA, EOM intact. Mucous membranes pink and moist, all teeth intact.

**Cardiovascular:** Heart rate and rhythm regular with no s3/s4 heard. No jugular vein distention, carotid arteries palpable individually. Capillary refill less than 3 seconds. No edema present in extremities.

**Respiratory:** Diminished breath sounds in all lobes bilaterally, wheezing heard in left upper lobe. No breath sounds heard in all lobes of right lung. Use of accessory muscles when breathing and productive cough with pink/red tinged sputum.

**Genitourinary:** Urine yellow and clear with no pain or burning with urination. No catheter in place and normal genital anatomy.

**Gastrointestinal:** Heart healthy diet, bowel sounds active in all four quadrants. Last bowel movement was 2/16/2024. No pain or tenderness upon palpation. Abdomen flat with no ostomy or NG/feeding tubes.

**Musculoskeletal:** ROM intact, up with assistance and standby. Strength sufficient bilaterally, no assistance with ADL. Patient is a fall risk with a Morse fall score of 60.

**Neurological:** Patient A&Ox4, MAEW, PERRLA, strength equal in all extremities, speech is intact and appropriate for developmental level, responds to sensory stimuli.

**Most recent VS (include date/time and highlight if abnormal):** 2/19/2024 0745- BP: 132/78, RR: 14, HR: 89, Temp: 97F

**Pain and pain scale used:** No pain- 0 on scale of 1-10.

<p align="center"><b>Nursing Diagnosis 1</b></p> <p align="center"><b>Altered breathing pattern related to acute respiratory failure as evidenced by patients breathing.</b></p>	<p align="center"><b>Nursing Diagnosis 2</b></p> <p align="center"><b>Impaired gas exchange related to acute respiratory failure as evidenced by breath sounds and chest pain.</b></p>	<p align="center"><b>Nursing Diagnosis 3</b></p> <p align="center"><b>Acute anxiety related to respiratory distress as evidenced by agitation, voicing having anxiety.</b></p>
<p align="center"><b>Rationale</b></p> <p><b>Acute respiratory failure and patient accessory effort to breath/abnormal pattern.</b></p>	<p align="center"><b>Rationale</b></p> <p align="center"><b>Acute respiratory failure</b></p>	<p align="center"><b>Rationale</b></p> <p align="center"><b>Patient said “feels anxious”</b></p>
<p align="center"><b>Interventions</b></p> <p><b>Intervention 1: maintain patent airway</b>  <b>Intervention 2: monitor blood gas</b></p>	<p align="center"><b>Interventions</b></p> <p><b>Intervention 1: auscultation of lung sounds</b>  <b>Intervention 2: monitor RR, depth, effort</b></p>	<p align="center"><b>Interventions</b></p> <p><b>Intervention 1: therapeutic communication skills for calming anxiety symptoms</b>  <b>Intervention 2: administer prescribed medications</b></p>
<p align="center"><b>Evaluation of Interventions</b></p> <p align="center"><b>Ph Art= 7.40 po2 Art= 57.4</b></p>	<p align="center"><b>Evaluation of Interventions</b></p> <p align="center"><b>No breath sounds in right lung, diminished in all lobes, left upper lobe wheeze, patient using accessory muscle to breath</b></p>	<p align="center"><b>Evaluation of Interventions</b></p> <p align="center"><b>Patient calmed after receiving</b></p>

### References:

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