N441 Care Plan

Angelina R. Thomas

Lakeview College of Nursing

N441: Adult Health III

Professor Keri Ashmore

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Demographics (3 points)

Date of Admission	Client Initials	Age	Gender
1-29-2024	GI	60 y/o	Male
Race/Ethnicity	**Occupation**	**Marital Status**	**Allergies**
White/ non-Hispanic	Occupation unknown-disabled	Widower	NKA
Code Status	**Height**	**Weight**	
Full code	183 cm (72 in.)	112.2 kg (246.84 lbs.)	

Medical History (5 Points)

Past Medical History: Influenza A, sepsis, pneumonia, hypercapnemia, allergic rhinitis, coronary artery disease, chronic obstructive pulmonary disease, diabetes mellitus type II, deep vein thrombosis of the left leg, ET-tube dysfunction, habitual alcohol use, hypercholesterolemia, hypertension, impaired gas exchange, mass of left parotid gland, and tobacco use.

Past Surgical History: Parotidectomy- parotid tumor excision (12/8/2023), RCA placement, jaw reconstruction (1976), back (unspecified), total knee arthroplasty, sebaceous cyst removal, and shoulder (unspecified)

Family History: No pertinent family history was mentioned in the patient's chart. The patient was newly extubated and could not verbalize pertinent family history.

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use): Current tobacco user: 10 or more cigarettes (0.5 packs or more) per day in the last 30 days over 40 years. Current alcohol user: Beer (specified as occasional in the patient's chart. The patient was newly extubated and could not validate verbally what occasional beer use meant, and he could not validate frequency, quantity, or duration of beer use.) The patient is not an illicit substance user and has never been an illicit substance user according to the patient's chart.

Assistive Devices: No assistive devices noted.

Living Situation: The patient lives at home alone without any pets, family members or friends.

Education Level: The patient's education was not listed in the patient's chart and the patient was unable to speak to the nursing student following extubating to validate his education level.

Admission Assessment

Chief Complaint (2 points): The patient arrived at the ED by AMS from a motor vehicle on the side of the road and complained of chest pain.

History of Present Illness – OLD CARTS (10 points): The patient is a 60-year-old Caucasian male with a past medical history of coronary artery disease, hypertension, eustachian tube dysfunction, chronic obstructive pulmonary disease, alcohol use disorder, tobacco use, and recent mass of the left parotid gland. The patient was presented to the emergency department on 1/29/2024, by EMS, after being found on the side of the road in a motor vehicle by his neighbors barely responsive. The history was provided by the ED staff. No onset notes of the occurrence. According to the ED staff, the patient was initially able to respond to some questions but was unable to give details on what occurred prior to the patient arriving at the hospital. The patient was unable to verbalize associated or aggravating factors leading to the acute condition. The patient complained of chest pain. Shortly after arriving at the ED, the patient became completely unresponsive and somnolent. The patient did not mention any characteristics prior to being unresponsive that could explain the changes in his condition. The neighbors nor the patient could verify how long he was in the car, barely alert. The ED staff took the patient's vital signs and noted significant findings including the patient's systolic B/P in the 170s, HR in the upper 100s, RR in the upper 30s, and the patient desaturated to 60%. According to the ED staff, the patient's initial VBGs revealed ph-7.2, pCO2-72. The patient was then placed on BiPAP for hypercapnia and excessive work of breathing. The ED staff called the hospitalist to admit the patient for hypoxemia and hypercapnic respiratory failure. Additional labs revealed WBC-13.4, Hgb-17.1,

platelets-142, sodium-129, chloride-89, hyperglycemia to 379, supratherapeutic INR of 4.01, elevated creatinine (not above normal at 1.19, but above the patient's normal appearing to be 0.68-0.81), AST-78, total bilirubin 1.2, CK-168, total CK-MB-8.64, lactic acid-3.9, and procalcitonin 3.385. According to the ED staff, when the hospitalist arrived at the patient's bedside, the patient immediately went to A-fib and RVR. Reportedly, the patient had never experienced A-fib prior to this time. The ED nurse gave IV metoprolol 5 mg. The patient's blood pressure remained stable and heart rate trended downward. However, the patient's heart rate was still within the rapid ventricular response range. The ED nurse then administered a Cardizem drip. Admission orders were made to send the patient to the critical care unit due to the need for the Cardizem drip and suspected pending need for intubation.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Acute hypoxic respiratory failure

Secondary Diagnosis (if applicable): Acute hypercapnic respiratory failure

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

Acute hypoxic respiratory failure is an emergency. This condition is essentially preventing a patient from receiving adequate oxygenation for survival or the patient's blood has way too much carbon dioxide-placing them in an acidotic state. During inspiration, oxygen molecules travel from the air to the body's tissues (Cleveland et al., 2023). Along the way, oxygen stops at the alveoli of the lungs and is picked up by the blood. They then travel to the organs and muscles to oxygenate them for functionality purposes and to keep a human alive (Cleveland et al., 2023). "After the blood cells drop off oxygen in the body's tissues, they have room to pick up carbon dioxide. Yet, the body does not need carbon dioxide (it is a waste

product), and if too much of it builds up in the blood there is no room in the bloods transportation system to deliver oxygen" (Cleveland et al., 2023, p.1). Blood circulates through the body and goes back to the lungs where it drops off carbon dioxide to rid through expiration (Cleveland et al., 2023).

Heart and lung conditions cause inadequate amounts of oxygen in the blood and a buildup of carbon dioxide. In the case of patient, GI, no specific cause was determined for his respiratory response. In fact, he exhibited new conditions in the ED that he had not experienced before (A-fib and RVR). Many actions can contribute to this decreased oxygenation. This patient has documented chronic obstruction pulmonary disease, he is an avid smoker (tobacco user), he has coronary artery disease, he has hypertension, and he has alcohol use disorder-all of which contribute to respiratory challenges. Some signs a patient with respiratory failure will exhibit is shortness of breath or feeling like they cannot get enough air (dyspnea), rapid breathing (tachypnea), extreme tiredness (fatigue), fast heart rate (feeling like their heart is racing) or heart palpitations, spitting or coughing blood or bloody mucus (hemoptysis), excessive sweating, restlessness, pale skin, bluish skin, lips or nails (cyanosis), headaches, agitation, confusion or unable to think straight, behavioral changes, or not acting like themselves (Cleveland et al., 2023). Patient GI experienced tachypnea (evidence by vital signs), rapid heart rate (verifiable by vital signs), and he eventually became somnolent. Some causes of respiratory failure include too little airflow or blood flow to the lungs, blockages, scarring or fluid in the lungs, inability to breathe properly or deeply enough, conditions that affect the lungs (such as pneumonia, influenza, and COPD-which patient GI presented with these conditions), issues with the nerves or muscles you use to breathe, injuries to your chest, and abnormalities in the way blood flows through the heart (Cleveland et al., 2023).

Some pertinent risk factors including lung conditions and diseases (COPD, acute respiratory distress syndrome, pneumonia, asthma, cystic fibrosis, pulmonary edema, pulmonary embolism, and pulmonary fibrosis), heart or circulatory conditions and diseases (ex: heart attack, congenital heart disease, heart failure, and shock), conditions that affect the nerves and muscles that helps breathing (muscular dystrophy, amyotrophic lateral sclerosis (ALS), severe scoliosis and Guillain-Barre syndrome), chest, spinal cord or brain injuries (including stroke), smoking or exposure to other lung irritants (chemical fumes, dust, air pollution, and asbestos), surgery that requires sedation or anesthesia, drug use or excessive alcohol consumption, and age (newborns and adults older than 65) (Cleveland et al., 2023). Patient GI was at risk for respiratory failure, because he has COPD, ARDS, pneumonia, he smokes, and had excessive alcohol consumption.

Diagnostic tests associated with respiratory failure include arterial blood gases (ABGs), pulse oximetry, lung functions tests (pulmonary function test), imaging (X-ray of the chest, and Ct scan of the chest), and EKG (Cleveland et al., 2023). "Arterial blood gas (ABG) is the gold standard for diagnosing respiratory failure" (Mirabile et al., 2023, p.1). Patient GI had pulse oximetry placed on his finger and his oxygen saturation was initially at 60%, he also had his ABGs collected, and it showed elevated CO2 and bicarb, and decreased ph. He also had an X-Ray and CT scan of his chest which confirmed influenza A and` Pneumonia. Respiratory failure is managed through mechanical ventilation, extracorporeal membrane oxygenation (ECMO), oxygen therapy, fluids, and managing the underlying conditions. Patient GI was placed on BiPAP, he eventually had an endotracheal (ET) tube placed, he was given fluids and medication to treat his underlying conditions.

Pathophysiology References (2) (APA):

Cleveland Clinic Medical Professional. (2023, March 15). *Respiratory failure*. https://my.clevelandclinic.org/health/diseases/24835-respiratory-failure

Mirabile, V. S., Shebl, E., Sankari, A., & Burns, B. (2023, June 11). *Respiratory failure in adults*. https://www.ncbi.nlm.nih.gov/books/NBK526127/

Laboratory Data (15 points)

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

Lab	**Normal Range** (Sarah Bush Lincoln staff, 2024)	**Admission Value** (Sarah Bush Lincoln staff, 2024)	**Today's Value** (Sarah Bush Lincoln staff, 2024)	**Reason for Abnormal Value**
RBC	4.28-5.56	5.52	3.95 (L)	The patient was briefly in A-fib and RVR (Sarah Bush Lincoln staff, 2024).
Hgb	13-17	17.1 (H)	12.0 (L)	The patient was briefly in A-fib and RVR (Sarah Bush Lincoln staff, 2024).
Hct	38.1-48.9	51.4 (H)	35.7 (L)	The patient was briefly in A-fib and RVR (Sarah Bush Lincoln staff, 2024).
Platelets	149-393	142 (L)	13.9	The patient was briefly in A-fib and RVR (Sarah Bush Lincoln staff, 2024).
WBC	4.0-11.7	13.4 (H)	9.1	The patient has new infection, streptococcus pneumoniae causing WBCs to elevate before antibiotic was prescribed (Sarah Bush Lincoln staff, 2024).
Neutrophils	45.3-79	N/A	76.5	
Lymphocytes	11.8-45.9	N/A	12.2	
Monocytes	0.3-1.1	N/A	10.0	
Eosinophils	0.0-6.3	N/A	0.2	
Bands	0-6	5.0	N/A	

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

Lab	**Normal Range** (Sarah Bush Lincoln staff, 2024)	**Admission Value** (Sarah Bush Lincoln staff, 2024)	**Today's Value** (Sarah Bush Lincoln staff, 2024)	**Reason For Abnormal**
Na-	136-145	129 (L)	144	The patient was in acute respiratory failure (Sarah Bush Lincoln staff, 2024).
K+	3.5-5.1	4.3	3.5	
Cl-	98-107	89 (L)	104	The patient was in acute respiratory failure (Sarah Bush Lincoln staff, 2024).
CO2	21-31	28	36 (H)	The patient was in acute respiratory failure (Sarah Bush Lincoln staff, 2024).
Glucose	74-109	379 (H)	156 (H)	The patient is a type II diabetic (Sarah Bush Lincoln staff, 2024).
BUN	7-25	43 (H)	22	The patient had evidence of an acute kidney injury causing abnormal BUN, creatinine, and protein labs (Sarah Bush Lincoln staff, 2024).
Creatinine	0.7-1.3	1.19	0.64(L)	The patient had evidence of an acute kidney injury causing abnormal BUN, creatinine, and protein labs (Sarah Bush Lincoln staff, 2024).
Albumin	3.5-5.2	4.1	2.1	
Calcium	8.6-10.3	10.2	8.7	
Mag	1.6-2.4	2.3	1.9	
Phosphate	2.5-5.0	3.2	N/A	
Bilirubin	0.3-1.0	1.2(H)	0.6	Consistent with the patient's acute respiratory attack, and his body responding to correct or compensate for it (Sarah Bush Lincoln, 2024).

Alk Phos	34-104	75	49	
AST	13-39	78 (H)	47	This lab indicates the liver has been compromised due to another acute condition, not necessarily liver failure. This patient had multiple health concerns requiring activation of multiple body systems to bring him back to a homeostatic state. The liver is necessary for metabolism, among other vital functions. This lab may have been elevated in the patient's immediate, acute respiratory attack (Sarah Bush Lincoln staff, 2024).
ALT	7-52	47	20	
Amylase	23-85 (Case-Lo, 2023)	N/A	N/A	
Lipase	0-160 (Case-Lo, 2023)	N/A	N/A	
Lactic Acid	0.5-2.0	1.2	N/A	
Troponin	0.0-0.03	0.036	N/A	
CK-MB	0.60-6.30	8.64 (H)	N/A	The patient was briefly in A-fib and RVR (Sarah Bush Lincoln staff, 2024).
Total CK	30-223	868 (H)	N/A	The patient was briefly in A-fib and RVR (Sarah Bush Lincoln staff, 2024).

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

Lab Test	**Normal Range** (Sarah Bush Lincoln staff, 2024)	**Value on Admission** (Sarah Bush Lincoln staff,	**Today's Value** (Sarah Bush Lincoln staff, 2024)	**Reason for Abnormal**

		2024)		
INR	0.86-1.14	4.01	N/A	
PT	11.9-15.0	38.1	N/A	
PTT	22.6-35.3	50.7	N/A	
D-Dimer	<0.50 (Bounds, 2020)	N/A	N/A	
BNP	0-100	176 (H)	266 (H)	"High BNP level might suggest significant hemodynamic stress on cardiac ventricles" (Rao et al., 2022). This patient has acute respiratory failure and coronary artery disease causing difficulty for the heart to pump effectively and get blood sent out to the body's tissues (Sarah Bush Lincoln staff, 2024).
HDL	<50 (W) <40 (M) (Lab Tests Online, 2021)	N/A	N/A	
LDL	<100 (Lab Tests Online, 2021)	N/A	N/A	
Cholesterol	<200 (Lab Tests Online, 2021)	N/A	N/A	
Triglycerides	0-149	278 (H)	113	The patient was on propofol for ET-tube placement sedation, which caused an elevation in triglycerides (Sarah Bush Lincoln staff, 2024).
Hgb A1c	<5.7 (Centers for Disease Control and Prevention, 2022)	N/A	N/A	
TSH	0.45-5.33	0.71	N/A	

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

Lab Test	**Normal Range** (Sarah Bush Lincoln staff, 2024)	**Value on Admission** (Sarah Bush Lincoln staff, 2024)	**Today's Value** (Sarah Bush Lincoln staff, 2024)	**Reason for Abnormal**
Color & Clarity	Yellow (light/pale to dark/deep amber) Clarity-clear or cloudy	Yellow & cloudy	Yellow & clear	
pH	4.5-8.0	5.0	6.0	
Specific Gravity	1.005-1.025	1.018	1.020	
Glucose	<130	>1000	300	The patient is a Type II diabetic and infection causes the blood sugar to reach an abnormal high (Sarah Bush Lincoln, 2024).
Protein	Negative	2+ (A)	Negative	The patient's protein in his urine is an indication of acute kidney injury. Since the patient had new onset acidosis (causing acute respiratory failure), his kidneys worked overtime to compensate for the acute respiratory failure. As a result, the kidneys became acutely damaged (Sarah Bush Lincoln staff, 2024).
Ketones	None	Negative	Negative	
WBC	<2-5	5	0-5	
RBC	<2	2	0-3	
Leukoesterase	None	Negative	Negative	

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

Test	Normal Range (Sarah Bush Lincoln staff, 2024)	Value on Admission (Sarah Bush Lincoln staff, 2024)	Today's Value (Sarah Bush Lincoln staff, 2024)	Explanation of Findings
pH	7.35-7.45	7.16 (L)	7.51 (H)	The patient's initial abnormal pH was due to his trapped CO2, causing him to become more acidotic. However, the pH leaning more basic was his body's attempt to bring him back towards baseline or a homeostatic pH (Sarah Bush Lincoln staff, 2024).
PaO2	80-90	99.3(H)	87.1	The patient was in an acute respiratory distress; therefore, he was taking in more O2 at a faster rate to overcompensate this issue and restore normal breathing (Sarach Bush Lincoln staff, 2024).
PaCO2	35-45	82.1 (H)	46.9B(H)	The patient has a secondary diagnosis of acute hypercapnemia, which is an accumulation of trapped CO2 in his blood (Sarah Bush Lincoln Staff, 2024).
HCO3	22-26	22.3	36.5 (H)	The patient's body was trying to correct the influx of CO2, by compensating with more bicarb (Sarah Bush Lincoln staff, 2024).
SaO2	95-98	97.3	98	

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

Test	Normal Range	Value on Admissio	Today's Value	Explanation of Findings

	(Sarah Bush Lincoln staff, 2024)	**n** (Sarah Bush Lincoln staff, 2024)	(Sarah Bush Lincoln staff, 2024)	
Urine Culture	Negative	Negative	Negative	
Blood Culture	Negative	Negative	Negative	
Sputum Culture	Negative	Positive	Positive	The patient tested positive for Streptococcus Pneumoniae & Hemophilus influenzae (Sarah Bush Lincoln staff, 2024).
Stool Culture	Negative	Negative	Negative	

Lab Correlations Reference (1) (APA):

Bounds, E. (2020, August 16). *D-Dimer*. https://www.ncbi.nlm.nih.gov/books/NBK431064/

Case-Lo, C. (2023, May 24). *Amylase and Lipase Tests*. https://www.healthline.com/health/amylase-and-lipase-tests#normal-amylase-and-lipase

Centers for Disease Control and Prevention. (2022, September 30). *Diabetes*. https://www.cdc.gov/diabetes/managing/managing-blood-sugar/a1c.html#:~:text=A%20normal%20A1C%20level%20is,6.5%25%20or%20more%20indicates%20diabetes.

Rao, S., Daines, B., Hosseini, O., Test, V., & Nugent, K. (2022). The utility of brain natriuretic peptide in patients undergoing an initial evaluation for pulmonary hypertension. *Journal of Community Hospital Internal Medicine Perspectives*, *12*(3), 48-52. 10.55729/2000-9666.1048

Sara Bush Lincoln Staff. (2024, February 12). Sarah Bush Lincoln.

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

XR Chest:

Indication: Chest Pain

Findings: Multi-focal of right lung; heart normal in size; multifocal patency air space opacities in the upper and lower right lung.

CT Brain/Head w/o contrast:

Indication: Altered mental status

Findings: 2.5 mm axial CT images of the head were obtained; CSF spaces are normal in size and configuration for the patient's age. Parenchymal attenuation is normal calvarium is intact no acute intracranial abnormality.

XR Chest:

Indication: ET placement

Findings: Endotracheal tube 7.0 cm above the carina; EGT w/tip overlying the GE junction. Also shows right-sided pneumonia.

Diagnostic Test Correlation (5 points): The Xray of the chest for chest showed right-sided pneumonia and influenza A. The CT of the brain did not indicate any significant findings.

Diagnostic Test Reference (1) (APA):

Cleveland Clinic. (2024). *X-ray*. https://my.clevelandclinic.org/health/diagnostics/21818-x-ray

Radiology Info. (2024). *Chest CT*.

https://www.radiologyinfo.org/en/info/chestct#:~:text=Computed%20tomography%20%28CT%29%20of%20the%20chest%20uses%20special,CT%20scanning%20is%20fast%2C%20painless%2C%20noninvasive%2C%20and%20accurate.

Current Medications (10 points, 1 point per completed med)
10 <u>different</u> medications must be completed

Home Medications (5 required)

Brand/ Generic	Amlodipine / Norvasc (Jones & Bartlett, 2021, p. 56).	Atorvastatin/ Lipitor (Jones & Bartlett, 2021, p. 95).	Fenofibrate /Antara (Jones & Bartlett, 2021, p. 448).	Lisinopril-hydrochlorothiazide/Zestrol (Jones & Bartlett, 2021, p. 659).	Metoprolol/ Lopressor (Jones & Bartlett, 2021, p. 725).
Dose	5-mg (1-tab)	40 mg (1-tab)	200 mg (1-tab)	20 mg-12.5mg (1-tab)	25mg (1-tab)
Frequency	PO	PO	PO	PO	PO
Route	Daily	Daily	Daily	Daily	Daily
Classification	P: Calcium channel blocker T: antihypertensive (Jones & Bartlett, 2021, p. 56).	P: HMG-CoA reductase inhibitor T: Antihyperlipidemic (Jones & Bartlett, 2021, p. 95).	P: Fibrate T: Antilipemic (Jones & Bartlett, 2021, p. 448).	P: Angiotensin—converting enzyme (ACE) inhibitor T: Antihypertensive (Jones & Bartlett, 2021, p. 659).	P: Beta 1 adrenergic blocker T: Antianginal, antihypertensive (Jones & Bartlett, 2021, p. 725).
Mechanism of Action	Binds to dihydropyridine and nondihydropyridine cell membrane receptor sites on myocardial and vascular smooth-	Reduces plasma cholesterol and lipoprotein levels by inhibiting HMG-CoA reductase and cholesterol synthesis in the liver and by increasing	Increases the lipolysis of triglyceride-rich lipoproteins and decrease the synthesis of fatty acids and triglyceride	May reduce blood pressure by inhibiting conversion of angiotensin I to angiotensin II. Angiotensin II is a potent vasoconstrictor that also stimulates adrenal cortex to secrete	Inhibits stimulation of beta 1 receptor sites, located mainly in the heart, resulting in decreased cardiac excitability, cardiac output, and

	muscle cells and inhibits influx of extracellular calcium ions across slow calcium channels. This decreases intracellular calcium level, inhibiting smooth-muscle cell contractions and relaxing coronary and vascular smooth muscles, decreasing peripheral vascular resistance also decreases myocardial workload, oxygen demand, and possibly angina (Jones & Bartlett, 2021, p. 56).	the number of LDL receptors on liver cells to enhance LDL uptake and breakdown (Jones & Bartlett, 2021, p. 96).	s by enhancing the activation of lipoprotein lipase and acylcoenzyme A synthetase (Jones & Bartlett, 2021, p. 448).	aldosterone (Jones & Bartlett, 2021, p. 659).	myocardial oxygen demand. These effects help relieve symptoms of heart failure. It also helps to reduce blood pressure by decreasing renal release of renin (Jones & Bartlett, 2021, p. 725).
Reason Client Taking	Hypertension (Sarah Bush Lincoln staff, 2024)	Hypercholesterolemia (Sarah Bush Lincoln staff, 2024)	High cholesterol (Sarah Bush Lincoln	Coronary artery disease (Sarah Bush Lincoln staff, 2024)	Hypertension (Sarah Bush Lincoln staff, 2024)

			staff, 2024)		
Contraindications (2)	Hypersensitivity to Amlodipine. Hypersensitivity to similar components of Amlodipine (Jones & Bartlett, 2021, p. 56).	Active hepatic disease and unexplained consistent rise in serum transaminase level (Jones & Bartlett, 2021, p. 96).	Active liver disease and hypersensitivity to fenofibrate components (Jones & Bartlett, 2021, p. 448).	Concurrent aliskiren use in patients with Diabetes and hypersensitivity to Lisinopril (Jones & Bartlett, 2021, p. 659).	Cardiogenic shock and heart rate less than 45 beats/minute (Jones & Bartlett, 2021, p. 725).
Side Effects/Adverse Reactions (2)	Arrythmias and hypotension (Jones & Bartlett, 2021, p. 57).	Arrythmias and hepatic failure (Jones & Bartlett, 2021, p. 96.	DVT and cirrhosis of the liver (Jones & Bartlett, 2021, p. 448).	CVA and arrythmias (Jones & Bartlett, 2021, p. 660).	Bradycardia and arterial insufficiency (Jones & Bartlett, 2021, p. 725).
.	Use cautiously in patients with heart block, heart failure, impaired renal function, or hepatic disorder (Jones & Bartlett, 2021, p. 57). Monitor blood pressure while adjusting dosage (Jones &	Be aware that atorvastatin should not be used in patients taking cyclosporine, gemfibrozil, tipranavir plus ritonavir because of high risk for rhabdomyolysis with acute renal failure (Jones & Bartlett, 2021, p. 97). Expect atorvastatin to be used in patients	Be aware that all drugs that increase serum triglycerides, such as beta blockers, estrogen, and thiazides, should be stopped, and baseline lipid levels obtained before starting fenofibrate (Jones & Bartlett,	Be aware that lisinopril should not be given to a patient who is hemodynamically unstable after an acute MI. Use cautiously in patients with fluid volume deficit, heart failure, impaired renal function, or sodium depletion (Jones & Bartlett, 2021, p. 660).	Dosage exceeding 400mg daily, patient should be monitored for bronchospasm and dyspnea. When substituting metoprolol for clonidine, expect to gradually reduce clonidine and increase metoprolol dosage over several days

	Bartlett, 2021, p. 57).	without obvious coronary artery disease but with multiple risk factors (Jones & Bartlett, 2021, p. 97).	2021, p. 448). Administer 1-hour before or 4-hours after bile acid sequestrants (Jones & Bartlett, 2021, p. 448).		(Jones & Bartlett, 2021, p. 725).
Key Nursing Assessment(s)/Lab(s) Prior to Administration	Blood pressure and liver function testing (Jones & Bartlett, 2021, p. 57).	EKG monitor and platelets (Jones & Bartlett, 2021, p. 96).	D-Dimer and liver function tests (Jones & Bartlett, 2021, p. 448).	Blood pressure and Heart Rate (Jones & Bartlett, 2021, p. 660).	Heart rate and Blood pressure (Jones & Bartlett, 2021, p. 725).
Client Teaching needs (2)	Tell patient to take missed dose as soon as remembered. Advise patient to check B/P frequently for possible hypotension (Jones & Bartlett, 2021, p. 58).	Emphasize to patient that atorvastatin is an adjunct and not a substitute for -a low-cholesterol diet. Take the drug at the same time each day to maintain its effectiveness (Jones & Bartlett, 2021, p. 97).	Emphasize that the drug will only be effective if the patient follows prescriber's instructions about diet and exercise (Jones & Bartlett, 2021, p. 449). Instruct the patient to take the drug with food (Jones & Bartlett, 2021, p.	Explain to the patient that lisinopril helps to control, but doesn't cure, hypertension and that patient may need lifelong therapy. Warn the patient to seek immediate emergency treatment if he has trouble breathing or swallowing or notices swelling of his eyes, extremities, face, lips, or tongue (Jones & Bartlett, 2021, p.	Take metoprolol with food at the same time every day. Advise patient to notify prescriber if pulse rate falls below 60 beats/minute or is significantly lower than usual (Jones & Bartlett, 2021, p. 725).

			449).	661).	

Hospital Medications (5 required)

Brand/Generic	Amiodarone hydrochloride/ Cordarone (Jones & Bartlett, 2021, p. 52)	Aspirin/ Bayer (Jones & Bartlett, 2021, p. 87)	Ertapenem/ Invanz (Jones & Bartlett, 2021, p. 393)	Folic Acid/Folacin-800 (Puckey, 2024)	Insulin Aspart/Novolog (Sarah Bush Lincoln staff, 2024)
Dose	200mg (1-tab)	81mg (1-tab)	1000 mg	1mg (1tab)	Per sliding scale
Frequency	Daily	Daily	Daily	Daily	Q4H
Route	G-TUBE	G-TUBE	IV piggyback injectable	G-TUBE	SubQ
Classification	P: Benzofuran derivative T: Class III antiarrhythmic (Jones & Bartlett, 2021, p. 52)	P: Salicylate T: NSAID (anti-inflammatory, antiplatelet, antipyretic, nonopioid analgesic) (Jones & Bartlett, 2021, p. 87)	P: Carbapenem T: Antibiotic (Jones & Bartlett, 2021, p. 393).	C: Vitamin	P: Human Insulin T: Antidiabetic (Jones & Bartlett, 2021, p. 583).

Mechanism of Action	Acts on cardiac cell membranes, prolonging repolarization and the refractory period and raising ventricular fibrillation threshold. Drug relaxes vascular smooth muscles, mainly in coronary circulation, and improves myocardial blood flow. It relaxes peripheral vascular smooth muscles, decreasing peripheral vascular resistance and myocardial oxygen consumption (Jones & Bartlett, 2021, p. 52).	Blocks the activity of cyclooxygenase, the enzyme needed for prostaglandin synthesis. Prostaglandins, important mediators in the inflammatory response, cause local vasodilation with swelling and pain. With blocking of cyclooxygenase and inhibition of prostaglandins, inflammatory symptoms subside. Pain is also relieved because prostaglandins play a role in pain transmission from the periphery to the spinal cord. Aspirin inhibits platelet aggregation by interfering with production	Inhibits bacterial cell wall synthesis by binding to specific penicillin-binding proteins inside the cell wall. Penicillin-binding proteins are responsible for various steps in bacterial cell wall synthesis. By binding to these proteins, ertapenem leads to bacterial wall lysis (Jones & Bartlett, 2021, p. 394).	Folic acid is the man-made form folate (vitamin B-9); when you take folic acid, your body turns it into folate. Folate is important for making red blood cells and for making and maintain new cells in your body (Drugs.com, 2024)	Lowers blood glucose levels by stimulating peripheral glucose uptake by fat and skeletal muscle, and by inhibiting hepatic glucose production. Also enhances protein synthesis, inhibits lipolysis in adipocytes, and inhibits proteolysis (Jones & Bartlett, 2021, p. 583).

		of thromboxane A2, a substance that stimulates platelet aggregation. Aspirin acts on heat-regulating center in the hypothalamus and causes peripheral vasodilation, diaphoresis, and heat loss (Jones & Bartlett, 2021, p. 87-88)			
Reason Client Taking	Coronary artery disease (Srah Bush Lincoln staff, 2024)	Chest pain (Sarah Bush Lincoln staff, 2024)	Pulmonary Infection (Sarah Bush Lincoln staff, 2024)	Folic Acid supplement (Sarah Bush Lincoln staff, 2024)	Type II Diabetes (Sarah Bush Lincoln staff, 2024)
Contraindications (2)	Bradycardia that causes syncope and cardiogenic shock (Jones & Bartlett, 2021, p. 52)	Active bleeding or coagulation disorders and fever (Jones & Bartlett, 2021, p. 88)	Hypersensitivity to ertapenem and hypersensitivity to beta-lactams (Jones & Bartlett, 2021, p. 394).	Allergic response to folic acid and infection (Puckey, 2024)	Chronic lung disease and hypersensitivity to human insulin or its components (Jones & Bartlett, 2021, p. 583).
Side Effects/Adverse Reactions (2)	Abnormal gait and arrhythmias (Jones & Bartlett, 2021, p.	GI bleeding and hepatotoxicity (Jones & Bartlett, 2021, p. 88)	Seizures and hypotension **(**Jones & Bartlett, 2021, p. 394).	Nausea and bloating (Puckey, 2024)	DKA and hypoglycemia (Jones & Bartlett, 2021, p. 584).

	52)				
Nursing Considerations (2)	Monitor amiodarone I.V. infusion closely because loading doses at higher concentrations and rates may cause acute renal failure, hepatocellular necrosis, and death (Jones & Bartlett, 2021, p. 54). Expect the patient to be switched to oral therapy from intravenous therapy as soon as possible with dosage dependent on the dose of intravenous drug already administered (Jones &	Don't crush timed-release or controlled release aspirin tablets unless directed (Jones & Bartlett, 2021, p. 88) Ask about tinnitus-this usually occurs when blood aspirin level reaches or exceeds maximum dosage for therapeutic effect (Jones & Bartlett, 2021, p. 89)	Obtain urine, sputum, or other specimens for culture and sensitivity before administering ertapenem (Jones & Bartlett, 2021, p. 394). Inspect the drug for particles and discoloration after reconstitution (Jones & Bartlett, 2021, p. 394).	Give 1mg orally, intramuscularly, subcutaneously or IV once a day. May continue until clinical symptoms of folate deficiency and the hematological profile have normalized (Puckey, 2024) Ask the client what OTC drugs they're taking because some OTC drugs my interact with folic acid (Puckey, 2024)	Monitor patient closely for signs and symptoms of hypoglycemia and monitor patient for hypersensitivity reactions (Jones & Bartlett, 2021, p. 584).

	Bartlett, 2021, p. 54)				
Key Nursing Assessment(s)/Lab(s) Prior to Administration	Heart Rate below 60 and Monitor continuous ECG (check for increased PR and QRS intervals and arrythmias (Jones & Bartlett, 2021, p. 52).	Hct & Hgb, and AST, ALT (Jones & Bartlett, 2021, p. 89).	H&H and blood pressure (Jones & Bartlett, 2021, p. 394)	Test for any kind of anemia and check to see if the client has kidney disease (Puckey, 2024).	Check the patient's blood sugar before administration and check renal and liver function (Jones & Bartlett, 2021, p. 584).
Client Teaching needs (2)	Explain to the patient that they will need frequent monitoring and laboratory testing during treatment (Jones & Bartlett, 2021, p. 54). Report abnormal bleeding or bruising (Jones & Bartlett, 2021, p. 54).	Advise patient taking low-dose Aspirin not to also take ibuprofen or naproxen because these drugs may reduce the cardioprotective and stroke preventative effects of aspirin (Jones & Bartlett, 2021, p. 89). Instruct the patient to take aspirin with food to	Instruct the client to immediately report signs of anaphylaxis (ex: itching, rash, or shortness of breath) (Jones & Bartlett, 2021, p. 395). Instruct the patient to report signs or superinfection such as sever diarrhea or white patches on tongue or mouth (Jones & Bartlett, 2021, p. 395).	Instruct the patient to take with a full glass of water and store at room temperature (Puckey, 2024)	Teach the patient how to use at-home glucometer to check blood sugars and teach them how to properly administer medication (Jones & Bartlett, 2021, p. 584).

		reduce GI upset (Jones & Bartlett, 2021, p. 89).			

Medications Reference (1) (APA):

Puckey, M. (2024, February 13). *Folic Acid*. https://www.drugs.com/folic_acid.html#:~:text=Generic%20name%3A%20folic%20acid%20%5B%20FOE-lik-AS-id,%5D%20Brand%20names%3A%20FA-8%2C%20Folacin-800%2C%20FaLessa

Jones & Bartlett Learning. (2021). *2021 Nurse's drug handbook* (20th ed.). Jones & Bartlett Learning.

Assessment

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

GENERAL: **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	Upon assessment the patient was alert and orientated. However, he could not speak because he still had the ET-tube in place. He nodded his head and blinked his eyes to commands. The patient did not appear in any acute distress. The patient's overall appearance was stable for his

	condition. The patient could not talk to answer questions about where he was and why he was there. Since, the patient was able to nod his head and blink to commands, he would be considered A & O x 3.
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☒ N ☐** **Type:** Urinary Catheter	The patient's skin was warm and dry. From head-to-toe the patient's skin was cracked. The patient's skin color appeared normal per ethnicity and pink. The patient had bruises on calves, ankles, and feet indicative of poor circulation. Braden score was 12. The patient's temperature during the assessment was 98.1 degrees Fahrenheit. The patient's skin turgor was 3 seconds of tinting. The patient did not have any rashes. The skin's character was snakelike.
HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	The patient's eyes, nose, and ears appeared without any drainage or lesions. Cornea was moist and clear, sclera was white, bilaterally. PERRLA noted. The eye lids were moist without any lesions. The auricles were intact and dry, bilaterally. The tympanic membrane was unable to be assessed. The patient could hear well, as evidence by nodding and blinking to commands. Dentition was poor. No foul breath odor. Teeth were cracked and discolored. Oral mucosa was pink and moist and without lesions. His nose was midline without deviation. No polyps noted. Mouth appeared with an ET-tube placed. The patient's neck was midline. No tracheal deviation. Thyroid was non-palpable. The carotid arteries were +2 and palpable on both sides.
CARDIOVASCULAR: **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☒ N ☐** **Location of Edema:**	The patient initially went into A.Fib on the day of his admission. However, upon the assessment, there was no A. Fib noted. S1 and S2 sounds were audible. No murmurs audible. No gallops or rubs. Normal rate and rhythm. Heart Rate was 50 upon assessment. All peripheral pulses were 2+ and palpable bilaterally. The patient had three seconds pitting edema on his ankles and feet. The patient had less than 2 seconds capillary refill bilaterally, on nailbeds of his hands and feet.
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	All lobes were audible anteriorly bilaterally. Was not able to assess posterior lobes, due to patient's ET-tube placement and was unable to turn the

ET Tube: **Size of tube:** **Placement (cm to lip):** **Respiration rate:** **FiO2:** **Total volume (TV):** **PEEP:** **VAP prevention measures:**	patient alone. Clear breath sounds anteriorly noted. No wheezing, rhonchi, or crackles. ET placed 8.0 in size, 27cm at lip, respiration rate was 20 upon assessment FiO2 was 40 and (CPAP mode upon assessment). Total volume was 450, PEEP was 8. VAP prevention measures included oral care products, suction swabs, head of the bed elevated 30 degrees, and frequent suctioning.
GASTROINTESTINAL: **Diet at home:** **Current Diet** **Height:** **Weight:** **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	The patient was on a diabetic diet at home and NPO while in the hospital. He was 72 in height and weighing 112.2 kg. Bowel sounds were normoactive in all four quadrants. No abdominal distention. The patient did not squirm upon palpation, indicating no pain or tenderness. The patient's last bowel movement was 15 minutes before the assessment on 1/12/2024 and 0720. The patient had no incisions in his belly noted, minor incisional scars. No abdominal drains or wounds. The patient had an orogastric tube with intubation. No visible orogastric drainage upon assessment.
GENITOURINARY: **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☒ N ☐** **Type:** **Size:** **CAUTI prevention measures:**	The patient had a urinary catheter. The urine was a dark yellow and did not have a foul odor. The urine was clear and there were 300 milliliters of urine in the catheter bag. It was a temperature-probe urethral catheter, size 16. CAUTI prevention measures included catheter care wipes. No blood or crystals in the urine. Genitals were intact without bruises or lesions.
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:**	The patient was alert and oriented. The patient could not speak due to intubation. The patient could not perform active range of motion exercises. The patient was able to grip my hands and provide resistance. The patient's arm and leg

ADL Assistance: Y☒ N ☐ **Fall Risk: Y ☒ N☐** **Fall Score:** **Activity/Mobility Status:** **Independent (up ad lib)** ☐ **Needs assistance with equipment** ☐ **Needs support to stand and walk X**	strength were equal bilaterally. The patient's fall risk score was 60. The patient did not use supportive devices at home. The patient has been on bedrest since he was admitted. Because the patient is at risk of falling, he would likely need two-person assistance with gait belt and wheelchair or walker. The patient would be normally independent at home.
NEUROLOGICAL: **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☒ N ☐ if no -** **Legs ☐ Arms ☐ Both ☐** **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	The patient's orientation status was alert and oriented x 3. He nodded and blinked at the commands. He could not speak due to being intubated. His extremities responded to stimuli. Negative Babinski.
PSYCHOSOCIAL/CULTURAL: **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:** **Personal/Family Data (Think about home environment, family structure, and available family support):**	The psychosocial/cultural portion could not be obtained. No information was listed in the patient's chart and the patient was unable to speak. The patient also had no family present.

Vital Signs, 2 sets (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0735	50	180/84	20	98.1F	94 % (ET tube and CPAP)
1100	88	135/63	22	97.0F	92% (room air-ET tube was extracted)

Vital Sign Trends/Correlation:

The patient received B/P medication at 0800 contributing to the decrease in systolic and diastolic pressures. The patient's pulse rate increased possibly due to the recent ET-tube extraction and staff repositing him in the bed. All other vitals are within stable limits.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0735	CPOT (Critical care pain observation tool)-since the patient was intubated (Sarah Bush Lincoln staff, 2024)	No pain location noted	0	0	The patient was in no visible pain. However, he was repositioned and propped with pillows. The nurse also gave routine pain meds.
1100	0-10	No pain location noted	0	0	The patient did not verbalize any pain. However, was repositioned and given routine pain meds.

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: **Location of IV:** **Date on IV:** **Patency of IV:** **Signs of erythema, drainage, etc.:** **IV dressing assessment:**	Left peripheral AC 20 gauge. Aspirated and flushed. No phlebitis/infiltration, catheter present and patent. No redness, swelling, or drainage. 1/29/2024 placed.
Other Lines (PICC, Port, central line, etc.)	
Type: **Size:** **Location:** **Date of insertion:** **Patency:** **Signs of erythema, drainage, etc.:**	Midline, 18 gauge in the right upper arm (brachial vein) inserted 2/8/2024 at 0737. Aspirated and flushed. No redness or swelling noted. No phlebitis /infiltration present, catheter patent. CLABSI prevention measures included Prevantix wipes.

Dressing assessment: **Date on dressing:** **CUROS caps in place: Y ☒ N ☐** **CLABSI prevention measures:**	

Intake and Output (2 points)

Intake (in mL)	**Output (in mL)**
27.59 ml-dexmedetomidine 20 ml-suplena orogastric tube feed	300 ml-urine

Nursing Care

Summary of Care (2 points)

Overview of care:

Procedures/testing done:

Complaints/Issues:

Vital signs (stable/unstable):

Tolerating diet, activity, etc.:

Physician notifications:

Future plans for client:

Discharge Planning (2 points)

Discharge location:

Home health needs (if applicable):

Equipment needs (if applicable):

Follow up plan:

Education needs:

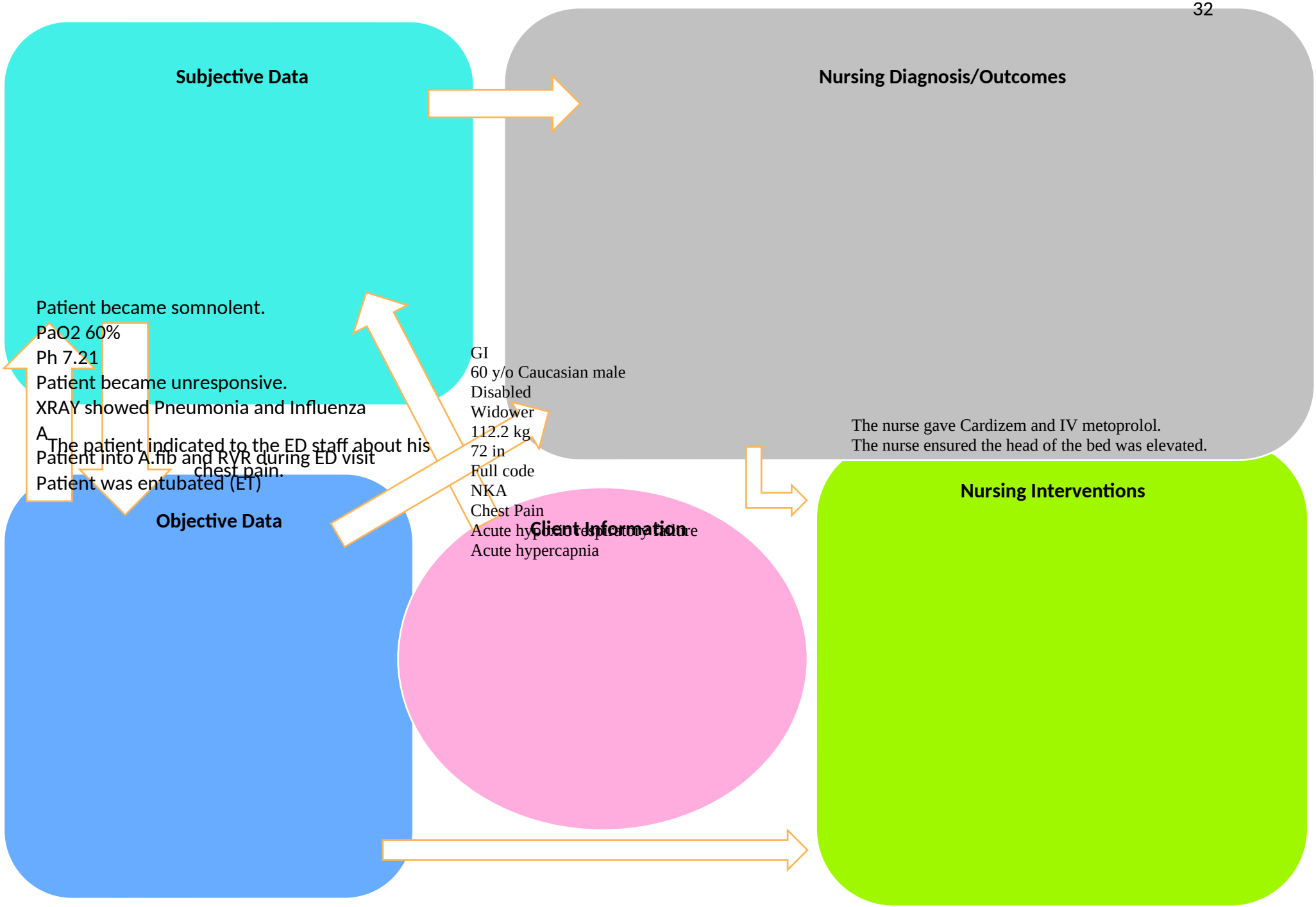
Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis and listed in order of priority

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. Ineffective airway clearance related to acute hypoxic respiratory failure as evidence by ph 7.21 and somnolence .	2. This nursing diagnosis was chosen because it is the highest priority concern. The patient's airway is compromised which could lead to a fatal incident if not treatment urgently.	1. The patient was placed on BiPAP and given **2.**	**1.**	
1. Impaired gas exchange related to Acute hypercapnic respiratory failure as evidence by CO2 level 82.1	1.	**1.** **2.**	**1.**	
2.		**1.** **2.**	**1.**	

3. Acute pain related to		**1.** **2.**	**1.**	
4.		**1.** **2.**	**1.**	

Other References (APA):

Concept Map (20 Points):


Subjective Data
Patient became somnolent.
PaO2 60%
Ph 7.21
Patient became unresponsive.
XRAY showed Pneumonia and Influenza A
Patient into A.fib and RVR during ED visit
Patient was entubated (ET)
Objective Data
The patient indicated to the ED staff about his chest pain.
GI
60 y/o Caucasian male
Disabled
Widower
112.2 kg
72 in
Full code
NKA
Chest Pain
Acute hypoxic respiratory failure
Acute hypercapnia
Client Information
Nursing Diagnosis/Outcomes
The nurse gave Cardizem and IV metoprolol.
The nurse ensured the head of the bed was elevated.
Nursing Interventions