Team # _____

2022
ASHP Clinical Skills Competition [SM]
ASHP Local Competition Case

Directions to Clinical Skills Competition Participants

Identify the patient's acute and chronic medical and drug therapy problems. Recommend interventions to address the drug therapy problems using the forms supplied (Patient Case and Pharmacist's Care Plan).

IMPORTANT NOTE: Only the Pharmacist's Care Plan will be used for evaluation purpose.

Team # _____

Pharmacist's Care Plan

Using the patient's data, you will be able to develop an effective care plan for your patient. Clearly define the health care problems. Health care problems include treatment of all acute and chronic medical problems, resolution of all actual or potential drug-related problems, and identification of any other health care services from which your patient may benefit.

Remember to think about potential medical problems for which your patient may be at risk and disease prevention and disease screening activities that may be appropriate to recommend. Also, don't forget to consider specific patient factors that may influence your goals and recommendations for therapy (e.g., physical, psychological, spiritual, social, economic, cultural, and environmental).

To complete your care plan, specify all of your patient's health care problems that need to be addressed. Then prioritize the problems into one of three categories: (1) Most urgent problem, (2) Other problems that must be addressed immediately (or during this clinical encounter), OR (3) Problems that can be addressed later (e.g. a week or more later/at discharge or next follow up visit). Please note that only one problem should be identified as the "most urgent problem." When identifying individual problems for the case use more specific terms when possible vs general disease conditions. Also, use actual rather than weight-based doses when providing recommendations for therapy.

Then for **each problem** describe the (1) therapeutic goals, (2) recommendations for therapy, and (3) monitoring parameters and endpoints. Your monitoring parameters should include the frequency of follow-up and endpoints should be measurable by clinical, laboratory, quality of life, and/or other defined parameters (e.g., target HDL is greater than 50 mg/dL within 6 months).

Team #_____

LOCAL CASE
2022 ASHP CLINICAL SKILLS COMPETITION

Demographic and Administrative Information

Name: Jordan Jimenez	**Patient ID:** 15849633
Sex: Male	**Room & Bed:** Emergency Department Bed 12 Telemetry 12th Floor Room Pending
Date of Birth: 05/11/1953	**Physician:** Dr. Trimble
Height: 5'11" / **Weight:** 264 lbs / **Race:** Hispanic	**Religion:** Baptist
Prescription Coverage Insurance: Private (Employer)	**Pharmacy:** Kroger Pharmacy
Copay: Preferred Generic $5, Preferred Brand $35, Non-Preferred $50, Specialty 20%	**Annual Income:** $35,900

****Please note, the patient arrived to the Emergency Department today at 8:45 AM****

Chief Complaint

"My chest feels really tight."

History of Present Illness

JJ is a 69-year-old Hispanic male (preferred language Spanish) sent to the Emergency Department from a scheduled heart failure clinic visit for new chest pain and discomfort. He describes the chest pain as tightness, consistent in nature, and started after breakfast this morning. In the emergency department he is complaining of 9/10 chest pain to his nurse. The pain did not change after administration of GI Cocktail (magnesium hydroxide, viscous lidocaine 2%) or lorazepam but decreased to 3/10 after sublingual nitroglycerin. He endorses ongoing cocaine use, mostly on the weekends and last used last weekend. He reports that since his last heart failure admission in June 2022 he has been feeling fine apart from not sleeping well until the chest pain developed.

Past Medical History

Heart Failure with Preserved Ejection Fraction- Diagnosed 01/2022

- Hospitalized January 2022, March 2022, May 2022, and June 2022

Hypertension – Diagnosed 2018
Insomnia
Cocaine Use Disorder

Outpatient Drug Therapy

Prescription Medication & Schedule	Duration Start–Stop Dates	Prescriber	Pharmacy
chlorthalidone 25 mg PO Daily	05/2018-Present	Trimble (PCP)	Kroger
diazepam 10 mg PO QPM	01/2022-Present	Trimble (PCP)	Kroger
furosemide 20 mg PO Daily	06/2022-Present	Farzad (Cardiology)	Kroger
losartan 25 mg PO Daily	05/2020-Present	Trimble (PCP)	Kroger

Non-Prescription Medication/Herbal Supplements/Vitamins	Duration Start–Stop Dates	Prescriber	Pharmacy
Men's Centrum Multivitamin	03/2022-Present	NA	Amazon

Medication History

JJ reports his daughter places his medications in a pillbox every week and he rarely misses doses. Receives prescription bottles with Spanish directions on the labels. Fill history confirmed with Kroger pharmacy and daughter confirms she fills the pillbox every Sunday after attending church.

Allergies/Intolerances
Cefdinir- Rash
Lisinopril- Cough

Surgical History
None

Family History
Father- Unknown
Mother- Died of natural causes at 82
Daughter- alive, type 2 diabetes after pregnancy

Substance Use History
Alcohol: 3 drinks/week, socially
Tobacco: never
Cocaine Use Disorder: "smokes crack" on the weekends, socially

Immunization History
Received all recommended childhood and adolescent immunizations through age 18.
Influenza: December 2021
COVID 19: Moderna July 2021, December 2021
Varicella: History of infection as child
HZV: Zostavax May 2018
Tdap: January 2021
Pneumococcal: PCV13 May 2019, PPSV23 May 2020

Review of Systems
Positive for chest pain per HPI. Denies shortness of breath, cough, GERD. Chest pain is not reproducible. No aggravating or relieving factors.

Physical Exam
General: Overweight male appearing uncomfortable
HEENT: Conjunctiva clear, moist mucosal membranes, no lymphadenopathy
Pulmonary: No rhonchi or crackles
Cardiovascular: Negative JVD, tachycardia without murmurs/rubs/gallops
Abdomen: Normal bowel sounds
Genitourinary: WNL
Extremities: WNL
Neuro: AO x3

Vital signs
HR: 105 BMP
RR: 24 BMP
O2 Saturation: 97% Room Air
BP: 155/90 mmHg
Temp: 98.9° F

Lines/Drains/Airways
18 gauge Left Antecubital IV Catheter
20 gauge Right Wrist IV Catheter

Team #_____

Labs and Microbiology	0910 (Today)	6/14/2022
Metabolic Panel		
Na (mEq/L)	135	138
K (mEq/L)	2.8	4.1
Cl (mEq/L)	103	99
CO_2 (mEq/L)	24	26
BUN (mg/dL)	12	11
SCr (mg/dL)	0.65	0.55
Glucose (mg/dL)	190	118
Calcium (mg/dL)	9.9	
Phosphorus (mg/dL)	3.6	
Magnesium (mg/dL)	1.2	
Albumin (g/dL)	4.7	
AST (IU/L)	26	
ALT (IU/L)	29	
Total bili (mg/dL)	0.5	
Total Cholesterol		144
Triglycerides		99
HDL Cholesterol		45
LDL Cholesterol (Measured)		95
LDL Cholesterol (Calculated)		62
CBC		
WBC (million/mm^3)	5.2	6.7
Hgb (g/dL)	13.7	14
Hct (%)	42	44
Plt (K/mm^3)	188	171
Urinalysis		
Color	Colorless	
Glucose	Positive	
RBC	Negative	
Ketone	Negative	
Leukocyte esterase	Negative	
Nitrite	Negative	
Urine pH	6.5	
Specific gravity	1.004	
Protein	+1	
Epithelial cells per high-power field	0	
WBC per high-power field	<1	
Amphetamine Screen	Negative	
Barbiturate Screen	Negative	
Benzodiazepine Screen	Negative	
Cannabinoid Screen	Negative	
Cocaine Screen	Positive	
Methadone Screen	Negative	
Opiate Screen	Negative	
Other		
PT (seconds)	12.7	
INR	1.1	

ApTT (seconds)	27.6	
Troponin (High Sensitivity) (ng/L)	800	
HbA1c (%)	8.7	
TSH (uIU/mL)	2.17	2.21
T4 (Free) (ng/mL)	0.99	0.91
BNP (pg/mL)	73	247
COVID-19 Rapid	Negative	Negative

Other Diagnostic Tests

ECG 12-Lead Measurements	**0910 (Today)**	**6/14/2022**
Ventricular Rate (BPM)	105	
Atrial Rate (BPM)	105	
QRS Duration (mS)	86	
Q-T Interval (mS)	366	
QTC Interval (mS)	457	
Interpretation	Normal sinus rhythm with new left bundle branch block in leads V1 and V6. No ST elevation identified.	
Transthoracic ECHO 2D		
Left Ventricular Ejection Fraction		50-55%
X-Rays		
Chest	No acute abnormalities.	Air space opacification suggestive of pulmonary edema, correlate clinically.

Current Drug Therapy

Emergency Department Medication Prescription & Schedule	**Medication Administration Record (MAR) History**
GI Cocktail (magnesium hydroxide, viscous lidocaine 2%) 30 mL PO Once	Given 0900
lorazepam 1 mg IV Once	Given 0910
lorazepam 1 mg IV Once	Given 0915
nitroglycerin 0.4 mg SL Once	Given 0925
aspirin 81 mg chewable PO Once	Given 0925
Inpatient Medications Prescription & Schedule	
iohexol 350 mg iodine/mL solution 0-250 mL Intra-catheter Once PRN Heart Catheterization	

Assessment & Plan

JJ is being admitted to the telemetry floor on the Internal Medicine Team for NSTEMI cardiac workup and comorbidity management. The cardiology consult team will be taking JJ for percutaneous coronary intervention (PCI) tomorrow morning at 0600. As a member of the Internal Medicine team please address pharmacotherapy recommendations, including all home medications, you may have to optimize this patient's care in the hospital and at discharge.

Team # _____

2022
ASHP Clinical Skills Competition SM
ASHP Local Answer Key

ASHP Clinical Skills Competition - Pharmacist's Care Plan – 2022 Answer Key

Evaluated for competition

Problem Identification and Prioritization with Pharmacist's Care Plan

A. List all health care problems that need to be addressed in this patient using the table below.
B. Prioritize the problems by indicating the appropriate number in the "Priority" column below:
   1 = Most urgent problem (Note: There can only be one most urgent problem)
   2 = Other problems that must be addressed immediately or during this clinical encounter; **OR**
   3 = Problems that can be addressed later (e.g. a week or more later)

Please note, there should be only a "1", "2", or "3" listed in the priority column, and the number "1" should only be used once. When identifying individual problems for the case use more specific terms when possible vs general disease conditions. Also, use actual rather than weight-based doses when providing recommendations for therapy.

Health Care Problem	Priority	Recommendations for Therapy	Therapeutic Goals & Monitoring Parameters

Acute Coronary Syndrome/ Non-ST Elevated Myocardial Infarction	1	• aspirin 243 mg – chewable tablet (for a total of 324 mg)
		• P2Y12 Inhibitor
		  ○ clopidogrel 600 mg PO once
		  OR
		  ○ ticagrelor 180 mg PO once
		  OR
		  ○ prasugrel 60 mg PO once
		• Anticoagulation until PCI
		  ○ unfractionated heparin 4000 units IV followed by initial 1000 units/hour IV infusion
		  OR
		  ○ enoxaparin 120 mg subcutaneous q12h
		  OR
		  ○ bivalirudin 12 mg IV loading dose followed by 30 mg/hour IV infusion
		  OR
		  ○ fondaparinux 2.5 mg SC daily + 10200 units unfractionated heparin IV immediately prior to PCI
		• nitroglycerin 0.4 mg q5 min PRN Chest pain/discomfort
		  ○ SL tablets
		  or
		  ○ Spray PRN
			• Therapeutic Goals
			  ○ Prevent progression of disease (MI and/or death)
			  ○ Relief of Ischemia (Chest Pain)
			• Monitoring
			  ○ aPTT or anti-Xa per local protocol for anticoagulation monitoring
			  ○ CBC daily (Hemoglobin, platelets)
			  ○ Signs/Symptoms of bleeding: hemoptysis, hematochezia, hematuria, prolonged bleeding, excessive or worsening bruising
			  ○ Telemetry/Cardiac monitoring while hospitalized
			  ○ Blood pressure (MAP goal >65)
			  ○ Chest pain

		<u>BONUS</u>
		• Addition of GPIIb/IIIa Inhibitor during PCI
		  ○ eptifibatide 21.6 mg IV followed by 240 mcg/min infusion; a second bolus should be administered 10 minutes after the first
		  ○ tirofiban 3000 mcg IV immediately before PCI followed by 18 mcg/min	

Hypokalemia and Hypomagnesemia	**2**	• Potassium Replacement
		  ○ Initial dose 40-100 mEq infused no faster than 10 mEq/hour
		  ○ Potassium chloride 40 mEq or potassium bicarbonate 50 mEq PO
		• Magnesium Replacement
		  ○ Initial dose 2-4 g IV
		  ○ IV rate 1 g/h
		• Medication Adjustments
		  ○ Hold furosemide
		  ○ Discontinue chlorthalidone
			• Therapeutic Goals
			  ○ Improve electrolyte levels to prevent cardiac conduction abnormalities
			• Monitoring
			  ○ Potassium levels every 4-6 hours until within range (3.5-5.3 mEq/L))
			  ○ Magnesium levels every 4-6 hours until within range (1.3-2.2 mg/dL)
			  ○ Telemetry/Cardiac monitoring for arrhythmias while hospitalized
			  ○ Daily or twice daily electrolyte monitoring while hospitalized and one week after discharge

Secondary Prevention of ACS following PCI	**2**	• aspirin 81-325 mg daily (indefinitely)
		  ○ All formulations fine (EC, chewable, IR)
		  ○ If choosing ticagrelor for P2Y12, dose cannot exceed 81 mg
		• P2Y12 Inhibitor (at least 12 months)
		  ○ clopidogrel 75 mg PO Daily
		  OR
		  ○ ticagrelor 90 mg PO BID
		  OR
		  ○ prasugrel 10 mg PO Daily
		  ○ NOTE: If switching P2Y12 Inhibitors from initial loading dose in problem #1 must re-load with new medication
		  ▪ BONUS: point if teams choose clopidogrel due to cheaper medication in low income patient
			• Therapeutic Goals
			  ○ Prevent subsequent cardiovascular events
			• Monitoring
			  ○ Blood pressure q4h or less while hospitalized, daily outpatient; <130/80 mmHg (see HTN section)
			  ○ Heart Rate q4h while hospitalized; 60-100 BPM
			  ○ Renal Function, 1 month
			  ○ Lipid Panel, 6 months
			  ○ Liver function test, 6 months
			  ○ Myopathies

		(must specifically mention cost as reason for switch)
		• Beta Blocker (lower starting dose if increasing losartan dose)
		  ○ carvedilol 3.125 mg or 6.25 mg PO BID
		  OR
		  ○ bisoprolol 2.5 or 5 mg PO Daily
		  OR
		  ○ metoprolol succinate 12.5 mg to 25 mg PO Daily
		• High intensity statin
		  ○ atorvastatin 40 mg PO Daily
		  OR
		  ○ atorvastatin 80 mg PO Daily
		  OR
		  ○ rosuvastatin 20 mg PO Daily
		  OR
		  ○ rosuvastatin 40 mg PO Daily
		• Angiotensin Receptor Blocker
		  ○ Continue losartan 25 mg or increase to 50 mg	

Type 2 Diabetes	**2**	• Inpatient glucose control
		  ○ Start sliding scale prandial insulin aspart/lispro/glulisine/regular subcutaneous "per protocol" or similar to
		  ▪ 70-150 mg/dL: 0 units
		  ▪ 151-200 mg/dL: 2 units
		  ▪ 201-250 mg/dL: 4 units
		  ▪ 251-300 mg/dL: 6 units
		  ▪ 301-350 mg/dL: 8 units
		  ▪ >351 mg/dL: 10 units
		  ○ Start long-acting basal insulin subcutaneous
		  ▪ insulin glargine 10-22 units
		  OR
		  ▪ insulin detemir 10-22 units
		  OR
		  ▪ insulin degludec 10-22 units
		• Outpatient glucose control
		  ○ metformin 500 mg PO BID
		  ○ SGLT2 inhibitor
			• Therapeutic Goals (Inpatient)
			  ○ Inpatient BG goal 140-180 mg/dL
			  ○ Avoidance of hypoglycemia
			• Therapeutic Goals (Outpatient)
			  ○ Outpatient BG goals: Fasting/Pre-prandial 80-130 mg/dL; Peak post-prandial <180 mg/dL; Bedtime 90-150 mg/dL
			  ○ A1c <7%
			  ○ Prevent micro- and macro-vascular changes
			• Monitoring (Inpatient)
			  ○ Blood glucose TID before meals to follow sliding scale
			  ○ s/s hypoglycemia (shakiness, irritability, confusion, tachycardia, hunger)
			  ○ Hyperglycemia and need for adjustment to sliding scale regimen

		▪ empagliflozin 10 mg PO Daily OR ▪ dapagliflozin 10 mg PO Daily OR ▪ canagliflozin 100 mg PO Daily OR ▪ ertugliflozin 5 mg PO Daily	• Monitoring (Outpatient) o Blood glucose AM fasting, pre-prandial, 1-2 hours post prandial, bedtime o HbA1C in 3 months o Renal Function every 6 months o GI side effects of metformin o B12 serum level yearly o s/s Urinary tract infection (urinary urgency, frequency, burning)
Hypertension	**2**	• Discontinue chlorthalidone • Continue losartan 25 mg PO Daily or increase to 50 mg PO Daily • Initiate beta blocker as above	• Therapeutic Goals o Blood Pressure < 130/80 mmHg o Prevent cardiovascular related complications and mortality o Prevent/delay further organ damage • Monitoring o Blood pressure at least q4h while inpatient, daily outpatient o Renal function 1 month after discharge and then every 6 months o Electrolytes (potassium) at least daily while inpatient, one week after discharge and then every 6 months o s/s hypotension and/or hypertension
Heart Failure with Preserved Ejection Fraction	**2**	• Continue/increase losartan dose as above • Add SGLT2 inhibitor as above • Restart furosemide 20 mg PO Daily or 10 mg PO Daily when potassium is within normal limit • +/- Add spironolactone 25 mg PO Daily o Do not subtract points if omitted- see judges notes	• Therapeutic Goals o Reduce symptoms of fluid overload o Decrease hospitalizations o Decrease cardiovascular mortality • Monitoring o Renal function 1 month after discharge and then every 6 months o Electrolytes (potassium) at least daily while inpatient, one week

			after discharge and then every 6 months ○ Blood Glucose as above ○ Peripheral Edema ○ Urine output
Venous Thromboembolism (VTE) Prophylaxis	**2**	• Following PCI ○ heparin 5000 units subcutaneous q8h OR ○ enoxaparin 40 mg subcutaneous q24h OR ○ fondaparinux 2.5 mg subcutaneous q24h OR ○ rivaroxaban 10 mg PO Daily	• Therapeutic Goals • Prevent DVT while inpatient • Monitoring • Signs/Symptoms of bleeding: hemoptysis, hematochezia, hematuria, prolonged bleeding, excessive or worsening bruising
Insomnia	**3**	• Discontinue diazepam • Promote sleep hygiene ○ Limit caffeine and other stimulants (cocaine) ○ Keep sleep environment quiet and dark ○ Exercise ○ Regular bedtime and wake time	• Therapeutic Goals ○ Improve quality and quantity of sleep • Monitoring ○ Benzodiazepine withdrawal symptoms ○ Duration and quality of sleep
Immunizations	**3**	• Zoster Vaccination ○ RZV (Shingrix) vaccine, 2nd dose in 2-6 months • Seasonal influenza vaccine when available, high dose • COVID-19 dose 3 (Booster #1)	• Therapeutic Goals ○ Reduce incidence of vaccine preventable diseases • Monitoring ○ Monitor for signs of anaphylaxis (throat swelling, difficulty breathing) for 15 minutes after injection ○ Monitor for local reaction at site of injection for 15 minutes after injection ○ Outpatient follow up for subsequent doses
Obesity	**3**	• Weight loss (BMI 36.2) ○ Healthy diet ▪ DASH diet ▪ Sodium restriction (<1500 mg/day)	• Therapeutic Goals ○ Healthy lifestyle • Monitoring ○ Weight loss

		○ Exercise ▪ Cardiac Rehabilitation ▪ 90-150 minutes/week	○ Diet adherence goals ○ Exercise
Cocaine Use Disorder	**3**	• Counsel on cessation of cocaine ○ Provide resources for cessation	• Therapeutic Goals ○ Healthy lifestyle • Monitoring ○ Discontinuation of cocaine use