Team #_____

2021
ASHP Clinical Skills Competition℠
NATIONAL 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 (Pharmacist's Patient Case and Pharmacist's Care Plan).

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

Team #_____

NATIONAL CASE

2021 ASHP CLINICAL SKILLS COMPETITION

Demographic and Administrative Information

Name: Chispa, John	**Patient ID:** 210512
Sex: Male	**Hospital:** Orlando River Hospital
Date of Birth: 6/18/1958	**Room & Bed:** ICU-12
Height: 5 ft 11in / **Weight:** 234 lbs / **Race:** Undisclosed	**Physician:** Dr. Tanisha Freeman
Prescription Coverage Insurance: PPO-high deductible	**Religion:** Not reported
Copay: $15/$25/$50	**Pharmacy:** Caiman Pharmacy
Annual Income: $65,500	

Chief Complaint

EMS pre-alerts the Primary Stroke Center they are arriving with a patient with facial droop and slurred speech and his last known well time (LKWT) is 1 hour 15 minutes before arrival in the emergency department .

History of Present Illness

Mr. Chispa was at work 12/4/21 11am when he began experiencing symptoms typical of his migraine history. He told his coworker he was going to take his migraine medicine and an early break. The coworker went to the break room to check on him at 1145. He found the patient was not feeling better; he was experiencing facial droop and he slurred his words when trying to explain how he felt. The coworker called 911. The patient arrives to the Primary Stroke Center via EMS at 1215.

A code stroke is called immediately, and the stroke team is assembled upon patient arrival to the Primary Stroke Center's Emergency Department.

Stroke Evaluation Timeline and Imaging

Interval: Baseline	**Time to evaluation and NIHSS:** 1220
Time last known well: 1100	**POC glucose in the ED**: 160mg/dL at 1222
Time of onset: 1100	**Time of CT head:** 1225, read at 1238

NIH Stroke Scale (NIHSS)

Person Administering Scale: Neurologist, on site

	Category/Instructions	Patient Score/Description of Response
1a	Level of consciousness:	0=alert; keenly responsive
1b.	LOC questions:	0=Performs both tasks correctly
1c.	LOC commands:	1=Performs one task correctly
2.	Best Gaze:	1=Partial gaze palsy
3.	Visual:	0=No visual loss
4.	Facial Palsy:	2=Partial paralysis (total or near total paralysis of the lower face)
5a.	Motor left arm:	0=No drift, limb holds 90 (or 45) degrees for full 10 seconds
5b.	Motor right arm:	0=No drift, limb holds 90 (or 45) degrees for full 10 seconds
6a.	motor left leg:	0=No drift, limb holds 90 (or 45) degrees for full 10 seconds
6b	Motor right leg:	0=No drift, limb holds 90 (or 45) degrees for full 10 seconds
7.	Limb Ataxia:	0=Absent
8.	Sensory:	0=Normal; no sensory loss
9.	Best Language:	1 = Mild to moderate aphasia (this examiner feels it is at least moderate)
10.	Dysarthria:	1 = Mild to moderate dysarthria
11.	Extinction and Inattention:	1=Visual, tactile, auditory, spatial or personal inattention or extinction to bilateral simultaneous stimulation in one of the sensory modalities
	Total:	**7**

CT/CTA head/neck with and without contrast 12/4/2021 12:25pm (read at 12:38pm)

1. Head CT negative for intracranial hemorrhage.
2. Large vessel occlusion is ruled out by head CTA.
3. CTA neck demonstrating clinically insignificant bilateral calcific stenoses at the internal carotid artery origins.

Past Medical History

Hypertension – October 2021
Migraine – 2010
Diabetes, type 2 – 2013
Gastrointestinal bleed due to gastric ulcer – Resolved 2008
Obesity

Out-patient Medication List (obtained from prescription claims database service)	**Medication History (obtained from EMS documents and interview via telephone with spouse)**		
	Duration Start–Stop Dates	**Prescriber**	**Pharmacy**
Metformin XL 1000 mg PO daily	Last dose unknown	Dr. Freeman	Caiman Pharmacy
Naratriptan 1 mg PO prn migraine, may repeat in 4 hours	• Last dose ~11AM per EMS report of on-scene co-worker statements • Migraine frequency has declined to 3 to 4 per year and is managed by naratriptan	Dr. Freeman	Caiman Pharmacy
Blood glucose testing strips and lancets used as needed		Dr. Freeman	Caiman Pharmacy
Lisinopril/hydrochlorothiazide 10 mg/12.5 mg PO daily	Spouse states this is a new prescription and he started taking this approximately 6 weeks ago	Dr. Freeman	Caiman Pharmacy
Over the Counter / Herbal			
Upon query, spouse denies that he takes any other prescription, over the counter or natural/herbal remedies.			

Allergies/Intolerances

Aspirin – GI bleed due to excessive consumption for migraines. The gastric ulcer was treated with a proton pump inhibitor and resolved, 2008
Strawberries – food intolerance
Egg – hives

Surgical History

Endoscopy – February 2008 (gastric ulcer; *H. pylori* negative); May 2008 (normal, gastric ulcer resolved)
Colonoscopy – May 2008 and August 2018 (normal)
Vasectomy -- 1993
Tonsillectomy -- 1965

Family History

Grandmother suffered a large stroke (type unknown) at age 77, deceased age 81
Father is still alive and has COPD
Mother passed away due to cancer

Social History

Alcohol, occasionally 1-2 drinks less than 3 to 4 times a month
Cigarettes, quit 1988; 5 pack-year history
Cigar smoking, occasionally
Recreational drugs, denies

Immunization History
Influenza vaccine: Flucelvax Quadrivalent on 10/1/21
Pneumococcal vaccine: Pneumovax 23 in 2013, Prevnar 13 on 10/1/21
Zoster vaccine: Shingrix on 10/1/21
Tdap vaccine: Adacel in 2019 when granddaughter was born
COVID-19 vaccine: Pfizer-BioNTech; 3/4/21 and 3/25/21

Review of Systems
Unable to obtain due to aphasia
He does minimally shake his head 'no' to questions about chest pain, shortness of breath, or palpitations

Physical Exam
General: well nourished, well developed, obese. Alert, cooperative, no apparent distress, appears stated age
Head: normocephalic, without obvious abnormality
Eyes: conjunctivae/corneas clear
Neck: supple, symmetrical. No carotid bruit
Lungs: clear to auscultation bilaterally, non-labored
CV: regular rhythm
Extremities: normal range of motion with no cyanosis
Skin: no skin lesions or lacerations

Flowsheet

	1230	1240	1250	1300	1310	1325	1340
Heart rate (beats per minute)	70	71	71		80		
Resp rate (breaths per minute)	23	26	21		26		
BP (cuff) (mmHg)	132/77	152/80	186/101	178/88	182/104		

Labs

	12/4/21 @ 1235	3/5/21 @ 0835
Metabolic Panel		
Na (mEq/L)	136	142
K (mEq/L)	3.8	4.1
Cl (mEq/L)	100	105
CO_2 (mEq/L)	24	29
BUN (mg/dL)	16	10
SCr (mg/dL)	1.1	0.92
Glucose (mg/dL)	167	139
Calcium (mg/dL)	8.5	8.5
Phosphorus (mg/dL)	3.4	
Magnesium (mg/dL)	2.1	
Albumin (g/dL)	3.7	
AST (IU/L)	19	
ALT (IU/L)	47	
Total bilirubin (mg/dL)	0.6	
CBC		
WBC (million/mm^3)	5.2	6.1
Hemoglobin (g/dL)	15.5	14.5
Hematocrit (%)	43.2	40.7
Platelets (K/mm^3)	170	162

Fasting Lipid Panel		
Total cholesterol (mg/dL)		207
LDL-C (mg/dL)		130
HDL (mg/dL)		30
Triglycerides (mg/dL)		236
Other		
Hemoglobin A1c (%)		8.7
aPTT (seconds)	24.5	
PT (seconds)	10.9	
INR	1.01	
TSH, ultrasensitive (mIU/L)		1.39
25 Hydroxy Vit D (ng/mL)		52
PSA (ng/mL)		1.3

Medication Admission Orders

Medication/Dose/Frequency/MAR instructions	**Start Date/Time**
Nicardipine infusion 20mg/200 mL in 0.9% NaCl Continuous IV infusion 5 mg per hour May increase 2.5 mg per hour if blood pressure exceeds 180 mmHg (systolic) or 105 mmHg (diastolic)	12/4/21 1252
Lisinopril/hydrochlorothiazide 10mg/12.5 mg PO daily	Begin after the nicardipine is discontinued
Acetaminophen 650 mg Q4hrs prn PO/PR prn temperature >99°F or pain or headache	12/4/21 1400
Insulin glargine 10 units SQ daily	12/4/21 2100
Insulin lispro sliding scale 3 times a day with meals	12/4/21 2100
Nicotine transdermal 21 mg Apply 1 patch daily	12/5/21 0900
Atorvastatin 10 mg PO daily	12/5/21 0900
Fondaparinux 2.5 mg SQ daily MAR note – verify the 24 hour follow up head CT Is negative prior to administration	12/5/21 2100
Metformin XL 1000 mg PO daily	12/5/21 0900
Naratriptan 1 mg PO prn migraine Maximum 1 dose per 24 hours	12/5/21 2100

Other Diagnostic Tests

Transthoracic echocardiogram (12/5/21): Ejection Fraction is 60%. Mild aortic regurgitation.
ECG (12/4/21): normal sinus rhythm

Neurologist Notes

Assessment: Acute ischemic stroke, no evidence of cardiac involvement or actionable carotid stenoses

Patient is an IV alteplase candidate (decision time 12:40PM; 100 minutes from last known well time). He is not a candidate for mechanical thrombectomy since the CTA head shows no proximal disease in the anterior circulation. I reviewed the inclusion and exclusion criteria with the patient and his spouse Mrs. Chispa (via telephone). I specifically explained the risks and benefits of IV alteplase. The spouse and patient agreed to proceed with IV alteplase.

Plan

Admit the patient to the Medical ICU for a minimum 24 hours during and status post thrombolysis at which time he may be transferred to the medical floor if his routine follow-up noncontrast head CT (performed 24 hours after thrombolysis) is negative for bleeding.

In addition, the following will be performed: telemetry monitoring, bedside swallow evaluation, transthoracic echocardiogram (TTE), PT/OT/SLP evaluate & treat and stroke education.
If at any time there is a change in neurological examination or a new onset headache perform a STAT head CT without contrast.

The neurologist delegated the responsibility of ED medication orders and admission medications orders to the medical resident. You are the ED pharmacist on shift and the medical resident is requesting input for the acute care of this patient and any other pharmacotherapy recommendations that need to be addressed.

2021

ASHP Clinical Skills Competition℠

NATIONAL CASE ANSWER KEY

ASHP Clinical Skills Competition - Pharmacist's Care Plan – 2021 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.*

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

Acute Ischemic Stroke	**1**	**Thrombolysis**
		• Thrombolysis
		  ○ Best answer: Alteplase 0.9mg/kg x 106.1 kg = 95.5mg, but the dose is actually 90mg (the maximum allowed dose)
		  ▪ Bolus dose is 0.1 (10%) x total dose (90mg) = 9mg administered IV push
		  ▪ Infusion dose is 0.9 (90%) x total dose (90mg) = 81mg administered over 60 minutes
		• BONUS: Administration information
		  ○ When the alteplase bag is empty, use a 100ml bag 0.9% sodium chloride (only) to flush the line @ same rate as alteplase infusion. (volume needs to be at least 25ml)
		• BONUS: revise acetaminophen order to remove headache as a prn indication
		  ○ Neurologist must be called if the patient has a headache
			Thrombolysis
			Therapeutic Goals
			Reperfusion resulting in restored neurologic function as evidenced by a reduced or zero NIHSS score or a modified Rankin score of less than 2.
			
			Monitoring parameters
			• Monitor for orolingual angioedema at same frequency as BP and neuro checks for 2 hours after bolus administration.
			• Monitor BP every 15 minutes for 2 hours from the start of alteplase therapy, then every 30 minutes for 6 hours, and then every hour for 16 hours.
			• Perform neuro checks every 15 minutes for 2 hours from the start of alteplase therapy, then every 30 minutes for 6 hours, and then every hour for 16 hours
			• Monitor for signs and symptoms of bleeding at same frequency as BP and neuro checks
			• Immediately contact neurologist or ICU intensivist if bleeding, headache, nausea, vomiting, BP > 180mmHg

			(systolic) or BP > 105mmHg occurs to be instructed to discontinue alteplase infusion and obtain stroke protocol head CT. • NIHSS performed daily • Repeat head CT (non-contrast) or MRI 24 hours after alteplase.
Venous Thromboembolism Prophylaxis	**2**	The patient should not receive any anticoagulants for a minimum of 24 hours post IV alteplase and not until the 24 hours repeat imaging (head CTA or MRI) confirm there is no intracranial bleeding • Discontinue fondaparinux • Initiate VTE prophylaxis with intermittent pneumatic compression device (PCD) 24 hours post alteplase OR • Choose only one (1) o Enoxaparin 40mg SC qday o Dalteparin 5,000 units SC qday o Heparin 5000 units SC bid or tid	**Venous thromboembolism prophylaxis** <u>Therapeutic goals</u> • Prevention of DVT and/or PE <u>Monitoring parameters</u> • For all choices o Signs and symptoms of DVT/PE q8-12 hours (based on nursing shift/handoff) • If heparin ordered o Hematocrit: baseline and every other day o Platelet count: baseline and every other day o Fecal occult blood with each bowel movement o Signs and symptoms of bleeding: continuous but minimally at each nursing encounter for vital signs • If LMWH ordered o Hematocrit: baseline and every other day o Platelet count: baseline and every other day o Fecal occult blood with each bowel movement o Signs and symptoms of bleeding: continuous but minimally at each nursing encounter for vital signs

			○ Serum creatinine: baseline and every other day • If PCDs ordered ○ Make sure patient is wearing them! ○ Skin integrity: q8-12 hours (based on nursing shift/handoff)
Antiplatelet Therapy, secondary stroke prophylaxis	**2**	Secondary stroke prevention (beyond the first 24 hours following alteplase administration) for the neurologist diagnosis of acute ischemic stroke, no evidence of cardiac involvement or actionable carotid stenoses • Timing: begin 24 hours after alteplase infusion and negative follow-up head CT • Any one (1) of the following are correct answers ○ Clopidogrel 75 mg PO daily ○ Aspirin 81 mg PO daily ○ Aggrenox (dipyridamole/aspirin) 1 PO twice daily ○	<u>Therapeutic goals</u> • Decrease risk of a second ischemic stroke or transient ischemic attack <u>Monitoring parameters</u> • Signs and symptoms of bleeding at least daily • Hematocrit every other day while hospitalized • CBC periodically as an outpatient when other laboratory parameters are checked, but not more frequently than every 6 months unless a problem is suspected
Reduce risk of gastrointestinal bleeding (GI Bleed Prophylaxis)		• Initiate gastrointestinal protection with a proton pump inhibitor in an elderly patient with a past medical history of GI bleed. Any one (1) of the following is correct: ○ Pantoprazole 40 mg PO daily ○ Lansoprazole 15 mg – 30 mg PO daily ○ Rabeprazole 20 mg PO daily 30 mg PO daily ○ Dexlansoprazole 30 mg PO daily	<u>Therapeutic goals</u> • Prevent gastrointestinal bleed <u>Monitoring parameters</u> • Fecal occult testing with each bowel movement while hospitalized • Instruct patient to report blood in stool or dark, tarry stools
Diabetes - type 2, secondary stroke prophylaxis	**2**	**ICU & stroke floor care** • Discontinue metformin XL while hospitalized • Continue current insulin orders OR • Total daily dose method insulin glargine (or other basal) 15 units qday with nutritional insulin lispro (or other rapid) select the '5 units scale' 3 times a day with meals	<u>Therapeutic Goals ICU & stroke floor care</u> Target glucose range of 140–180 mg/dL <u>Monitoring Parameters ICU & stroke floor care</u> Fasting/pre-prandial blood glucose

		Discharge to home
		• Discontinue in-patient insulin regimen when writing discharge orders and reconciling medications
		• Revise metformin XL to 1g bid upon discharge
		• Best answer: Initiate only 1 of the following GLP-1 receptor agonist upon discharge
		  ○ Dulaglutide 0.75 mg SQ weekly
		  ○ Semaglutide 0.25 mg SQ weekly
		  ○ Semaglutide 3 mg PO once daily ≥ 30 minutes before the 1st food, beverage or other medications of the day
		  ○ Exenatide extended release 2 mg SQ once weekly
		• Second choice answer: Initiate only 1 of the following GLP-1 receptor agonist upon discharge
		  ○ Liraglutide 0.6 mg SQ daily for one week, then 1.2 mg SQ daily
		  ○ Lixisenatide 10 mg SQ daily for 14 days, then 20 mg SQ once daily
		  ○ Exenatide immediate release 5 mcg SQ twice daily within 60 minutes prior to the 2 main meals of the day
		• Third choice answer: Initiate only 1 of the following SGLT2 inhibitors upon discharge
		  ○ Canagliflozin 100 mg PO once daily
		  ○ Dapagliflozin 5 mg PO once daily
		  ○ Empagliflozin 10 mg PO once daily
		  ○ Ertugliflozin 5 mg PO once daily
		  ○
			<u>Therapeutic Goals: Long Term Plan</u>
			• A1C ≤7%
			• Fasting/pre-prandial blood glucose: greater than 70 mg/dL but < 130 mg/dL
			• Peak post-prandial blood glucose: less than 180 mg/dL
			
			<u>Monitoring Parameters: Long Term Plan</u>
			• POC glucose 5-7 days a week, alternating the timing. For example, AM fasting 3 days a week and post-prandial (lunch or dinner) 3 times a week.
			• A1C in 3 months
			• Gastrointestinal disturbances with metformin and GLP-1RA (if selected)
			• Lifestyle modifications
			• Body weight weekly

Hypertension	**2**	• Continue IV nicardipine 5mg per hour IV, titrate up (or down) by 2.5mg per hour every 5–15 minutes, maximum 15mg per hour OR • Labetalol 10mg IV over 1–2 min, may repeat 1 time Stroke care/floor care after the patient has left the ICU • Bonus: Hold parameters for blood pressure below 120/80mmHg • Choose only one (1) ○ Continue lisinopril/hydrochlorothiazide 10 mg/12.5 mg PO daily	In-patient plan <u>Therapeutic Goals</u> Systolic BP > 120mmHg but < 180mmHg Diastolic BP < 105mmHg During the first 24 hours • Blood pressure: less than 140/90 mmHg or less than 130/80 mmHg • BONUS: but not less than 120/80 mmHg <u>Monitoring Parameters</u> (if ACEi/ARB/diuretic)

		○ Discontinue lisinopril/hydrochlorothiazide and begin lisinopril 5 mg or 10 mg PO daily ○ Discontinue lisinopril/hydrochlorothiazide and begin hydrochlorothiazide 12.5 mg or 25 mg PO daily ○ Initiate once daily PO ACE inhibitor other than lisinopril ▪ Benazepril 10 mg, ramipril 2.5 mg, fosinopril 10 mg, moexipril 7.5 mg, perindopril 4 mg, quinapril 10 mg, trandolapril 1 mg ▪ Not captopril or enalapril (frequency) ○ Initiate once daily PO thiazide diuretic other than hydrochlorothiazide ▪ Chlorthalidone 12.5 mg, indapamide 1.25 mg ○ Initiate once daily PO ARB ▪ Candesartan 8 mg, irbesartan 150 mg, losartan 25 mg, olmesartan 20 mg, telmisartan 20 mg, valsartan 80 mg, azilsartan 40 mg ○ Initiate once daily PO nondihydropyridine calcium channel blocker ▪ Amlodipine 5 mg, felodipine 2.5 mg, nisoldipine 17 mg nifedipine XL 30 mg ▪ Acceptable but not preferred: isradipine 2.5 mg PO twice daily	• Serum creatinine, blood urea nitrogen. And potassium: baseline and every other day unless the patient has out of range results, then daily • Signs and symptoms of hypotension: q4h after the acute post-thrombolysis monitoring (see problem 1) • Signs and symptoms of hypertension: q4h after the acute post-thrombolysis monitoring (see problem 1) • ACEi - Report cough to health care provider. Monitor q8-12 hours (based on nursing shift/handoff) (if calcium channel blocker) • lower extremity edema •
Hyperlipidemia, secondary stroke prophylaxis	**2**	• Discontinue atorvastatin 10 mg PO daily • Atorvastatin 80 mg PO daily OR • Rosuvastatin 20 mg or 40 mg PO daily • Dietary recommendation: Mediterranean or DASH	<u>Therapeutic Goals</u> • LDL-C < 70mg/dL <u>Monitoring parameters</u> • Fasting lipid panel in 4 weeks, but may be extended up to 12 weeks • Signs and symptoms of hepatic toxicity ○ dark urine, nausea +/- vomiting, abdominal pain, lack of appetite, fatigue or yellow skins/eyes ▪ If symptoms, perform liver panel with ALT, AST, bilirubin and alkaline phosphatase

			• Signs and symptoms of muscle toxicity – report muscle pain, tenderness or weakness if greater than mild and/or persistent ○ If symptoms, perform CPK lab test
Smoking Cessation	**2**	• Discontinue nicotine transdermal patches. Counsel patient to encourage smoking cessation	<u>Therapeutic Goals</u> • Abstinence from smoking if patient is willing <u>Monitoring Parameters</u> • Abstinence from smoking • Barriers to quitting

Migraine, acute treatment	**3**	• Discontinue naratropin
		• Best option (efficacy and safety)
		  ○ Lasmiditan 50 mg or 100 mg x1 dose; maximum 1 dose in 24 hours
		• Second choices (in no particular order)
		  ○ Rimegepant 75 mg x1 dose on or under the tongue; maximum 1 dose in 24 hours
		  ○ Ubrogepant 50 mg x1 dose; may repeat x1 after ≥ 2 hours; maximum 100 mg in 24 hours
		• Third choices
		  ○ Acetaminophen 1,000 mg q4-6 hours, maximum 4 g per 24 hours
		  ○ Celecoxib 400 mg x 1 dose; may repeat 200 mg in 8-12 hours if needed
		• Rescue regimen: any one of the following may be taken following a partial response to the 1st and 2nd choices
		  ○ Acetaminophen 1,000 mg q4-6 hours, maximum 4 g per 24 hours
		  ○ Celecoxib 400 mg x 1 dose; may repeat 200 mg in 8-12 hours if needed. Maximum one day per week.
		• BONUS: Counsel the patient that triptans are no longer migraine treatment options due to the stroke and he should not use any of the product he has at home
			<u>Therapeutic Goals</u>
			• Rapid abatement of the most problematic symptom resulting in restoration of the patient's ability to function
			<u>Monitoring parameters</u>
			• Migraine and headache quantity and quality
			• Call neurologist for any acute unexpected changes in quantity or quality

Obesity	**3**	• Counsel patient on lifestyle modifications – diet and exercise; Consider referring for out-patient nutritional counseling via healthcare office or local support or on-line support (i.e. Weight Watchers, YMCA, Silver Sneakers) • Initiate only one (1) of the following GLP-1 receptor agonist upon discharge (The answer should be the same agent the student selects for diabetes, if a GLP-1RA is selected.): ○ Dulaglutide 0.75 mg SQ weekly ○ Semaglutide 0.25 mg SQ weekly ○ Semaglutide 3 mg PO once daily ≥ 30 minutes before the 1st food, beverage or other medications of the day ○ Exenatide extended release 2 mg SQ once weekly ○ Liraglutide 0.6 mg SQ daily for one week, then 1.2 mg SQ daily ○ Lixisenatide 10 mg SQ daily for 14 days, then 20 mg SQ once daily ○ Exenatide immediate release 5 mcg SQ twice daily within 60 minutes prior to the 2 main meals of the day	Therapeutic Goals • 5% weight loss Monitoring Parameters • Body weight/BMI
Immunizations	**3**	○ Administer second dose of Shingrix (Zoster Vaccine Recombinant, Adjuvanted) IM x 1 within 6 months of the first dose to complete the series. May be performed as an out-patient.	Therapeutic Goals • Prevent herpes zoster (shingles) Monitoring parameters • Monitor for anaphylaxis and syncope for 15 minutes following injection • Injection site pain, erythema, swelling, fatigue, malaise, headache, or fever may occur. Oral acetaminophen may be administered as needed, no more than 1000mg four times (q4-6H) in 24 hours.