ASHP CLINICAL SKILLS COMPETITION
PHARMACIST'S PATIENT DATA BASE FORM

Demographic and Administrative Information

Name: AJ
Address: 101 Doctor Perry Road
Harpers Ferry, WV
Date of Birth: 4/12/1950
Height: 5'10"
Weight: 99 kg
Gender: Male

Patient ID: 5256525
Room & Bed: Outpatient Family Medicine Clinic
Physician: Johnson
Pharmacy: Save a Lot Pharmacy
Race: Caucasian

History of Present Illness

Patient presents to the family medicine clinic for a recheck on his blood pressure and a general health maintenance visit. Patient was in to see his doctor 2 weeks ago, at which time his BP was 168/98 mmHg. His blood pressure medications were adjusted by his physician (see current drug therapy) and he was asked to come back in two weeks for a BP recheck. His only complaint is that he feels very fatigued since his visit two weeks ago.

Vitals & Other Tests

	10/1/07 (today)	9/17/07	3/15/07
BP mmHg	156/94	168/98	150/90
HR	52	70	72
Temp F	98.8	97.5	98.2
Resp	16	16	14
Weight	99 kg	96 kg	94 kg
Arthritis Pain	2/10	2/10	2/10

Past Medical History

Hypertension (2001)
Dyslipidemia (2002)
Osteoarthritis – hip and knee (2000)
GERD (1998)
Obesity

Chem **(ALL FASTING)**

	9/17/07	3/15/07	9/20/06
Na mEq/L	135	139	136
K mEq/L	4.2	3.9	4.1
Cl mEq/L	105	99	110
CO2 mEq/L	25	23	27
Gluc mg/dL	122	120	118
BUN mg/dL	20	18	19
SCr mg/dL	0.9	0.7	0.7
Calcium mg/dL	9.2	9.8	9.0
Albumin g/dL	4.0	4.2	4.2
AST units/L	36	38	32
ALT units/L	35	36	40
Total Bili mg/dL	1.1	1.2	0.8
Dir Bili mg/dL	0.1	0.2	0.0

Family History

Father: deceased; stroke at age 65
Mother: alive (age 78); type 2 diabetes; hypertension
Sister: alive (age 55); prehypertension
Brother: alive (53); well

Social History

Tobacco: 1 pack per day for 30 years
ETOH: patient states that he stopped drinking alcohol when he stopped using drugs
Illicit Drugs: "I used to smoke weed 20 years ago, but not anymore"
Caffeine: 3 cans of regular soda daily
Occupation: self-employed painter
Status: divorced
Children: none
Physical Activity: only that activity he gets on the job (e.g. walking; climbing ladders to paint)
Diet: whatever is "cheap"; usually a burger and fries from McDonalds
Vaccinations: last tetanus shot at age 23

Fasting Lipids

	9/17/07	3/15/07	9/20/06
TC mg/dL	205	190	195
LDL mg/dL	140	135	130
Trigs mg/dL	142	145	140
HDL mg/dL	30	32	37

Physical Exam (10-1-07) – today

General statement: Obese white male who is alert, oriented and cooperative.

VITALS: BP 156/94; HR 52; T 98.8; RR 16
SKIN: Normal in appearance, texture, and temperature
HEENT: Pupils equally round, 4 mm, reactive to light and accommodation, sclera and conjunctivae normal. Funduscopic examination reveals arteriolar narrowing and AV nicking. Tympanic membranes and external auditory canals normal. Nasal mucosa normal. Oral pharynx is normal without erythema or exudate.
LUNGS: clear bilaterally with no wheezing, no ronchi, no rales
CARDIOVASCULAR: Regular rate and rhythm (RRR). Normal carotid pulsations without bruits. S1 and S2 normal with physiologic S2 split. No S3 or S4. 2/6 soft crescendo-decrescendo systolic murmur best heard over the left 3rd interspace.
ABDOMEN: Obese, nontender, nondistended; no abdominal bruits appreciated
GENITOURINARY: patient deferred
RECTAL: patient deferred
EXTREMITIES: No cyanosis, clubbing, or edema are noted. Peripheral pulses in the femoral, popliteal, anterior tibial, dorsalis pedis, brachial, and radial areas are 2+. Patient has a reduced range of motion in his hip.
NEUROLOGICAL: cranial nerves II – XII intact, deep tendon reflexes normal; No complaints of weakness, numbness, or incoordination.

ASHP CLINICAL SKILLS COMPETITION
PHARMACIST'S PATIENT DATA BASE FORM (Cont.)

Allergies/Intolerance's	**Prescription Coverage**
Penicillin (rash)	Insurance: Blue Cross
Codeine (stomach upset per patient)	Copay: $15 (generic); $30 (brand tier 1); $40 (brand tier 2); $50 (brand tier 3)
	Cost per month: $120-130 per month if all meds are purchased
	Annual Income: Approximately $25,000 per year

Current Drug Therapy

Drug Name/Dose/Strength/Route	Prescribed Schedule	Duration Start–Stop Dates	Compliance/Dosing Issue
1. metoprolol 25 mg	1 PO twice daily	5/07/03 – 9/17/07	
2. metoprolol 50 mg	1 PO twice daily	9/17/07 – present	
3. HCTZ 25 mg	1 PO daily	10/05/01 - present	
4. atorvastatin 10 mg	1 PO daily	5/20/02 - present	Patient has not purchased or taken for past three months due to high price co-pay ($50/month)
5. esomeprazole 40 mg	1 PO daily	1998 – present	Patient purchases this PRN when he can afford it ($50/month)
6. acetaminophen 500 mg	2 PO three times daily	2001 - present	
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			

Medication History

Metoprolol was increased from 25 mg bid to 50 mg bid at patient's visit 2 weeks ago (on 9/17/07) when his BP was 168/98. He has taken both esomeprazole and atorvastatin at the stated dose since initiation, although the patient states that some months, he cannot afford to buy them due to his high co-pay amounts. Prior to the dosing schedule listed above, the patient used acetaminophen PRN for his arthritis pain. He was advised to begin this above listed dosing schedule when he consistently was having pain rated 6 out of 10.

Evaluated for competition

ASHP Clinical Skills Competition - Pharmacist's Care Plan

Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

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	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Hypertension	**1**	• BP <130/80 • Reduction in CV and renal morbidity and mortality	• Continue HCTZ **AND** • Decrease metoprolol back to 25 mg twice daily (b/c HR is 52) **OR** taper it until discontinued completely **AND** • Institute diet and exercise modifications per JNC7 guidelines (see below)	• BP<140/90 (JNC7) q2-4wks • BP<130/80 q2-4wks **(AHA – 1 bonus point if students know new AHA goal)** • HR 60-100 q2-4wks • K 3.5-5.5 q 3 months • SCr 0.6-1.2 q 3months • Cough (if ACEI is chosen for drug therapy) • Fatigue/SOB if beta-blocker is continued

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

Table 5. Lifestyle modifications to manage hypertension[*†]

Modification	Recommendation	Approximate SBP Reduction (Range)
Weight reduction	Maintain normal body weight (body mass index 18.5–24.9 kg/m^2).	5–20 mmHg/10 kg weight loss[33,34]
Adopt DASH eating plan	Consume a diet rich in fruits, vegetables, and lowfat dairy products with a reduced content of saturated and total fat.	8–14 mmHg[35,36]
Dietary sodium reduction	Reduce dietary sodium intake to no more than 100 mmol per day (2.4 g sodium or 6 g sodium chloride).	2–8 mmHg[35–37]
Physical activity	Engage in regular aerobic physical activity such as brisk walking (at least 30 min per day, most days of the week).	4–9 mmHg[38,39]
Moderation of alcohol consumption	Limit consumption to no more than 2 drinks (1 oz or 30 mL ethanol; e.g., 24 oz beer, 10 oz wine, or 3 oz 80-proof whiskey) per day in most men and to no more than 1 drink per day in women and lighter weight persons.	2–4 mmHg[39]

DASH, Dietary Approaches to Stop Hypertension.

* For overall cardiovascular risk reduction, stop smoking.

† The effects of implementing these modifications are dose and time dependent, and could be greater for some individuals.

AND any <u>ONE</u> drug from <u>EITHER</u> the ACEI or CCB list

- Add a generic ACE Inhibitor and titrate to BP goal
  - benazepril 10-40 mg/day
  - captopril 25-100 mg/day
  - enalapril 5-40 mg/day
  - fosinopril 10-40 mg/day
  - lisinorpil 10-40 mg/day
  - moexipril 7.5-30 mg/day
  - quinapril 10-80 mg/day
  - trandolapril 1-4 mg/day
- Add a generic CCB and titrate to BP goal
  - amlodipine 2.5-10 mg/day
  - felodipine 2.5-20 mg/day
  - isradipine 2.5-10 mg/day
  - nicardipine SR 60-120 mg/day
  - nifedipine LA 30-60 mg/day

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Dyslipidemia	**2**	• ↓ CHD risk • Prevent coronary events and stroke • LDL <100 (based on Framingham) [30% reduction from 140 where he is now] • Trigs <150 • HDL >40 • TC <200	• D/C atorvastatin (due to cost) and initiate either: o lovastatin 20 mg/day o pravastatin 40-80 mg/day o simvastatin 20 mg/day **AND** • Initiate diet and exercise modifications per ATP III guidelines (e.g. ↓ intake of saturated fats (McDonalds), ↑ fiber intake, weight reduction, ↑ physical activity)	• Complete fasting lipid panel q6-12 wks • ALT/AST/Tbili q6-12 wks • Muscle pain/weakness/ rhabdomyolysis at each visit • CPK if muscle pain/weakness • LDL <100 • Trigs <150 • HDL >40 • TC <200

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

Tobacco Use	**2**	• Stop smoking
		• Improve cardiovascular health
		• Prevent MI
			• Smoking cessation counseling
			• Nonpharmacologic therapy
			  o Stages of change to assess willingness to quit
			  ▪ Precontemplation
			  ▪ Contemplation
			  ▪ Preparation
			  ▪ Action
			  ▪ Maintenance
			  o Brief physician/practitioner advice
			  o Telephone counseling
			  o Self help materials
			• Pharmacologic therapy (choose one or dual therapy if bupropion is one of agents selected)
			  o Bupropion SR 150 mg q morning for 3 days then 150 bid (duration: 7-12 weeks maintenance up to 6 months)
			  o Nicotine Gum 2-4 mg (up to 24 pieces/day) (duration: up to 12 weeks)
			  o Nicotine inhaler 6-16 cartridges/day (duration up to 6 months)
			  o Nicotine nasal spray 8-40 doses/day (duration: 3-6 months)
			  o Nicotine patch step down therapy – 21 mg/day for 4 weeks, then 14mg/day for 2 weeks then 7 mg/day for 2 weeks
			  o Varenicline (Chantix) 0.5 mg daily x 3 days, then 0.5 mg twice daily days 4-7, then 1 mg twice daily for weeks 2-12
				• Smoking cessation
				• Decrease in # of number of cigarettes per day until cessation is achieved
				<u>AE of drugs</u>
				• Bupropion (tachycardia, HA, insomnia, dizziness)
				• Nicotine spray/inhaler (HA, mouth/throat irritation, cough, rhinitis)
				• Nicotine patch (application site reaction, rash)
				• Varenicline (nausea, sleep disturbances)

<table>
<tr><th>Health Care Problem</th><th>Priority</th><th>Therapeutic Goals</th><th>Recommendations for Therapy</th><th>Monitoring Parameters and Endpoints</th></tr>
<tr>
<td>Obesity</td>
<td>2</td>
<td>

Reduce cardio-vascular morbidity and mortality
Weight loss (lose at least 10% of patients total body weight)
Improve patients current disease states (HTN, Dys-lipidemia, elevated blood glucose)
Prevent/delay other chronic disease states secondary to obesity (CVD, type 2 DM)

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DIET

Low-Calorie Step I Diet
<table>
<tr><th>Nutrient</th><th>Recommended Intake</th></tr>
<tr><td>Calories[1]</td><td>Approximately 500 to 1,000 kcal/day reduction from usual intake</td></tr>
<tr><td>Total fat[2]</td><td>30 percent or less of total calories</td></tr>
<tr><td>Saturated fatty acids[3]</td><td>8 to 10 percent of total calories</td></tr>
<tr><td>Monounsaturated fatty acids</td><td>Up to 15 percent of total calories</td></tr>
<tr><td>Polyunsaturated fatty acids</td><td>Up to 10 percent of total calories</td></tr>
<tr><td>Cholesterol[3]</td><td><300 mg/day</td></tr>
<tr><td>Protein[4]</td><td>Approximately 15 percent of total calories</td></tr>
<tr><td>Carbohydrate[5]</td><td>55 percent or more of total calories</td></tr>
<tr><td>Sodium Chloride</td><td>No more than 100 mmol/day (approximately 2.4 g of sodium or approximately 6 g of sodium chloride)</td></tr>
<tr><td>Calcium[6]</td><td>1,000 to 1,500 mg/day</td></tr>
<tr><td>Fiber[5]</td><td>20 to 30 g/day</td></tr>
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PHYSICAL ACTIVITY

Increased physical activity
Goal of 30 minutes or more of moderate intensity physical activity on most, preferably all, days of the week

BEHAVIOR THERAPY

Stress management
Stimulus control
Social support
Rewards systems

PHARMACOTHERAPY

Only used if lifestyle changes (diet, physical activity, behavior therapy) do not promote weight loss after 6 months
Only recommended in patients with a BMI≥30
Would not be considered in this patient until a full 6 months of diet, physical activity and behavior therapy have been tried.

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Weight at each visit
BMI at each visit
BP/Pulse at each visit
Waist circumference intermittently (e.g. Q3-6 months)
Caloric intake at each visit (e.g. Review food diaries (if used by patient) to make sure patients is decreasing caloric intake by 500 - 1000 cal/day

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Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Arthritis	2	• Control pain associated with osteoarthritis • Maintain mobility and functionality of hip/knee • Weight loss **(1 bonus point if student states loss of at least 10% of current body weight)** • Maintained QOL and ability to perform ADL's	• Continue APAP 1000mg three times daily • Recommend physical therapy for improved mobility and function	• LFT's in normal range • Pain continued at 2/10 or lower • Maintained QOL and ability to perform ADL's

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Vaccinations	3	• Prevent influenza virus infection • Prevent hospital admission and illness	• Influenza vaccine yearly • Patient currently due for tetanus vaccine • **(1 bonus point if student lists Adacel or Tdap)**	• Symptoms of respiratory illness (e.g., fever, chills, cough dyspnea) • Adverse reaction from injection (e.g., pain, swelling)
GERD	3	• Prevent mucosal damage in the esophagus • Prevent complications associated with GERD (e.g. Barrett's esophagus)	• D/C esomeprazole (Nexium) 40 mg QDay and initiate a lower cost generic PPI o omeprazole 20-40 mg/day **OR** • if patient's symptoms are relatively well controlled, a low cost H2 blocker (such as ranitidine or famotidine, which can both be purchased for $4/month via low cost generic drug program) could also be initiated on a trial basis. o famotidine 20 mg twice daily o ranitidine 150-300 mg/day o nizatidine 150 mg twice daily **AND** • Institute lifestyle modifications to treat GERD, including elevation of the head of the bed, ↓ fat intake, cessation of smoking, and avoiding recumbency for 3 hours PP	• Frequency of GERD symptoms (e.g. heartburn and regurgitation) • ↓/alleviate GERD symptoms

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Health Maintenance (Colonoscopy, Prostate)	**3**	• Identify early cancers	• Baseline colon screening >50 years (see examples below. **One bonus point if the student lists one of the colon screening options below**) **American Cancer Society Colorectal Cancer Screening Guidelines** Beginning at age 50, men and women who are at **average risk** for developing colorectal cancer should have 1 of the 5 screening options below: ▪ a fecal occult blood test (FOBT)* or fecal immunochemical test (FIT)* every year**, OR ▪ flexible sigmoidoscopy every 5 years, OR ▪ an FOBT* or FIT* every year plus flexible sigmoidoscopy every 5 years**, OR (Of these first 3 options, the combination of FOBT or FIT every year plus flexible sigmoidoscopy every 5 years is preferable.) ▪ double-contrast barium enema every 5 years**, OR ▪ colonoscopy every 10 years *For FOBT or FIT, the take-home multiple sample method should be used. **Colonoscopy should be done if the FOBT or FIT shows blood in the stool, if sigmoidoscopy results show a polyp, or if double-contrast barium enema studies show anything abnormal. If possible, polyps should be removed during the colonoscopy. • Prostate and Rectal (digital rectal exam (DRE) with annual physical exam **(1 bonus point if student lists DRE)**	• Test results per physician