

Case Study

Juana Negron

Immunizations:	
Flu Shot	Yearly Influenza Vaccine is recommended for all patients (unless contraindicated, which it is not in this case.)
Tdap	If she has not had a booster within 10 years, she should receive one.
PPSV23	The CDC recommends this pneumonia vaccine for patients age 19-64 years of age who have chronic lung disease (such as asthma.) ¹

Screening Tests

Juana should receive the screening tests that are appropriate for all adult patients in addition to ones that apply to her particular family history, age, and social history.

General Screening: Depression, alcohol use, tobacco use, hypertension, obesity (take height and weight to calculate BMI and measure waist circumference), and risk for HIV infection.

Specific Tests	
Glucose (HbA1C)	² Between ages 40-70 and overweight/obese
Hepatitis C	³ Born between 1945-1965
Breast Cancer	Mammogram, patient is above 50 and has family history of breast cancer
Lipid Disorders	Patient has risk factors for coronary heart disease (smoker and obesity) and is above 45
Colon Cancer	Colonoscopy every 10 years, patient is over 50 and has family history of colon cancer.
Cervical Cancer	PAP smear alone every 3 years, or PAP + HPV every 5 years

¹ <https://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf>

² <https://www.aafp.org/afp/2016/0115/p103.html>

³ <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/hepatitis-c-screening>

Health Promotion/Disease Prevention Concerns

Injury Prevention

Talk with the patient about their current methods for preventing injury in the following circumstances:

1. Traffic safety
2. Fall prevention
3. Burn prevention
4. Choking prevention
5. Safe sleep environment
6. Water safety/drowning prevention
7. Poisoning prevention
8. Firearm safety (if applicable)

Diet

- Please identify any relevant dietary issues for this patient

Juana has a history of dieting without successful weight loss and states that she does not have enough will power to maintain weight loss long term (low self-efficacy). The food she eats now are typical Puerto Rican dishes which can often be high in fat, sugar, and salt.

- While thinking about diet, consider any specific health issues this patient has and how diet should be modified to address them (you may have to look some up since you haven't studied them yet)

Juana has a history of borderline hypertension, so sodium intake should be limited. Sodium causes the body to retain fluid which causes blood pressure to rise, while a low sodium diet can help lower blood pressure.⁴ The DASH diet (Dietary Approaches to Stop Hypertension) has been specifically studied for its effects in lowering blood pressure. It encourages patients to eat vegetables, whole grains, fruits, fat-free or low-fat dairy products, fish, poultry, beans, and vegetable oil. It also recommends limiting sugary drinks and snacks, and saturated fat, full-fat dairy, and tropical oils.⁵

She also has asthma, which can be exacerbated by allergy triggering foods in certain people. If Juana notes that she has any specific food sensitivities that cause her symptoms to increase, she should try to stay away from those foods. In addition, she should eat more fruits and vegetables that contain antioxidants like beta carotene, vitamin C, and vitamin E, because they may aid in reducing respiratory tract inflammation caused by free radicals.⁶ Cutting down on foods that increase inflammation can also help reduce her symptoms of arthritis. Foods that include Omega-3 fatty acids such as salmon and cold-water fish are being studied for their effects in this area.⁷

⁴ https://www.cdc.gov/salt/research_reviews/sodium_potassium_blood_pressure.htm

⁵ <https://www.nhlbi.nih.gov/health-topics/dash-eating-plan>

⁶ <https://www.mayoclinic.org/diseases-conditions/asthma/expert-answers/asthma-diet/faq-20058105>

⁷ <https://www.usbji.org/programs/public-education-programs/arthritis-experts/tips-healthy-diet-and-arthritis>

Because Juana is obese, with a BMI of 30.9, she should work on cutting down her daily calorie intake. To still feel satisfied after meals, Juana should eat larger amounts of low-energy-dense food and fewer high calorie foods.⁸

In general, eating a diet with less saturated fat, trans-fat, red meat, dairy, and processed carbohydrates with proper portion control will help improve her blood pressure levels, asthma, and arthritis because they all contribute to weight gain which increases the stress on the body and therefore increases inflammation. By replacing those foods with unsaturated fat/oil, more whole grains, vegetables and fruit, fish, and non-dairy products she can improve her overall wellness.

- Based on your assessment, outline a plan to address any dietary modifications you think are indicated for this patient

Juana should begin with making incremental changes to her eating habits so she can build up her self confidence in her ability to stick to a diet while improving her health. Because she admits to cooking most of her meals at home, she has increased control over the ingredients she uses and can therefore modify her recipes to include healthier choices that align with her goals of losing weight, lowering blood pressure, and improving the symptoms of her arthritis and asthma.

Breakfast

Juana can start with a bowl of whole-grain cereal in low-fat milk with sliced oranges or apples as a side dish. Or she could have a hard-boiled egg, non-fat yogurt sweetened with raspberries, blueberries and cinnamon and a cup of low-fat milk. If she is still hungry after the meal, she can add as many fruits and vegetables as she would like. If she wants to have coffee with her breakfast, she can start by cutting down to one less cup a week or substitute for decaf coffee twice a week.

Lunch

Tuna salad with whole grain crackers or a whole-wheat roll with a table spoon of peanut butter and a side of sliced cucumbers and peppers can be a lunch option. Chickpeas and peas are also filling and tasty additions. Juana can modify a typical Puerto Rican dish or rice and beans, *arroz con habichuelas*, to include brown rice instead of white or yellow rice and use less oil in the cooking process than usual. Juana should make sure to be drinking water with each meal to keep hydrated and help herself feel full.

Dinner

Although a typical Puerto Rican dinner would include fried pork, sausage or fritters, Juana should try to limit her intake of these high fat foods, and instead supplement with a healthier source of protein such as grilled chicken breast, cod, or any other cold-water fish baked with zucchini, mushrooms, or other vegetables. Okra, chayote squash, eggplant and peppers can be cooked separately or in a dish together. She could cook plantains, but instead of frying them (*tostones* or *monfogo*) she could try them boiled or baked. Instead of seasoning with salt, she could use *sofrito*,

⁸ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4105579/>

a mix of chopped tomatoes, peppers, onions, garlic and cilantro, as a base for many of her dishes to add flavor.⁹

Snack: Filling up on vegetables and tropical fruit native to Puerto Rico can be a great way to add traditional foods to her meals, or as a snack between meals. Mango, papaya, pineapple, guava, tamarind and passion fruit are some of the options. Or she could snack on a premeasured amount of almonds, other nuts, salt-free pretzels, or a banana.

- Exercise
 - Determine whether this patient is likely to be getting adequate exercise as per current guidelines

Juana does not report any regular exercise activities outside of her job and walking her dogs approximately two blocks three times a day. The guidelines for physical activity are 150 minutes of moderately intense aerobic exercise, or 75 minutes of vigorously intense exercise per week. In addition, muscle strengthening exercises two or more times a week are recommended.¹⁰ Therefore, Juana's activity does not meet the amount of exercise outlined in the current guidelines.

- If the patient is not meeting current guidelines, please suggest a plan to meet them that is specific to this patient's goals and concerns

The patient's specific goals may include weight loss, because she is obese with a BMI of 30.9, and lowering her borderline high blood pressure. Her concerns that may make exercise more difficult include medication-controlled asthma and arthritis in both hands. In addition, she has trouble sleeping and increased stress due to familial factors. Her exercise plan will be modified to fit with her specific needs and goals. Juana may want to start with taking a walk twice a week and increasing the pace and distance of the walk as she gets more comfortable with it, building up to a brisk walk four times a week. She can have her dogs join in for motivation, or if her dogs are small and cannot handle increased exercise, offer to walk a neighbor's dog. This would help her commit to the plan because someone is relying on her to walk their dog, so it is harder to get out of it or push it off.

Low-impact activities such as swimming, stationary bike, or elliptical use starting once a week for a half hour and increasing to longer can also be beneficial and are recommended for those with asthma and arthritis.¹¹ Weekly or twice a week team activities such as baseball, doubles tennis, or a beginners dance class can help with motivation because of their social environment and they generally require short bursts of energy which is less likely to trigger asthma than long, intense exercises. Exercise can also help reduce her anxiety and boost her short-term alertness and mood.¹² Although exercise alone does not significantly contribute to weight loss, coupled with calorie reduction it can be an important part of a weight loss plan. It also will help her with excess skin

⁹ <https://www.eatright.org/food/planning-and-prep/snack-and-meal-ideas/puerto-rican-favorites-made-healthy>

¹⁰ <https://www.cdc.gov/physicalactivity/resources/recommendations.html>

¹¹ <https://www.cdc.gov/arthritis/basics/physical-activity-overview.html>

¹² <https://adaa.org/living-with-anxiety/managing-anxiety/exercise-stress-and-anxiety>

after weight loss because she will be building muscle to replace the space that was occupied by fat.

Juana's maximum heart rate is $220-52=167$ so her target heart rate at moderate intensity exercise is 50-70 percent of that, which is between 84 and 118. Before teaching Juana how to monitor her heart rate and what her target should be, I would first discuss a basic exercise plan and ask her opinion and feelings regarding my proposal. I would then modify it to address any concerns she brings up and then have her agree, or "buy in" to trying it. After a follow up a month later, or earlier if necessary, I would then assess which areas to increase and which are not working for her.

- Harm Reduction
 - If not addressed in the areas above, include any harm reduction suggestions/actions that are relevant to this patient

Harm Reduction

The general harm reduction topics should be discussed if applicable, including traffic safety initiatives such as having a designated driver when planning to drink alcohol, and discussing safe sex practices to prevent STI (Juana is divorced and may be wanting to begin dating again, this subject should be broached respectfully and with caution for her emotional state regarding this issue.) Specific concerns about reducing harm from her job with pest control can also be discussed. Reducing harm from her diet by having healthier food choices and an exercise plan have been discussed above and will be further explored in the brief intervention. Reducing harm from smoking will also be discussed further.

Brief Intervention

Smoking Cessation

Juana currently smokes half a pack a day and has a forty pack-year history. She admits to beginning smoking at twenty years old. She quit smoking for six months but relapsed due to increased anxiety and weight gain. She also has asthma that began when she worked at Ground Zero after 9/11. I will counsel Juana on a plan to reduce her smoking and explain the pharmacologic treatments that can aid her in quitting.

5 As of Smoking Cessation	Example
Ask Begin with asking if the patient currently uses any tobacco products. If yes, what products are used and how frequently. Then find out how ready the patient is to change her habits. Explore what caused the patient to feel that way, and what would increase her readiness to change.	"Do you currently smoke?" "Have you ever smoked?" "Are you ready to reduce your smoking?" "Can I help you reduce your smoking?" "On a scale from 1-10, with 1 being the least ready to change and 10 being the most, how ready are you to change your smoking habits?" "What would help you move up to a higher number?"
Advise	"I want to help you quit. Can we discuss the benefits of quitting and explore some options

<p>Begin with asking permission to give advice and offer information. Then explain the detrimental effects that smoking has on one's health and the benefits of quitting (short term and long term.) Explain the medication options and tools that can be beneficial to reducing or quitting smoking.</p>	<p>to help you?" "What do you know about the health risks caused by smoking?"</p>
<p>Assess Assess the patient's health status (including asthma or other respiratory disturbances.) Assess the level of addiction using the Heavy Smoker Index. Explore factors related to smoking such as hinderances or motivators to quitting.</p>	<p>"Have you tried to quit in the past? What caused you to relapse?" "How supportive is your family for your quitting?" "Is anxiety something that motivates your smoking?"</p>
<p>Agree Compromise with the patient on a date to quit and agree on which medications (if any) will be used, and when to start taking them. This part involves outlining a concrete plan of what changes to behavior will be implemented and how.</p>	<p>"Do you think the weekend would be a good time to initiate the plan?" "Do you want to use nicotine replacement gum or a patch?" "Can you tell me what you think of the plan I suggested?"</p>
<p>Arrange/Assist Prescribe the medication that was agreed upon, if it is OTC explain to the patient how to get it. Refer the patient to support groups and/or counseling. Arrange to have a follow up shortly after the patient initiates quitting.</p>	<p>"Can I give you a number for a counselor who other patients have found useful?" "Can you come back a week after you stopped using cigarettes for a follow up appointment?"</p>

Because Juana is a smoker who has asthma, she is in “double jeopardy,” meaning that an asthma flare-up can cause her to have increased mucus production and inflammation in her airway and on top of that chronic smoke inhalation also increases mucus production, scarring and narrowing of bronchi. This can cause her to have difficulty breathing.¹³ I would explain this to her during our conversation, so she understands how important it is for her health to limit/quit smoking.

For this reason, too, I believe the first issue that needs to be addressed is the smoking, and then her obesity.

The medication options that can help her quit smoking include three categories of treatments

¹³ <http://www.asthma.partners.org/NewFiles/BoFChapter30.html>

1. Nicotine replacement therapy that can be administered via over the counter gum, transdermal patch, lozenges or a combination of those, and prescription nasal spray or an inhaler. This will help reduce the patient's craving for nicotine.
2. Bupropion is a drug that is also used to treat depression, so it would be best for patients who suffer from depression and want to quit smoking.
3. Varenicline blocks the nicotine receptors and helps reduce the addictive and withdrawal effects of nicotine. It is generally taken for 12 weeks, starting a week before the quit date.

¹⁴

Obesity

Juana's BMI is 30.0 and her waist circumference is 40 inches, which puts her in the category of patients that need to be counseled regarding obesity. Her target weight loss should be approximately 10%-15% of her body weight over a year, which would be about 27 pounds for Juana. Because she had trouble keeping weight off in the past, we would discuss why that happened, and tools to make this attempt more successful. I would also explain to her that losing weight can help lower her borderline high blood pressure, which may be a goal or motivating factor for her.

5 As	
Ask Start with asking permission to discuss the patient's weight, because it is a sensitive subject for many people. Talk about her readiness to change, and what would help her feel more ready to change.	"Can we discuss your weight for now?" "On a scale from one to ten, how ready are you to change your eating habits?" "Would it be okay for me to help you change your eating habits?"
Assess Assess the health status of the patient, including her BMI, waist circumference, glucose levels and any other relevant blood work. Discuss with the patient the health complications that they may have from being overweight, and the barriers that are hindering the patient from losing weight, and any attempts at weight loss in the past and what went right/wrong.	"Can you walk me through your typical daily eating and exercise schedule?" "Do you have any concerns about your current weight, or any concerns about losing weight?" "Have you ever tried to diet in the past?"
Advise Ask the patient permission to give them information. Then explain the risks to the patient's health from being overweight, and the benefits that result from following a practical weight loss plan. Then outline your proposed diet and exercise plan, and any other	"Can I offer you information about lifestyle changes that can help you lose weight?" "What do you know about surgery for weight loss?" "What do you think the long-term effects of obesity are?"

¹⁴ <https://my.clevelandclinic.org/health/treatments/13394-medicines-to-help-quit-smoking/procedure-details>

treatment options such as medication or surgery. Explain that long term management is very important to maintain weight loss.	
Agree Work with the patient to agree on a proposed plan and modify it until it is acceptable to both you and the patient. Agree on a time to begin the lifestyle changes and clearly outline which changes should be implemented. The patient needs to “buy in” to the plan.	“Does the plan I advised work with your schedule and home situation?” “How do you feel about the changing your eating habits at this time?”
Arrange/Assist After you have decided on a plan, assist the patient in carrying it out. Suggest additional resources the patient can use to help with the weight loss, such as counseling or a support group. Arrange for a follow up once the plan has been implemented to see if it is working properly for the patient.	“Can I give you information about a support group for weight loss?” “Can you come back one month after you start the plan to follow up?” “Is there any additional assistance you need in beginning the lifestyle changes we agreed upon?”