



Assessing Risk, Negotiating for Behavior
Change, Respecting Culture

Problem-based Learning
For
Medical Students





U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES



National Institutes of Health



National Heart, Lung, and Blood Institute



The Office on Women's Health

Authors:

Carol Hodgson, Ph.D.
Associate Dean, Curriculum & Evaluation
Director, Educational Development Office
Associate Professor of Medicine
University of Colorado at Denver and Health Sciences Center
Denver, CO

Deborah Kamali, M.D.
Assistant Clinical Professor of Obstetrics and Gynecology
University of California, San Francisco School of Medicine
San Francisco, CA

***The Heart Truth* Professional Education Campaign Development Working Group**

Ramin Ahmadi, M.D., M.P.H.
President, Griffin Faculty Practice
Director, Internal Medicine Residency Program, Griffin Hospital
Derby, CT

R. Ann Abercrombie, M.L.S.
Outreach Librarian
United States Department of Health and Human Services, Office on Women's Health
Washington, D.C.

Delia Anderson, M.A.
Executive Director, Program for the Teaching and Assessment of Professional Skills
Tulane University School of Medicine
New Orleans, LA

Elizabeth A. Bisinov, M.D.
Assistant Professor of Medicine, Cardiology Section
University of Wisconsin
Madison, WI

Cheryl L. Bord, A.P.R.N., B.C.
Nurse Practitioner/Coordinator
Women's Heart Program
University of Michigan Health System
Plymouth, MI

Susan M. Clark, M.A.
Director, Division of Program Management
United States Department of Health and Human Services, Office on Women's Health
Rockville, MD

Walter J. Clark, M.D.
Medical Director
Northeast Ohio Neighborhood Health Services, Inc. Community Center of Excellence in
Women's Health
Assistant Clinical Professor of Medicine
Case Western Reserve School of Medicine
Cleveland, OH

Kate Cronin, M.P.H.
Research Program Manager
National Centers of Excellence Research Coordinating Center
University of Wisconsin Center for Women's Health Research

Melissa Cuppy, R.N.
Northeast Missouri Health Council Community Center of Excellence in Women's Health
Kirksville, MO

Michele David, M.D., M.B.A., M.P.H.
Director, Haitian Health Institute at Boston Medical Center
Women's Health Research Unit
National Center of Excellence in Women's Health
Boston University Medical Center
Boston, MA

Mary R. Dortenzo, M.S.N., N.P.-C
Program Coordinator: Women's Specialty Programs
Magee-Womens Hospital of the University of Pittsburgh Medical Center
Pittsburgh, PA

Pamela S. Douglas, M.D., F.A.C.C., F.A.S.E.
Ursula Geller Professor of Research in Cardiovascular Diseases
Chief, Division of Cardiovascular Medicine
Duke University Medical Center
Durham, NC

Kaiyti Duffy, M.P.H.
Senior Program Coordinator
St. Barnabas Community Center of Excellence in Women's Health
New York, NY

Claire S. Duvernoy, M.D.
Director, Women's Heart Program
Assistant Professor of Medicine
University of Michigan Health System
Veterans Affairs Medical Center Cardiology Section
Ann Arbor, MI

Karen Freund, M.D., M.P.H.
Professor of Medicine
Director, Boston University Center of Excellence in Women's Health
Boston University School of Medicine
Boston, MA

Geralde V. Gabeau, M.M.
Program Coordinator, Boston University Center of Excellence in Women's
Health
Boston University Medical Center
Boston, MA

Melissa Gilliam, M.D., M.P.H.
Assistant Professor of Obstetrics and Gynecology
University of Illinois, Chicago
Chicago, IL

Gina Gilliland, R.N.C., W.H.N.P.
Project Coordinator, Northeast Missouri Health Council Community Center of
Excellence in Women's Health
Kirksville, MO

Darlene Hardimon
Quality Improvement Coordinator
Northeast Ohio Neighborhood Health Services, Inc.
Cleveland, OH

Suzanne G. Haynes, Ph.D.
Senior Science Advisor
United States Department of Health and Human Services, Office on Women's Health
Washington, D.C.

Mandy Herleth
Northeast Missouri Health Council Community Center of Excellence in Women's Health
Kirksville, MO

Sharon Hillier, Ph.D.
Director, Magee-Women's Hospital National Center of Excellence in Women's Health
Professor of Obstetrics and Gynecology
University of Pittsburgh
Pittsburgh, PA

Dixie Horning
Executive Director, UCSF Women's Health Center
San Francisco, CA

Barbara F. James, M.P.H.
Senior Health Science Analyst
Director, National Community Centers of Excellence
in Women's Health Program
United States Department of Health and Human Services, Office on Women's Health
Rockville, MD

Mary Kennedy, D.O.
Medical Advisor, Women's Health Grants
Northeast Missouri Health Council Community Center of Excellence in Women's Health
Kirksville, MO

Anna L. Kindermann, J.D.
Public Health Analyst
United States Department of Health and Human Services, Office on Women's Health
Rockville, MD

Lacie Koppelman, M.S.P.H.
Public Health Advisor
United States Department of Health and Human Services, Office on Women's Health
Rockville, MD

Cathy J. Lazarus, M.D., F.A.C.P.
Professor of Medicine
Tulane University School of Medicine
New Orleans, LA

Jane A. Leopold, M.D.
Assistant Professor of Medicine
Harvard Medical School
Brigham and Women's Hospital
Division of Cardiovascular Medicine
Boston, MA

Susan M. Nappi, Program Director
National Community Center of Excellence in Women's Health at Griffin Hospital
Derby, CT

Terry Long
Communications Director
National Heart, Lung, and Blood Institute
National Institutes of Health
Bethesda, MD

Jeanette H. Magnus M.D., Ph.D.
Director, Tulane Xavier National Center of Excellence in Women's Health
Professor of Medicine
Tulane University School of Medicine
New Orleans, LA

Melissa McNeil, M.D.
Director of Professional Education, Magee-Womens Hospital National Center of
Excellence in Women's Health
Professor of Medicine
Pittsburgh, PA

Nancy Milliken, M.D.
Director, UCSF National Center of Excellence in Women's Health
Director, UCSF Women's Health Center
Associate Clinical Professor of Obstetrics, Gynecology & Reproductive Sciences
University of California, San Francisco
San Francisco, CA

Cindy S. Moskovic, M.S.W.
Director, Iris Cantor - UCLA Women's Health Education & Resource Center
David Geffen School of Medicine at UCLA
Los Angeles, CA

Eileen P. Newman, M.S., R.D.
Public Health Analyst
United States Department of Health and Human Services, Office on Women's Health
Rockville, MD

Ana E. Núñez, M.D.
Director, Drexel University National Center of Excellence in Women's Health
Associate Professor of Medicine
Drexel University College of Medicine
Philadelphia, PA

Michele Ondeck, R.N., M.Ed.
Clinical Research Coordinator, Magee-Womens Hospital
Assistant Director, Magee-Womens Hospital National Center of Excellence in Women's
Health
Pittsburgh, PA

Dhaval Patel
Medical Student
Tulane University School of Medicine
New Orleans, LA

Christina Albertin Petranek, M.P.H.
Evaluation Coordinator
National Community Center of Excellence in Women's Health at Griffin Hospital
Derby ,CT

Janet P. Pregler, M.D.
Director, UCLA National Center of Excellence in Women's Health
Director, Iris Cantor-UCLA Women's Health Center
Professor of Clinical Medicine
David Geffen School of Medicine at UCLA
Los Angeles, CA

Tara Rizzo, M.P.H.
Epidemiologist and Program Coordinator
National Community Center of Excellence in Women's Health at Griffin Hospital
Derby, CT

Candace Robertson, M.P.H.
Deputy Director, Drexel University National Center of Excellence in Women's Health
Drexel University College of Medicine
Philadelphia, PA

Kimberly D. Sanders
Program Director
Northeast Ohio Neighborhood Health Service, Inc. National Community Center of
Excellence in Women's Health
Cleveland, OH

Gloria Sarto, M.D., Ph.D.
Co-Director, University of Wisconsin Center for Women's Health Research
Professor of Obstetrics and Gynecology
University of Wisconsin School of Medicine
Madison, WI

Valerie Scardino, M.P.A.
NWHIC Program Manager
United States Department of Health and Human Services, Office on Women's Health
Washington, DC

Margaret R. Seaver, M.D., M.P.H.
Deputy Director, BU National Center of Excellence in Women's Health
Director, Women Veterans Health Center
Assistant Professor of Medicine
Boston University School of Medicine
Boston, MA

Kit Shelby
Standardized Patient Trainer
Program for the Teaching and Assessment of Professional Skills
Tulane University School of Medicine
New Orleans, LA

Bonnie J. Sherman, Ph.D.
Research Associate
Boston University National Center of Excellence in Women's Health
Boston University School of Medicine
Boston, MA

Marjorie Kagawa-Singer, Ph.D., M.N., R.N.
Director, Concurrent Program in Community Health Sciences and Asian American
Studies
Associate Professor
UCLA School of Public Health
Los Angeles, CA

Ann M. Taubenheim, Ph.D., M.S.N.
Coordinator, Women's Heart Health Education Initiative
Office of Prevention, Education, and Control
National Heart, Lung, and Blood Institute
Bethesda, MD

Justina A. Trott, M.D., F.A.C.P.
Director, Santa Fe National Community Center of Excellence in Women's Health
Director, Women's Health Services Family Care and Counseling Center
Clinical Professor of Medicine
University of New Mexico School of Medicine
Santa Fe, NM

Milta Vega-Cardona, M.S.A., C.S.A.C.
Project Manager
St. Barnabas National Community Center of Excellence in Women's Health
New York, NY

Karol E. Watson, M.D., Ph.D.
Co-director, UCLA Program in Preventive Cardiology
Assistant Professor of Medicine
David Geffen School of Medicine at UCLA
Los Angeles, CA

***The Heart Truth* Professional Education Program
Problem-based Learning for Medical Students**

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Introduction

The Heart Truth Professional Education Program Problem-based Learning for Medical Students

Educational Goals

For medical students:

- To recognize gender differences in the epidemiology, diagnosis and treatment of heart disease
- To recognize that heart disease is the leading cause of death in American women of all ethnicities

Targeted Learners

This problem-based learning case is for both beginner and advanced students. Sections within the case module can be selected based on the learner's stage of knowledge and the learner's placement within the institution's established curriculum.

Most instructors will find these materials work best if beginner students are encouraged to tackle issues related to basic knowledge of cardiovascular disease (CVD) such as:

- prevalence and incidence data, including racial, ethnic and gender differences
- risk factor identification, including racial, ethnic and gender differences in the prevalence and incidence of risk factors
- prevention strategies, focusing on lifestyle behavioral changes within the context of cultural diversity, ethnicity, race and gender differences

For the advanced learners, this case lends itself to learning issues related to clinical interventions for CVD, including:

- concepts of risk stratification and risk reduction strategies
- national guidelines for the prevention, treatment and diagnosis of CVD
- available resources for implementing guidelines, such as
 - resources for patients
 - tools to assist clinical decision making
- strategies to facilitate behavior changes in women
 - behavioral change theory
 - professional communication
 - cultural competency

Place in the Curriculum

This case and its accessory components are meant to supplement the users' established curriculum for cardiovascular disease. This case is designed to improve students' knowledge and skills about approaching prevention, diagnosis, and treatment of cardiovascular disease in women. Prior to case presentation to the students, it is recommended that the students have received a basic introduction to the anatomy, histology and physiology of the heart, as well as to the history and physical examination.

Additional Materials

Additional materials created for *The Heart Truth* Professional Education Program include a case developed and tested for nursing students, examination/ self study questions (appended to the nursing case), and a standardized patient case. Course chairs and others involved in curricular development are encouraged to review these additional materials, and to use and/ or adapt them for the medical school curriculum as appropriate.

Essential Knowledge, Skills, and Behaviors to be Demonstrated:

The beginning learner will be able to :

- Cite prevalence and incidence data of CVD, and identify racial and gender differences in CVD prevalence and incidence
- Identify known CVD risk factors in women
- Identify gender and racial differences in the relative importance of the CVD risk factors for women
- Define the concept of CVD risk stratification
- Identify risk reduction strategies, including those involving lifestyle behavioral changes
- Summarize the current state of knowledge of how menopause and hormone therapy affect a woman's risk for developing CVD
- Calculate BMI
- Identify common (typical) presentations of CVD and identify gender differences in presentation

The advanced learner will be able to :

- Identify evidence-based patient education resources to support primary and secondary prevention and treatment of heart disease
- Calculate a woman's 10-year risk for CVD events using the Framingham criteria
- Cite the "Five A's" for behavioral counseling in smoking cessation
- Describe the pathophysiology of stable and unstable coronary syndromes

- Recognize the range of common clinical presentations for stable and unstable coronary syndromes in women and contrast these with those of men
- Describe testing modalities for diagnosing coronary heart disease and explain differences in test sensitivity and specificity for common tests by gender
- List appropriate initial diagnostic tests (those usually performed in the emergency department) for a female patient presenting with possible acute coronary syndrome

Additional Knowledge, Skills and Attitudes for Students Using the Complementary Standardized Patient (SP) Case/Video:

The student will be able to:

- State what biases may lead to the failure to diagnose CVD in women
- Identify psychosocial factors that influence, interfere with or delay women seeking treatment and early evaluation for symptoms suggestive of CVD
- Recognize that gender-specific and culture-specific communication styles may impact the clinician-patient interaction
- Apply behavioral change theories and strategies to clinical situations
- Identify stage of change readiness for the standardized patient and understand how this impacts her ability to modify lifestyle habits and behaviors
- Identify the patient's barriers to change
- Develop a plan to manage barriers and to move the patient toward a higher stage of readiness

**The Case of Mrs. Montoya:
Problem-based Learning
Facilitator's Guide**

**PBL TUTOR GUIDE
NOT For Distribution To Students**

Case Overview: The Case of Mrs. Montoya

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students' knowledge and skills about approaching prevention, diagnosis, and treatment of cardiovascular disease in women. Prior to case presentation to the students, it is recommended that the students have received a basic introduction to the anatomy, histology, and physiology of the heart, as well as to the history and physical examination.

Essential knowledge, skills, and behaviors to be demonstrated:

The beginning learner will be able to :

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- Identify known CVD risk factors in women
- Identify gender and racial differences in the relative importance of CVD factors for women
- Define CVD risk stratification concepts
- Identify risk reduction strategies, including those involving lifestyle behavioral changes
- Summarize the current state of knowledge of how menopause and hormone therapy affect a woman's risk for developing CVD
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The student will be able to:

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- Apply behavioral change theories and strategies to clinical situations
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- Identify the patient's barriers to change
- Develop a plan to manage barriers and to move the patient toward a higher stage of readiness

Endings to the Case

This case can be used in your PBL small group using three different approaches. There are two different endings to the case. Either of these two endings can be used separately. However, the case is meant to incorporate either/or Ending One or Ending Two depending on the choices made by the students in the group.

Ending One

Ending One concludes when the patient, Mrs. Montoya, a 58 year-old Latina woman presents at the emergency department (ED) after a massive myocardial infarction (MI). The students do not appropriately identify or work-up the cardiac disease symptoms in the outpatient setting; therefore, Mrs. Montoya presents to the ED with an MI weeks after her visit.

Ending Two

Ending Two is completely different, based on the student's choices in regards to the differential diagnosis and plan of care. Mrs. Montoya undergoes a dobutamine stress tolerance test that reveals her cardiac disease and she subsequently undergoes a four-vessel coronary artery bypass graft surgery.

Case Flow

At the end of Session One, the students should have CVD on their differential diagnosis list for Mrs. Montoya. Other problems on the list might include depression, asthma, anemia, breast cancer, hypothyroidism, and diabetes.

When they return for Session Two, the students will need to decide a plan of care/management approach for Mrs. Montoya. Discussion about what lab tests might be beneficial and/or what testing/procedures might be indicated to further work-up Mrs. Montoya's complaints is necessary.

Test results will not be immediately available to the students. Instead, the tutor will give the students the test result/s only for the test the student's request, with a rationale given for each test ordered.

If the students request an ECG they will receive a copy of a normal ECG. If they request a stress test (any type), they will receive the results of a dobutamine stress tolerance test.

If the students request a stress test and can justify the test because of Mrs. Montoya's cardiac risk factors (family history, high BMI, elevated cholesterol despite medication, and hypertension) and dyspnea on exertion, then the tutor should proceed with Ending Two.

If the students do not request a stress test then the tutor should proceed with Ending One. This allows the students to see the consequences of missing the diagnosis. After reviewing Ending One, the facilitator should encourage students to discuss what might have occurred if her cardiac risk factors had been assessed properly.

Tip

It may be helpful to provide Ending One and Ending Two to the tutor using two different colored papers to make it easier to distribute the correct ending depending on the group's actions.

Session One -- Part One

Today as part of your internal medicine rotation, you are in the outpatient clinic. Your attending asks you to interview Mrs. Amparo Montoya, a 58 year-old Latina woman who is a returning patient to clinic. You pick up the chart and note that her last visit to clinic was over a year ago. You enter the room and ask what brings her to clinic today. She tells you that her close friend has been diagnosed with breast cancer and now she is worried too. "I can't feel a lump right now, but neither did she." She thinks her last mammogram was two or three years ago and that her first one was when she turned 50, with a follow-up about every two years. "I was supposed to go last year, but I didn't want my daughter to miss work. You see, I take care of my little grandson because my daughter and her husband both work and if I have to come to the doctor, my daughter has to stay home to take care of Robert. I want to help her, not be a burden to her. Today she took off a couple of hours so I could come in. I'm so worried, my friend had to have surgery and she's already started chemo. She's so tired. I get tired sometimes too. I think it's just because Robert is such a busy boy! He's two and he has lots of energy! But what if it's cancer? I take care of my family, I can't afford to be sick, too many people count on me."

Session One -- Part Two

You assure Mrs. Montoya that you will do a breast exam and refer her for a mammogram, but that you would like to ask a few questions first. You find that Mrs. Montoya does not have breast pain; she has not noticed any discharge from her nipples, any dimpling, or any other changes to her breasts. She doesn't usually do a monthly breast exam so she's not sure if she's had any breast lumps in the past or not. "I don't think anyone in my family has had breast cancer, not that I know of. My uncle had lung cancer, but he smoked a lot after he moved to this country. Otherwise, my family is pretty healthy now except both my parents have high blood pressure. My father had a heart attack about 15 years ago when he was 61. That's when they moved in with my sister in El Salvador. I worry about them all the time, but I'm sure my sister is taking good care of them. He had to have surgery for his heart back then, but he's doing ok now. My mom and brother have diabetes, but they're mostly ok too, they try to eat better, but it's hard. I try to cook the things the doctor said to make, but..." she shrugs. "My two younger sisters and my children are very healthy - no diabetes, no high blood pressure, no cancer. My husband takes medicine every day for high blood pressure too and he takes an aspirin for his heart. I worry he'll have a heart attack like my father; he works too hard."

When you ask how she's been otherwise, she tells you that she felt a bit more tired for the past few weeks. "Besides chasing after Robert all day, maybe it's because I don't sleep very well. I wake up at four or five in the morning and can't get back to sleep." She reports that although she never seems to get enough sleep, she still has energy to cook for her family, do the shopping, and keep up the house.

She has had no changes in her weight. She reports that her appetite is fair, but that she sometimes just doesn't feel like eating. You ask about her mood and she states she worries a lot about her family. Her daughter and son-in-law live nearby and she takes care of her grandson full-time. She notices mild shortness of breath when playing with him at the park, which she attributes to her asthma. She has a history of mild asthma since childhood and occasionally uses an albuterol inhaler. She has never taken steroids for her asthma. She reports that she never has shortness of breath while at rest and has never experienced any chest pain. She says that she does not have a cough, although her son-in-law smokes. Neither she nor her husband smoke and she only allows her son-in-law to smoke outdoors.

Session One -- Part Three

You mention to Mrs. Montoya that you noticed in her chart that she too has a history of hypertension as well as elevated cholesterol. "Yes, I'm just like the rest of my family. Sometimes I eat too well." You also find in her chart that Mrs. Montoya had a positive PPD test and normal chest x-ray when she immigrated to the United States from El Salvador over 30 years ago, but she says that she has never had tuberculosis. You continue your history and finally ask if she and her husband have sexual relations, she smiles, looks away and says "I'm too old for that."

You ask Mrs. Montoya to change into a gown and you go out to present to your attending physician.

Mrs. Montoya presents today concerned about breast cancer. She missed her last mammogram and is concerned today because a friend was recently diagnosed with breast cancer. Her last mammogram was approximately three years ago. She reports no breast pain, nipple discharge, or dimpling. Her Ob/Gyn history is significant for two uncomplicated vaginal births. Her periods stopped when she had an abdominal hysterectomy for symptomatic fibroids at age 46. She took oral estrogen after her hysterectomy but states one of her doctors took her off it a couple of years ago. She has not had any other surgery. She has never had an abnormal pap smear. She has a past medical history of hypertension and high cholesterol. Her medications include captopril 25 mg t.i.d., hydrochlorothiazide 25 mg per day, pravastatin 40 mg per day, and albuterol as needed. She takes no complementary or alternative medicines. She denies any allergies. She reports that she doesn't drink alcohol or use any drugs. Her physical activity consists of daily walks to the park with her grandson.

You and your attending enter the room to perform the physical exam together.

Session One -- Part Four

Physical Exam:

- General: Alert well-appearing Latina woman in no apparent distress
- Height: 160 cm
- Weight: 80 Kg
- BP: 144/90
- HR: 90
- Temp: 98.2
- Respirations: 16
- Oxygen saturation (room air) 98%
- Head: Normocephalic, atraumatic.
- Eyes: Normal fundoscopic exam
- Neck: No thyromegaly or lymphadenopathy. No carotid bruits or JVD.
- Chest: Clear to auscultation
- Cor: Normal JVP. Non-displaced PMI. Regular rhythm. Normal S1, S2. No S3, S4. No murmur or rub.
- Breasts: Symmetric. Non-tender. No skin dimpling with arm movements. No mass. No axillary adenopathy.
- Abdomen: Normoactive bowel sounds. Non-tender. Non-distended. No hepatosplenomegaly. No mass. Pfannenstiel skin scar. Waist 41 inches.
- Extremities: No cyanosis, clubbing or edema. Normal pulses.
- Neuro: Non-focal. Normal cranial nerve exam. Normal sensory exam. Normal DTRs.
- Pelvic: Normal external genitalia. Absent cervix and uterus. No pelvic tenderness or mass.
- Musculoskeletal: Normal range of motion.

Session One -- Part Five

While you and your attending are waiting for the patient to get dressed, you discuss the case. Your attending asks you what screening or diagnostic tests are indicated in Mrs. Montoya. She also asks what patient education information you think Mrs. Montoya might find useful. You both return to the room to discuss your thoughts with the patient and you ask her to schedule a follow-up visit in a couple of weeks.

Session Two -- Part Six

You are in the outpatient clinic when Mrs. Montoya returns for her follow-up visit. You go in to see how she has been. "Well, my friend talked to her doctor and I think they got all of the cancer." When you ask about her fatigue she shrugs and says, "It's the same as before." You assure Mrs. Montoya that both her mammogram and clinical breast exam were normal. She sighs with relief. "Then every thing is fine." You tell Mrs. Montoya that you have some other concerns and go over her lab results with her.

Session Two - Part Seven
Lab Results

Tutors: Provide the following lab data only if students give good rationale to the group for tests requested:




Laboratory results (fasting):		<u>Normal range</u>
WBC	8.3	3.4 - 10
Hemoglobin	13	12 - 15.5
Hematocrit	38.3	36 - 46
Platelets	228	140 - 450
Iron	Not ordered	
Ferritin	Not ordered	
Electrolytes	Normal	
BUN	Not ordered	
Creatinine	1.0	0.6 - 1.2
Glucose	120	70 - 109
Hemoglobin A1C	7.4	4.8 - 6.7
Liver Function tests	Normal	
Cholesterol	239	< 200
Triglycerides	206	< 150
HDL	58	> 39
LDL	135	< 130
TSH	0.98	0.5 - 4.70
Free T4	Not ordered	
T3	Not ordered	
FSH	Not ordered	
LH	Not ordered	

Tutors: Provide following test results ONLY if students give rationale to the group for tests requested:

ECG	Normal (hand out attached ECG)
Pap test	Not ordered because s/p total hysterectomy
Pulmonary function tests	Not ordered
Cardiac stress test	See dobutamine echocardiogram results
Depression screening	Performed, and does not meet criteria for depression

Tutors:

Students request:

- NO ECG, NO stress test  ENDING ONE
- ECG, NO cardiac stress test  ENDING ONE
- Stress test (must give rationale)  ENDING TWO

Session Two (Ending One) - Part Eight

You reassure Mrs. Montoya that her ECG is normal and suggest some changes to her medications. You explain that you are going to increase her pravastatin to 80 mg per day since her LDL cholesterol is still higher than you would like to see it. In addition, you suggest a fluticasone inhaler for her asthma. You ask her to return in three months to recheck her blood pressure and check her response to the change in medications. You also ask her to schedule an appointment with the dietician to help control her cholesterol with diet.

Session Two (Ending One) - Part Nine

Two months later, you are on your Emergency Medicine clerkship and Mrs. Montoya is brought in by ambulance after suffering a massive MI. Her husband and daughter accompany her to the hospital, while the rest of the family waits at home for news. Although Mrs. Montoya receives cardiac resuscitation, she is pronounced dead soon after arriving at the emergency department (ED).

You accompany the attending when she goes to speak to the family; they are clearly agitated and worried when they see the two of you approaching. The attending takes the family aside and explains that Mrs. Montoya has had a heart attack and although everything was done to save her life, they were not able to save her. Her daughter breaks into tears and hugs her father, who also begins to cry. "Her chest didn't hurt, she never had any symptoms, she just said she felt funny and laid down on the couch and I couldn't get her up," cried her daughter. "She felt ok, just tired. She was watching my son today, maybe she chased after him too much. I shouldn't have left him with her every day, it was too much for her!"

The attending reassures the family. "There was nothing you could have done; it wasn't your fault that your mother had a heart attack. You couldn't have seen this coming and gotten her to the ED any sooner to save her life."

After you leave the family, you tell your attending that you saw Mrs. Montoya in clinic a few months ago and ask what you could have done differently. The attending explains that, like men, women with heart disease most commonly present with chest pain or discomfort. But, women are more likely than men to experience some of the other common symptoms, such as shortness of breath. Mrs. Montoya's dyspnea might have been a clue that she was suffering from heart disease.

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You think back over Mrs. Montoya's case and realize that she had significant cardiac risk factors and you realize that from this experience and the grief you feel over her loss that you won't miss those signs again when you see a patient like Mrs. Montoya.

Session Two (Ending Two) - Part Eight

After reviewing her tests, you and the attending explain to Mrs. Montoya that given her risk factors for cardiac disease and her fatigue and shortness of breath with exercise, you would like to do an ECG in the office today and call the hospital and schedule a stress test of her heart. "I don't think anything is wrong with my heart, I don't have any pain in my chest."

The attending explains that, like men, women with heart disease most commonly present with chest pain or discomfort. But, women are more likely than men to experience some of the other common symptoms, such as shortness of breath. Feeling short of breath or a "different" sensation in the chest, neck, jaw, or abdomen, particularly with exertion or emotional stress, can be a sign of heart disease.

You tell her that the "stress" refers to exercise or medication that increases her heart rate. The "test" refers to an ultrasound (echocardiogram) or nuclear medicine study to look at the heart. You tell her that these tests are used to find areas of the heart that may have been damaged by coronary artery disease. Because her asthma restricts her ability to exercise, you recommend a dobutamine stress test.

You obtain an ECG:

Normal ECG

Session Two (Ending Two) - Part Nine

Dobutamine Stress Tolerance Test:

Resting: Normal Sinus Rhythm

Dobutamine infusion:

- Symptoms: None
- Blood Pressure: Increased from 160/102 to 194/104
- Heart Rate: Increased from 86 to 154 bpm

ECG findings: ST elevation in V4-V6, II, and AVF at peak heart rate.

Recovery: Resolution of ST changes

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Six months later as you walk from the hospital to the outpatient clinic, you see Mrs. Montoya and ask her how she's doing. "I feel great. Robert is as energetic as ever, but I don't feel as tired as I used to feel even after spending the day chasing after him. My daughter is working 80% now and stays home with Robert one day a week. They all worry about me too much. I'm fine. I just have to try to stay on my diet. That's the hardest thing." You wish her good luck and go off to clinic.

Suggested Learning Issues

1. List major risk factors for heart disease
2. Give a differential diagnosis of fatigue in women
3. Give evidence-based recommendations for breast cancer screening
4. Describe screening for depression in women
5. Describe the relationship between stress and cardiac disease.
6. Use the Framingham scores to calculate this patient's 10-year risk for clinical cardiovascular disease events. What would her risk be if she smoked?
7. Describe the lifestyle changes which women can take to reduce their risk of cardiac disease. Is there evidence to recommend supplementation with folate, omega 3 fatty acids or antioxidants?
8. Give screening guidelines for diabetes. List diabetes risk factors. What are the diagnostic laboratory criteria for diabetes and for impaired glucose tolerance?
9. Give desirable levels for total and LDL cholesterol.
10. Describe the clinical findings required for the diagnosis of metabolic syndrome.
11. Give evidence-based recommendations regarding the use of menopausal hormone therapy for the prevention of heart disease in women.
12. Explain the current recommendations with regard to use of aspirin for primary prevention of cardiac disease in women.
13. Give the indication for use of the following medications for prevention and or treatment of heart disease. List the major side effects of each and the absolute contraindications if there are any. Are there gender or ethnic differences to consider when using these medications?

- Angiotensin converting enzyme inhibitors
- Beta blockers
- HMG CoA reductase inhibitors

**The Case of Mrs. Montoya:
Problem-based Learning
Student Materials**

Session One -- Part One

Today as part of your internal medicine rotation, you are in the outpatient clinic. Your attending asks you to interview Mrs. Amparo Montoya, a 58 year-old Latina woman who is a returning patient to clinic. You pick up the chart and note that her last visit to clinic was over a year ago. You enter the room and ask what brings her to clinic today. She tells you that her close friend has been diagnosed with breast cancer and now she is worried too. "I can't feel a lump right now, but neither did she." She thinks her last mammogram was two or three years ago and that her first one was when she turned 50, with a follow-up about every two years. "I was supposed to go last year, but I didn't want my daughter to miss work. You see, I take care of my little grandson because my daughter and her husband both work and if I have to come to the doctor, my daughter has to stay home to take care of Robert. I want to help her, not be a burden to her. Today she took off a couple of hours so I could come in. I'm so worried, my friend had to have surgery and she's already started chemo. She's so tired. I get tired sometimes too. I think it's just because Robert is such a busy boy! He's two and he has lots of energy! But what if it's cancer? I take care of my family, I can't afford to be sick, too many people count on me."

Session One -- Part Two

You assure Mrs. Montoya that you will do a breast exam and refer her for a mammogram, but that you would like to ask a few questions first. You find that Mrs. Montoya does not have breast pain; she has not noticed any discharge from her nipples, any dimpling, or any other changes to her breasts. She doesn't usually do a monthly breast exam so she's not sure if she's had any breast lumps in the past or not. "I don't think anyone in my family has had breast cancer, not that I know of. My uncle had lung cancer, but he smoked a lot after he moved to this country. Otherwise, my family is pretty healthy now except both my parents have high blood pressure. My father had a heart attack about 15 years ago when he was 61. That's when they moved in with my sister in El Salvador. I worry about them all the time, but I'm sure my sister is taking good care of them. He had to have surgery for his heart back then, but he's doing ok now. My mom and brother have diabetes, but they're mostly ok too, they try to eat better, but it's hard. I try to cook the things the doctor said to make, but..." she shrugs. "My two younger sisters and my children are very healthy - no diabetes, no high blood pressure, no cancer. My husband takes medicine every day for high blood pressure too and he takes an aspirin for his heart. I worry he'll have a heart attack like my father; he works too hard."

When you ask how she's been otherwise, she tells you that she felt a bit more tired for the past few weeks. "Besides chasing after Robert all day, maybe it's because I don't sleep very well. I wake up at four or five in the morning and can't get back to sleep." She reports that although she never seems to get enough sleep, she still has energy to cook for her family, do the shopping, and keep up the house.

She has had no changes in her weight. She reports that her appetite is fair, but that she sometimes just doesn't feel like eating. You ask about her mood and she states she worries a lot about her family. Her daughter and son-in-law live nearby and she takes care of her grandson full-time. She notices mild shortness of breath when playing with him at the park, which she attributes to her asthma. She has a history of mild asthma since childhood and occasionally uses an albuterol inhaler. She has never taken steroids for her asthma. She reports that she never has shortness of breath while at rest and has never experienced any chest pain. She says that she does not have a cough, although her son-in-law smokes. Neither she nor her husband smoke and she only allows her son-in-law to smoke outdoors.

Session One -- Part Three

You mention to Mrs. Montoya that you noticed in her chart that she too has a history of hypertension as well as elevated cholesterol. "Yes, I'm just like the rest of my family. Sometimes I eat too well." You also find in her chart that Mrs. Montoya had a positive PPD test and normal chest x-ray when she immigrated to the United States from El Salvador over 30 years ago, but she says that she has never had tuberculosis. You continue your history and finally ask if she and her husband have sexual relations, she smiles, looks away and says "I'm too old for that."

You ask Mrs. Montoya to change into a gown and you go out to present to your attending physician.

Mrs. Montoya presents today concerned about breast cancer. She missed her last mammogram and is concerned today because a friend was recently diagnosed with breast cancer. Her last mammogram was approximately three years ago. She reports no breast pain, nipple discharge, or dimpling. Her Ob/Gyn history is significant for two uncomplicated vaginal births. Her periods stopped when she had an abdominal hysterectomy for symptomatic fibroids at age 46. She took oral estrogen after her hysterectomy but states one of her doctors took her off it a couple of years ago. She has not had any other surgery. She has never had an abnormal pap smear. She has a past medical history of hypertension and high cholesterol. Her medications include captopril 25 mg t.i.d., hydrochlorothiazide 25 mg per day, pravastatin 40 mg per day, and albuterol as needed. She takes no complementary or alternative medicines. She denies any allergies. She reports that she doesn't drink alcohol or use any drugs. Her physical activity consists of daily walks to the park with her grandson.

You and your attending enter the room to perform the physical exam together.

Session One -- Part Four

Physical Exam:

- General: Alert well-appearing Latina woman in no apparent distress
- Height: 160 cm
- Weight: 80 Kg
- BP: 144/90
- HR: 90
- Temp: 98.2
- Respirations: 16
- Oxygen saturation (room air) 98%
- Head: Normocephalic, atraumatic.
- Eyes: Normal fundoscopic exam
- Neck: No thyromegaly or lymphadenopathy. No carotid bruits or JVD.
- Chest: Clear to auscultation
- Cor: Normal JVP. Non-displaced PMI. Regular rhythm. Normal S1, S2. No S3, S4. No murmur or rub.
- Breasts: Symmetric. Non-tender. No skin dimpling with arm movements. No mass. No axillary adenopathy.
- Abdomen: Normoactive bowel sounds. Non-tender. Non-distended. No hepatosplenomegaly. No mass. Pfannenstiel skin scar. Waist 41 inches.
- Extremities: No cyanosis, clubbing or edema. Normal pulses.
- Neuro: Non-focal. Normal cranial nerve exam. Normal sensory exam. Normal DTRs.
- Pelvic: Normal external genitalia. Absent cervix and uterus. No pelvic tenderness or mass.
- Musculoskeletal: Normal range of motion.

Session One -- Part Five

While you and your attending are waiting for the patient to get dressed, you discuss the case. Your attending asks you what screening or diagnostic tests are indicated in Mrs. Montoya. She also asks what patient education information you think Mrs. Montoya might find useful. You both return to the room to discuss your thoughts with the patient and you ask her to schedule a follow-up visit in a couple of weeks.

Session Two -- Part Six and Seven

You are in the outpatient clinic when Mrs. Montoya returns for her follow-up visit. You go in to see how she has been. “Well, my friend talked to her doctor and I think they got all of the cancer.” When you ask about her fatigue she shrugs and says, “It’s the same as before.” You assure Mrs. Montoya that both her mammogram and clinical breast exam were normal. She sighs with relief. “Then every thing is fine.”

You tell Mrs. Montoya that you have some other concerns and go over her lab results with her.

Session Two (Ending One) - Part Eight

You reassure Mrs. Montoya that her ECG is normal and suggest some changes to her medications. You explain that you are going to increase her pravastatin to 80 mg per day since her total cholesterol is still higher than you would like to see it. In addition, you suggest a fluticasone inhaler for her asthma. You ask her to return in three months to recheck her blood pressure and check her response to the change in medications. You also ask her to schedule an appointment with the dietician to help control her cholesterol with diet.

Session Two (Ending One) - Part Nine

Two months later, you are on your Emergency Medicine clerkship and Mrs. Montoya is brought in by ambulance after suffering a massive MI. Her husband and daughter accompany her to the hospital, while the rest of the family waits at home for news. Although Mrs. Montoya receives cardiac resuscitation, she is pronounced dead soon after arriving at the emergency department (ED).

You accompany the attending when she goes to speak to the family; they are clearly agitated and worried when they see the two of you approaching. The attending takes the family aside and explains that Mrs. Montoya has had a heart attack and although everything was done to save her life, they were not able to save her. Her daughter breaks into tears and hugs her father, who also begins to cry. “Her chest didn’t hurt, she never had any symptoms, she just said she felt funny and laid down on the couch and I couldn’t get her up,” cried her daughter. “She felt ok, just tired. She was watching my son today, maybe she chased after him too much. I shouldn’t have left him with her every day, it was too much for her!”

The attending reassures the family. “There was nothing you could have done; it wasn’t your fault that your mother had a heart attack. You couldn’t have seen this coming and gotten her to the ED any sooner to save her life.”

After you leave the family, you tell your attending that you saw Mrs. Montoya in clinic a few months ago and ask what you could have done differently. The attending explains that, like men, women with heart disease most commonly present with chest pain or discomfort. But, women are more likely than men to experience some of the other common symptoms, such as shortness of breath. Mrs. Montoya’s dyspnea might have been a clue that she was suffering from heart disease.

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Dobutamine infusion:

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<http://www.cfah.org/publications.cfm>

Consumer Tools

Guide to Behavior Change: Your Weight Is As Important To Us As It Is To You!

http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/behavior.htm

The Heart Truth Campaign Consumer Website

<http://www.hearttruth.gov>

The Heart Healthy Handbook for Women, NIH Publication No. 05-2720

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<http://www.nhlbi.nih.gov/guidelines/cholesterol>

Absolute CHD Risk Calculator.

<http://www.nhlbi.nih.gov/guidelines/cholesterol>

Hypertension

JNC 7 Report on Hypertension.

<http://www.nhlbi.nih.gov/guidelines/hypertension>

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Delicious Heart-Healthy Latino Recipes /Platillos Latinos, Sabroso y Saludables , NIH Publication No. 96-4049 .

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NHLBI Reduced Calorie Menus for Various Cuisines.

http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/sampmenu.htm

Clinical Guidelines on Obesity Treatment.

http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm

NHLBI Interactive Meal Planner.

<http://hin.nhlbi.nih.gov/menuplanner/menu.cgi>

Keep the Beat Health Recipes, NIH Publication No. 03-2921.

www.nhlbi.nih.gov/health/index.htm,

NHLBI Portion Distortion.

<http://hin.nhlbi.nih.gov/portion>

Prevalence & Incidence Data

Third National Health and Nutrition Examination Survey (NHANES III 1988 - 94)

<http://www.cdc.gov/nchs/about/major/nhanes/datalink.htm#NHANESIII>

Hispanic Health and Nutrition Examination Survey (HHANES)

http://www.cdc.gov/nchs/products/elec_prods/subject/hhanes.htm

Prevention of Cardiovascular Disease in Women

Evidence-based Guidelines for Cardiovascular Disease Prevention in Women

<http://circ.ahajournals.org/cgi/content/full/109/5/672>

Smoking Cessation

Treating Tobacco Use and Dependence—Clinician’s Packet. A How-To Guide For Implementing the Public Health Service Clinical Practice Guideline, March 2003. U.S. Public Health Service. Agency for Healthcare Research and Quality. Rockville, MD.

<http://www.ahrq.gov/clinic/tobacco/>

Risk Assessment

10-year CHD Risk Assessment Tool:

<http://hin.nhlgi.nih.gov/atp/iii/riskcalc.htm>

Tools for Personal Digital Assistants (PDAs)

Body Mass Index Calculator for Palm OS and Pocket PC 2003:
http://hin.nhlbi.nih.gov/bmi_palm.htm

ATPIII Cholesterol Management Implementation Tool for Palm OS:
<http://hin.nhlbi.nih.gov/atp3palm.htm>

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