

# Clinicians' FORUM

From time to time, the editors of *Menopause Management* field interesting clinical questions and dilemmas. In this forum, our Editorial Advisory Board members, and guest commentators,\* experts in a range of fields related to midlife women's health, tell readers how they handle these situations.

The viewpoints expressed in "Clinicians' Forum" are those of the contributors, and not necessarily those of *Menopause Management* or The North American Menopause Society (NAMS).

**Question:** What tests do you believe are the most cost-effective for screening for cardiovascular risk in women after menopause? How do you utilize them? How do you follow patients once you have found them to be at risk and have counseled them on preventive actions?

## Answers:

In deciding which tests are most cost-effective for cardiovascular risk assessment in postmenopausal women, the primary care physician has a broad spectrum of guidelines to choose from. The American Heart Association (AHA), the National Cholesterol Education Program (NCEP), the U.S. Preventive Services Task Force Recommendations and the American College of Obstetrics and Gynecology (ACOG) all have helpful, but differing, recommendations.

The decision as to which tests are most cost-effective depends on the physician's ability to individualize each patient's particular concatenation of risk influences to estimate the potential benefit-value of any test or procedure for that unique

person. While the practitioner should be familiar with more than one set of guidelines, I find the overall approach of the ACOG committee opinion on periodic assessments in primary and preventive care to offer a practical approach to periodic health assessment for women.<sup>1</sup> Its recommendations by age group provide an approach in the 40- to 64-year-old postmenopausal woman that is separate from the over-65-year-old postmenopausal woman. ACOG further links the leading causes of mortality and morbidity to each age group to aid the examiner in his or her screening selection, not only for cardiovascular risk but for overall health risk.

My personal approach to screening includes the following:

- *Careful personal medical and family history, including prior cardiovascular disease (CVD).* I find that providing the patient with a history checklist before she sees me allows her to have better recollection and organization when she reviews her history with me.
- *Physical examination that includes screening blood pressure (BP), height and weight measurement, and abdominal and hip circumference.* The waist-to-hip measurement ratio is particularly pertinent to the perimenopausal and menopausal woman, who tend to accumulate

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central obesity as their estrogen levels decline. Waist size is one of the five diagnostic criteria for the metabolic syndrome, and is cost-free and can be done by less-trained assistants. Assessment of cervical, peripheral and abdominal pulses (with auscultation) for cardiac rhythm and murmurs yields baseline information for cardiovascular status that can be periodically revisited. The presence or absence of pulmonary rales and peripheral edema should be noted.

- *Laboratory studies that include fasting blood glucose and a lipid screen (including total cholesterol, HDL cholesterol, triglycerides and calculated LDL cholesterol).* The automated metabolic panels are inexpensive. Renal and hepatic screening are important for risk evaluation as well as to create a potential baseline for pharmacotherapy for blood pressure or lipid abnormality, if needed.<sup>2</sup>
- *Lifestyle assessment.* The least costly and most important value-yielding aspects of screening are in the lifestyle areas.
  - The woman who smokes cigarettes should be counseled, motivated and given any pharmacologic support necessary to free her from the single most important cardiovascular risk that can be eliminated. For the woman who fears weight gain with smoking cessation, I frequently recommend a slow weaning (beginning with current number of cigarettes/day, and reducing by just one every 3 days). This abates most of the potential weight gain associated with the reduced adrenergic stimulus resultant from cigarette cessation. This is also an opportune time to begin an exercise program, which further mitigates weight gain and substitutes a more health-enhancing life style.
  - An exercise history should be elicited for all women. For the sedentary woman the AHA recommendation of 30 minutes of moderate-intensity physical activity (such as brisk walking on most, or preferably all, days of the week) is prescribed; for the obese patient this recommendation is increased to 60–90 minutes daily. For the woman who rejects formal exercise periods I remind them that marching in place while on the telephone at

home or work (5 minutes at a time, repeated throughout the day) can meet her need for exercise. Time spent in front of a television can be utilized for running or marching in place to the same advantage.

Weight management for the menopausal woman can be rewarding. Every woman should be advised of her recommended daily caloric intake, and to avoid weight gain each woman should be educated to recognize the calorie content of her diet. The US Department of Agriculture Web site ([www.MyPyramid.gov](http://www.MyPyramid.gov)) is an excellent free resource for this purpose.

For optimal BP control of 120/80 mmHg, weight and dietary interventions, as well as exercise and lifestyle modifications, are important. For the hypertensive woman, with BP of 140/90 mmHg or higher who is not responding to lifestyle change, pharmacologic intervention is required. For the diabetic or the woman with renal insufficiency, a blood pressure goal of 130/80 mmHg or lower is recommended.

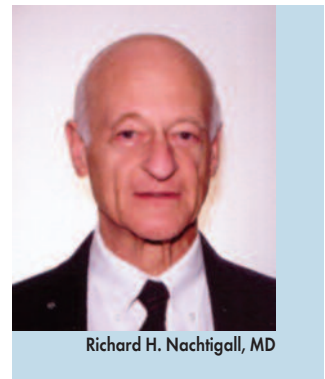
For the woman in whom diet and exercise fail to lower LDL cholesterol to less than 160 mg/dL, pharmacotherapy is indicated. I frequently show this hypercholesterolemic woman the NCEP guidelines to motivate adherence to therapy.

The answer to the question of how to follow patients once they have been evaluated and counseled is extremely variable depending on each patient's findings and responses. For the low-risk woman with a healthy lifestyle, I would ask her back for follow-up annually. For the woman at high risk, I would see her more frequently depending upon her risk, the intervention and her response. The symptomatic patient at high cardiovascular risk would usually be referred for cardiology consultation.

—Richard H. Nachtigall, MD

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The history provides a great deal of information regarding CVD risk and doesn't cost a thing (except your time). The woman's reproductive history and the way she lives are important. Menstrual irregularity might suggest hypoestrogenic amenorrhea or polycystic ovary syndrome—both associated with an increased risk



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of coronary heart disease. Eventful pregnancies are also clues: Did she experience gestational diabetes, preeclampsia or an abruptio placentae? These events portend later CVD risk. Has she had her uterus removed? While cardiovascular risk is at least doubled by premature oophorectomy, conditions that predispose

to a hysterectomy might also reflect underlying CVD risk.

Dietary history and frequency of exercise are important, as are other issues. Does she smoke? Has she been depressed? How does she manifest anger? Does she harbor hostility? How does she manage stress? All such factors contribute to her cardiovascular risk. Has she experienced a cardiovascular event? Has she had peripheral arterial disease? Does she already have diabetes, hypertension or chronic renal disease?

Finally, the family history is important. Did her parents experience premature cardiovascular events or premature death from a cardiovascular cause?

The physical examination reveals other clues. BP, resting pulse and body mass index are truly vital signs. The pattern with which she carries extra weight is important: Is she an apple or a pear? What is her waist circumference? An overall impression about the level of her conditioning offers more clues.

A few laboratory assessments offer enormous perspective about CVD risk. What is her fasting glucose? Her fasting lipid profile? Her renal function? Depending upon her family history and her personal level of concern, you might want to

include a highly sensitive C-reactive protein (CRP) determination and more extensive lipid fractionation and particle size evaluation.

Occasionally, women independently procure cardiovascular imaging studies in response to direct-marketing approaches. Both the intima-media thickness and coronary artery calcium help to stratify CVD risk. I would be more likely to recommend these tests if the woman had a strong family history for premature coronary heart disease in the absence of usual risk factors, or if the results would further motivate her to take preventive measures.

### Utilizing Test Results

The history and minimal laboratory evaluation provide the elements to calculate the Framingham Risk Score or the Reynolds Risk—both objective measures upon which to base your therapeutic plan. Imaging studies can further stratify risk.

If the patient has symptoms suggestive of coronary ischemia or diabetes, or if she has multiple risk factors that place her at intermediate or greater risk, move on to more aggressive testing. Remember that coronary insufficiency can present in women as nausea, shortness of breath, fatigue, and neck and back pain. A stress echo correlates symptoms with signs of coronary ischemia and has the added advantage of lacking radiation exposure.

### Follow-Up for At-Risk Patients

How do you follow patients once you find them at risk and have counseled them on preventive actions? Beginning with the end in mind will help your patient stick to the plan, be it lifestyle modification or medical intervention. Let your patient know that statin or antihypertensive therapy will not only improve her numbers, but also will reduce heart attacks and stroke events.

Also recognize small steps. For any intervention, a measurable outcome helps maintain compliance. So whether it's weight, BP, LDL cholesterol or glycohemoglobin, set goals and measure as frequently as reasonable. Everyone likes a good report card! Look for programs that will engage your patient and provide the cheerleading function that is effective but difficult for you to fit into a busy clinical practice. Finally, acknowledge that risk factors can be

controlled, but in many situations this requires a life-long commitment to therapy.

—*Cynthia A. Stuenkel, MD*

#### Resources

Mieres JH, Shaw LJ, Arai A, et al. Role of noninvasive testing in the clinical evaluation of women with suspected coronary artery disease. *Circulation* 2005;111:682-96.

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Rosenzweig JL, Ferrannini E, Grundy SM, et al, Endocrine Society. Primary prevention of cardiovascular disease and type 2 diabetes in patients at metabolic risk: an Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab* 2008;93:3671-89.

CVD is the number-one cause of death among women worldwide. Fortunately, it is believed that most CVD in women is preventable. There is no doubt that a careful history and physical examination are the most cost-effective screening tools for cardiovascular risk factors in women after menopause. This is well outlined in the updated and current “Evidence-Based Guidelines for Cardiovascular Disease Prevention in Women: 2007 Update.”<sup>1</sup> The guidelines include a medical and family history, screening for symptoms of CVD (including chest discomfort, shortness of breath or unexplained weakness or fatigue) and a physical examination that includes blood pressure, body mass index and waist size. The initial laboratory tests should be fasting lipoproteins and glucose and, if no CVD or diabetes is present, a Framingham risk assessment should be done.<sup>2,3</sup> A recent addition is depression screening in women with CVD.

The 2007 update recommends an approach that classifies the female patient as either high-risk, at-risk, or at optimal risk.

- High-risk criteria include established coronary heart disease, cerebrovascular disease, peripheral arterial disease, abdominal aortic aneurysm, end-stage or chronic renal disease, diabetes mellitus or a Framingham global risk score of >20%.
- At-risk women have one or more major risk factors for CVD, including cigarette smoking, poor diet, physical inactivity, obesity (particularly central obesity), family history of premature CVD (at <55 years of age in a male relative and <65 years of age in a female relative), hyper-

tension or dyslipidemia. Additional criteria for women at risk include evidence of subclinical vascular disease, such as coronary calcification, metabolic syndrome or poor exercise capacity on a treadmill test and/or an abnormal heart rate recovery after stopping exercise.

- Optimal-risk women have a Framingham global risk of <10% and a healthy lifestyle, with no risk factors.

Women at all risk levels should be encouraged to implement lifestyle changes, such as smoking cessation, a heart-healthy diet, regular physical activity and weight management. A woman's diet should be rich in fruits and vegetables, whole-grain and high-fiber foods, and oily fish. Alcohol intake should be limited to no more than one drink per day. Exercise regimens should involve a minimum of 30 minutes of moderate-intensity physical activity (such as brisk walking) on most days of the week. Women should be encouraged to maintain or lose weight, if needed, through an appropriate balance of physical activity, caloric intake and, when indicated, formal behavioral programs. If a woman is at high risk for CVD, as described above, then aggressive management related to BP control and LDL therapy should be implemented, as well as glycemic control in diabetic women. Additionally, pharmacologic interventions—involving aspirin or other antiplatelet agents, beta-blockers, angiotensin-converting enzyme inhibitors or angiotension receptor blockers and aldosterone blockers—should be considered. The optimal BP target should be <120/80 mmHg, and achievement of this goal should first be encouraged through lifestyle approaches. Pharmacotherapy is indicated when BP is  $\geq$ 140/90 mmHg, or possibly lower in the setting of chronic kidney disease or diabetes (pharmacotherapy should be instituted for BP  $\geq$ 130/80 mmHg). Regarding lipid goals, targets of LDL <100 mg/dL, HDL >50 mg/dL, triglycerides <150 mg/dL and non-HDL cholesterol <130 mg/dL should be



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encouraged. Blood pressure and LDL control should, of course, also be recommended and implemented for women not at high risk.

—Michelle P. Warren, MD

#### References

1. Mosca L, Banka C, Benjamin E, et al. Evidence-based guidelines for cardiovascular disease prevention in women: 2007 update. *Circulation* 2007;115:1481-1501.
2. World Heart Federation. Go red for women. Available at: <http://www.worldheart.org/awareness-women.php>. (Accessed February 27, 2009.)
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The menopause practitioner is in an ideal position to screen patients for CVD risk. Screening is not expensive and risk management should be high on the list of the most important things we can do for our menopausal patients. Ideally, the screening can begin with a clipboard checklist the patient can fill out in the waiting room. Information of interest is family history, activity level, dietary intake (recall of past week), current medications and co-morbidities.

Smoking, poor diet, physical inactivity, central obesity, family history of premature CVD (before age 55 in males, 65 in females), hypertension, dyslipidemia, subclinical vascular disease, metabolic syndrome and poor exercise capacity or recovery are all risk factors for CVD. The hierarchy of CVD risk is such that BP control is the most important factor, followed by cholesterol management and, finally, blood sugar.

#### Blood Pressure

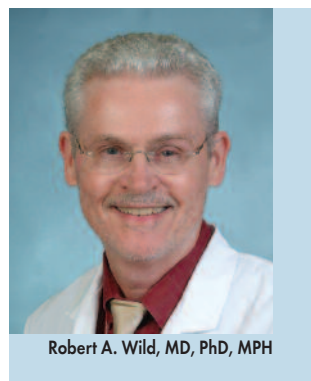
Keeping this hierarchy in mind, vital signs should include standardized blood pressure measurement. This should be done after the patient has been sitting for 15 minutes and with the use of a validated, standardized BP cuff. (If a patient is very obese, use of a large cuff or measuring BP in the forearm may be substituted.)

Resting pulse is of interest because it predicts long-term CVD mortality. Vital signs also should include a waist measurement, which is performed at the top of the iliac crest (identified by the patient), parallel to the ground and at the end of expiration. These vital signs should be recorded at the first and at every subsequent visit.

#### Cholesterol

To manage risk assessment, it is cost-effective to consider using a Reynolds Risk score system (downloaded at <http://www.reynoldsriskscore.org/>). Elements of interest are age, smoking status, systolic BP, total cholesterol and high-sensitivity CRP (hsCRP), as well as positive or negative history of heart attack prior to age 60 in the patient's mother or father. This calculates 10-year risk. While, alternatively, Framingham Risk scoring may be used, the Reynolds Score is more useful for identifying patients at intermediate risk.

To complete the Reynolds Risk scoring, a fasting lipid profile is advised. When the lipid profile returns, the cut-off (goal) values to remember for women are HDL cholesterol >50 mg/dL and triglycerides <150 mg/dL, and for women and men, LDL cholesterol <100mg/dL. If available, ApoB measurement is even more useful than LDL cholesterol for assessment and for follow-up. The ApoB values to remember are 90 mg/dL as a target for a menopausal woman and, for a menopausal patient at high risk, an ApoB maintained at <80 mg/dL. If ApoB values are not available, then LDL may be used (goal value, <100 mg/dL; high-risk goal value, <70mg/dL). Next, pay attention to the non-HDL cholesterol (total cholesterol minus HDL); the target to keep in mind is <130 mg/dL (a secondary target once the LDL or ApoB goal is achieved).



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#### Metabolic Syndrome

If waist measurement is >35 inches (Caucasians, Americans) or >31½ inches (Asian-Indians, Japanese, Chinese, American-Indians), then look for at least two other criteria to diagnose the metabolic syndrome:

- Systolic BP >130 mmHg
- Diastolic BP >85 mmHg (unless diabetic, for whom 80 mmHg is cut-off)
- Fasting triglycerides >150 mg/dL
- HDL cholesterol <50 mg/dL
- Fasting glucose >100 mg/dL (often obtained from a complete metabolic profile)

If the waist measurement is above the cut-points listed above, then 3 of 5 of these criteria diagnose the metabolic syndrome. Having the metabolic syndrome raises the risk factor status by one level. (Anyone with any risk factors at menopause is at risk; actually, very few patients are not at risk.)

The decision to order a lipid panel, hsCRP and fasting blood glucose is guided by the woman's risk level and also by what is available. For the patient at high risk, I suggest referral to a clinician who is best equipped to manage her particular risk(s), and who can and will order more extensive testing. A fasting lipid profile or blood glucose is ideal; however, if that is inconvenient you can get by on a nonfasting lipid profile with attention to knowledge that HDL and total cholesterol are not affected.

### Blood Glucose

Fasting blood glucose levels >126 mg/dL are diagnostic of diabetes; if not available, random glucose testing may be obtained, with the realization that a finding of >200 mg/dL is compatible with diabetes. The fasting glucose level is, however, by itself prognostic when >100 mg/dL. And if one knows the lipids are out of range, the goal is to keep them in range with your interventions.

### Interventions and Follow-Up

Diet and exercise are the first line of therapy. Anyone with hypertension should be encouraged to follow the DASH diet, which can be downloaded at <http://www.dashdiet.org>. If the patient is diabetic or has renal disease, a consultation with a dietician is mandatory and is most often reimbursed. Otherwise, nutrition advice best comes from you. The Web sites I find extremely useful are <http://www.mypyramidtracker.gov/planner/> and <http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/index.html>.

Advise the patient to institute 30 minutes of brisk walking daily or its equivalent to maintain her weight, and 60 minutes of brisk walking daily to lose weight. If appropriate, prescribe a pedometer (consult the National Lipid Association to order a pedometer that does not register false-positive movements). It is useful to remember

that a response should be seen within 6 weeks. Blood pressure can drop 8–14 mmHg with the DASH diet. Exercise can reduce blood pressure by 4–9 mmHg and weight by 5–20 pounds.

Severely and/or morbidly obese patients should be referred to a practitioner in your community who is NLA-certified (credentialed much as a Menopause Practitioner, but with an even more vigorous licensure process). If your office is not equipped to provide follow-up for weight reduction, suggest a practitioner who is. Office interventions are very successful if set up correctly.

BP should be measured again after 6 weeks. (The goal for any hypertensive patient is 120/80 mmHg; systolic BP >140 mmHg or diastolic BP >90 mmHg require medication.) Then, at this 6-week follow-up, repeat weight, waist measurement, BP and fasting lipids. If diet and exercise are not enough to achieve target BP, weight and waist measurement, then treat with a statin. The target ApoB (<90 mg/dL, or <80 mg/dL if high risk) should be obtained within another 6 weeks. If this is not the case, higher-dose statin therapy or an alternative statin is in order. If ApoB testing is not available, LDL may be used as a target goal (<100 mg/dl or <70 mg/dL if at high risk). Blood sugars should be maintained under 100 mg/dL (fasting); if diet and exercise are not sufficient, use metformin or an equivalent agent.

Once Apo B (or LDL) is at target, non-HDLs should be brought to their desired levels. This may require the addition of niacin or a fibrate, depending upon cost and other comorbidities. Diet and exercise are maintained throughout treatment/follow-up. HsCRP has not yet been validated as a useful monitor.

—Robert A. Wild, MD, PhD, MPH

### Resources

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