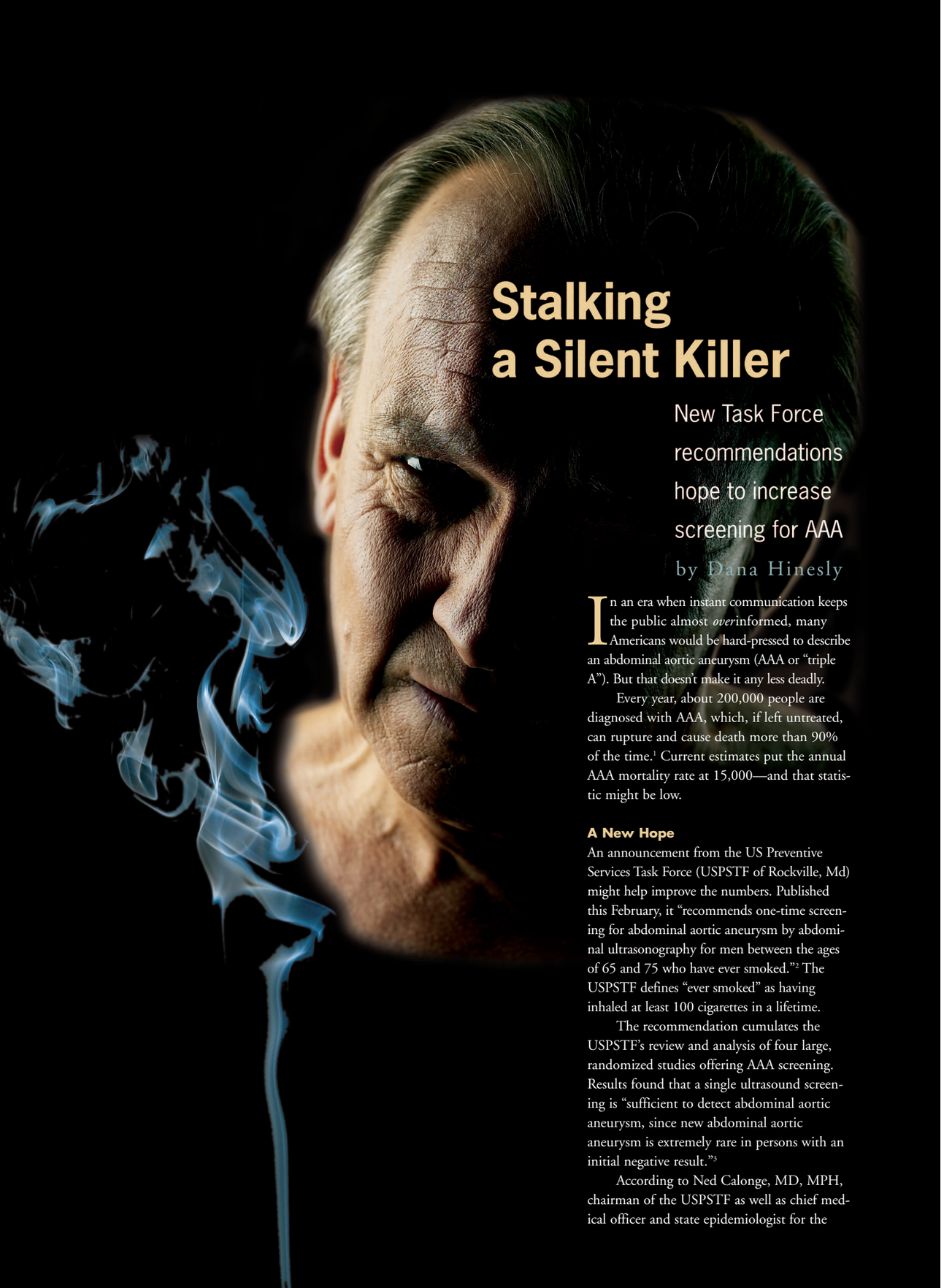

Stalking a Silent Killer

New Task Force recommendations hope to increase screening for AAA

by Dana Hinesly

In an era when instant communication keeps the public almost *over*informed, many Americans would be hard-pressed to describe an abdominal aortic aneurysm (AAA or "triple A"). But that doesn't make it any less deadly.

Every year, about 200,000 people are diagnosed with AAA, which, if left untreated, can rupture and cause death more than 90% of the time.[1] Current estimates put the annual AAA mortality rate at 15,000—and that statistic might be low.

A New Hope

An announcement from the US Preventive Services Task Force (USPSTF of Rockville, Md) might help improve the numbers. Published this February, it "recommends one-time screening for abdominal aortic aneurysm by abdominal ultrasonography for men between the ages of 65 and 75 who have ever smoked."[2] The USPSTF defines "ever smoked" as having inhaled at least 100 cigarettes in a lifetime.

The recommendation cumulates the USPSTF's review and analysis of four large, randomized studies offering AAA screening. Results found that a single ultrasound screening is "sufficient to detect abdominal aortic aneurysm, since new abdominal aortic aneurysm is extremely rare in persons with an initial negative result."[3]

According to Ned Calonge, MD, MPH, chairman of the USPSTF as well as chief medical officer and state epidemiologist for the Colorado Department of Public Health and Environment (Denver), "The subgroup we've identified—65- to 75-year-old, ever-smoker males—will have available to them a screening procedure that has good evidence of benefit in terms of reducing mortality in terms of AAA."

Comprised of independent primary care and prevention professionals, the USPSTF was created in 1984 to assess existing medical procedures and services. The group was tasked with determining the effectiveness of such procedures as well as identifying which patient populations benefit the most.

Learning More About AAA

In AAA, an aneurysm forms in the abdomen, occurring primarily below the renal arteries, but above the iliac arteries. Many AAAs either produce no symptoms or create indications so nonspecific—general abdominal pain or discomfort; back pain; and/or a sharp, shooting pain—that they do not prompt the individual to seek medical attention.

"More than 2.4 million Americans are suspected of having undiagnosed AAA," says Patrick Martin, director of medical society relations at SonoSite Corp (Bothell, Wash). "Officially, it kills about 15,000 per year, but some experts say that could be doubled."

Left untreated, the aneurysm will continue to grow,[4] often with deadly results. Once weakened, the affected vessel can burst without warning, filling the abdomen with blood. Ruptures aren't the only complications associated with untreated AAAs. In some cases, parts of the clot break off, enter the bloodstream, and block blood flow in other areas of the body (called peripheral embolization), resulting in acute pain and the potential loss of a limb. Other patients suffer from infection or spontaneous closure of the aorta.[5]

The Agency for Healthcare Research and Quality (AHRQ of Rockville, Md), the USPSTF's sponsor agency, estimates that between 59% and 83% of those whose AAAs rupture die before they reach the hospital.[6] Even those who receive treatment immediately often end up dying as a result of complications.[4] In 2003, ruptured AAAs were the 15th leading cause of death in the United States.[7]

Its elusive nature prevents exact numbers of victims from being nailed down. In an online announcement,[6] the AHRQ attributes its belief that the actual number is much higher to this fact: "The majority of people with ruptured aneurysms die before they reach a hospital, and their deaths may be attributed to other causes."

The Good News

Early detection makes a world of difference. When identified before rupturing, as many as 95%[1] of AAAs can be treated, according to the National Aneurysm Alliance (NAA of Washington), an affiliation of medical societies, medical manufacturers, and individual advocates working to increase AAA awareness.

By recommending the use of ultrasound for investigating AAAs, the USPSTF is hoping that increased screening for AAAs will lead to more detections—and fewer deaths. Traditionally, AAAs were discovered during imaging tests that were initiated to investigate unrelated issues.

Though other imaging exams—such as X-ray and echocardiography—can locate AAAs, ultrasound provides a fast, efficient method for discovering aneurysms in about 10 minutes.

"Ultrasound really is the best, most cost-effective tool for this type of screening," says Gordon Parhar, director of the ultrasound business unit at Toshiba America Medical Systems (TAMS of Tustin, Calif). "When compared to a CT or MR scan, it's relatively inexpensive, and there is tremendous access."

The USPSTF believes that keeping the scan short and focused is the best approach for both patient and payor—limiting AAA-screening exams to views of the aorta and abdomen helps allay additional costs.

"If you're doing a very focused scan [and] you're not looking at anything else, you can get the patient in, perform the screening, and get the patient out in a quick period of time," explains the USPSTF's Calonge. "That really means a relatively low cost."

To achieve the most benefit from the one-time screening, the USPSTF also stresses the importance of a quality ultrasound.

"Ultrasonography has a sensitivity of 95 percent and a specificity of nearly 100 percent when performed in a setting with adequate quality assurance," the official statement notes. "The absence of quality assurance is likely to lower test accuracy. Abdominal palpation has poor accuracy and is not an adequate screening test."

Too Focused?

Not everyone is delighted with the USPSTF's recommendations. Many in the payor community believe the USPSTF went too far—calling for the common application of a procedure that searches for a relatively rare affliction increases costs unnecessarily. However, price was a consideration that USPSTF members did not ignore.

This cross-sectional view of endograft repair of AAA was acquired by the Aplio ultrasound system from Toshiba America Medical Systems.

"We are charged by Congress to consider cost-effectiveness, and if you read the entire recommendation, [it contains] a cost-effectiveness description," Calonge says. "But the Task Force has been reluctant to let the economics really drive the decisions—we really look at the health issues primarily."

The USPSTF did *not* take a position[3] on men between the ages of 65 and 75 who have never smoked—neither recommending for nor against screening. Instead, it advises men in this group concerned about AAA to consult with their personal physician, who can make an informed decision based on personal history and overall health.

"The good thing about [the recommendation's] specificity is that it will draw focus to those people who really need to have the scan," Parhar says. "For people who've never smoked or for women, there's no need to have the screen—and that will keep medical costs contained."

Such precise guidelines have their benefits, but according to the Society for Vascular Surgery (SVS of Chicago), those set forth by the USPSTF are too narrow.

"We are concerned about several aspects of their report," reads a statement[8] in which SVS members take exception primarily to the USPSTF's position that AAA screening is not beneficial for women. "We believe the accurate conclusion is that there is insufficient evidence to make a decision regarding AAA screening in many subsets of women. The SVS urges women with family histories of AAA to seek screening."

According to SonoSite's Martin, "The SVS feels very passionately about this because [the group] has a lot of empirical, as well as anecdotal, data showing that there is a strong benefit from women being screened. But we are thankful [that the USPSTF] gave a positive recommendation for men, because it is great for raising awareness in the general public."

The protests came as no surprise to the USPSTF. "We worked very closely with the SVS throughout the entire guideline-development process," Calonge explains. "We shared the evidence reviews and drafts of the recommendation statement, and it was clear that we just didn't agree on what the evidence supported."

Despite the objections, the USPSTF stands by its recommendation based on their finding that any health benefits garnered from AAA screening would be minimal for older women.[9]

"We know that the rate of AAA in women is lower than in men, and it also occurs at an older age," Calonge says. Because the women at risk for AAA tend to be older, there are many other competing causes of mortality. "The risks of surgery are higher, and the chances to make a person live longer because of the surgery are lower."

The USPSTF concludes that for women age 80 or older, the risk of complications from treatment overshadow any benefit that could be gained by preventive screening. "The Task Force felt confident in recommending against it in women," he says.

Disagreements about the scope of the recommendation aside, SVS members *do* believe it is a step in the right direction.[8] The group estimates that incorporating ultrasound screening for AAA will help physicians identify the majority of these aneurysms before they become life threatening. Despite some dissention, by bringing this issue to the forefront, the USPSTF recommendation is sure to save lives. Every year, AAAs claim as many lives as HIV/AIDS or some types of cancer; however, many people are unaware of AAAs until they are personally affected.

"With the exception of Aneurysm Outreach Inc [AOI of Prairieville, La], there aren't many grassroots organizations [for AAA]," Martin says. AOI is a nonprofit organization started in 2001 by the daughter of an AAA victim. He adds, "It's not a well-known disease because, unlike cancer or other diseases with a high number of survivors, AAAs are usually discovered only at autopsy."

Idyllic Timing

The release of the USPSTF AAA-screening announcement coincided perfectly with legislative action covering the same topic.

The Screening Abdominal Aortic Aneurysms Very Efficiently (SAAAVE) Act of 2005 was introduced into Congress on February 15. The proposal requests an amendment to Social Security to allow Medicare to cover one-time ultrasound screening for AAA in at-risk Medicare recipients. If passed, it also would require "a national education and information campaign to promote awareness among healthcare practitioners and the general public with respect to the importance of early detection and treatment of abdominal aortic aneurysms."[10]

The legislation has bipartisan support[8] and the endorsement of the NAA, as well as the SVS, which, in March, urged its members[11] to contact their representatives in Washington, asking for them to pass the bill.

"I think that in general, [the USPSTF] recommendation supports the bill, though it is much broader in the groups it identifies," Calonge says. "The legislators will have to figure out how to match the evidence support with this bill."

Turning Words into Action

The advent of portable, more affordable ultrasound exponentially increases patient access to AAA screening.

"I think physicians historically have wanted to do a lot of these screenings, but it wasn't feasible," says Martin, highlighting the unlikelihood that anyone would transport a 600-pound cart-based ultrasound system to a community center or other easily accessible, centralized location. "But today's high-quality, high-resolution, hand-carried products make screening practical in any environment."

Treatment options also are improving. Traditional surgical repair has been performed successfully for more than 50 years, and more recent minimally invasive procedures are proving to be viable alternatives for many patients.

"It's all coming together just at the right time: new surgical techniques, increasing clinical data, and the Task Force recommendation," Martin says. "Along with improved technology, they're all making large-scale screenings for AAAs possible."

The USPSTF estimates, "Screening for abdominal aortic aneurysm and open surgical repair of abdominal aortic aneurysms of 5.5 cm or more in older men leads to an estimated 43-percent reduction in mortality from abdominal aortic aneurysm."[3]

Nationwide, broad-based screening will not happen immediately, but efforts are being made already to facilitate its implementation.

"The NAA and SVS, the American Vascular Association Foundation, the American College of Surgeons, and others are developing standards for training and education for this application," Martin says. These groups are working to develop programs specifically for AAA screening, in addition to existing training programs, he says.

Getting the word out—to both physicians and at-risk males—is a vital step in enabling medical professionals to defuse this silent time bomb. "I'm really looking forward to the general public acknowledging [the USPSTF recommendation] and understanding its importance," Parhar says. "Hopefully, it can really save some lives." MI

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MOBILE MEDICAL ATTENTION

In an effort to increase awareness and improve accessibility to screening for abdominal aortic aneurysms (AAAs), the American Vascular Association (AVA) provides free vascular screening to thousands[1] of Americans each year in hopes of reducing deaths and disability resulting from vascular disease.

A foundation of the Society for Vascular Surgery (SVS), the AVA recently conducted its largest screening to date at a hotel near the Vascular Annual Meeting, held this past June in Chicago.

"They did a similar screening at a meeting of the American College of Surgeons, where the surgeons were able to get screened themselves," says Patrick Martin of SonoSite Corp. "These screening events are ideal opportunities. Not only is it a great public awareness tool, but it also helps educate physicians about what can be done with screening and why it's so important."

In addition to AAAs, the AVA Screening Program—the largest, most comprehensive population-based program of its kind[2]—also screens for carotid arterial disease and peripheral arterial disease.

To locate available screening locations by state, call (877) 282-2010 or visit the SVS Web site at svs.vascularweb.org and select "Screening."

—DH

References:
1. Society for Vascular Surgery. AVA supports Task Force statement on AAA screening. February 1, 2005. Available at: http://svs.vascularweb.org/_CONTRIBUTION_PAGES/AVA_Screening/Media%20Press%20Releases/AVA_press_release_on_AAA_Screening.html. Accessed August 10, 2005.
2. Society for Vascular Surgery. Mission of the AVA. Available at: http://svs.vascularweb.org/_CONTRIBUTION_PAGES/AVA_Screening/intro.html. Accessed August 10, 2005.

KEEPING IMAGING IN SHARP FOCUS

The announcement regarding abdominal aortic aneurysm (AAA) from the US Preventive Services Task Force (USPSTF) marked the end of one study; however, for USPSTF members, the work continues.

"The Task Force will address a number of things over time," says Ned Calonge, MD, MPH, of the USPSTF. The organization has evaluated coronary artery calcium scoring for cardiovascular disease and recommended against it for low-risk people. "But we plan to look at the same testing to better risk-stratify people at risk for coronary heart disease in the different treatment categories."

Calonge added that the USPSTF does not currently recommend coronary artery calcium scoring to screen cardiovascular disease because other screening tests can be used to help determine a person's risk.

"Spiral CT scans for lung cancer screening is being evaluated now with a large trial," he continues. "That will take a while, but hopefully when it's completed, we'll have a better feeling whether or not that would be something we can recommend."

Another issue that the USPSTF has not addressed, but Calonge says it would like to, is virtual colonoscopy. The USPSTF *does* recommend all colorectal screening, but determining whether virtual colonoscopy can be as accurate as colonoscopy and identifying "where it fits within the armamentarium of screening for colorectal cancer, or follow-up of lesions or nonlesion colons, is something the researchers still need to help us figure out," Calonge says.

For more information about USPSTF recommendations, visit the Agency for Healthcare Research and Quality (AHRQ) online at www.preventiveservices.ahrq.gov and browse by either topic or clinical category.

The Web site also provides additional material to assist clinicians, such as summaries of the evidence and fact sheets. Additional clinical information is available from the AHRQ's National Guideline Clearinghouse online at www.guideline.gov.

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References:
1. National Aneurysm Alliance. What is AAA? Available at: http://www.screenaaa.org/what.html. Accessed August 10, 2005.
2. US Preventive Services Task Force. Screening for abdominal aortic aneurysm: recommendation statement. *Ann Intern Med.* 2005;142(3)198–202. Available at: http://www.ahrq.gov/clinic/uspstf/uspsaneu.htm. Accessed August 10, 2005.
3. Agency for Healthcare Research and Quality. Screening for abdominal aortic aneurysm: what's new from the USPSTF? February 2005. Available at: http://www.ahrq.gov/clinic/uspstf05/aaascr/aaawh.htm. Accessed August 10, 2005.
4. Society for Vascular Surgery. Patient screening for vascular conditions: aortic aneurysms – AAA. Available at: http://svs.vascularweb.org/_CONTRIBUTION_PAGES/AVA_Screening/AVA%20Patient%20Information/AorticAneurysms_AVA.html#t1. Accessed August 10, 2005.
5. MedicineNet.com. Abdominal aortic aneurysm. March 29, 2002. Available at: http://www.medicinenet.com/abdominal_aortic_aneurysm/article.htm. Accessed August 10, 2005.
6. AHRQ. Task Force recommends screening for abdominal aortic aneurysm for male smokers and former smokers ages 65 to 75. Available at: http://www.ahrq.gov/research/feb05/0205ra01.htm. Accessed August 10, 2005.
7. Lederle FA. Ultrasonographic screening for abdominal aortic aneurysms. *Ann Intern Med.* 2003;139(6):516–522.
8. Sicard GA, Zwolak RM. USPSTF recommendations for AAA screening: statement on US Preventive Services Task Force recommendations on screening for abdominal aortic aneurysms. February 1, 2005. Available at: http://www.vascularweb.org/_CONTRIBUTION_PAGES/Media/PositionStatements/SVS_Statement_on_AAA_Recs.html. Accessed August 10, 2005.
9. Agency for Healthcare Research and Quality. Screening for abdominal aortic aneurysm: recommendation statement. February 2005. Available at: http://www.ahrq.gov/clinic/uspstf05/aaascr/aaars.htm. Accessed August 10, 2005.
10. The Library of Congress' Thomas Legislative Information on the Internet. Bill summary and status for the 190th Congress: H.R.827. Available at: http://thomas.loc.gov/cgi-bin/bdquery/z?d109:h.r.00827:. Accessed August 10, 2005.
11. Phillips P, Zwolak RM. Priority alert: help SVS build congressional support for the SAAAVE act. March 2005. Available at: http://svs.vascularweb.org/_CONTRIBUTION_PAGES/Government_Relations/Government%20Relations/SAAAVE_Grassroots_Campaign_Cover_Memo.html. Accessed August 10, 2005.