

An Alternative Perspective to the USPSTF Stated Guidelines Against Carotid Artery Screening for Asymptomatic Individuals

Abstract: The US Preventive Services Task Force currently recommends against carotid artery screening with ultrasound for asymptomatic individuals. A broader review with a focus on identification of subclinical atherosclerosis reveals additional findings that lend credence to an alternative view, and supports carotid artery screening for subclinical atherosclerosis in a targeted population.

Introduction

Life Line Screening respects the USPSTF and its mission. We would like, however, to offer a reasoned, alternative perspective to their recent recommendation on carotid artery screening based on a broader review of the issues, clinical practice and latest body of evidence as well as our company's experience as the nation's leading provider of community-based vascular screening.

What is the USPSTF?

The United States Preventive Services Task Force (USPSTF) is a government convened task force designed to evaluate the benefits of individual services based on age, gender and risk factors for disease; make recommendations about which preventive services should be incorporated routinely into primary medical care and for which populations; and identify a research agenda for clinical preventive care.

What did the Task Force say about Carotid Artery Screening?

1. Their current recommendation is against ultrasound screening for asymptomatic carotid artery stenosis.
2. The conclusion was based on the perceived costs and benefits of screening and subsequent surgical treatment in a hospital setting.

A Broader View: The Importance of Early Identification of Subclinical Atherosclerosis

A slightly broader literature review helps reframe the discussion to include the importance of the **early detection of subclinical atherosclerosis**. Carotid artery stenosis is one possible, identifiable location of subclinical atherosclerosis and is indicative of arterial disease throughout the body.

One pertinent study is the SHAPE Task Force Report.¹ SHAPE reflects broad-based clinical practice and research evidence that indicates that identification of subclinical atherosclerosis is important for heart attack prevention and stroke prevention.

SHAPE specifically states that, "The SHAPE Guidelines call for non-invasive screening of all asymptomatic men aged 45-75 years-of-age and asymptomatic women 55-75 years-of-age (except those defined as very low risk) to detect and treat those with subclinical atherosclerosis."

This position is also supported by the Society for Vascular Surgery, who finds that "ultrasound vascular screenings have proven to be accurate in detecting vascular disease and individuals 55 years-of-age or older with cardiovascular risk factors may benefit from preventive screenings for vascular disease."²

Further support for this stance comes from epidemiological research that indicates that only 15% of strokes are heralded by a Transient Ischemic Attack (a mini-stroke), which implies that the vast majority of strokes are not preceded by symptoms or are preceded by vague warning signs that are missed or ignored.³

Identification of Appropriate Candidates

Stratification by behavior and risk factors is well-known clinical practice to help identify appropriate candidates for screening. While the USPSTF states that there is insufficient evidence to make specific recommendations on risk factor stratification, a broader review of the cardiovascular disease literature pinpoints several commonly associated risk factors and behaviors that elevate risk that can be used to define an appropriate screening population. These include high blood pressure, high cholesterol, diabetes, smoking, a family history of cardiovascular disease and age category.^{4,5}

The SHAPE Task Force notes that "The screening results (severity of subclinical arterial disease), combined with risk factor assessment, are used for risk stratification to identify the vulnerable patient and initiate appropriate therapy."

Life Line Screening Specificity and Sensitivity Exceeds USPSTF Data

The USPSTF states that carotid artery ultrasound has a sensitivity of 94% and specificity of 92%. This is

excellent by any standard and equals or exceeds that for other accepted screening modalities such as mammography.⁶

Their concern is with variation among vascular screening labs and the reliability from site to site. Life Line Screening, as a national company, addresses these issues with consistency in equipment, training and applicability of standards; so that the screening a participant receives in Denver is equivalent to the screening another participant receives in Baltimore. This is further strengthened by independent quality assurance studies that have demonstrated that vascular screenings performed by Life Line Screening have a sensitivity of 100% and a specificity of 94%, concordant with the USPSTF findings, and in fact, exceeding them.⁷

Defining Appropriate Intervention for Asymptomatic Individuals

The USPSTF assumes surgical correction, specifically carotid endarterectomy, is the necessary and only intervention for asymptomatic carotid artery stenosis.

This discounts the importance of the progression of subclinical atherosclerosis and the opportunity to identify it at an early stage, which can lead to interventions such as lifestyle changes and medical management. Routine clinical practice looks to align the appropriate treatment with severity of the condition.

The notion that intervention equals surgery is inconsistent with standard clinical practice and negatively affects the cost equation.

Cost of Screening

The USPSTF assumes a cost model where screening is done in a hospital with surgery as the only outcome.

Life Line Screening's service model is delivered in a way that is significantly less expensive than that envisioned by the Task Force. Based on delivering services in community-based settings with the cost assumed by the individual, Life Line Screening is able to provide services with less overhead than a traditional hospital setting. Nationwide, a carotid artery screening would cost \$45, significantly less than if the individual paid for a comparable screening at their local hospital. This small payment is absorbed by the participant, with no additional burden on the reimbursement system.

In addition, as stated above, the cost equation assumes surgery as the only possible outcome. Clearly lifestyle changes and medical management are less costly in financial terms as well as from a quality of life perspective.

These differing considerations create a dramatic difference in the cost equation that could potentially change the USPSTF recommendation and swing it to a positive cost/benefit outcome.

References:

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