

## Preventing the Stroke Storm: Insights from the 2024 Guidelines

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### Introduction

Stroke remains one of the leading causes of disability and death worldwide, yet it is largely preventable. With the release of the 2024 Guideline for the Primary Prevention of Stroke by the American Heart Association and American Stroke Association, the landscape of stroke prevention has evolved to encompass a more holistic and inclusive approach. The updated guidelines emphasize not only traditional risk factors such as hypertension and diabetes but also address emerging threats like sedentary behavior, social determinants of health, and specific risk factors for vulnerable populations. This editorial explores the key strategies outlined in the 2024 guidelines and their potential to reshape how we approach stroke prevention in the years ahead. By combining medical advancements with a greater understanding of social, environmental, and behavioral influences on health, these guidelines offer a comprehensive framework to reduce stroke risk across diverse populations and improve long-term brain health for all.

### Discussion

The 2024 guidelines for the primary prevention of stroke, issued by the American Heart Association and the American Stroke Association, bring a wealth of new recommendations and an expanded focus on holistic healthcare practices. These guidelines not only underscore the importance of traditional cardiovascular risk factors but also delve into emerging areas such as social determinants of health, lifestyle interventions, and tailored treatments for diverse populations. Here are the top ten take-home messages that encapsulate the key strategies to reduce stroke risk across the lifespan.

#### Universal access to primary care

One of the foundational themes of the updated guidelines is the emphasis on accessible, regular primary care for all individuals. From birth to old age, everyone should have the opportunity for early detection of stroke risk factors. This message reinforces the importance of continuity in healthcare, which fosters early intervention and health education. Regular visits with primary care providers are critical not only to manage existing conditions but to promote brain health and overall wellness across diverse populations.

#### Addressing social determinants of health

A ground breaking shift in these guidelines is the recognition of the critical role that social determinants of health play in stroke prevention. From socioeconomic factors to access to care, the conditions in which people live significantly influence their risk of stroke. The guidelines advocate for screening for these adverse factors, acknowledging that while interventions are still developing, addressing these determinants is vital for reducing disparities in stroke outcomes.

### The mediterranean diet

Dietary interventions have long been a cornerstone of stroke prevention, and the Mediterranean diet continues to stand out as a dietary pattern with proven benefits. The guideline advocates for this diet, which is rich in fruits, vegetables, whole grains, and healthy fats, particularly when supplemented with nuts and olive oil. For adults at high or intermediate risk of cardiovascular disease, adopting the Mediterranean diet could help lower the risk of stroke significantly. In contrast, low-fat diets have shown minimal impact on stroke prevention.

### The role of physical activity

Physical activity is undeniably essential for reducing stroke risk, as the guidelines emphasize that prolonged sedentary behavior is a major contributor to stroke risk. A new recommendation suggests screening for sedentary behavior and encouraging patients to integrate more movement into their daily routines. This is an urgent call to counteract the modern lifestyle of prolonged sitting, highlighting the importance of regular physical activity not only for heart health but for brain health.

### Glucagon-like peptide-1 (GLP-1) receptor agonists

A more recent addition to the stroke prevention toolbox is the use of GLP-1 receptor agonists. Initially used for diabetes management, these drugs have shown promise in weight loss and cardiovascular disease prevention. Their ability to reduce stroke risk in patients with diabetes and high cardiovascular risk has led to a new recommendation for their inclusion in care plans. This is particularly important given the rising global incidence of obesity and diabetes, both of which are significant stroke risk factors.

### Blood pressure management

Effective blood pressure management remains one of the most powerful tools in preventing stroke. The guidelines now recommend that patients who require pharmacological treatment for hypertension should receive at least two antihypertensive medications. Evidence has shown that a combination of drugs is far more effective than a single medication in achieving target blood pressure goals, underscoring the importance of rigorous control over hypertension as a major modifiable stroke risk factor.

### Antiplatelet therapy

For patients with conditions such as antiphospholipid syndrome or systemic lupus erythematosus, antiplatelet therapy is recommended to prevent stroke. These conditions increase the risk of clot formation and stroke, and with the right therapeutic approach, many strokes can be avoided. The guidelines also provide guidance on anticoagulant therapy for patients who have had prior thrombotic events, further refining personalized prevention strategies.

### Pregnancy-related stroke prevention

Stroke prevention in pregnancy is an area of growing concern, and the guidelines provide clear recommendations for managing hypertension during pregnancy. Severe high blood pressure, particularly with readings  $\geq 160/110$  mmHg, poses a significant risk for fatal maternal stroke, and addressing this can save lives. The guidelines also highlight the importance of screening for pregnancy-related vascular complications that may lead to elevated stroke risk later in life.

### Screening for reproductive health conditions

Conditions like endometriosis, premature ovarian failure, and early menopause are increasingly recognized as risk factors for stroke. These guidelines stress the importance of screening for these conditions, especially in younger women, as they are associated with a heightened risk of stroke later in life. Early intervention and management of vascular risk factors in these populations can help mitigate the long-term risks.

### Transgender health and stroke risk

The 2024 guidelines also take a progressive step toward inclusivity in healthcare by addressing transgender health. Specifically, transgender women on estrogen therapy may be at an increased risk of stroke, necessitating the evaluation and management of risk factors in this population. This is an essential step toward ensuring that stroke prevention is accessible and effective for everyone, regardless of gender identity.

### Conclusion

The 2024 guidelines for the primary prevention of stroke reflect a paradigm shift toward more inclusive, holistic approaches to health. By focusing on early detection, personalized care, and the socio-economic factors influencing health outcomes, these guidelines offer a comprehensive framework for reducing stroke risk across diverse populations. The integration of modern therapeutic options, such as GLP-1 receptor agonists, alongside traditional strategies like diet, exercise, and blood pressure management, signals a forward-thinking approach to preventing one of the most debilitating health conditions globally. Through greater awareness, prevention efforts, and targeted interventions, these guidelines aim to make significant strides in the fight against stroke [1].

### Bibliography

1. Bushnell C., *et al.* "2024 guideline for the primary prevention of stroke: a guideline from the American Heart Association/American Stroke Association". *Stroke* 55.12 (2024): e344-e424.

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