

**Body System: Neurologic**

**Session Topic: Stroke**

**Learning Category I: Didactic Lecture**

**Course Description (i.e. Needs Assessment)**

Stroke is the third leading causes of death in the U.S., and is a leading cause of serious, long-term disability. Of all strokes, 87% are ischemic, 10% are intracerebral hemorrhage and 3% are subarachnoid hemorrhage. More than 6.5 million people have been affected by some form of a stroke – either first-time or recurring – and blacks have almost twice the risk of first-time strokes than whites. Two of the leading risk factors for stroke, smoking and hypertension, can be assessed by a family physician, and patients can be provided with resources to help them make other behavioral modifications to decrease their risk for developing heart problems that can lead to a stroke. In addition to smoking cessation, patients should be encouraged to cut back on alcohol consumption, engage in or increase their level of physical activity, improve their diet and lower their blood pressure.<sup>1,2</sup>

Patients with diabetes also have an increased risk of stroke; two out of three people with diabetes will die from stroke or heart disease. Patients with diabetes are at even greater risk if they also have the following conditions or risk factors:<sup>3</sup>

- High blood pressure
- Abnormal blood cholesterol levels
- Smoking
- History of stroke or transient ischemic attack (TIA)
- Family history of stroke or TIA

The American Heart Association reports that less than 40% of people can recognize the five warning signs of a stroke and would call 911 if they thought someone was having a stroke or heart attack. Furthermore, among patients who have had a stroke, only 60.5% were able to identify one risk factor, and only 55% were able to identify a warning sign. This indicates a need for patients and family members alike to be counseled on the signs and symptoms of a stroke. Being educated on actions to take can lead to improved outcomes for patients who have a stroke, a decreased burden of disease of stroke and overall improved health of the public.<sup>1,2</sup>

Early treatment of stroke can improve patient outcomes. Treatment may include the following:<sup>4</sup>

- Airway, ventilatory support and supplemental oxygenation
- Use of antipyretic medications and cooling devices to control elevated temperature
- Monitoring for cardiac arrhythmia for the first 24 hours in patients with acute ischemic stroke

- Management of persistent arterial hypotension with volume replacement with normal saline and correction of cardiac arrhythmias (If these measures are ineffective, vasopressor agents, such as dopamine, may be used.)
- Rapid correction of low serum glucose levels
- Treatment of elevated glucose concentrations

The recommendations for treatment of severe arterial hypertension are inconclusive or conflicting. Physicians should take a cautious approach to treating severe arterial hypertension.<sup>4</sup>

Family physicians may need to assist patients and caregivers with difficult choices regarding care, home health and lifestyle changes after a stroke. Organizations, such as the American Heart Association, have resources to help educate patients and caregivers after a stroke.<sup>5</sup>

**Gaps in Knowledge, Competence and/or Performance:**

- Family physicians should be able to screen and identify patients within their practice at an increased risk of stroke.
- Family physicians should offer behavioral modification strategies (e.g., smoking cessation, lowering blood pressure) to decrease patients' risk of having a stroke.
- Family physicians should actively counsel patients and family members on the signs and symptoms of a stroke and advise them to call 911 if they think a stroke is occurring.
- Family physicians should be able to provide appropriate treatment (both early and ongoing) to improve outcomes in patients with stroke.
- Family physicians should be able to assist patients and caregivers with care of patients after stroke.

**Learning Objectives:**

At the end of this session, participants will be able to:

1. Assess patients with underlying risk factors for stroke.
2. Counsel patients on the warning signs of a stroke.
3. Formulate plans to assist patients in making behavioral modifications (such as smoking, lowering high blood pressure) to decrease their risk of having a stroke.
4. Propose appropriate treatment options to improve outcomes in patients who suffer a stroke.

**References:**

1. Stroke Facts and Statistics. CDC National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), Division of Heart Disease and Stroke Prevention (DHDSP). February 2009. Available at <http://www.cdc.gov/stroke/facts.htm>

## 2013 Scientific Assembly Needs Assessment

2. Heart Disease and Stroke Statistics, 2009 Update At-a-Glance. American Heart Association. Available at <http://americanheart.org/downloadable/heart/1240250946756LS-1982%20Heart%20and%20Stroke%20Update.042009.pdf>
3. Stroke. Living with Diabetes. American Diabetes Association. Available at <http://www.diabetes.org/living-with-diabetes/complications/stroke.html>
4. Guidelines for the early management of adults with ischemic stroke: a guideline from the American Heart Association/American Stroke Association Stroke Council, Clinical Cardiology Council, Cardiovascular Radiology and Intervention Council, and the Atherosclerotic Peripheral Vascular Disease and Quality of Care Outcomes in Research Interdisciplinary Working Groups: the American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists. *Stroke*. 2007;38(5):1655-16711.