## Secondary Stroke Prevention Manager

A one page flow sheet to help you manage your patients that have had a TIA or stroke.

### Patient Information
- **Affix Patient Label**: 
- **Patient**: 
- **Date of Birth**: 

### Patient has a history of:
- (check all that apply)
  - TIA (Date of TIA ____________)
  - Stroke (Date of stroke ____________)
  - Carotid
  - Vertebrobasilar
  - Uncertain
  - Ischemic
  - Hemorrhagic
  - Other
  - HTN
  - Atrial fibrillation
  - Valvular heart dz
  - DM
  - Previous MI
  - Ischemic heart dz
  - LVH
  - Carotid artery dz
  - Peripheral vascular dz
  - Obesity
  - Hyperlipidemia
  - Renal vascular dz
  - Smoking _______ pack(s)/day for _______ years
  - Alcohol consumption _______ drink(s)/day for _______ years
  - Other past medical history ____________________________________________

### Medications

- ASA, Aggrenox® or Plavix®
- Statin
- ACE-inhibitor or ARB
- Other blood pressure lowering medications
- Other medications _______________________________________________________

### Engaging Interprofessional Care

(Also see back of this page)

<table>
<thead>
<tr>
<th>Has the patient been assessed for:</th>
<th>Circle (Yes) or (No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carotid endarterectomy or stenting</td>
<td>Y       N</td>
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<tr>
<td>Atrial fibrillation</td>
<td>Y       N</td>
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<tr>
<td>Need for occupational therapy</td>
<td>Y       N</td>
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<tr>
<td>Need for physiotherapy</td>
<td>Y       N</td>
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<tr>
<td>Need for speech language pathology</td>
<td>Y       N</td>
</tr>
<tr>
<td>Fitness to drive</td>
<td>Y       N</td>
</tr>
<tr>
<td>Depression</td>
<td>Y       N</td>
</tr>
<tr>
<td>Need for stress management</td>
<td>Y       N</td>
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<tr>
<td>Caregiver needs/support</td>
<td>Y       N</td>
</tr>
</tbody>
</table>

### Patient Visit Record

#### Patient Visit Record

<table>
<thead>
<tr>
<th>Visit Date</th>
<th>Blood Pressure</th>
<th>Cholesterol</th>
<th>Antiplatelet Therapy</th>
<th>ACE inhibitor or ARB</th>
<th>HgbA1c</th>
<th>Smoking</th>
<th>Exercise</th>
<th>Diet</th>
<th>Alcohol Intake</th>
<th>Weight</th>
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<tbody>
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Engaging Professional Care

Carotid endarterectomy
- Patients with an acute carotid-territory TIA or non-disabling ischemic stroke need immediate carotid imaging.
- Indications for carotid endarterectomy are as follows:
  - Severe symptomatic stenosis (>70%); Procedure number to treat (NTT) > 8 to prevent 1 stroke at 2 years
  - Moderate symptomatic stenosis (50-69%); NNT = 15 to prevent 1 stroke at 5 years
  - Mild stenosis (<50%); Procedure not recommended
- The benefit of surgery decreases steadily with time from the incident TIA/stroke. For maximum benefit surgery should be performed quickly, ideally within 2 weeks, (if surgery is performed within 2 weeks, NNT is 5 to prevent 1 stroke at 5 years for patients with severe stenosis)
- Carotid endarterectomy should be performed by a surgeon with a known perioperative morbidity and mortality of <6%.
- Carotid stenting may be offered as open-label to those patients who are not operative candidates for technical, anatomical, or medical reasons.

Atrial fibrillation
- Patients with stroke or TIA and atrial fibrillation or other high risk sources of cardiogenic emboli should receive anticoagulants (i.e. warfarin; if warfarin is contraindicated, then aspirin use).
- Target INR is 2.5, range 2.0–3.0; for mechanical cardiac valves target INR is 3.0, range 2.5–3.5.
- There is a 68% relative risk reduction in recurrent stroke for patients anticoagulated with adjusted-dose warfarin.

Fitness to drive
- Patients who have experienced either a single or recurrent TIA should not be allowed to drive any type of motor vehicle until a medical assessment and appropriate investigations are completed by their regular physician. They may resume driving if:
  - the physician notes no clinically significant motor, cognitive, perceptual or vision deficits
  - the neurologic assessment discloses no residual loss of functional ability, and any underlying cause has been addressed with appropriate treatment.
- Patients who have had a stroke should not drive for at least 1 month. During this time they require assessment by their regular physician. They may resume driving if:
  - any underlying cause has been addressed with appropriate treatment and
  - there are no residual disabilities from their stroke.
- Patients who have had a stroke and subsequently resume driving should remain under regular medical supervision, as the episode may be the forerunner of a gradual decline in their thinking processes (e.g., multi-infarct dementia). Although sometimes the denial of expressway or high-speed driving privileges or limiting driving to areas familiar may be all that is required, such restrictions are not enforceable within the majority of licensing authorities and there is little evidence demonstrating that restricted licensing improves driving safety after a stroke.

Depression
- The incidence of post-stroke depression is estimated between 25%–75% and may often go unrecognized.
- Depression may affect a patient’s ability to participate or progress in treatment and rehabilitation and therefore early detection and treatment is important.
- Assessment for depression should be done initially after the stroke and throughout (i.e. at three-month intervals or key stages) the management of the affected patient.

Current Guidelines

Hypertension
- Hypertension is estimated to account for about 60% of the population attributable risk for cerebrovascular disease.
- A 28% relative risk reduction (RRR) in recurrent stroke has been reported for patients treated with antihypertensive medication.
- ACE inhibitors, ARBs and thiazide diuretics all have been shown to reduce recurrent stroke and other vascular events. There is less evidence for beta blockers and calcium channel blockers in the secondary prevention of stroke but they may be of benefit.
- Aggressive treatment of blood pressure is of greater benefit than more modest reduction.
- A 28% relative risk reduction in recurrent stroke and other vascular events for patients treated with antihypertensive medication.

Cholesterol/Statin
- Statin agents should be prescribed for patients who have had an ischemic TIA/stroke event.
- There are no clear established cholesterol targets for secondary stroke prevention; however, cardiovascular targets are an ACE inhibitor or ARB should be considered in all patients for secondary stroke prevention, even in the absence of established hypertension for the impact of stroke prevention.

Alcohol
- Patients with prior ischemic stroke or TIA who are heavy drinkers should eliminate or reduce their consumption of alcohol.
- Litch to moderate levels of <2 per day for men and 1 drink per day for non-pregnant women may be considered.

Weight
- Weight reduction may be considered for all overweight ischemic stroke or TIA patients to maintain the goal of BMI of 18.5–24.9 kg/m² and a waist circumference of <88 cm (<35 inches) for women and <102 cm (<40 inches) for men.

Diabetes
- To achieve an HgbA1c <7.0%, patients with type 1 or type 2 diabetes should aim for the following targets:
  - 4.0–7.0 mmol/L fasting plasma glucose
  - 5.0–10.0 mmol/L 2-hour postprandial plasma glucose
- If it can be safely achieved, lowering plasma glucose targets toward the normal range should be considered:
  - HgbA1c <6.0%
  - 4.0–6.0 mmol/L fasting plasma glucose
  - 5.0–8.0 mmol/L 2-hour postprandial plasma glucose
- See the Canadian Diabetes Association Clinical Practice Guidelines at http://www.diabetes.ca/cpg2003/

ACE inhibitor or ARB
- An ACE inhibitor or ARB should be considered in all patients for secondary stroke prevention, even in the absence of established hypertension for the impact of stroke prevention.
- In the PROGRESS trial the combination of an ACE inhibitor + diuretic (perindopril + indapamide) in patients with a history of stroke or TIA resulted in a 43% RRR of recurrent stroke. Post stroke dementia was also reduced by a third and significant cognitive decline was reduced by a half.
- Stroke patients in the HOPE study placed on an ACE inhibitor (ramipril) showed a non-significant trend in reduced secondary prevention of stroke and a significant reduction in combined vascular disease.

References

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