Secondary Prevention of Stroke Order and Documentation Template

The following actions are based on the 2014 Update of Canadian Stroke Best Practice Recommendations for Secondary Prevention of Stroke (www.strokebestpractices.ca). This document is intended to be used as a template to ensure alignment of organization specific care with the Stroke Best Practices for secondary stroke prevention. Institutional specific standards for routine precautions, assessment and care should be followed.

Patients with stroke and TIA who present to an ambulatory setting or a hospital should undergo clinical evaluation by a healthcare professional with expertise in stroke care to determine risk for recurrent stroke and initiate appropriate investigations and management strategies (CSBPR Secondary Prevention of Stroke, Recommendation 1).

Date_________________ Time________________________

Setting for Assessment:
☐ Emergency Department ☐ Stroke Prevention Clinic
☐ Primary Care Office ☐ Other Ambulatory Setting ______________

I. Initial Risk Stratification and Management

Stroke Symptom History and Presentation
Record Onset of Stroke Symptoms (or last time seen as normal) ________________________________
☐ Triage patient based on time since onset of stroke symptoms and clinical presentation (Refer to Recommendation 1: Initial Risk Stratification and Management)
☐ Conduct history and physical examination to establish diagnosis of TIA/non-disabling stroke

Stroke Severity and Focal Deficits
☐ Complete baseline assessment with standardized stroke scale

☐ National Institute of Health Stroke Scale (NIHSS) Record baseline Score:________
or ☐ Canadian Neurologic Scale (CNS) Record baseline Score:________
or ☐ Neurovital signs
Investigations (refer to Recommendation 1.2, CSBPR Secondary Prevention of Stroke)

Vital Signs and Assessment
□ Record baseline vital signs
  Temperature ______°C  Heart Rate ______/min.
  Blood Pressure _____/_______mmHg  Respiratory Rate_______
□ SpO₂ via pulse oximetry__________ %  □ Maintain SpO₂ at ________ %
□ Actual Weight __________ kg  or  □ Estimated Weight __________ kg
□ Height __________ cm  Body Mass Index (BMI) calculated __________ kg/m²

Neuroimaging
□ CT Angiography  or  □ MR Angiography
  Urgency: □ STAT  □ Same-day  □ Within 24 hours  □ Within 2 weeks  □ Within 1 month
□ Scan scheduled  Date:___________________________  Time: _______________
□ Scan completed  Date:___________________________  Time: _______________
□ Other Non-invasive Vascular Imaging (intra- and extracranial vasculature)
  □ Carotid Ultrasound  □ Scheduled (date)_____________  □ Completed (date) _______________

Neurovascular Intervention
□ Referral to neurovascular expert  Name: ______________________  Date: ______________________
□ Carotid endarterectomy scheduled  Date: ______________________

Cardiac
□ Complete 12 lead ECG
Presence of Atrial Fibrillation:
□ No
□ Order prolonged ECG monitoring
  □ Holter Monitor  □ Loop Recorder  □ Event Monitoring
  □ Duration of monitoring _____________________________
□ Yes
□ Refer to Antithrombotic administration recommendations below (page 5)
**Recommended Laboratory Investigations for Patients with Acute Stroke or TIA**

(Refer to Box One, CSBPR Secondary Prevention of Stroke)

**Order initial Laboratory Investigations on arrival to the emergency department**

- CBC
- Electrolytes
- PTT
- INR
- creatinine
- e-GFR
- capillary glucose
- blood and/or urine drug screen (if clinically indicated)
- urine or serum β HCG (if female of childbearing age)
- cross and type may be considered

**Order additional Laboratory Investigations to be completed as needed after admission to hospital (should only be completed on appropriate patient when clinically indicated)**

- fasting lipid profile
- Hemoglobin A1c
- fasting glucose
- ALT
- HIV, syphilis serology (if clinically indicated)
- blood cultures x 3 (per individual institutional protocol)

**Consider ordering Immunological Tests** (to be completed as needed after admission to hospital and only on appropriate patients when clinically indicated)

- erythrocyte sedimentation rate (ESR)
- C-reactive protein (CRP)
- antinuclear antibody (ANA)
- C3/C4
- c- and p-ANCA
- ENA (anti SSA, SSB, anti-Smith, and anti-DNA)

**Consider ordering Coagulopathy Screen** (to be completed as needed after admission to hospital and only on appropriate patients when clinically indicated)

- anticardiolipin (Antiphospholipd) antibody
- Sickle cell screen
- lupus anticoagulant
- Anti-beta2-glycoprotein type 1

**Special considerations for young adults, children, and adults with stroke or TIA in absence of identified etiology and clinical suspicion of rarer causes of stroke, including venous thrombosis:**

- consider LP for CSF analysis (cell count and differential, protein, glucose, bacterial and viral cultures; possibly cytology/flow cytometry if CNS lymphoma is a consideration)
- Further genetic tests – CADASIL, Fabry’s, MELAS
- Further blood tests – Lipoprotein (a), Homocysteine
- Brain biopsy (if vasculitis of the central nervous system or angiocentric lymphoma is a consideration)
- For patients with cerebral venous sinus thrombosis (CVST), consider additional coagulopathy screening, including protein S, antithrombin III, prothrombin gene mutation, factor V Leiden mutation. These tests to be completed after the acute phase of stroke (i.e. after three months or so, or as per Hematologist’s advice)
### Record Type of Stroke

- ☐ Acute Ischemic Stroke
- ☐ Transient Ischemic Attack
- ☐ Venous Sinus Thrombosis
- ☐ Subarachnoid Hemorrhage
- ☐ Intracerebral Hemorrhage
- ☐ Other ____________________________________________________________________________

### Consults

#### Physicians

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<thead>
<tr>
<th></th>
<th>Name</th>
<th>Appointment Date</th>
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<tbody>
<tr>
<td>☐ Stroke Prevention Clinic</td>
<td></td>
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<tr>
<td>☐ Stroke Neurologist</td>
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<tr>
<td>☐ Neurosurgeon</td>
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<td>☐ Vascular Surgeon</td>
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<td>☐ Other</td>
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<td>☐ Other</td>
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#### Interdisciplinary Stroke Team Members/External Services

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<tr>
<th></th>
<th>Name</th>
<th>Appointment Date</th>
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<tbody>
<tr>
<td>☐ Pharmacist</td>
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<tr>
<td>☐ Physiotherapist</td>
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<td>☐ Occupational Therapist</td>
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<td>☐ Speech Language Pathologist</td>
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<td>☐ Social Worker</td>
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<tr>
<td>☐ Registered Dietician</td>
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<tr>
<td>☐ Psychiatrist</td>
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<tr>
<td>☐ Psychologist/Neuropsychologist</td>
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<tr>
<td>☐ Physiatrist</td>
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<td>☐ Home Care Services</td>
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<td>☐ Palliative Care Specialist/Team</td>
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<td>☐ Other</td>
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II. Immediate Secondary Prevention Strategies

**Antiplatelet Therapy in Ischemic Stroke and TIA**

Start antiplatelet therapy immediately after ruling out intracranial hemorrhage (Refer to recommendation 6, CSBPR Secondary Prevention of Stroke):

Administer one of:
- ECASA 160 – 325 mg load, followed by 81 mg daily, **or**
- Clopidogrel 300 mg load, followed by 75 mg daily, **or**
- ECASA 160 – 325 mg load, followed by ASA 25 mg/dipyridamole 200 mg twice daily

**Drug administered:**

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<tr>
<th>(drug)</th>
<th>(dose)</th>
<th>(route)</th>
<th>(date)</th>
<th>(time)</th>
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**Note:** Short-term concurrent use of acetylsalicylic acid and clopidogrel (up to 90 days) has not shown an increased risk of bleeding; however, longer-term use is not recommended for secondary stroke prevention, unless there is an alternate indication (Recommendation 6.0 iii, Secondary Prevention of Stroke).

**Antithrombotic for Atrial Fibrillation for Individuals with Stroke**

Patients with TIA or ischemic stroke and atrial fibrillation should receive oral anticoagulation using one of the following (Refer to CSBPR Secondary Prevention of Stroke, 7.2, i, and Table 6: Oral Anticoagulants for the Prevention of Stroke in AF Patients):

Order one of:
- Apixaban _____ mg PO BID, **or**
- Dabigitran _____ mg PO BID, **or**
- Rivaroxiban _____ mg PO once daily, **or**
- Edoxaban (when available for use in Canada) _____ mg daily, **or**

Warfarin loading dose of _____ mg PO daily for _____ days

- Measure INR on __________________ (target INR 2.5; range 2-3)
- Maintenance dose: Warfarin _____ mg daily

**Antithrombotic administered:**

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<tr>
<th>(drug)</th>
<th>(dose)</th>
<th>(route)</th>
<th>(date)</th>
<th>(time)</th>
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**Note:** Concomitant antiplatelet therapy with anticoagulation is not recommended in patients with AF unless there is a specific medical indication (Recommendation 7.3, iii).
III. Strategies for Risk Factor and Symptom Management

☐ Refer to CSBPR Post-Stroke Checklist (appended to this document) for additional information

☐ Review CSBPR Post-Stroke Checklist with the patient at initial and all follow-up Stroke Prevention Clinic visits

☐ Assess and TREAT all vascular risk factors, additional patient-specific risk factors and sub-optimal lifestyle practices, including:
  - Diet, sodium intake, exercise, weight, alcohol intake, use of oral contraceptives and hormone replacement therapy, and recreational drug use

☐ Provide referrals and links to appropriate community-based lifestyle modification programs and supportive services

Program/service: ________________________________________________________________

Program/service: ________________________________________________________________

Program/service: ________________________________________________________________

Program/service: ________________________________________________________________

Blood Pressure Management

☐ Baseline blood pressure_________________ mm Hg

☐ Refer to Recommendation 3.0, Blood Pressure and Stroke Prevention, CSBPR Secondary Prevention of Stroke, and prescribe treatment according to current CHEP guidelines.

☐ Target systolic _____________________ mmHg Target diastolic: _____________________ mmHg

☐ Medication: _________________________ Dose, Route, Frequency: ________________________

☐ Medication: _________________________ Dose, Route, Frequency: ________________________

☐ Medication: _________________________ Dose, Route, Frequency: ________________________

Lipid Management

☐ Refer to Recommendation 4.0, Lipid Management, CSBPR Secondary Prevention of Stroke

☐ Medication: _________________________ Dose, Route, Frequency: ________________________

☐ Medication: _________________________ Dose, Route, Frequency: ________________________

Diabetes Management

☐ Refer to Recommendation 5.0, Diabetes and Stroke, CSBPR Secondary Prevention of Stroke

☐ Medication: _________________________ Dose, Route, Frequency: ________________________

☐ Medication: _________________________ Dose, Route, Frequency: ________________________
## Pain Management
- □ Acetaminophen ______ mg PO/NG/PR q4h PRN/Scheduled (maximum daily dose _________ mg)
- □ Medication: ___________________________ Dose, Route, Frequency: ____________________________
- □ Medication: ___________________________ Dose, Route, Frequency: ____________________________
- □ Non-pharmacological management: ______________________________________________________

## Nausea Management
- □ Dimenhydrinate 25 – 50 mg PO/NG/IV/PR q4h PRN (use lowest possible for effect for elderly/frail)
- □ Dimenhydrinate 12.5 – 25 mg PO/NG/IV/PR/IM q4h PRN (use lowest possible for effect for elderly/frail)
- □ Medication: ___________________________ Dose, Route, Frequency: ____________________________

## Smoking Cessation
- □ Identify, assess and document smoking status: ______________________________________________
- □ Refer to Recommendation 9.0, Smoking Cessation for Individuals with Stroke, and Table 9: Pharmacotherapy for Smoking Cessation in Patients with Stroke and TIA, CSBPR Secondary Prevention of Stroke.
- □ Referral to Smoking Cessation Program/Specialist: (Name) __________________________________
  □ Appointment scheduled: (date/time) ______________________________________________________
- □ Order smoking cessation medication*: __________________________
  Dose, Route, Frequency: __________________________

## Assessment and Management of Depression, Anxiety, Cognitive Changes and Fatigue
Patients and family members (especially primary caregivers) should be screened
- □ Cognitive evaluation (executive function, IADLs, memory)
- □ Depression screening  □ Caregiver depression screening
- □ Referral for comprehensive assessments (specify): _____________________________________________
  □ Appointment scheduled: (name) _________________________________________________________
  Date/time: ___________________________________________________________________________
  □ Appointment scheduled: (name) _________________________________________________________
  Date/time: ___________________________________________________________________________
- □ Assess for post-stroke fatigue
  □ Provide information and education regarding post-stroke fatigue
  □ Intervention(s) recommended: __________________________________________________________
Sleep Apnea Assessment and Management

- Screen for sleep apnea symptoms
- Referral to sleep specialist if initial screening is suggestive of sleep apnea symptoms
  - Appointment scheduled: (name) ____________________________________________________
  - Date/time: _____________________________________________________________________
- Additional recommendations ________________________________________________________

Functional Assessment and Management

- Fitness to drive assessed
- Mobility assessment
  - Precautions: _________________________________________________________________
  - Need for assistive device: _____________________________________________________
- Assessment for incontinence
- Assessment for spasticity
- Assessment of speech and communication
- Referrals:
  - Appointment scheduled: (name)________________________________________ Purpose: ____________
  - Date/time: ____________________________________________________________________
  - Appointment scheduled: (name)________________________________________ Purpose: ____________
  - Date/time: ____________________________________________________________________

Other Medications

- Medication: _______________________ Dose, Route, Frequency: ____________________________
- Medication: _______________________ Dose, Route, Frequency: ____________________________
- Medication: _______________________ Dose, Route, Frequency: ____________________________
- Medication: _______________________ Dose, Route, Frequency: ____________________________

Discharge/Transition Plan

- Provide patient and family education and skills training as required regarding (initial when completed):
  - Diagnosis
  - Stroke signs and symptoms and appropriate actions to take
  - Contact numbers for EMS, neurologist, stroke team, other healthcare professionals
  - Risk Factor modification – assist with development/update of an individualized plan
  - Activity levels, activities of daily living
  - Safety and avoidance of falls and injury
  - Rehabilitation
Driving
Sexual Activity
Community Support Group resources
Other _____________________

☐ Provide patient and family with written summary of diagnosis, investigations and results, interventions, medications, and follow-up appointments/needs at end of ambulatory care visit (ED, prevention clinic, family physician’s office, other community setting)

☐ Provide patient with access to resources (also refer to CSBPR Secondary Prevention of Stroke Implementation Resources):


☐ Post-Stroke Checklist (http://www.strokebestpractices.ca/wp-content/uploads/2014/06/HSF%20Post%20Stroke%20Checklist_WEB.pdf) and appended to this document

Disposition

☐ Admit patient to Emergency Department

Facility: ________________________ Reason: ________________________________

☐ Admit patient to Inpatient Facility

Facility: _________________ Unit: _________ Date/Time of transfer: ________________

Reason: ________________________________

☐ Refer patient to Stroke Prevention Clinic or Service

SPC: ______________________________

Appointment Date: ________________ Appointment Time: ___________________

☐ Refer patient to Home Care services

☐ Refer patient to outpatient or community-based rehabilitation for assessment and treatment

Facility: ______________________________

Appointment Date: ________________ Appointment Time: ___________________

☐ Follow-up with Family Physician:

Name ______________________________

Appointment Date: ________________ Appointment Time: ___________________

☐ Send discharge summary/consult letter to Family Physician within 72 hours

Other Follow-up Appointments:

☐ Name ______________________________

Appointment Date: ________________ Appointment Time: ___________________

☐ Name ______________________________

Appointment Date: ________________ Appointment Time: ___________________
Additional Notes:

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Patient Name: ___________________________ Date Completed: ____________

**COMPLETED BY:** ○ HEALTHCARE PROVIDER ○ PATIENT ○ FAMILY MEMBER ○ OTHER

**SINCE YOUR STROKE OR LAST ASSESSMENT**

1. **Secondary Prevention**
   - Have you received medical advice on health-related lifestyle changes or medications to prevent another stroke?
   - **NO** ○ Refer patient to primary care providers for risk factor assessment and treatment if appropriate, or secondary stroke prevention services.
   - **YES** ○ Continue to monitor progress

2. **Activities of Daily Living (ADL)**
   - Are you finding it more difficult to take care of yourself?
   - **NO** ○ Continue to monitor progress
   - **YES** ○ Do you have difficulty:
     - dressing, washing, or bathing?
     - preparing hot drinks or meals?
     - getting outside?
     - If yes to any, consider referral to home care services; appropriate therapist; secondary stroke prevention services.

3. **Mobility**
   - Are you finding it more difficult to walk or move safely (i.e., from bed to chair)?
   - **NO** ○ Continue to monitor progress
   - **YES** ○ Are you continuing to receive rehabilitation therapy?
     - **NO** ○ Consider referral to home care services; appropriate therapist; secondary stroke prevention services.
     - **YES** ○ Update patient record; review at next assessment.

4. **Spasticity**
   - Do you have increasing stiffness in your arms, hands, or legs?
   - **NO** ○ Continue to monitor progress
   - **YES** ○ Is this interfering with activities of daily living?
     - **NO** ○ Update patient record; review at next assessment.
     - **YES** ○ Consider referral to rehabilitation service; secondary stroke prevention services; physician with experience in post-stroke spasticity (e.g., physiatrist, neurologist).

5. **Pain**
   - Do you have any new pain?
   - **NO** ○ Continue to monitor progress
   - **YES** ○ Ensure there is adequate evaluation by a healthcare provider with expertise in pain management.

6. **Incontinence**
   - Are you having more problems controlling your bladder or bowels?
   - **NO** ○ Continue to monitor progress
   - **YES** ○ Consider referral to healthcare provider with experience in incontinence; secondary stroke prevention services.
<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Question</th>
<th>NO</th>
<th>YES</th>
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<tbody>
<tr>
<td></td>
<td><strong>7 Communication</strong></td>
<td>Continue to monitor progress</td>
<td>Consider referral to speech language pathologist; rehabilitation service; secondary stroke prevention services.</td>
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<td></td>
<td>Are you finding it more difficult to communicate?</td>
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<td><strong>8 Mood</strong></td>
<td>Continue to monitor progress</td>
<td>Consider referral to healthcare provider (e.g., psychologist, neuropsychologist, psychiatrist) with experience in post-stroke mood changes; secondary stroke prevention services.</td>
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<td>Do you feel more anxious or depressed?</td>
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<td><strong>9 Cognition</strong></td>
<td>Continue to monitor progress</td>
<td>Is this interfering with your ability to participate in activities?</td>
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<td>Are you finding it more difficult to think, concentrate, or remember things?</td>
<td>No. Update patient record; review at next assessment.</td>
<td>Yes. Consider referral to healthcare provider with experience in post-stroke cognition changes; secondary stroke prevention services; rehabilitation service; memory clinic.</td>
</tr>
<tr>
<td></td>
<td><strong>10 Life After Stroke</strong></td>
<td>Continue to monitor progress</td>
<td>Consider referral to stroke support organization (local/provincial support group, Heart and Stroke Foundation of Canada Living with Stroke program); leisure, vocational, or recreational therapist.</td>
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<td>Are you finding it more difficult to carry out leisure activities, hobbies, work, or engage in sexual activity?</td>
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<td></td>
<td><strong>11 Personal Relationships</strong></td>
<td>Continue to monitor progress</td>
<td>Schedule next primary care visit with patient and family member(s) to discuss difficulties.</td>
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<tr>
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<td>Have your personal relationships (with family, friends, or others) become more difficult or strained?</td>
<td>Consider referral to stroke support organization (local/provincial support group, Heart and Stroke Foundation of Canada); healthcare provider (e.g., psychologist, counsellor, therapist) with experience in family relationships and stroke.</td>
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<td><strong>12 Fatigue</strong></td>
<td>Continue to monitor progress</td>
<td>Discuss fatigue with Primary Care provider.</td>
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<td>Are you experiencing fatigue that is interfering with your ability to do your exercises or other activities?</td>
<td>Consider referral to home care services for education and counselling.</td>
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<td><strong>13 Other Challenges</strong></td>
<td>Continue to monitor progress</td>
<td>Schedule next primary care visit with patient and family member(s) to discuss challenges and concerns.</td>
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<tr>
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<td>Do you have other challenges or concerns related to your stroke that are interfering with your recovery or causing you distress?</td>
<td>Consider referral to healthcare provider; stroke support organization (local or provincial support group, Heart and Stroke Foundation of Canada).</td>
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</table>