GUIDELINES & PROTOCOLS
ADVISORY COMMITTEE

Stroke and Transient Ischemic Attack – Management and Prevention

Effective Date: April 29, 2009

Scope

This guideline focuses on the management and prevention of stroke and transient ischemic attack (TIA) in adults in the ambulatory and in-patient settings.

Diagnostic Codes: Acute ischemic stroke (434); TIA (435); Subarachnoid hemorrhage (430); Intracerebral hemorrhage (431)

It is recognized that there may be obstacles to the application of some of the recommendations supported by the literature. These include rapid access to carotid ultrasound, tissue plasminogen activator (tPA) and computed tomography (CT) scanning, as well as availability of defined stroke units and access to rehabilitation services.

I. Diagnosis: TIA or Stroke

Basic examination of all patients includes a neurological and cardiovascular exam which includes vital signs and carotid auscultation.

> A **TIA** is a brief episode of neurologic dysfunction caused by focal brain or retinal ischemia without evidence of acute infarction.[1] Clinical symptoms typically last minutes to one hour (although they can last longer). These symptoms can include motor, sensory, speech/language, vision or cerebellar disturbances.

Differential Diagnosis for suspected TIA: In addition to TIAs, the most important and frequent causes of discrete self-limited attacks include seizures, migraine with aura, syncope and vertigo due to peripheral vestibulopathies. When assessing patient, also look for signs and symptoms of vasculitis, sinusitis, mastoiditis and meningitis for a possible differential diagnosis.

> A **stroke** is defined as the sudden onset of focal neurological deficit resulting from either infarction or hemorrhage within the brain. Symptoms of a stroke are similar to that of TIA, however, are not temporary.

Differential Diagnosis for suspected stroke can include: seizure, migraine, brain tumor, peripheral vertigo, syncope, subdural hematoma, acute confusional state (delirium), vasculitis, drug side effect, transient global amnesia, encephalitis, functional disorder and paroxysmal symptoms of other neurological disorders including MS, upper cord lesions, radiculopathies and acute peripheral neuropathies.

A brief assessment tool for triage purposes is The Cincinnati Stroke Scale (see Appendix B).[2]

The average risk of stroke after a TIA is up to 3% in the first 2 days, 5% in the first week and up to 12% at 90 days.[3] **Recent studies have shown that a patient's 90 day risk can be lowered from 12% to about 2% with timely (<24hr) investigation and aggressive management (see section IV).[4]**

Suggested TIA Patient Urgency Classification[32]	
Emergent	• Symptoms within the previous 24 hours with two or more high risk clinical features (focal weakness, speech difficulties, symptoms lasted >10 minutes; age >60, diabetic) *or* • Acute persistent or fluctuating stroke symptoms *or* • One positive investigation (acute infarct on CT/MRI; carotid artery stenosis) *or* • Other factors based on presentation and clinical judgment
Urgent	• TIA attack within previous 72 hrs
Semi-urgent	• Does not fit emergent or urgent definition

II. Preventing TIA/Stroke in Patients with Atrial Fibrillation

Consider all patients with atrial fibrillation for antithrombotic therapy. The decision to place a patient on long-term anticoagulation must be based on an analysis of risk and benefit, with consideration of patient values and preferences. A predisposition to falls, even when considering potential head trauma, is rarely a contraindication to the use of anticoagulants in the elderly patients with atrial fibrillation.[5] Even when taking anticoagulants, the risk of subdural hematoma is so low that persons with an average risk of stroke from atrial fibrillation (5% per year in the absence of anticoagulation) must fall approximately 300 times in a year for the risks of anticoagulation to outweigh its benefits on a statistical basis.[5]

Establish the risk of stroke in patients with atrial fibrillation using the **Cardiac failure, Hypertension, Age, Diabetes, Stroke ($CHADS_2$) Risk Scoring System.**[6] The score aids in determining best treatment recommendations.

$CHADS_2$	SCORE
C- Recent Cardiac failure	1
H- Hypertension	1
A- Age 75+	1
D- Diabetes	1
S- Prior Stroke or TIA	2
Total score	
$CHADS_2$ Score	**Treatment Recommendation***
0	ASA alone
1	ASA or Warfarin (INR 2-3)
2+	Warfarin (INR 2-3)

**See Appendix A for specific risks associated with treatment and non-treatment.*
In diabetic patients the $CHADS_2$ score may underestimate the risk.[7]

Combined use of acetylsalicylic acid (ASA) and warfarin is not recommended for stroke prevention.[8] Patients with recurrent, nonprovoked episodes of (paroxsymal) atrial fibrillation/atrial flutter and those with sustained atrial fibrillation are considered to have the same risk of stroke.

Recently the oral anticoagulant dabigatran etexilate (Pradax®) has been approved for use in Canada for the prevention of stroke and systemic embolism in patients with nonvalvlular atrial fibrillation. Other similar drugs continue to undergo clinical trials. Due to the increased risk of GI bleeding and the difficulty in reversing the anticoagulant effect with dabigatran, physicians are encouraged to stay abreast of new evidence and exercise caution if using these new agents.

III. Investigations: TIA and Stroke

Consider strokes and emergent TIA's as medical emergencies and perform investigations and treatment as soon as possible. Immediately send patients suspected of having an acute stroke to an emergency department by ambulance; most will be admitted to hospital for initial care and treatment. **Consider patients with an emergent TIA for admission.**

The initial investigations for emergent TIAs and a suspected acute stroke are the same. *Complete investigations within 24 hours wherever possible.*
Complete a carotid ultrasound or other carotid imaging within 24 hours of a carotid territory TIA.[9] Carotid territory TIAs include retinal TIAs (transient monocular blindness or amaurosis fugax), hemiplegic TIAs (unilateral, motor or sensory deficits, speech or language problems – dominant hemisphere), neglect syndromes (non-dominant hemisphere) and visual field loss.

Patients diagnosed with a non-emergent TIA may be referred to an internist/neurologist or (if available) a rapid stroke assessment unit. Alternately, a physician may decide to investigate/manage patients diagnosed with a non-emergent TIA as outpatients (see below and/or outpatient TIA order sets).

Diagnostic Tests and Recommended Timing in TIA/Stroke[9]

Test**	TIA urgency classification			Comments
	Emergent	Urgent	Semi-urgent	
Laboratory work	24hrs	7 days	30 days	CBC, Na^+, K^+, creatinine, INR & aPTT, fasting lipid profile (TC, LDL, HDL, TG), urinalysis, ECG, fasting glucose
CT	24hrs	7 days	30 days	Investigation of choice for acute stroke[2]
MRI	24hrs	7 days	30 days	If recommended by consultant
Carotid imaging	24hrs	7 days	30 days	Optimally within 24 hrs in a carotid territory TIA[9] if the patient is a potential surgical candidate
Holter monitor	24 hrs	7 days	30 days	Consider to detect paroxysmal AF
Echocardiogram	24 hrs	7 days	30 days	If a cardiac source of embolism is suspected, e.g. dysrhythmia, heart failure, LV dysfunction, post MI

***Timing is from time of onset of signs and symptoms of stroke to testing.*
Note: Erythrocyte sedimentation rate (ESR), investigations for a hypercoagulable state and transesophageal echocardiography are not recommended as usual care.

IV. Management: TIA and Stroke

For physicians working in emergency departments across British Columbia, a standardized stroke/ high risk TIA order set has been developed to guide investigations and treatment options. This includes a tPA order set for appropriate patients. Please see www.phsa.ca/HealthPro/EmergencyServices/ERProtocols/TIAstroke.html. An overview is provided below.

TIA Management Overview (Including Secondary Stroke Prevention)

Antiplatelet	Indicated for secondary prevention of noncardioembolic stroke. ASA, clopidogrel or the combination of extended release dipyradamole with ASA are acceptable first line antiplatelet agents.[10] All patients with TIA or minor stroke not on an antiplatelet agent at time of presentation should be started on antiplatelet therapy immediately after brain imaging has excluded intracranial hemorrhage.[9]
Antihypertensive	See Hypertension guideline.
Anticoagulant	For appropriate patients with atrial fibrillation or another high risk cardiac source.
Statin	There is insufficient evidence to recommend for or against statin therapy in the acute phase (first 48 hours) of TIA or stroke management. Long term secondary prevention with statins is recommended.[11]

Education	Give stroke education (see Appendix F: Patient Guide) and follow up information to every patient. Smoking cessation, limited alcohol consumption, weight control, regular aerobic physical activity, and a diet that is rich in fruits, vegetables, and low-fat dairy products are recommended.[24] See TIA Discharge Patient instructions in Appendix E.
Carotid endarterectomy	Recommended in patients with internal carotid artery (ICA) >70% stenosis, symptoms in carotid territory, surgical risk <6%, and life expectancy exceeding 5 years. In these patients it is recommended that surgery be offered within 2 weeks of the TIA. Evaluate those patients with carotid stenosis of 50-70% for surgery on an individual basis. Carotid stenting is an option in high risk surgical patients.

Emergency Stroke Management Overview

Thrombolytic eligible patients should receive tPA as quickly as possible (within 4.5 hours of clearly defined symptom onset)[12]
Benefits of tPA are time critical; the earlier the treatment; the better the outcomes.

Acute antiplatelet therapy (for secondary stroke prevention; patient assessed individually)
After intracranial hemorrhage exclusion – for patients not given tPA an immediate one time dose of 160mg ASA is recommended.[13]

For patients who have been given tPA withhold antiplatelet or anticoagulant therapy for first 24hrs, after which, ASA (50-325mg) should be given daily.

Initial Management:

- Temperature (treat >38°C, as fever may contribute to further brain injury or indicate complication such as pneumonia)
- Initial neurological vital signs (Q4H)
- O_2 saturation
- Blood sugar (treat hypo and hyperglycemia)
- BP (treat >220 systolic or >120 diastolic cautiously in first 48hrs; aim for reduction by 10-15% unless otherwise indicated by medical conditions)
- Heart rhythm (to assess for atrial fibrillation)
- Swallowing screen (if fails keep NPO until full swallowing assessment)

Manage stroke patients on an acute stroke or general neurological unit where possible. It is recommended that the core interdisciplinary team (medical, nursing, nutrition, occupational therapy, physiotherapy, social work and speech-language staff) assess patient within 48 hours of admission. This improves quality of life and can help prevent some of the medical complications of stroke.

Neurosurgical referral for consideration of hemicraniectomy is a treatment option in patients < 60 years of age with massive middle cerebral artery infarcts where severe cerebral edema may otherwise lead to fatal brain infarction. Surgery is generally done within the first 48 hours after stroke onset and candidates should be identified within the first 24-36hrs.[14]

Prevention of medical complications of stroke is an important aspect of patient care. There are multiple complications post-stroke, and the following list addresses some of the most serious or common complications.[15] Early mobilization and appropriate positioning within 24 hours are associated with improved outcomes. Assess swallowing and refer to SLP/OT as appropriate.

- Serious cardiac complications - common in the first three months post-stroke[16]
- Depression – estimated to affect up to 1/3 of patients; assess and treat individually
- Dysphagia/malnutrition/dehydration – optimize positioning (sitting upright in chair unless contraindicated) for meals etc.; consider enteral feeding if no oral intake for >48hrs; there is a reduction in risk of aspiration pneumonia when swallowing is managed early by a speech therapist
- Decubitous ulcer formation – longlasting ulcers can develop rapidly in poorly mobile patients; focus on positional and nutritional support as well as mattress optimization
- Shoulder pain with hemiplegia – Consider referral to physiotherapist and physiatrist
- Venous thromboembolism – As pulmonary embolism accounts for 13-25% of early deaths post-stroke,[17] assess patients for prophylaxis with heparin or leg compression.

Preventing a second stroke is vital in patient care. Antiplatelet therapy is indicated for all ischemic stroke patients unless there is an indication for warfarin therapy. ASA, clopidogrel and the combination of extended release dipyridamole plus ASA are all acceptable antiplatelet agents for secondary stroke prevention. Recent evidence demonstrates that clopidogrel and extended release dipyridamole plus ASA have similar efficacy in secondary stroke prevention.[18] There is some evidence showing superiority of clopidogrel or dipyridamole plus ASA over ASA.[19,20,21] Base the choice of therapy on patient risk, compliance, side effect profile and cost (see Appendix C: Stroke Medication Table).

The long-term use of clopidogrel plus ASA is not recommended for secondary stroke prevention,[22,23] unless there is a cardiac indication. Secondary stroke prevention also includes both lifestyle measures and carotid endarterectomy as outlined in the management of TIA (section IV).

For patients who have a stroke while on antiplatelet therapy, investigate the cause to exclude high risk cardiac source and need for carotid endarterectomy and consider a change of antiplatelet therapy.

Achieve target BP (see Hypertension guideline) within 2 to 3 months (for control within 48 hours see section IV – Emergency Stroke Management Overview). The SPARCL trial showed that intensive lipid lowering therapy reduced the incidence of recurrent stroke and reduced overall cardiovascular (CV) events, but did not improve overall survival in a study that included mostly 65 year old men.[11]

V. Rehabilitation

Assess all persons with stroke for their rehabilitation needs. Have all patients admitted to hospital with an acute stroke assessed by a rehabilitation professional as soon as possible after admission. Have all patients with acute stroke and any residual stroke-related impairments who are not admitted to hospital undergo a comprehensive outpatient assessment for functional impairment, which includes a cognitive evaluation, screening for depression, screening of fitness to drive, as well as functional assessments for potential rehabilitation treatment preferably within 2 weeks.[9]

Management on a stroke rehabilitation unit improves functional outcomes that are durable for up to one year.[9] Components of stroke rehabilitation are summarized below to aid the general practitioner in arranging for these services. For a detailed discussion refer to Teasell et al[15] or see the Evidence-Based Review of Stroke Rehabilitation (EBRSR) website at www.ebrsr.com.

Referral to an interdisciplinary rehabilitation unit is appropriate when admission criteria are met: medically stable; requires 24/7 nursing care; requires at least two rehab services (physiotherapy (PT), occupational therapy (OT), speech-language pathology (SLP) or neuropsychology); can tolerate >3 hours of activity.

Ataxia, Gait Disturbance, and/or Falls – Mobilize patients within 24 hours, provided that they are alert and hemodynamically stable. Rehabilitation includes lower limb strength training to increase walking distance after stroke. Gait and/or standing post-stroke are improved with gait retraining (including task-specific), balance training, EMG-biofeedback training, and functional electrical stimulation.

Cognitive Dysfunction – Compensatory strategies (reminders, day planners) improve memory outcomes. Consider referral of patients with cognitive deficits either for neuropsychological assessment or to an OT trained in cognitive evaluation. Also, consider referral to driving simulation training/assessment programs.

Community Re-Integration – Referral to community-based support services is associated with increased social activity. Education and information also have a positive benefit.

Dexterity – Consider referral of patients with upper limb weakness or decreased coordination for physical and occupational therapy. Mental practice is associated with improved motor performance and activities of daily living performance.

Driving – Consider referral to driving simulation training/assessment programs.

Dysarthria – Consider referral of patients with impaired articulation for speech assessment and training, which is associated with improved intelligibility and communication.

Dysphasia – Intensive speech and language therapy in the acute phase, especially with severely aphasic patients, showed significant improvement in language outcomes.

Hemianopia – Consider ophthalmologist referral regarding optical prisms for patients with homonymous hemianopia as this improves visual perception scores.

Neglect – Visual scanning techniques and limb activation therapies improve neglect. Consider referral of patients with hemisensory neglect for perceptual retraining by an OT and/or neuropsychologist.

VI. Discharge to Primary Care

Communication to the attending family physician is of utmost importance at the time of hospital discharge after treatment for a TIA or Stroke. It is desirable that a discharge summary (see Appendices D and E) be sent expeditiously to the family physician and that a copy be given to the patient.

VII. Prevention

General Principles of Primary Prevention of Stroke and TIA

Prevention of Cardiovascular disease (CVD) also prevents cerebrovascular disease (see CVD and Hypertension guidelines). Lifestyle factors such as smoking cessation, increased physical activity, dietary modifications, and limited alcohol intake are recommended. Risk assessment with tools based on Framingham (see CVD guideline) and the United Kingdom Prospective Diabetes Study (UKPDS) (see Diabetes guideline) is recommended.

Not recommended: Routine use of carotid ultrasound screening in asymptomatic patients. The selective use of carotid ultrasound in patients with a carotid bruit may be considered in patients who are good surgical candidates. Carotid endarterectomy may be an option in these asymptomatic highly selected patients (carotid stenosis greater than 80%; life expectancy greater than 5 years; perioperative morbidity and mortality expected <3%).[24]

Rationale

Strokes are major causes of death and disability in BC. There were 8548 first ever stroke events in BC in 2007/8. Approximately 60% of these were acute ischemic, while ~30% were TIAs and ~10% were haemorrhagic events.[25] A significant proportion of patients with a stroke survive; rapid assessment and treatment is considered critical to reducing disability and mortality related to stroke.

Prevention of stroke is important and therefore education and use of risk assessment tools such as Framingham and $CHADS_2$ is encouraged. Other preventative strategies can be found in the Cardiovascular Disease, Diabetes, Obesity, and Hypertension guidelines.

Timely investigation and management of TIAs significantly reduces the chance of stroke. This guideline recommends investigation and treatment of stroke and TIAs as soon as possible (within 24-48 hrs), and secondary stroke prevention therapy would ideally be initiated in the same timeframe.

It is acknowledged that outcomes are better for patients managed in an organized stroke unit, and the development of such units is considered ideal. A stroke unit is a specialized geographically defined hospital unit dedicated to the management of stroke patients with care being provided according to a well-defined stroke care pathway. For hospitals with low annual stroke volumes, patients may be cohorted onto an identifiable ward.

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Resources

Vancouver General Hospital TIA & Stroke Prevention Clinic	Phone: 604-875-5295	Fax: 604-875-4374
Victoria General Hospital Stroke Rapid Assessment Unit	Phone: 250-727-4056	Fax: 250-727-4356
Heart and Stroke Foundation	www.heartandstroke.ca	
BC stroke centre	www.bcstrokecentre.ca/referral.pdf	

List of Important Abbreviations

ASA	Acetylsalicylic acid
$CHADS_2$	Cardiac failure, Hypertension, Age, Diabetes, Stroke
CHD	Coronary heart disease
CVD	Cardiovascular disease
OT	Occupational therapy
PT	Physiotherapy
SLP	Speech-language pathology
TIA	Transient ischemic attack
tPA	Tissue plasminogen activator
UKPDS	United Kingdom Prospective Diabetes Study

Appendices

This guideline is based on scientific evidence current as of the Effective Date.

This guideline was developed by the Guidelines and Protocols Advisory Committee, approved by the British Columbia Medical Association and adopted by the Medical Services Commission.

A mobile version of this and other guidelines is also available at www.BCGuidelines.ca

The principles of the Guidelines and Protocols Advisory Committee are to:

- encourage appropriate responses to common medical situations
- recommend actions that are sufficient and efficient, neither excessive nor deficient
- permit exceptions when justified by clinical circumstances

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DISCLAIMER

Appendix A

Stroke Risk Assessment in Atrial Fibrillation: $CHADS_2$ Score

This Risk Assessment table pertains to the Guideline *Stroke and Transient Ischemic Attack – Management and Prevention*
www.BCGuidelines.ca

**Establish the risk of stroke in atrial fibrillation using the Cardiac failure, Hypertension, Age, Diabetes Stroke system ($CHADS_2$):[6]

C – Recent cardiac failure	1 point
H – Hypertension	1 point
A – Age 75+	1 point
D – Diabetes	1 point
S – Prior Stroke or TIA	2 points
$CHADS_2$ Score =	

Treatment Recommendations based on $CHADS_2$ Score*	
$CHADS_2$ Score	**Treatment Recommendation**
0	**ASA alone**
1	**ASA or Warfarin (INR 2-3)**
2+	**Warfarin (INR 2-3)**

These scores have been validated to be approximately equivalent to the following stroke risk (see table below). In diabetic patients, the $CHADS_2$ score may underestimate the risk.[7]

Approximate Annual Stroke Risks based on $CHADS_2$ Score			
	With Treatment (%)		
$CHADS_2$ Score	**On ASA**	**On Warfarin§**	**Without Treatment (%)[26]**
0	1.0	1.0	1.9
1	1.5	1.4	2.8
2	2.5	2.0	4.0
3	5.0	3.0	5.9
4+	≥ 7.0	≥ 4.3	≥ 8.5

Treatment Harms: Annual Bleeding Complications (%) ‡			
		On ASA	**On Warfarin§**
All $CHADS_2$ Scores	Major bleed (all)	0.25	< 1.5
	Intracranial bleed	< 0.1	0.4

§ Based on an estimate of relative risk reduction (RRR) of 50%.[27] For elderly populations, RRR is estimated at 0.48.[29] Estimates range as high as 0.68 RRR – see also CAFA study.[30]

‡Increased absolute risk of hemorrhage associated with ASA alone compared to placebo ranges from < 0 (a reduction) to 0.5 % annually in 4 studies.[31] Harms of warfarin are also taken from this same reference. Harms of warfarin may be more than this in the very old. A recent study of major hemorrhage among elderly patients found cumulative risk of major hemorrhage of 13.1 per 100 patient years for patients ≥ 80 years of age.[31]

*These treatment recommendations can be made because, statistically, the probability of benefit appears to exceed the probability of harm. Nevertheless, risk of stroke is never eliminated, and some individuals who might not be destined to have a stroke may be harmed by the treatment. Therefore patients' values and acceptance of risk must be discussed. The possibility of higher risk of harm among the elderly should also be taken into consideration.
Please refer to the Warfarin guidelines at www.BCGuidelines.ca

Note: Throughout the table these point estimates are shown without respective confidence intervals and represent a range of results.

**For numbered references please see full guideline.

Stroke Signs – Cincinnati Stroke Scale

This Stroke Scale pertains to the Guideline *Stroke and Transient Ischemic Attack – Management and Prevention*
www.BCGuidelines.ca

Interpretation: if any of these 3 signs is abnormal, the probability of a stroke is 72%

Arm Drift

The patient closes eyes and extends both arms straight out, with palms up for 10 seconds

- Normal – both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful)
- **Abnormal – one arm does not move or one arm drifts downward**

Facial Droop

The patient shows teeth or smile

- Normal – both sides of the face move equally
- **Abnormal – one side of the face does not move as well as the other side**

Abnormal Speech

The patient repeats "you can't teach an old dog new tricks"

- Normal – patient uses correct words with no slurring
- **Abnormal – patient slurs words, uses the wrong words, or is unable to speak**

Appendix C

Stroke Medication Table

This Medication Table pertains to the Guideline Stroke and Transient Ischemic Attack – Management and Prevention
www.BCGuidelines.ca

Drug	Usual adult dose	Cost per 30 days	PharmaCare coverage
ASA (G)	*Secondary prevention, primary prevention in patients with atrial fibrillation:* 80-325 mg PO daily *Use in emergencies:* refer to text	< $1 to $5	no coverage: ≤ 81 mg regular coverage: 325 mg, 650 mg
clopidogrel (Plavix®, G)	75 mg PO daily	$85 $33 (G)	limited coverage
ASA 25 mg + extended-release dipyramidole 200 mg (Aggrenox®)	ASA 25 mg (immediate-release) with dipyridamole 200 mg (extended-release) PO BID (or one capsule PO bid)	$54	limited coverage
Warfarin (Coumadin®)	Therapy must be individualized	$5 to $18 for most patients	regular coverage
Dabigatran (Pradax®)	110-150 mg PO bid	under review	under review

Abbreviations: ASA acetylsalicylic acid; **bid** twice daily; **mg** milligrams; **PO** by mouth

PharmaCare Coverage Definitions

G: generic(s) are available
Regular coverage: also known as regular benefit; does not require Special Authority. Some types of regular benefits are only partially covered.
Limited coverage: requires Special Authority for coverage.
No coverage: does not fit the above categories.

Note: Information on which products PharmaCare covers can be obtained using the B.C. PharmaCare Formulary Search (www.health.gov.bc.ca/pharmacare/benefitslookup/). In all cases, coverage is subject to drug price limits set by PharmaCare and to the patient's PharmaCare plan rules and deductibles. See: www.health.gov.bc.ca/pharmacare/plans/index.html and www.health.gov.bc.ca/pharmacare/policy.html for further information.

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STROKE/TIA DISCHARGE SUMMARY TO FAMILY PHYSICIANS

ADDRESSOGRAPH HERE

NAME OF PATIENT

NAME OF PLACE PATIENT WAS DISCHARGED FROM

DATE OF DISCHARGE

DIAGNOSIS

☐ Suspected TIA ☐ Ischemic Stroke

☐ Other:

SUSPECTED MECHANISM

☐ Cardioembolic (AF) ☐ Carotid Stenosis ☐ Small Vessel Occlusive

☐ Other:

PRESENTING FEATURES

☐ Unilateral Weakness Side: ☐ R ☐ L ☐ Speech Disturbance

☐ Other:

DURATION OF SYMPTOMS (TIA ONLY)

☐ < 10 min

☐ 1-59 min

☐ > 60 min

BLOOD PRESSURE AT DISCHARGE

INVESTIGATIONS	COMPLETED	RESULTS	BOOKED (Indicate date)
CT/MRI	☐ Yes ☐ No		YYYY MM DD
CTA/ Carotid Duplex	☐ Yes ☐ No	☐ Negative ☐ > 50% Side: ☐ R ☐ L	YYYY MM DD
Echo	☐ Yes ☐ No	☐ Negative ☐ LVH ☐ Intra-Ventricular Clot	YYYY MM DD
ECG		☐ NSR ☐ AF ☐ Other: _____	YYYY MM DD
Lab (Please attach)	Fasting Glucose: _____ Lipids: _____ Coag. Studies: _____		YYYY MM DD

Other ➡

MEDICATIONS PRESCRIBED (ATTACH ADDITIONAL SHEET[S] IF NECESSARY)

☐ Enteric Coated ASA 81mg daily ☐ Clopidogrel 75mg daily ☐ Lipid Lowering ☐ ASA/dipyridamole (Aggrenox® one capsule twice a day)

☐ Other:

DIET

☐ Regular Diet ☐ No Added Salt ☐ Low Cholesterol

☐ Other:

REFERRALS	APT. BOOKING	BOOKED (Indicate date)
NAME OF FAMILY PHYSICIAN	☐ Patient to book ☐ Family Phys to book	YYYY MM DD
NAME OF NEUROLOGIST/IMR ON CALL		YYYY MM DD
NAME OF STROKE PREVENTION CLINIC		YYYY MM DD
NAME OF DIABETES EDUCATION CENTRE		YYYY MM DD
NAME OF OTHER STROKE REHABILITATION		YYYY MM DD

COMMENTS

NAME OF PHYSICIAN (PLEASE PRINT)

SIGNATURE OF PHYSICIAN

Refer to Guideline *Stroke and Transient Ischemic Attack – Management and Prevention* available on GPAC website: www.BCGuidelines.ca

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HLTH 6014 2009/08/20

BRITISH COLUMBIA | Ministry of Health

BRITISH COLUMBIA MEDICAL ASSOCIATION

ADDRESSOGRAPH HERE

TIA PATIENT DISCHARGE INSTRUCTIONS

DIAGNOSIS *(Make an appointment to see your family doctor as soon as possible)*

You have been diagnosed with:

☐ TIA (Transient Ischemic Attack) ☐ Acute Ischemic Stroke ☐ Other: _____

ACTIVITY

☐ Normal ☐ No driving until approved by your doctor ☐ Return to work/School in _____ days.

DIET

☐ Resume usual diet ☐ No added salt diet ☐ Low fat/Low cholesterol diet

☐ Other: _____

SMOKING CESSATION

Stop smoking and/or do not allow anyone to smoke in your house or car.
If you need help to stop smoking call **QuitNow Helpline: 1 877 455-2233** and/or talk to your family doctor

MEDICATIONS

The medications you have been prescribed are on the form *Stroke/TIA Discharge Summary to Family Physicians (HLTH-BCMA 6014)*

FOLLOW-UP APPOINTMENTS

Information on your follow-up appointments can be found on the form *Stroke/TIA /Summary to Family Physician (HLTH-BCMA 6014)*

WARNING SIGNS

Call 911 immediately if you experience any of the following stroke warning signs:

- Sudden weakness or numbness on one side of your body
- Sudden dimness, double or loss of vision
- Difficulty speaking or understanding speech
- Sudden severe headache
- Loss of balance or dizziness

ADDITIONAL INFORMATION

For more Information on Stroke/TIA call **Heart & Stroke Foundation of BC: 1 888 473-4636** or visit the American Stroke Association (division of AHA) www.strokeassociation.org

For any additional questions call **BC Nurseline: 1 866 215-4700**

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