

## Stroke and TIA Detection: Initial and Ongoing Management (Residential Care)

### Site Applicability

All VCH Residential Care Sites

### Practice Level

Basic skills for the following professions (within their respective scope of practice):

- RN, RPN, LPN
- Dietitian (RD)
- OT
- PT
- SW
- Recreation Therapist

Basic skills for RCA, Rehab assistants

### Policy Statement

- Staff will use the F.A.S.T. tool to detect TIA's or stroke. ([Appendix B](#))
- All residents with an emergent TIA or suspected acute stroke are to be considered as vascular emergencies (Syme, 2009) and receive a complete professional assessment including physician/NP opinion within 3 hours (Management of Acute Stroke: CPG, 2008).
- Staff will recognize the importance of the F.A.S.T. tool and will take action to begin assessment and treatments.
- Appropriate care will be given to the resident following a TIA or stroke.

### Need to Know

- "Time is Brain" - quick action may prevent brain cells from dying
- Risk factors of a TIA and / or stroke
- Recognize new symptoms of a TIA or stroke as a medical emergency
- Distinguish between hemorrhagic and ischemic stroke
- Care measures for a person post TIA or Stroke

### Background:

A Transient Ischemia Attack (TIA) is often the first sign of an imminent stroke – the leading cause of disability and the third leading cause of death (McDavitt, 2009). The opportunity to recognize and successfully manage TIA may be the best chance health professionals have to salvage ischemic tissue, spare a person irreversible harm or prevent loss of life from a stroke. Following a TIA many may suffer from a stroke (15% to 30%) or cardiovascular event (Jagoda and Chan, 2008). In residential care, members of the interdisciplinary team and care staff will alert the resident's nurse that they have observed sudden changes in the person's facial appearance, arm functioning, altered speech or other sudden changes indicating a TIA. When this is noticed, a physician/NP should be contacted to discuss care options with consideration of the resident's history of TIA's/stroke, diagnosis and prognosis with consideration as to whether an intervention will likely change the person's outcome. When symptoms of a TIA or Stroke appear for the first time and after review of documentation and discussion with the team, the best option is to transfer the person to an emergency

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department for assessment within the first 3 hours following symptoms. Those who are experiencing an acute ischemic stroke may benefit from thrombolysis (rTPA).

Every resident affected by a TIA or stroke will have a different trajectory depending on the type of stroke and the area of the brain that has been affected. Stroke, the result of interrupted blood flow to the brain is either hemorrhagic (20%) or thromboembolic (80%). (BC Ministry of Health Services Advisory Committee, 2009). The latter can be treated by clot busting drugs (thrombolysis) thus quick action (Time) may prevent brain cells from dying.

## Equipment and Supplies

- ACT F.A.S.T. poster ([Appendix B](#))
- Resident and Family Education brochure ([Appendix H](#))
- SBAR tool ([Appendix D](#))
- Heart & Stroke Contact Information ([Appendix G](#))

## Practice Guideline

### A. Assessment

#### On admission and when there is a change of condition:

Assess the resident for risk factors that may contribute to a stroke:

#### Risk Factors:

Factors that may be <u>controlled</u>	Factors that <u>cannot be changed</u>
<ul style="list-style-type: none"> <li>• Hypertension: <ul style="list-style-type: none"> <li>◦ Systolic &gt; 140 or diastolic &gt; 90</li> </ul> </li> <li>• Smoking</li> <li>• Obesity, sedentary lifestyle</li> <li>• Diabetes</li> <li>• High cholesterol, poor diet</li> </ul>	<ul style="list-style-type: none"> <li>• Age &gt; 60 years</li> <li>• Heredity</li> <li>• Carotid Artery Disease</li> <li>• Prior TIA, stroke or heart attack</li> </ul>

**Observe:** when there is a **sudden and unexpected change** in the resident's condition use the F.A.S.T. tool to assist with detection ([Appendix B](#)):

- **Face:** Is one side of the face drooping? Can the person smile, stick out their tongue?
- **Arm:** Can the person raise both arms, or is one arm weak?
- **Speech:** Is speech slurred? Is the person having difficulty finding words? Can person understand simple statements?
- **Time is critical !!** Consult physician/NP and transfer resident

#### Additional symptoms of a stroke may include:

- Numbness, weakness or paralysis on one side of the body
- Sudden trouble seeing, blurred vision or loss of sight
- Sudden headache, dizziness, a fall
- Generalized weakness

#### Data to Assist Initial Assessment:

- Vital signs: Blood Pressure (BP), Pulse (P), Respiration (R), Temperature (T)
- Pulse oximetry
- Blood glucose

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- Estimated time of onset and duration of symptoms
  - History of atrial fibrillation and mitral valve regurgitation
  - Neurological assessment & compare to previous results, if available
  - Identify level of consciousness using the Glasgow Coma Scale,
  - Orientation to time, place, person
  - Response to commands
  - Pupil size & reactivity to light
  - Movement and strength on right and left side.
- (refer to Downes (2009). Residential Practice Team learning module: Guidelines for use: Neurological Vital Signs Record).

## B. Interventions

### Initial Interventions

- Ensure Airway, Breathing & Circulation (ABC) are maintained
- Provide oxygen if oxygen saturation is < than 92%
- Treat to maintain resident's normal blood glucose level as per Physician/NP orders
- If new symptoms of stroke are noted immediately contact the resident's physician/NP or facility physician/NP to describe the circumstances using the SBAR tool ([Appendix D](#))
- Discuss with the physician/NP whether interventions will likely change the outcome for the person.
- If physician/NP cannot be reached in half an hour (30 minutes) prepare and transfer the resident to an emergency department
- Inform the emergency department that a stroke is suspected as they may be able to organize an immediate stroke neurology consult.
- Provide succinct transfer information using SBAR ([Appendix D](#))
- In rural settings, if unable to speak with resident's physician/NP within 30 minutes, consult physician/NP in local emergency for direction on other tests and data that can be initiated on the unit
- Refer to Residential Stroke/TIA CPG Detection and Initial Management Decision Tree ([Appendix E](#))
- Refer to VCH Clinical Practice Guidelines: Management of Acute Stroke (2008): Acute Stroke Pathway Decision Tree ([Appendix F](#))

### Post Stroke: Ongoing care measures when resident returns to facility:

An individualized care plan is to be developed to provide optimal care for the resident.

- Review Acute Care Stroke/High Risk TIA Order form or acute discharge orders
- These discharge notes summarize the diagnosis and treatment given, diet, activity level, consults and items to be monitored e.g. neurovitals, intake & outputs, capillary blood glucose, bowel care options
- Review care plan accompanying resident
- Review resident care goals or Degrees of Interventions (DOI) with resident and supports

### Measures to prevent further complications post stroke:

The following care concerns are summarized from the VCH Clinical Practice Guideline: Management of Acute Stroke (2008).

- Dysphagia:
  - Complete dysphagia screen and refer when indicated
  - Initiate measures to prevent complications related to swallowing
  - Provide oral care at least BID and before meals
  - Sit upright to prevent aspiration when eating
  - HOB to be at a 30 ° angle when resting
  - Review diet and provide appropriate food and fluid textures
    - For a resident on thickened fluid diet, consider further dysphagia assessment to develop an individualized care plan to support provision of supplementary thin fluids
    - To minimize risk for aspiration pneumonia ensure thorough mouth care is given prior to offering water.

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- Use safe feeding techniques
- Monitor and assess person when they are eating or drinking for signs of distress
- Monitor respiratory status
- Consider assistive devices to facilitate self feeding
- Mobility and Balance:
  - Review safe transfer/lift method
  - Assess for participation in Restorative Care program
- Spasticity:
  - Measures to prevent contractures
  - Review positioning of affected limbs specifically to prevent shoulder pain ([Appendix G](#))
- Maximizing Freedom:
  - Complete fall risk assessment
  - Include family in promoting safety strategies e.g. hip protectors, safety alarms, vision testing, appropriate aids
  - Refer to VCH CPDs: Residential Falls Prevention and Residential: Maximizing Freedoms
- Skin Integrity:
  - Promote frequent change of positions refer to Stroke Pictorial Positioning Guide ([Appendix C](#))
  - Minimize skin breakdown
  - Refer to VCH Skin Breakdown Clinical Practice Guidelines
- Elimination:
  - Implement an individualized toileting plan for each resident
  - Refer to VCH Residential Care Clinical Practice Guidelines:
    - [Continence: Promotion and Maintenance](#) and
    - Bowel Function: Promotion and Maintenance
  - Pain Tolerance:
    - Ensure resident's pain pattern and pain tolerance level is assessed and documented
    - Use a Pain Assessment tool and a Pain Monitoring tool to maintain acceptable pain level.
    - Promote nonpharmacological measures first. If analgesics are used provide medications on a regular dose with prn dosing for break through
- Sleep:
  - Use the [Sleep Pattern Record](#) (in the Agitation & Excessive Behaviour CPD) to identify the residents sleeping pattern and determine if the person is receiving sufficient sleep throughout the 24 hours
- Communication:
  - Assess the resident's ability to understand others conversation, ability to understand short, simple directives/instructions and the resident's ability to make themselves and their needs understood.
  - Provide communication aids where applicable, pictures, computer programs
  - If resident becomes frustrated sit down near by in a relaxed manner and listen. Take the time to clarify what they said/intended
  - Show compassion and that you are interested in understanding their needs.
  - Recognizing communication barriers may be a challenge, refer to Section C2 in VCH Residential CPD: [Identification of Agitation & Excessive behaviour and Client-Centered Interventions](#)
- Mood:
  - Depression – Use information obtained from Depression Rating Scale (DRS) in RAI assessment and consider other assessment tools as appropriate.
- Cognition:
  - Cognition – Use information obtained from the Cognitive Performance Score (CPS) in RAI assessment and consider other assessment tools as appropriate
  - Compare the RAI Cognitive Performance Score (CPS) on admission and present (Perlman 2008)
  - Delirium: review criteria to rule out (CAMI)
  - Dementia: determine if present, type of dementia and current phase and abilities.
  - Develop consistent daily routine meaningful to the resident
  - Identify how resident shows how he/she is agitated

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- Identify and reduce the triggers that tend to increase the resident's excessive behaviours
- Medical stability:
  - Understand the venothrombo-embolism treatment reviewing ongoing blood tests (INR) for coagulation status
  - Understand the prophylaxis measures for this resident, the drug and the routines
  - Diabetes may not have been previously diagnosed. Follow Physician/NP orders/treatment plan to control blood glucose (refer to Residential Care: Hypoglycemia)
  - Maintain BP within resident's normal specific BP range

### Expected Client/Family Outcomes

- The resident will receive timely assessment and treatment after initial onset of TIA or Stroke symptoms
- If a TIA is diagnosed, prophylactic measures will be initiated, re-assessed and adjusted according to symptoms
- If a Stroke is suspected appropriate and timely treatment will be initiated, reviewed and monitored
- The resident and family will be well informed during the initial identification of symptoms and briefed on the rationale for treatment options
- The family and supports will be encouraged to support the resident during the diagnostic phase, particularly when there is fear of permanent or temporary cognitive and functional losses
- The family will be encouraged to express any concerns they have to a professional team member

### Patient/Client/Resident/Staff Education

- All residents and supports will receive information on how to contact the Canadian Heart and Stroke Information ([Appendix G](#))
- All residents and supports will receive written information on stroke detection, prevention and care ([Appendix H](#))
- Staff may refer to SharePoint for a power point presentation on TIA/Stroke by Angela Heino

### Evaluation

- On admission a resident's Cognitive Performance Scale (CPS), vitals and neurovital signs will be clearly documented and easily accessible for comparison when a sudden event occurs
- The percent (%) of residents who were assessed as having an ischemic stroke and receiving rTPA within the window of 3 to 4.5 hours
- Staff and families received written information

### Documentation

- Completion of Admission Assessment capturing vital signs and neurovitals and Cognitive Performance Scale within RAI data ([Appendix D](#)).
- Progress Record: should record which TIA or stroke symptoms were noted.
- The SBAR is to be used to convey information to a physician/NP or an emergency department in a succinct and pertinent manner.
- When a resident returns to the care facility after stroke treatment, the summary notes & TIA/Stroke Orders will be reviewed.
- The MDS Observation Record and ADL should reflect the residents identified care routine, functional abilities and level of assistance needed.
- Care Plan: The interdisciplinary team will develop an individualized care plan for the resident and establish evaluation dates.

### Related Documents

- Residential Care RAI assessment: Cognitive Performance Scale (CPS) and Depression Rating Scale (DRS)
- SBAR ([Appendix D](#))

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- VCH Residential Quality Council Clinical Practice Guidelines and related documents:
  - [Identification and Interventions for Agitation & Excessive Behaviour for Resident-Centered Care](#)
  - [Continence: Promotion and Maintenance](#)
  - Bowel Functioning: Promotion and Maintenance
  - Least Restraint: Maximizing Freedom CPD (being piloted)
  - Pain (being reviewed)
  - VCH Skin Breakdown Clinical Practice Guidelines
  - Dysphagia management information
  - [Sleep Pattern Record](#) (within Agitation & Excessive Behaviour CPD)
  - Guidelines for use: Neurological Vital Signs Record & sample for
  - Depression Rating Scale – RAI assessment
  - Hypoglycemia document
  - Cognitive Performance Scale – RAI assessment
- VCH Acute: Care of the Patient following Stroke
  - Pt Flow Pathway for Acute Care ([Appendix F](#))
  - Stroke Pictorial Positioning Guide ([Appendix C](#))
- [Occupational Therapy Skin Care Guideline](#)
- [VCH/PHC: Diet Writing Guidelines](#)

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## Appendix A: Definitions

<b>TIA</b>	<p>is a brief episode of neurological dysfunction caused by focal brain or retinal ischemia without evidence of acute infarction. 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. (BC Ministry of Health Services Advisory Committee, 2009)</p> <p><i>Canadian Heart &amp; Stroke Definition:</i> A TIA happens when a clot stops blood from flowing to the brain for a short time. The symptoms of TIA are almost the same as the symptoms of a stroke except they go away within a few minutes or hours. Having a TIA is an important warning sign. It tells you that you have a higher risk of having a stroke. Retrieved May 26, 2010 <a href="http://www.heartandstroke.com">http://www.heartandstroke.com</a></p>
<b>Stroke</b>	<p>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 (BC Ministry of Health Services Advisory Committee, 2009)</p> <p><i>Canadian Heart and Stroke Definition:</i> A stroke is a sudden loss of brain function. It is caused by the interruption of flow of blood to the brain (ischemic stroke) or the rupture of blood vessels in the brain (hemorrhagic stroke). The interruption of blood flow or the rupture of blood vessels causes brain cells (neurons) in the affected area to die. The effects of a stroke depend on where the brain was injured, as well as how much damage occurred. A stroke can impact any number of areas including your ability to move, see, remember, speak, reason and read and write. Retrieved May 26, 2010 <a href="http://www.heartandstroke.com">http://www.heartandstroke.com</a></p>
<b>Ischemic Stroke</b>	<p>About 80% of strokes are ischemic, which means they are caused by the interruption of blood flow to the brain due to a blood clot. The buildup of plaque (fatty materials, calcium and scar tissue) is involved in most ischemic strokes narrowing the arteries that supply blood to the brain, interfering with, or blocking the flow of blood. This narrowing is called atherosclerosis. An ischemic stroke is either "thrombotic" or "embolic." Retrieved May 26, 2010 <a href="http://www.heartandstroke.com">http://www.heartandstroke.com</a></p>
<b>Thrombotic Strokes</b>	<p>Thrombotic strokes are caused by a blood clot that forms in an artery directly leading to the brain. Embolic strokes occur when a clot develops somewhere else in the body and travels through the blood stream to the brain</p> <ul style="list-style-type: none"> <li>• <b>Hemorrhagic stroke:</b> About 20 per cent of strokes are hemorrhagic, which means they are caused by uncontrolled bleeding in the brain. This bleeding interrupts normal blood flow in the brain and by flooding the brain, kills brain cells. Retrieved May 26, 2010. <a href="http://www.heartandstroke.com">www.heartandstroke.com</a></li> </ul> <p><i>There are two main types of hemorrhagic stroke:</i></p> <ul style="list-style-type: none"> <li>• Subarachnoid hemorrhage is uncontrolled bleeding on the surface of the brain, in the area between the brain and the skull.</li> <li>• Intracerebral hemorrhage occurs when an artery deep within the brain ruptures.</li> </ul>

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## Appendix B: ACT FAST Poster

If you think someone may be having a stroke,

**Act F.A.S.T.**



<b>FACE</b>	<b>ARMS</b>	<b>SPEECH</b>	<b>TIME</b>
<p><b>Can the person Smile?</b></p> <p><b>Does one side of the mouth or an eye droop?</b></p>	<p><b>Can the person raise both arms equally?</b></p>	<p><b>Does the person slur their words?</b></p> <p><b>Do they understand what you said?</b></p>	<p><b>IF THE PERSON SHOWS ANY OF THESE SYMPTOMS, TIME IS IMPORTANT.</b></p> <p><b>CALL 911 -</b></p>

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## Appendix C: Stroke Pictorial Positioning Guide

### POSITIONING STROKE PATIENTS IN BED

- Affected leg forward on pillow(s)
- Pillow behind to prevent roll back
- Affected shoulder forward with arm on pillow



Lying on strong side

- Affected leg back
- Pillows in front and behind



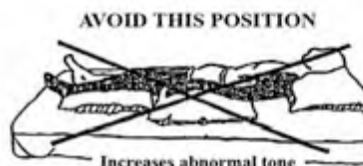
Lying on weak side

NOTE: Lower shoulder should ALWAYS be forward with weight on scapula. Pressure on glenohumeral joint can cause shoulder damage



Sitting in bed

- Prior to raising head, ensure hips right back in bed crease
- Arms supported to ensure shoulders at NEUTRAL position



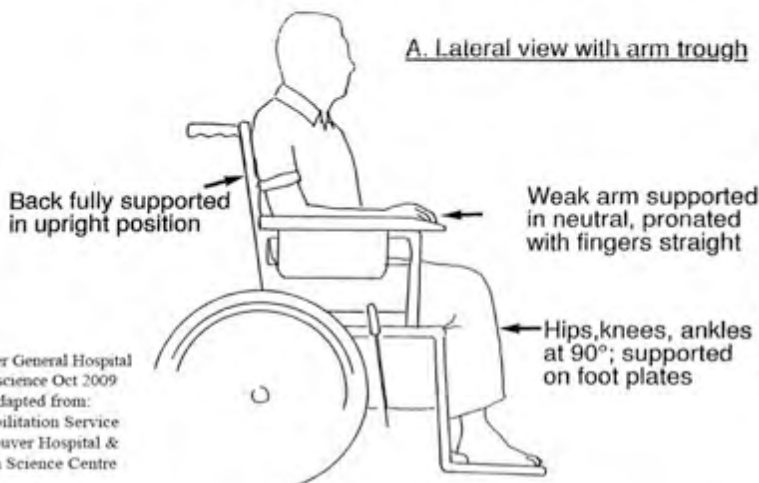
AVOID THIS POSITION

Increases abnormal tone

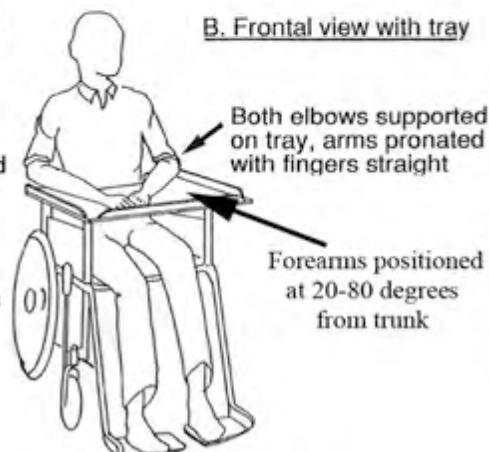
- Decreases pt ability to perform/ contribute to own ADL's
- limits pt engagement with environment
- Increases abnormal muscle tone

### Positioning Stroke Patient in W/C

A. Lateral view with arm trough



B. Frontal view with tray



Vancouver General Hospital  
Neuroscience Oct 2009  
Adapted from:  
Rehabilitation Service  
Vancouver Hospital &  
Health Science Centre

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# Appendix D: SBAR Tool

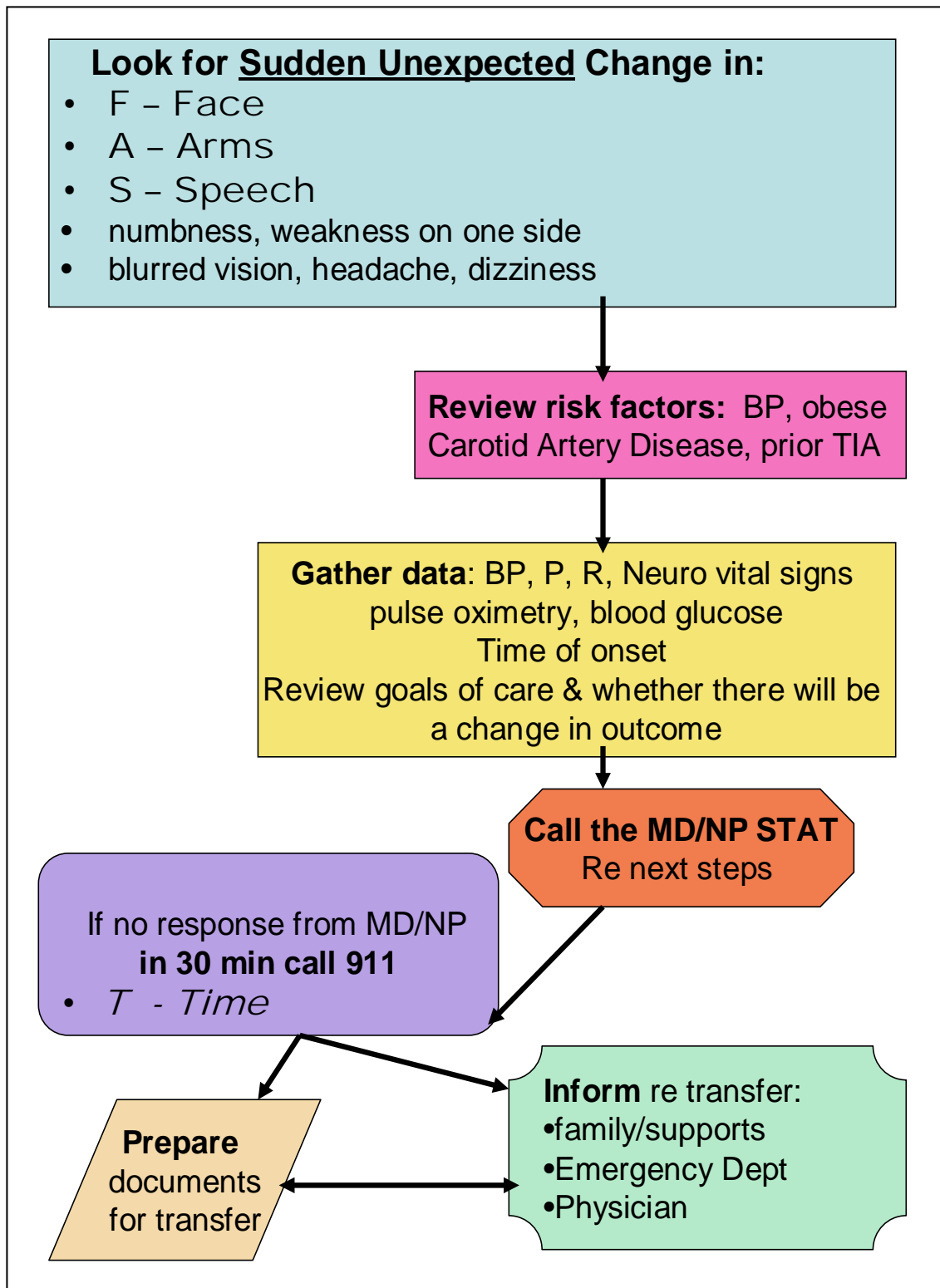
## SBAR WORKSHEET

<p><b>S</b></p> <p>Situation</p>	<p>I am calling about (resident's name and location) _____</p> <p>The resident's code status/degree of intervention is _____</p> <p>The problem I am calling about is _____</p> <p>ex. I am concerned that the resident's condition is deteriorating</p> <p>I have just assessed the resident. Vital signs are:</p> <p>BP _____ P _____ RR _____ O<sub>2</sub> sat _____ T _____</p> <p>I am concerned (as an example) about the:</p> <p>BP because it is _____ over 200 _____ less than 90 _____ or 30mmHg below usual</p> <p>Pulse because it is _____ over 110 _____ or less than 55 _____</p> <p>RR because it is _____ less than 10 _____ or over 28 _____</p> <p>Temp because it is _____ less than 35 _____ or over 39 _____</p> <p><i>These values may be normal for some residents. This is merely a guide for when it may be appropriate to contact the physician.</i></p>
<p><b>B</b></p> <p>Background</p>	<p>Have the chart, flow sheets and progress notes on hand.</p> <p>Admitting diagnosis _____ Date of admission _____</p> <p>Attending physician _____</p> <p>Procedures performed _____</p> <p>Current medications _____</p> <p>Allergies _____</p> <p>O<sub>2</sub> _____ l/min OR _____ % for _____ (length of time)</p> <p>Previous vital signs (look for a trend)</p> <p>BP _____ P _____ RR _____ O<sub>2</sub> sat _____ T _____</p> <p>Lab results - include date and time test was done, results of previous tests for comparison:</p> <p>_____</p> <p>Consider other relevant clinical information:</p> <p>Level of consciousness _____</p> <p>Chest sounds _____</p> <p>Skin color _____</p> <p>Urine output/bladderscan _____</p> <p>CWMS(circ, warmth, movement, sensation) _____</p>
<p><b>A</b></p> <p>Assessment</p>	<p><b>What is your assessment of the situation?</b></p> <p>This is what I think the problem is: _____; OR</p> <p>I am not sure what the problem is, but I am worried; OR</p> <p>The resident is unstable – we need to do something.</p>
<p><b>R</b></p> <p>Recommendation</p>	<p><b>What do you need from the physician by the end of the conversation?</b></p> <p>I recommend that you _____</p> <p>For example:</p> <p>come to see the resident now/today/asap</p> <p>talk to the resident or family about the degree of intervention</p> <p>If the resident requires a physician: (example) "The resident's condition has changed significantly and needs to be assessed by a physician."</p> <p>Do you need any tests like: bloodwork urine C&amp;S ECG CXR?</p> <p>Consider whether you need to ask each of these questions:</p> <ol style="list-style-type: none"> <li>1. When are you going to be here to see the resident?</li> <li>2. What parameters do you want me to continue monitoring?</li> <li>3. What change should I be expecting that would indicate an improvement?</li> <li>4. If you are not coming in, when should I call you again?</li> </ol> <p><b>Before you end the call, repeat all orders back to the physician!</b></p>

Please remember that this document is meant solely as an aid for successful communication! If you are comfortable that you have all the information you need, you do not need to use this worksheet. If you do use the worksheet, only fill in the blanks you need. When you have completed your call, and documented the relevant facts, throw this sheet away. Created on 28/08/2007 10:04 AM

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Appendix E: Stroke and TIA Detection, Initial Management CPG: Residential Decision Tree

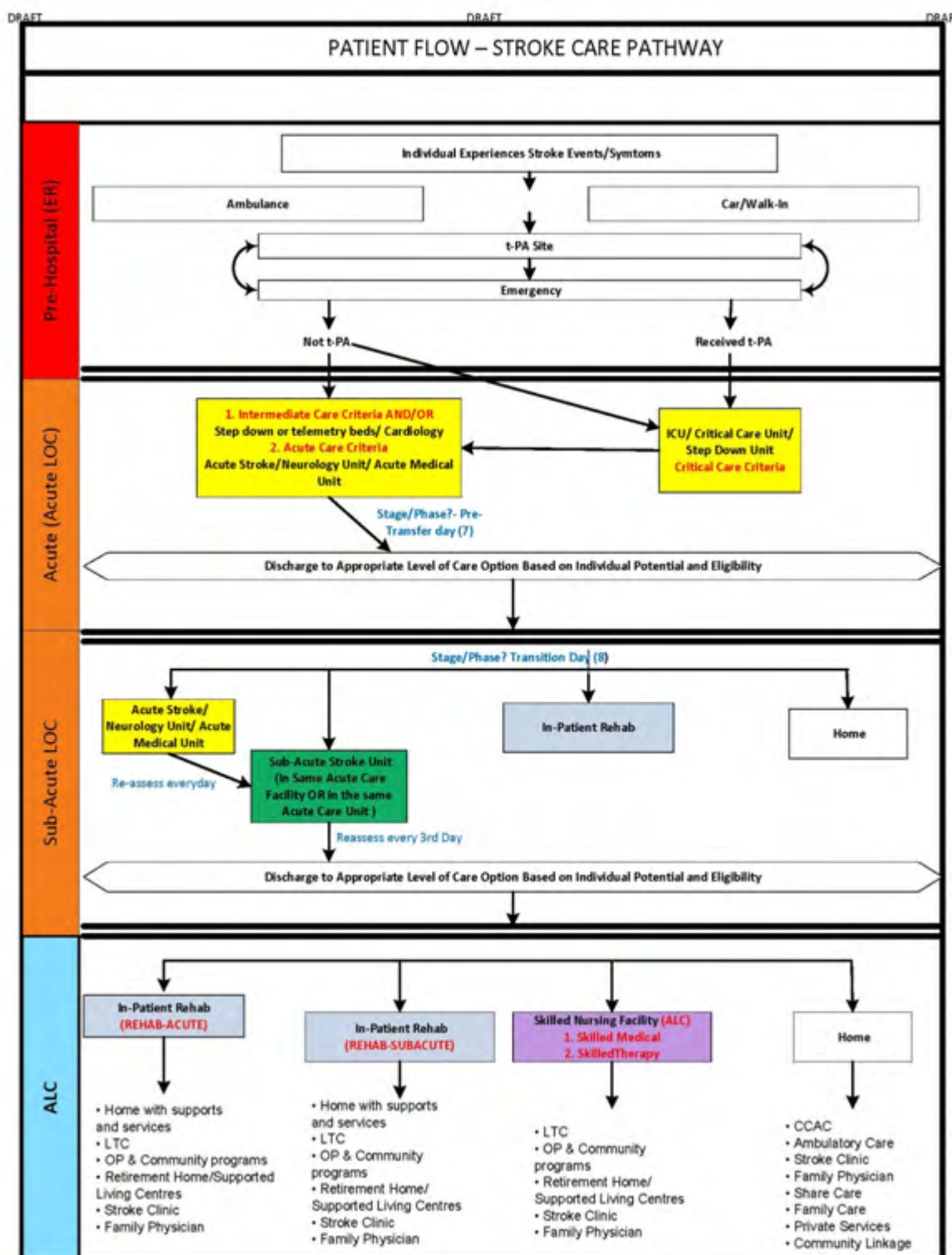


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## Appendix F: Acute Stroke Pathway Decision Tree



Rochelle Carateo

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## Appendix G: Canadian Heart & Stroke Contact Information



<http://www.heartandstroke.com>

### Heart and Stroke Foundation.

- Five Signs
- Transient Ischemic Attack (TIA)
- Ischemic Stroke
- Hemorrhagic Stroke
- Anatomy of the brain
- Effects of a stroke

Pamphlet:- **Emergency Signs, Signals, Action for Life Canadian Heart & Stroke Foundation** <http://www.heartandstroke.com>

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## Appendix H: Education Pamphlet – page 1

If a TIA is diagnosed, preventative measures will be initiated, reassessed and adjusted according to symptoms and plan of care for resident.

If a Stroke is diagnosed appropriate treatment will be initiated, reviewed and monitored.

The resident and family will be well informed during the initial identification of symptoms and rationale for treatment options.

Family and supports are encouraged to support the resident during the diagnostic phase and when there is fear of cognitive and functional losses.

Family and supports are encouraged to express any concerns you have to staff.



References:



<http://www.heartandstroke.com>



## TIA/STROKES

*If you think some one may be having a stroke,*

## Act F.A.S.T.



*If you require any further information related to TIA/STROKES please don't hesitate to speak with the Resident Care Coordinator.*

*Developed by the VCH Residential Practice Council, June 2010*



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## Appendix H: Education Pamphlet – page 2



**"Time is Brain"**  
Brain cells die quickly if the condition is not treated.

### Facts about Stroke:

Stroke is the third leading cause of death and the leading cause of adult disability

A stroke occurs when something happens to interrupt the steady flow of blood to the brain, like a clot or a burst in a blood vessel. Brain cells quickly begin to die.

If you notice any sudden changes in the resident, report it to nursing staff immediately.

*Adapted from Heart Disease and Stroke Prevention; Mass Dept of Public Health.*

Is there a sudden change in the resident's condition? Observe for:

### ACT F.A.S.T:



**F**ace



**A**rm



**S**peech



**T**ime

**Consult physician and transfer resident to acute care**

### Risk factors for Stroke:

Mini strokes (transient ischemic attacks or TIAs) when stroke symptoms such as confusion, slurred speech or loss of balance appear and disappear. Call 911 you may be able to prevent a major stroke.

High blood pressure – The #1 cause of a stroke. Monitor blood pressure and always take your prescribed medications.

Diabetes – Control the symptoms of diabetes with proper diet, exercise and medication.

Obesity – Being just 20 pounds overweight significantly increases your risk of stroke and heart disease.

Smoking – Smoking increases risk of stroke by two to three times

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