

# Training Bulletin

## **Paramedic Prompt Card For Acute Stroke Protocol**

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Emergency Health Services Branch  
Ministry of Health and Long-Term Care

# **Paramedic Prompt Card For Acute Stroke Protocol**

## **Introduction**

Stroke is the third leading cause of death and the leading cause of disability in Canada. In Ontario, at least 16,000 people suffer a stroke each year and currently at least 90,000 people in the province are living with the effects of stroke. It is expected that these numbers will increase significantly as the population ages.

The province has developed a strategy designed to address the issue of strokes and stroke care. The goal of Ontario's Stroke Strategy is to reduce the incidences of stroke and improve patient care and outcomes for persons who experience a stroke by re-organizing stroke care delivery to ensure access to appropriate, high quality care in a timely fashion.

An integral part of the Ontario Stroke Strategy is the designation of Regional Stroke Centres (RSCs) and District Stroke Centres (DSCs). These stroke centres are mandated to organize their human and medical resources so that stroke patients can be identified and treated both rapidly and appropriately for the needs of the patient. Designated RSCs and DSCs provide a high standard of specialized acute stroke care for those patients that cannot receive that level of care in a community hospital. In addition to providing acute care services, RSCs are responsible for leading the development of regional stroke plans that include stroke prevention strategies, acute care, and rehabilitation services. Currently there are nine (9) designated Regional Stroke Centres and eighteen (18) designated District Stroke Centres across the province.

## **Role of Emergency Medical Services Within the Stroke Strategy**

In order for patients to receive the treatment benefits offered by a stroke centre, they must be identified and transported to an appropriate facility in a timely fashion. In addition, these hospitals must be prepared to manage these patients immediately upon their arrival. Part of the role of Regional Stroke Centres is to bring together all stakeholders in stroke care, including the pre-hospital sector, to build networks to develop a consistent approach to stroke care across the region. In areas of the province with a designated stroke centre, paramedics may be authorized, in certain circumstances, to bypass community hospitals under protocol in favour of a designated stroke centre where the patient would receive specialized treatment.

Paramedics will be notified by their ambulance service operators when Acute Stroke Protocols have been implemented within their response area. Paramedics in areas of the province where Acute Stroke Protocols have yet to be implemented will continue to transport suspected stroke patients to the closest appropriate hospital or to a hospital as directed by their Central Ambulance Communications Centre (CACC).

### **Paramedic Prompt Card for Acute Stroke Protocol**

An important tool to assist paramedics in determining the most appropriate destination for patients experiencing signs and symptoms of an acute stroke is the Paramedic Prompt Card for Acute Stroke Protocol (appendix 1). The purpose of the Paramedic Prompt Card is to provide paramedics with a quick reference on the indications and contraindications for bypassing a community hospital and transporting patients directly to a designated stroke centre under an Acute Stroke Protocol.

The prompt card was developed after reviewing the Acute Stroke Protocols from the five (5) sites involved in Stroke Strategy pilot programs. The medical directors of the Regional Stroke Centres and the Medical Advisory Committee of the Ontario Base Hospital Advisory Group were consulted to review the draft prompt card. After incorporating their recommendations into the Paramedic Prompt Card, both of these groups provided endorsement for the card.

The criteria listed on the Paramedic Prompt Card have been developed to ensure that patients are transported to the most appropriate hospital in a safe and timely manner. The standardization of the content of the cards also ensures consistency in the application of the Acute Stroke Protocol across the province.

The Paramedic Prompt Card is divided into two (2) sections. The first section lists the signs and symptoms that suggest that a patient may be experiencing an acute stroke. Paramedics must consider patients who present with one or more of these signs and symptoms as being eligible for transport to a stroke centre if they can be transported to the centre within two hours of the clearly defined time of symptom onset or the time the patient was “last seen in a usual state of health”. The second section lists all of the contraindications that would exclude patients from being transported under the Stroke Protocol, even if they meet the criteria contained in the first section of the card.

## **Specific Assessments for Patients Experiencing a Suspected Stroke**

During the assessment of patients experiencing a suspected stroke, paramedics may have to apply specific types of assessments to determine whether or not a patient meets the criteria that indicate the need to be transported to a stroke centre under the Acute Stroke Protocol. The following are descriptions of these assessments and how to interpret them.

<b>Sign/Symptom</b>	<b>Specific Assessment</b>	<b>Interpretation of Findings</b>
<b>Facial Droop</b>	1. Have the patient grimace or smile	If one side of the face does not move as well as the other side the results is suggestive of an acute stroke.
<b>Leg Weakness/Drift</b>	1. Have the patient one leg up approximately 30 degrees and hold it in that position for 5 seconds. 2. Repeat the procedure with the other leg. 3. Compare the results of both sides.	If one leg drifts downward or falls before the end of five (5) seconds or the patient is unable to lift one (1) leg, the result is suggestive of the onset of an acute stroke.
<b>Arm Weakness/Drift</b>	1. Have the patient hold both arms outstretched in front of their body, perpendicular to the ground, for five (5) seconds.	If one (1) arm drifts downward or falls before the end of five (5) seconds or the patient is unable to lift one (1) arm, the result is suggestive of the onset of an acute stroke.
<b>Slurred Speech, Inappropriate Words or Mute</b>	1. Ask the patient to name three (3) simple objects that you show them (i.e. pen). 2. Ask the patient to repeat a simple sentence (i.e. "It is sunny today").	If the patient slurs words, uses inappropriate words when describing the objects or repeating the sentence, or is unable to speak at all, the result is suggestive of an acute stroke.

*Note: Any of the above results are only suggestive of an acute stroke if the signs/symptoms are of new onset.*

## **Application of the Stroke Protocol**

If after assessing and determining that a patient may be experiencing an acute stroke, paramedics must confirm that the patient meets the indications for transport to a designated stroke centre and that no contraindications exist (see prompt card). The paramedic prompt card may be used to assist in confirming this. Once it has been determined that the patient meets the Acute Stroke Protocol, the paramedic crew must notify their local CACC of the patient's need to be transported to a stroke centre prior to departing the scene. The CACC will confirm the availability of the stroke centre and then authorize the paramedic crew to transport.

## **Summary**

An integrated, coordinated stroke strategy will lessen the social and financial impact of this disease on patients and their family as well as reducing the overall burden on the health care and social services resources in the province. As partners in the Ontario Stroke Strategy, Emergency Medical Services, by ensuring prompt recognition of patients who may be experiencing a stroke and timely transportation to a designated stroke facility can improve the victim's potential recovery.

Paramedics are encouraged to review the Acute Stroke Protocol on a regular basis and utilize the Paramedic Prompt Card as a reference tool to ensure they are familiar with when it would be appropriate to transport patients to a designated stroke centre. Paramedics are also encouraged to review the relevant sections of the Basic Life Support Patient care Standards, version 1.1 and the EHS Core Training Program, **Acute Stroke Review**, Fall 2001 for an update on the assessment and management of patients experiencing an acute stroke.

# PARAMEDIC PROMPT CARD FOR ACUTE STROKE PROTOCOL

## Indications for Patient Transport to a Designated Stroke Centre

*Transport to a Stroke Centre must be considered for patients who:*

present with a new onset of at least one of the following symptoms suggestive of the onset of an acute stroke;

- unilateral arm/leg weakness or drift
- slurred or inappropriate words or mute
- facial droop

AND

can be transported to arrive within two (2) hours of a clearly determined time of symptom onset or the time the patient was “last seen in a usual state of health”.

## Contraindications for Patient Transport Under Stroke Protocol

*Any of the following conditions exclude a patient from being transported under Stroke Protocol:*

- CTAS Level 1 and/or uncorrected airway, breathing or significant circulatory problem
- symptoms of the stroke have resolved
- blood sugar  $\leq 4$  mmol/l
- seizure at onset of symptoms or observed by paramedic
- Glasgow Coma Scale  $<10$
- terminally ill or palliative care patient

**CACC will authorize the transport once notified of the patient’s need for transport under the Stroke Protocol.**

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