



UNIVERSITY
OF MANITOBA

Pre-Hospital Stroke Care 2023

Rob Grierson BSc, BSc(Med), MD, FRCPC

Medical Director - Winnipeg Fire Paramedic Service
Assistant Professor - Department of Emergency Medicine, University of Manitoba
Chief Medical Officer – Emergency Response and Patient Transport, Shared Health Manitoba



Shared health
Soins communs
Manitoba



Winnipeg Regional
Health Authority
Caring for Health

Office régional de la
santé de Winnipeg

À l'écoute de notre santé

Background

- Current prehospital protocols designed when Stroke Neurologist not in-house 24/7 and EVT was in its infancy
- Goal is to reduce time from 911 to Treatment:
 - eliminate delays in the paging process
 - eliminate delays in waiting for registration/DI requisitions in ED
 - alert the entire Stroke Team of patient arrival (Preparation)
- Build off the success of the Trauma Team Activation (TTA) process through the Virtual Emergency Care and Transfer Resource Service (VECTRS):
 - **1029** TTAs province-wide from May 17th to November 8th, 2023
- **Estimated to save 15-20 minutes per Stroke patient**

Winnipeg Fire Paramedic Service
Patient Care Protocol
Adult (17 years and greater)
Acute Stroke

- PCP to ACP-P/DCPO
- ICP to ACP-P/DCPO
- ACP to ACP-P/DCPO
- ACP-P/DCPO only

Confirm: Suspected Stroke ^a - sudden onset of neurological deficit or alteration in level of consciousness or reliable history of same ^b
 □ No evidence of trauma

□ Oxygen if SaO₂ less than 95%
 □ Vital signs
 □ Patient history, including time last seen normal, time of onset of deficit, meds, and allergies
 □ Rapid patient assessment, including Los Angeles Motor Scale^c (LAMS) plus speech deficit assessment
 □ Blood sugar if altered LOC

□ Consider possible causes of acute neurological deficit / altered LOC ^d and treat according to protocol
 □ Establish IV^e N/S TKVO or IV lock concurrent with other scene activities or enroute

Have symptoms completely resolved prior to EMS arrival?

Yes

No

Do the following apply:
 □ LAMS Score > 0 and/or new speech deficit (slurred/abnormal/aphasic)?
AND
 □ Is estimated time from symptom onset to arrival at hospital ≤ 6 hours?

No

Transport to appropriate Emergency Department ^f as per Destination Advisory

Yes

Complete Thrombolytic Checklist ^g if estimated time from symptom onset to arrival at hospital is under 3.5 hours

Transport ^h with "Lights & Sirens" to HSC, include "Stroke 25" in hospital patch. Contact on-call neurologist ⁱ prior to transport

The crew will call **HSC paging** at (204)787-2071:

- Identify themselves as a Winnipeg EMS Unit
- Ask to speak to the on-call neurologist

Once on the line with the neurologist, the crew should

- Identify themselves as a Winnipeg EMS unit
- Be prepared to discuss HPI and the patient's condition including the thrombolytic checklist.
- If requested by paging, crews must **leave a call back number** as the neurologist may not be readily available.
- In the event the crew is unable to speak with the neurologist, **crews should not delay transport.**

In the event the neurologist is unable to be reached after two attempts, the crew should transport to HSC. For all acute stroke patients being transported to HSC, it is still the responsibility of the paramedic crew to **activate the entire Stroke Team via an appropriate radio patch to the Emergency department** as soon as possible after the transport to HSC has been initiated.

Stroke Team Activation (STA)

The screenshot displays the imprivata Shared Health interface. On the left, a navigation sidebar includes 'Inbox', 'Favorites', 'Groups', 'Directory', and 'On Call List'. The main area is titled 'New Message' and shows a message to 'Stroke 25'. The 'To:' field lists 'Eseddeeg Ghrooda' (Shared Health Doctor) and 'Rob Grierson' (Shared Health CMO/ Emergency Physician). A 'Send New Message' button is highlighted with a red arrow. Below the message, an 'Add Assignee' button is also highlighted with a red arrow. On the right, a blue 'URGENT' message card contains the following details:

URGENT
STROKE 25
Direct to: CT
Time of Call: 10:30
Estimated Time of Arrival: 10:50
EMS: WFPS
Location: Main St.
Time of onset deficit: 09:00
Time last seen normal: 08:30
LAMS: 4
Deficits: right face, arm, leg weakness
GCS: 15
HR: 70
BP: 160 / 90
RR: 16
Sats: 99 % on room air L
Glu: 5.0
IV: 1. 18 G 2. 20 G
Age: 75
Name: Smith, Jane
Identifier: 111 222 333
PMHx: hypertension, diabetes, atrial fib
ACP status: ACP-R
anticoagulant: rivaroxaban (Xarelto)
Potential exclusion:
< 3mo stroke

Stroke Team Activation (STA)

1. Paramedics identify stroke patient
2. Paramedics call **VECTRS** for **STA**
3. **STA** sent via **Cortext** to Stroke Team (Neuro Attending/Resident, Resus ERP, Triage and CT)
4. EDIS pre-registration by **VECTRS**
5. DI requisition completed and faxed to CT by **VECTRS**
6. Upon arrival in ED:
 - patient transferred **direct to CT (stable)** or **direct to resus (unstable)**



Start date December 6th, 2023 for WFPS

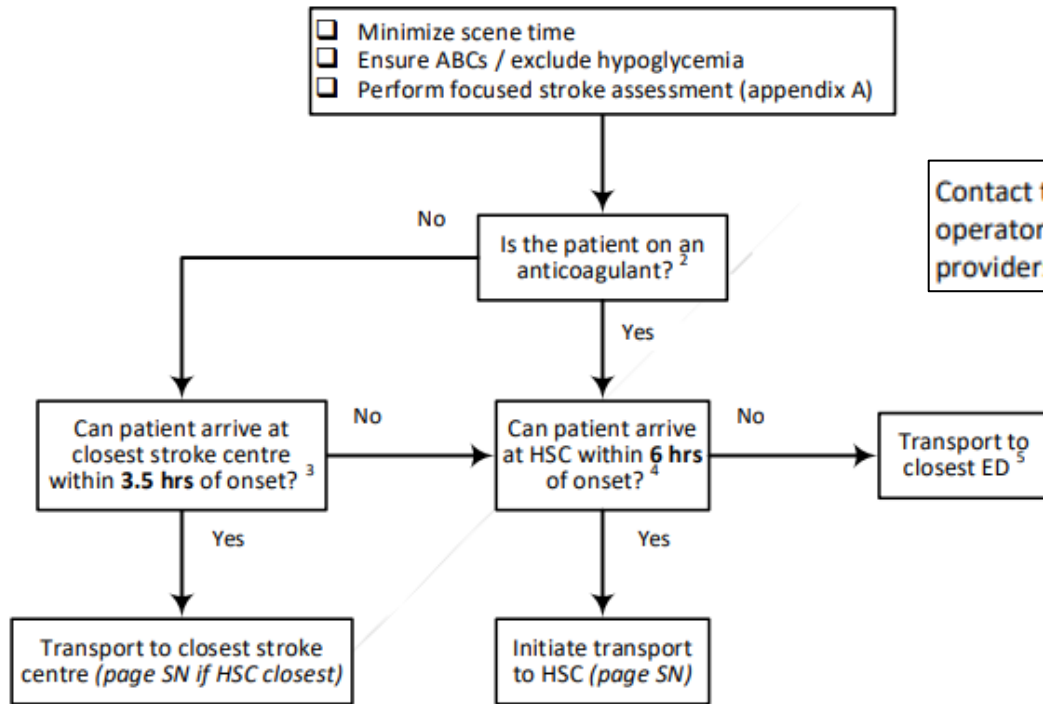
ALL - Paramedics with all work scopes will follow this protocol.

Version date: 2022-09-23

Effective date: 2022-10-25 (0700 hrs)

- Minimize scene time
- Ensure ABCs / exclude hypoglycemia
- Perform focused stroke assessment (appendix A)

Contact the SN through the HSC hospital paging operator. Ask to speak to the "stroke neurologist" and inform the operator that it is for a "stroke-25 outside call". If unable to reach the SN within a reasonable period of time, providers should contact the on-line medical support (OLMS) physician for assistance.



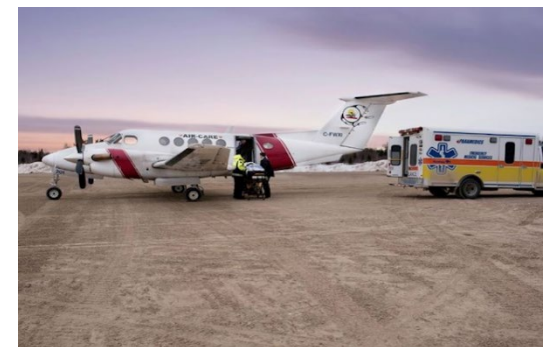
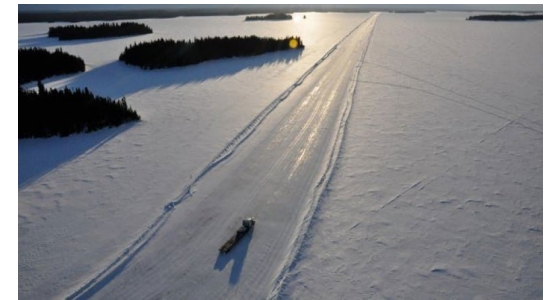
HSC Paging: 204-787-2071

QRG #1: MANITOBA STROKE CENTRES & TELESTROKE SITES

Bethesda Regional Health Centre (Steinbach)	Health Sciences Centre (Winnipeg)
Boundary Trails Health Centre (Winkler)	Portage District General Hospital
Brandon Regional Health Centre	St. Anthony's General Hospital (The Pas)
Dauphin Regional Health Centre	Thompson General Hospital

Rural and Remote Considerations

- multiple Tele-Stroke sites
 - perfusion scans
 - Cortext and EDIS availability
- rural and remote geography
 - transport times
 - telecom connectivity
- expansion of treatment window (EVT) to 24 hours



The word "QUESTIONS" is written in a bold, white, 3D sans-serif font. It is centered horizontally and surrounded by a cluster of overlapping squares in various shades of blue and green. The squares vary in size and opacity, creating a dynamic, abstract background for the text. The overall composition is clean and modern, set against a plain white background.

QUESTIONS