Stroke Repatriation Reference Document

Purpose

The Provincial Stroke Repatriation Reference Document provides a provincial framework, contextual reference, and expectations for the repatriations of stroke patients following access to hyperacute stroke services at thrombolysis and/or Endovascular Thrombectomy (EVT) capable hospitals. The need for this document was identified by stroke system partners who continue to experience challenges with respect to the repatriation of patients with stroke, particularly those repatriations across regional boundaries. This document does not replace regional or district stroke Memorandums of Understanding (MOUs),[1] or the Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario (2025), or Ontario Life or Limb Policy (2025). Instead, this reference document is meant to complement these documents while providing additional clarity for those circumstances which fall outside the scope of these documents.

Background

- Stroke is a serious medical condition that can cause morbidity, mortality and negatively impact quality of life. Stroke can result in significant social and economic burden to patients, families and society overall.
- Time sensitive treatments (e.g. thrombolysis and EVT) can reduce the impact of stroke if the patient arrives to an appropriate stroke centre and receives treatment as soon as possible. These highly specialized hyperacute treatments are provided at a limited number of hospitals in Ontario.
- Systems of care have been put in place since 2005 to enable regionalized coordinated processes that support access to hyperacute stroke care.

Hyperacute Stroke Services

Specialized acute stroke service providers coordinate and deliver a comprehensive range of stroke services to persons with stroke either on-site or through coordination with other stroke service

[1] Regional and district stroke MOUs should align with the principles and guidelines outlined in this document.

providers. Service provision levels are distinguished based on breadth and complexity of acute stroke services provided on-site. **Hyperacute stroke service providers include:**

- Thrombolysis Hospitals (Level 1, 2 and 3)
- Endovascular Thrombectomy Hospitals (Level 4)

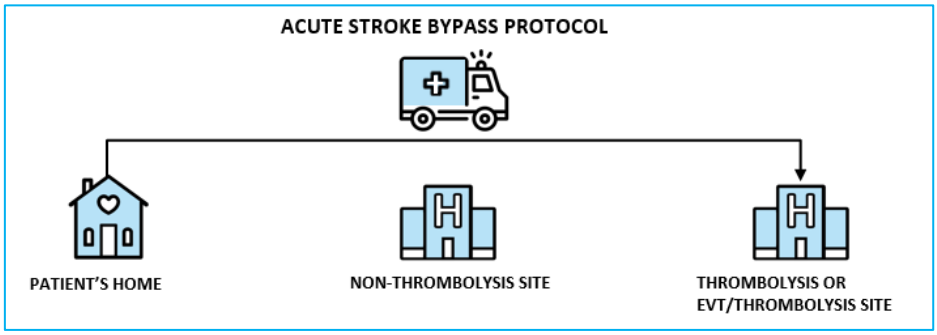
For additional information on the classification of specialized acute stroke services refer to the Ontario Specialized Acute Stroke Services Framework.

Accessing Hyperacute Stroke Services

Regional or District Bypass Protocols (Emergency Bypass)

- Provincially, all emergency medical services (EMS) utilize the Basic Life Support Patient Care Standards - Acute Stroke Bypass Protocol (p144). This protocol includes standardized screening to support infield identification of stroke patients.
- When patients meet the stroke criteria, agreements have been established with local hospitals to allow EMS to redirect patients to the most appropriate hyperacute stroke centre (i.e. thrombolysis and EVT hospitals) for the purposes of assessment and delivery of hyperacute stroke services for eligible patients.

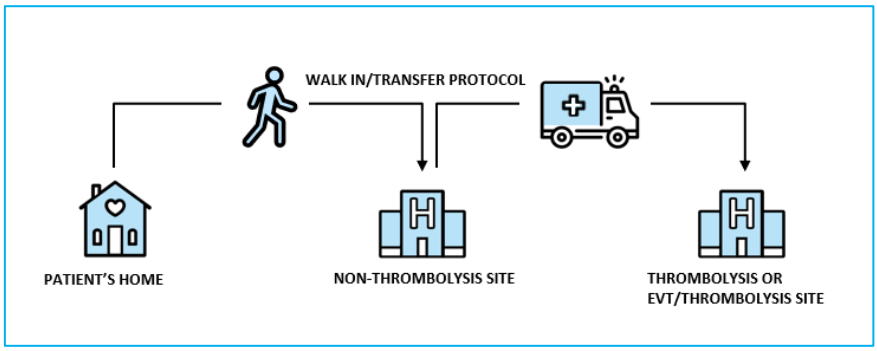
EXAMPLE: REGIONAL OR DISTRICT BYPASS PROTOCOL



Regional Inter-Hospital Referrals Outside of CritiCall Ontario (Specialized Care Referrals)

- All stroke regions have created a 'safety net' for patients that present to non-hyperacute stroke hospitals or experience a stroke while in hospital to ensure that these patients are still screened for hyperacute stroke treatment eligibility.
- Stroke 'walk-in'/transfer protocols and in-hospital stroke protocols ensure clinical screening and assessment that will trigger a direct referral to the thrombolysis or EVT capable centre for consultative support and potential transfer for treatment.

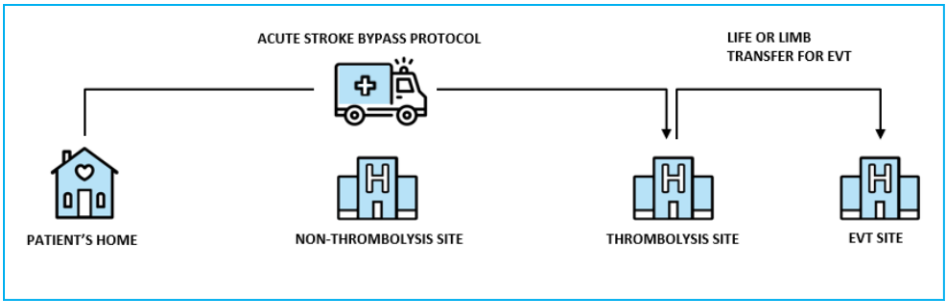
EXAMPLE: REGIONAL OR DISTRICT INTER-FACILITY REFERRAL PROTOCOLS



Provincial Inter-Hospital Life or Limb Referrals Through CritiCall Ontario Referrals (Specialized Care Referrals)

- A provincial process is in place for stroke patients, that utilizes CritiCall Ontario to facilitate urgent/emergent access to hyperacute/tertiary services, including EVT.
- EVT is a highly specialized procedure that is performed at a select number of hospitals provincially (n=11). Referring centres utilize CritiCall Ontario to access an EVT consultation based on provincial referral mapping which may be in another stroke region. Note: Processes to access EVT may differ depending on the time from last known well (i.e. 0-6 hours vs 6-24 hours).
- Patients transferred for EVT under the CritiCall Ontario process, are considered to meet the pre-established Life or Limb Policy as set out by Ontario Health. This protocol exists to ensure, "Persons with an episode of treatable time-sensitive critical illness (i.e., meaning threats to Life or Limb) presenting at one Ontario hospital who would benefit from specific treatment at another hospital, will have access to that treatment at the closest most-appropriate hospital within a best effort window of 4 hours."[2p.2]

EXAMPLE: PROVINCIAL INTER-HOSPITAL LIFE OR LIMB REFERRALS



Out of Stroke Region or District (Unplanned Care)

- Patients who experience a stroke outside of their home region (e.g. work, travel, leisure) may present to a hyperacute stroke hospital closest to their current location following the pathways described above.

[2] Ontario Health. (2025). *Ontario Life or Limb Policy* (Version date: September 29, 2025). https://criticalcareontario.ca/solutions/life-or-limb/.

Repatriation Following Access to Specialized Stroke Care Hospitals

Scope

The following sections provide guidance for stroke repatriation in situations **where local or regional memorandums of understanding do not exist**. These guidelines align with, and reference where appropriate, Ontario Health's Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario and Ontario's Life or Limb Policy, while identifying exceptions relevant to stroke care and additional stroke specific expectations. Table 1 outlines the applicability of this guidance and directs readers to other relevant documents where appropriate.

TABLE 1: DOCUMENT(S) TO REFERENCE WHEN MAKING STROKE REPATRIATION DECISIONS

Pathway used to Access Specialized Hyperacute Stroke Services	Most Appropriate Document to Reference when making Repatriation Decisions
Regional or District Bypass Protocols	Regional and District Stroke Memorandums of Understanding (MOU) • Each stroke region has established intra-regional/district MOUs to facilitate the repatriation of patients with stroke to the most appropriate hospital nearest to their home. These MOUs should align with the principles and guidelines outlined in this document.
Regional Inter-Hospital Referrals Outside of CritiCall Ontario (Specialized Care Referrals)	
Provincial Inter-Hospital Life or Limb Referrals Through CritiCall Ontario Referrals (Specialized Care Referrals)	• Ontario Life or Limb Policy (2025); and • Stroke Repatriation Reference Document
Out of Stroke Region or District	• Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario; and • Stroke Repatriation Reference Document

Definition

The expanded definition of repatriation used in the Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario is applicable to stroke:

> ***"Repatriation:** The process of transferring the person to the acute care hospital that is the closest to home most-appropriate hospital once the person is deemed to be medically stable[3] and/or suitable for transfer."*

[3] Medical stability does not imply that all medical issues are resolved, only that transportation can be safely performed, and the receiving hospital/service can manage these issues, including with support from the sending hospital service.

Applicable Scenarios

- **Emergency Bypass:** The person was initially transferred to a hospital outside their geographic area due to emergency protocols, such as bypass, field trauma triage, or air ambulance utilization standards.
- **Specialized Care Referral:** The person received specialized care at a hospital other than their home hospital because the services are not available at their home hospital.
- **Unplanned Care:** An unplanned medical event outside their geographic area (closest to home hospital) required the person to receive treatment outside the geography of their home hospital. Unplanned medical events may include but not be limited to:
    - Events that occur while travelling within Ontario
    - Events that occur while at work or participating in leisure activities, where these activities take place outside the patient's geographic area

Principles for Repatriation of People with Stroke

The principles for repatriation of people with stroke are aligned to the principles for Repatriation and Interfacility Transfer outlined in the Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario:

1. People in Ontario can expect to receive the right level of care closest to home.
2. Person transfers will support flow from tertiary/quaternary hospitals and hospitals[4] that support specialized care, ensuring a balanced approach to access to care.
3. Sending hospitals are expected to take the person back once their tertiary/quaternary specialized care is complete, except in clearly defined and documented exceptional circumstances. *Refer to stroke-specific repatriation guidance section below.*
4. Health service providers across the province have a shared accountability in providing timely, high quality, safe, and accessible care, and all hospitals are committed to expedient transfers. Through health service provider collaboration, all Ontarians have access to one system of health care.
5. Transfers will support culturally safe and inclusive care wherever possible (e.g., for First Nations, Inuit, Métis and urban Indigenous populations, Black communities, Francophone populations, people living with disabilities, communities with geographic disparities in access to care, newcomers, 2SLGBTQIA+ communities).

[4] Large/medium size hospitals receiving persons from small/rural hospitals requiring specialized services.

Stroke-Specific Repatriation Guidance

- Designated Stroke Units[5] **are the appropriate level of care** for non-critical patients who have a confirmed acute stroke diagnosis and who require admission to acute care, whether thrombolysis and/or EVT was received.[6]
    - **Patients Requiring Higher Level of Care**: Sending hospitals should consider the patient's anticipated longer-term care needs when making transfer decisions. Where a patient requires a higher level of care than a stroke unit, such as intensive care, but is expected to require subsequent stroke unit care, the closest-to-home hospital capable of providing both levels of care should be selected.
- Stroke patients will be repatriated to the closest designated stroke unit hospital to their home, not limited by boundaries as may be defined by Ontario Health Regions or Regional Stroke Network. To understand how this principle is applied in different scenarios, refer to Appendix A: Examples of Stroke Repatriation.
- In some instances, the 'closest' hospital to the patient's residence will not be identified as the 'home' hospital for repatriation, rather the 'home' hospital will be the closest hospital to the patient's residence that can provide the appropriate level of care (i.e., stroke unit care).
- There will be cases where the closest designated stroke unit hospital to the patient's residence is the hyperacute treating hospital. In these instances, repatriation/inter-facility transfer will not be required.

Standard Processes

Hospitals must follow the standard process outlined in the Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario), with the following exceptions and additions:

- The hospital that originally referred the person is only required to accept the person back if they provide the appropriate level of care (e.g., stroke unit care) **and** they are the closest hospital to the patient's home capable of providing the appropriate level of care.
- **Identification of up to three closest-to-home most appropriate hospitals is not required for stroke repatriation**. Given that stroke unit care is a specialized service available at a limited number of hospitals across the province, **sending hospitals should request transfer only to the designated stroke unit hospital closest to the patient's home**. Refer to Appendix B for a complete list of designated stroke unit hospitals in Ontario.

[5] A stroke unit is a specialized unit dedicated to the care of persons with stroke and staffed by an experienced, interprofessional stroke team. The unit has designated stroke unit beds that are co-located and in physical proximity to each other. These beds are used to provide care for stroke patients most of the time. (Ontario Stroke Unit Definition)

[6] Heran, M., Lindsay, P., Gubitz, G., Yu, A., Ganesh, A., Lund, R., Arsenault, S., Bickford, D., et al. (2022). *Canadian Stroke Best Practice Recommendations: Acute Stroke Management, 7th Edition—Practice Guidelines Update 2022. Canadian Journal of Neurological Sciences, 51*(1), 1–31. https://doi.org/10.1017/cjn.2022.344.

- Patients transferred under the Life or Limb policy or Acute Stroke Bypass Protocol, and who are deemed ineligible for hyperacute stroke treatment upon arrival, should **ideally be repatriated to the designated stroke unit hospital closest to their home within 4 hours and not exceeding 24 hours.** All hospitals (sending and receiving) are required to have procedures/protocols in place to support this. The closest to home hospital must be notified in advance of transfer.[7]

Decision Support and Prioritization Criteria

- Decision support and prioritization criteria for sending hospitals outlined in the Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario should be followed for stroke repatriation except for identifying three closest to home most-appropriate hospitals (see above).
- Prioritization criteria for receiving hospitals outlined in the Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario should be followed for stroke repatriation.

Implementation Supports

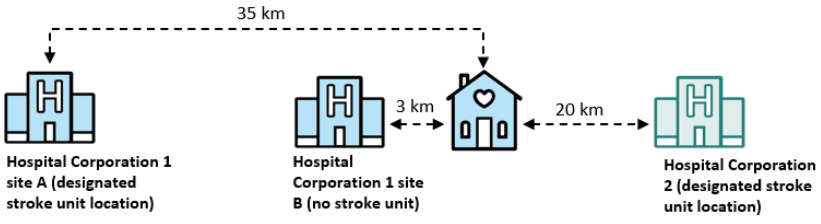
List of Stoke Units in Ontario

The PHRS tool does not currently identify designated stroke unit hospitals. Sending hospitals should refer to Appendix B- List of Designated Stroke Units in Ontario when selecting the closest designated stroke unit hospital to the patient's home address.

In multi-site organizations, the address of the site with the stroke unit should be used when determining proximity to the patient's home address (refer to example below).

When two stroke units are equal distance from the patient's home address, existing patient referral pathways, capacity, timely access and patient choice should be considered.

Example: Multi-Site Organizations



Example: The patient lives close to Hospital Corporation 1 site B, but the stroke unit for this corporation is located at site A. When determining the stroke unit closest to the patient's home, use the address of the site where the stroke unit is located (i.e., Hospital Corporation 1 site A). In this case, Hospital Corporation 2's stroke unit is considered closer, even though Hospital Corporation 1 site B is geographically nearer to the patient.

[7] Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario

Addressing Repatriation Challenges

Hospitals providing specialized services should have procedures in place to address unsuccessful or difficult repatriations (e.g. exceeding reasonable repatriation timelines or refusals by the home hospital). It is recommended that hospital seek to identify potential challenges (e.g. cross regional repatriations) early, engage with the Regional Stroke Network representatives and work collaboratively to address issues or 'incidents' as they arise which may violate the repatriation principles described. A proactive continuous quality improvement perspective should guide discussions to minimize risk of recurring incidents.

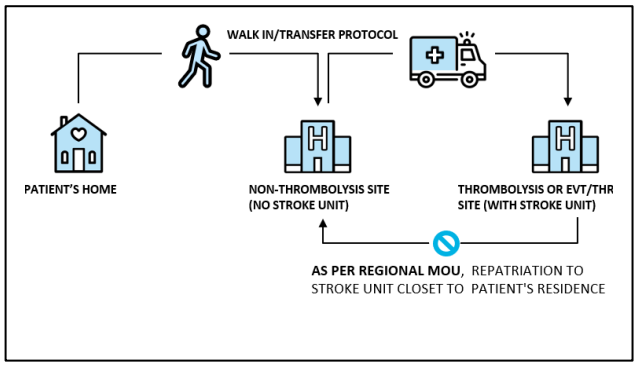
The following individuals should be engaged when addressing repatriation challenges:

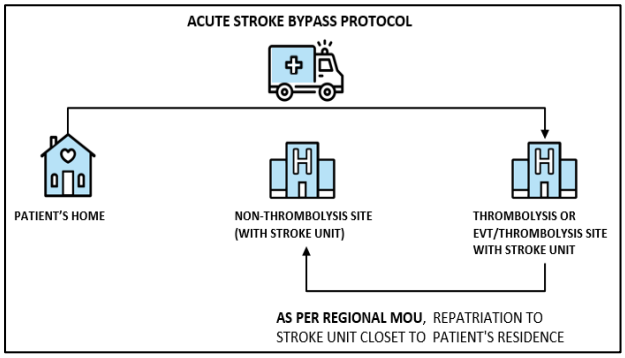
1. Regional Stroke Network Directors, and/or Stroke District Administrative Lead (e.g., District Stroke Coordinator) and/or Regional Stroke Medical Director as the as they have relationships with the designated stroke unit hospitals within their stroke networks of care and can provide a systems perspective to assist in resolving the issue.
2. Medical Chiefs of Staff could also be engaged locally if decisions regarding repatriation require further clinical guidance regarding suitability or timeliness.
3. Persisting challenges may require dialogue between the clinical Vice-Presidents or the appropriate highest administrative individual in the respective hospitals.

Further escalation and routine monitoring should follow processes outlined in the Operational Direction for Acute Hospitals on the Repatriation Process Within Ontario.

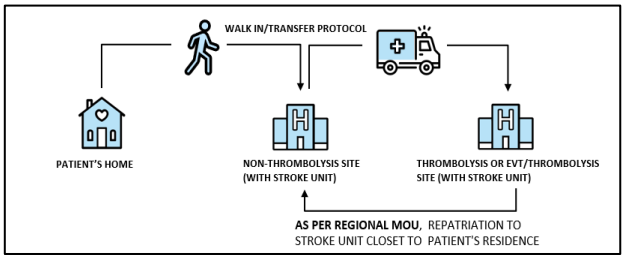
Appendix A: Examples of Stroke Repatriation

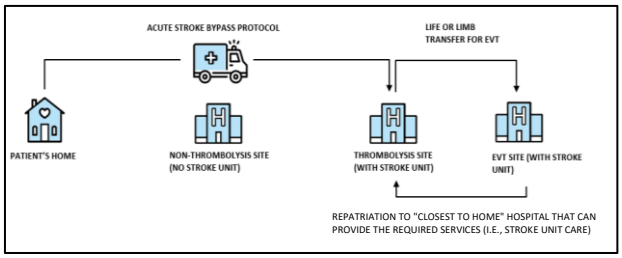
EXAMPLES: REPATRIATION AFTER REGIONAL OR DISTRICT BYPASS



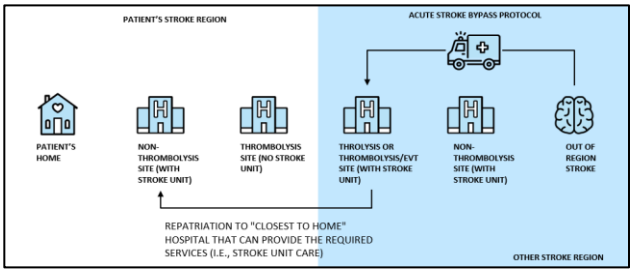


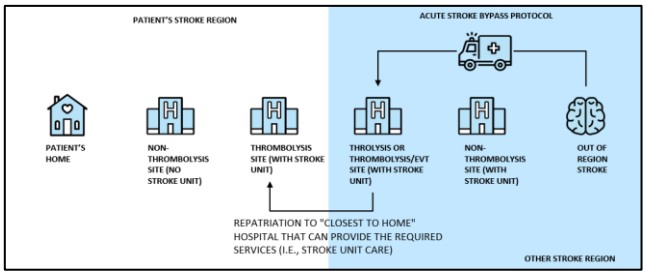
EXAMPLES: REPATRIATION AFTER INTER-FACILITY REFERRAL





EXAMPLES: REPATRIATION AFTER PROVINCIAL INTER-FACILITY HOSPITAL LIFE OR LIMB REFERRALS





Appendix B: List of Ontario Stroke Unit Hospitals

Region	Regional Stroke Network	Designated Stroke Unit Hospital
Central	Central East	Mackenzie Health-Cortellucci Vaughan Hospital
Central	Central East	Oak Valley Health- Markham Stouffville
Central	Central East	Southlake Health
Central	Central East	Muskoka Algonquin Healthcare – Huntsville District Memorial Hospital
Central	Central East	Orillia Soldiers' Memorial Hospital
Central	Central East	Royal Victoria Regional Health Centre
Central	West GTA	William Osler Health System - Brampton (Civic)
Central	West GTA	William Osler Health System - Etobicoke
Central	West GTA	Halton Healthcare Services Corp - Oakville
Central	West GTA	Trillium Health Partners - Mississauga
East	Central East	Northumberland Hills Hospital
East	Central East	Ross Memorial Hospital
East	Central East	Lakeridge Health - Oshawa
East	Central East	Peterborough Regional Health Centre
East	Champlain	Cornwall Community Hospital
East	Champlain	Hopital Montfort
East	Champlain	Ottawa Hospital (The) - Civic
East	Champlain	Pembroke Regional Hospital
East	Champlain	Queensway Carlton Hospital
East	South East	Brockville General Hosp - Charles St
East	South East	Kingston Health Sciences Centre - General
East	South East	Quinte Healthcare Corporation - Belleville
North East	Northeast	Health Sciences North - Laurentian
North East	Northeast	North Bay Regional Health Centre
North East	Northeast	Sault Area Hospital - Sault Ste Marie
North East	Northeast	Timmins & District General Hospital

Region	Regional Stroke Network	Designated Stroke Unit Hospital
North West	Northwest	Thunder Bay Regional Health Sciences Centre
Toronto	Toronto - North and East	Sunnybrook Health Sciences Centre
Toronto	Toronto - North and East	North York General Hospital
Toronto	Toronto - North and East	Scarborough Health Network - Birchmount
Toronto	Toronto - Southeast	Toronto East Health Network - Michael Garron
Toronto	Toronto - Southeast	Unity Health Toronto - St. Michael's Hospital
Toronto	Toronto West	Unity Health Toronto - St. Joseph's Health Centre
Toronto	Toronto West	University Health Network- Toronto Western Hospital
Toronto	Toronto West	Hennick Humber Hospital
West	Central South	Grand River Hospital Corp - Waterloo
West	Central South	Guelph General Hospital
West	Central South	Brant Community Healthcare Sys - Brantford
West	Central South	Hamilton Health Sciences Corp - General
West	Central South	Joseph Brant Hospital
West	Central South	Niagara Health System - Greater Niagara
West	Southwestern Ontario	Bluewater Health - Sarnia General
West	Southwestern Ontario	Chatham-Kent Health Alliance - Chatham
West	Southwestern Ontario	Windsor Regional Hospital - Ouellette Campus
West	Southwestern Ontario	Grey Bruce Health Services - Owen Sound
West	Southwestern Ontario	Huron Perth Healthcare Alliance - Stratford General Hospital
West	Southwestern Ontario	London Health Sciences Centre - University
West	Southwestern Ontario	St Thomas-Elgin General Hospital