EVT R2 Activation Guidance Document

Introduction

Patients identified as candidates for Endovascular Thrombectomy (EVT) are life or limb threatened and therefore require rapid access to specialized stroke centres capable of performing the procedure. Access to these centres is supported by a provincial process that works in tandem with the *Life or Limb Policy*[1] and aims to ensure that all patients eligible for EVT receive treatment in a timely manner and that no patient is refused care.

The provincial process for accessing EVT includes a pre-established referral pathway (i.e., CritiCall Ontario's Provincial tPA and EVT Referral Mapping) which is used by CritiCall Ontario to coordinate consultation with the closest EVT capable centre. This referral mapping assigns a primary and secondary EVT site (i.e., R1 and R2, respectively) to all referral sites. The purpose of this document is to articulate the circumstances under which R2 activation is appropriate, the steps that should be followed when activating R2, and the process for monitoring adherence to the principles outlined in this document. This document is meant to complement the provincial Life or Limb Policy, providing additional clarity in terms of its application to the stroke system, in particular access to EVT.

Guiding Principles

- **Life or Limb:** EVT patients are life or limb threatened. As per the Life or Limb Policy set out by Critical Care Services Ontario (CCSO), "no patient with a life or limb threatening condition will be refused care" (Life or Limb Policy, 2013).

Secondary EVT Site (R2) Activation

The following sections outline the circumstances under which R2 activation may be required or considered, as well as the responsibilities and expectations of all parties involved. A summary chart of the information contained in the following sections is also available in *Appendix A*.

Inappropriate activation of R2 and/or failures to activate R2 in accordance with the process steps outlined below, will be monitored by Ontario Health- CorHealth Ontario using the *Incident Reporting and Monitoring Process*.

[1] Ministry of Health and Long-Term Care (2013). Life or Limb Policy. Retrieved from: https://www.health.gov.on.ca/en/pro/programs/criticalcare/docs/provincial_life_or_limb_policy.pdf

Redirect Status

This section is meant to complement CritiCall Ontario's *Process for Requesting Temporary Redirect Status for Your Hospital or Program*[2] while providing additional clarity in terms of its application to the Stroke System, in particular, EVT.

1. Redirect Status may occur in response to planned or unplanned **human resource or infrastructure** challenges that render the primary site (R1) incapable of performing EVT for an **extended period. These situations should occur rarely and only in the following circumstances[2]:**
    - Planned infrastructure/equipment downtime for maintenance or repairs that limit diagnostic or procedural services needed to meet the patient care needs;
    - Unplanned infrastructure/equipment downtime for maintenance or repairs that limit diagnostic or procedural services needed to meet the patient care needs;
    - Other plant or infrastructure failures that would impede timely delivery of needed patient care services;
    - Excessive and persistent demands over a short timeframe that would:
        - result in the receiving centre operating beyond their moderate surge capacity (i.e., occupancy > 115%)
        - result in an unacceptable delay in care and/or impact on patient outcomes
    - Health Human Resource Challenges that impact ability to safely meet care requirements.
2. To request Redirect Status, the EVT site must call a meeting with the following individuals:[3]
    - Ontario Health Regional Lead
    - The CEO/VPs of hospitals affected by the redirect (i.e., R2 EVT Site)
    - Any other impacted partners
3. If the decision is made to proceed with redirection, Hospital Administrators must utilize the Provincial EVT Redirect Communication Process (*Appendix B*) to notify system partners of temporary service interruptions.[2]
4. During the time of redirect, the R1 EVT Site must continue to provide consultation for all EVT Life or Limb cases as per CritiCall's Redirect Process[2] (i.e., at minimum, the neurologist from the R1 EVT Site must **discuss** the case with the referring ED physician and/or Telestroke Neurologist). It is never appropriate to decline a Life or Limb consult (note: If the Telestroke Neurologist is aware that the R1 EVT Site is on Redirect Status, contacting the R2 EVT Site may be explored with the CritiCall Ontario call agent).

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[2] CritiCall Ontario (2022). *Process for Requesting Temporary Redirect Status for Your Hospital or Program*. Retrieved from: https://admin.criticall.org/Criticall/media/Resources/Covers/CritiCall-Ontario-Redirect-Process.pdf?ext=.pdf

[3] In situations where redirection is unplanned, the EVT site may adopt an informal redirection process to support consult requests that occur during the time that formal processes are being enacted (i.e., engagement with system partners and communication of redirect). Formal processes should be enacted as soon as possible.

- If, after providing consultation, the patient is determined to be a candidate for EVT and requires transfer, CritiCall Ontario will document the outcome appropriately and activate R2 using the following process:
    - CritiCall Ontario will request a consultation at the R2 EVT Site. The consultation will include the Telestroke Neurologist and R2 EVT Team (referring ED Physician is included if requested) or the ED Physician and R2 EVT Team (for non Telestroke cases). **R1 will not be included in the consultation.**
    - If, after consulting with the R2 EVT Site, the patient remains a candidate for EVT, **the R2 EVT Site must accept the patient for transport.**
    - If R2 cannot accept, the CritiCall Ontario Medical Associate will be contacted to assist (i.e., medical associate will speak to the appropriate parties and make their decision based on patient risk and safety and the situation).

5. If the patient is referred and transferred to the R2 EVT Site due to a service interruption at the R1 EVT Site, R1 must accept the patient back in a timely manner (i.e., within 24 h) or support timely repatriation to the home stroke unit hospital.[4]

- Bed capacity at the R1 EVT Site should not delay timely repatriation

<u>Multiple Case Status</u>

1. Requests may occur in response to unplanned **clinical** circumstances that impact the R1 EVT Site's ability to perform the EVT procedure in a **timely manner**. **In these circumstances, the R1 EVT Site remains accountable for the patient; the R2 EVT Site is not required to accept the patient. These situations should occur rarely and only in the following circumstances:**
    - 1 or more complex Interventional Radiology cases (i.e., a case that is longer duration than a typical INR case, e.g.- complex aneurysm >3 hours) occurring simultaneously to the new EVT case
    - 2 or more EVT cases occurring simultaneous to the new EVT case (i.e., 3 EVT cases)

    R2 activation should <u>not</u> occur in response to 1 EVT case occurring simultaneous to the new EVT case (i.e., 2 EVT cases).

2. Decisions to consult the R2 EVT Site must occur **after consultation has been provided by the R1 EVT Site** and the patient is determined to be a candidate for EVT (i.e., at minimum, the neurologist from the R1 EVT Site must discuss the case with the referring ED physician and/or Telestroke Neurologist). **It is never appropriate to decline a life or limb consult.**

[4] Patient must be medically stable and suitable for transfer and the receiving facility must be able to provide the appropriate level of care

- The R1 EVT Site must provide CritiCall Ontario and the Telestroke Neurologist with clear rationale as to why R2 consultation is being explored. CritiCall Ontario will document the outcome appropriately and activate R2 using the following process:
    - CritiCall Ontario will request a consultation at the R2 EVT Site. The consultation will include the Telestroke Neurologist and R2 EVT Team (referring ED Physician is included if requested) or the ED Physician and R2 EVT Team (for non Telestroke cases**). R1 will not be included in the consultation.**
        - During the consultation, the Telestroke Neurologist should provide details to the R2 EVT team as to why the R1 EVT Site made the decision to consult the R2 EVT Site
        - The R2 EVT Site is only required to accept the patient if there is capacity to do so (i.e., R2 EVT Site is not in multiple case or redirect status, as defined in the respective sections)
            - If R2 is unable to accept the patient, the Stroke EVT Team at the R1 EVT Site should receive the case. In these situations, the CritiCall Ontario Medical Associate will be contacted to assist (*note: the medical associate may recommend alternative action based on patient risk and safety*)

3. Local processes should be developed to inform Hospital Leadership of the need to activate R2 due to multiple cases. These processes should not delay care for the patient; however, they should occur simultaneously and/or immediately after R2 activation has occurred.

- All R2 activations should be reviewed within 24 hours by the clinical and administrative team to determine appropriateness, identify contributing factors and opportunities to mitigate future occurrences.
- The administrative team should initiate repatriation planning immediately after being notified of an R2 activation to ensure timely acceptance of the patient
    - If the patient is referred and transferred to the R2 EVT Site to enable more timely treatment, the R1 EVT Site must accept the patient back in a timely manner (i.e., within 24 h) or support timely repatriation to the home stroke unit hospital.[5]
        - Bed capacity at the R1 EVT Site should not delay timely repatriation

4. R2 activations will be monitored through the *Incident Reporting and Monitoring Process* (i.e., Incident Reporting and Feedback Process and Provincial Monitoring)

[5] Patient must be medically stable and suitable for transfer and the receiving facility must be able to provide the appropriate level of care

Incident Reporting and Monitoring Process

The following processes will be used to monitor adherence to the principles outlined in this document.

Contingency Planning

1. In addition to Critical Care Surge Capacity Management Plans, EVT sites should develop plans to respond effectively to any health human resource challenges, equipment failure/shortages and simultaneous activations (i.e., concurrent code strokes, concurrent INR cases). These contingency plans should mitigate the need for R2 activation.
    - EVT sites should ensure that all administrators and clinical staff are aware of the EVT Contingency Plans
    - Contingency plans should be reviewed on an annual basis, as well as during case reviews to ensure appropriate use and adherence to the contingency protocols

Incident Reporting and Feedback Process

1. The Incident Reporting and Feedback process should be used for **all** R2 activations, irrespective of the reason for activation and/or outcome.
    - **Monitor and Report**
        - R2 delegate to report R1 to R2 activation to CorHealth c/o Stroke Business Unit Coordinator (linda.nutbrown@ontariohealth.ca)
    - **Notify and Act**
        - CorHealth Business Coordinator to notify Regional Director (RD) of R1 EVT Site of the report, including details of the incident (cc CorHealth Senior Strategist, Clinical Specialist)
        - RD to acknowledge receipt of report to Ontario Health- CorHealth Ontario
        - RD will engage Regional Medical Director and team members at EVT Site as appropriate to review and understand circumstance under which R2 was activated
    - **Close the Loop:**
        - CorHealth Stroke Business Unit Coordinator will inform R2 delegate that issue has been directed to R1 EVT Site
        - RD from R1 EVT Site to report back to R2 EVT Site regarding action/QI steps that have been implemented at the R1 EVT Site (~2-3 weeks) (cc CorHealth Business Coordinator)

Provincial Monitoring

- Ontario Health-CorHealth Ontario will monitor the frequency of R1/R2 consult/transfer declines and Service Interruptions using CritiCall Ontario's Detailed EVT Report and the Provincial EVT Redirect Communication Process (*Appendix B*), respectively.

- Occurrence rates will be discussed with programs during the EVT Program Performance/Volume Calls and the ability to manage EVT volumes will be taken into consideration when providing volume recommendations to the Ministry of Health.
- Overall EVT system monitoring of volumes, R1 to R2 activation frequency and the conditions under which they occur will be monitored at the Hyperacute Steering Committee on quarterly basis.

Appendix A: Summary of R2 Activation Definition, Criteria and Expectations

	Redirect Status	**R2 Support Request**
Definition	Planned or unplanned human resource or infrastructure challenges that render the R1 EVT Site incapable of performing EVT for an extended period	Unplanned clinical circumstances that impact the R1 EVT Site's ability to perform the EVT procedure in a timely manner
Criteria	**Inclusions:** • Planned infrastructure/equipment downtime for maintenance or repairs that limit diagnostic or procedural services needed to meet the patient care needs; • Unplanned infrastructure/equipment downtime for maintenance or repairs that limit diagnostic or procedural services needed to meet the patient care needs; • Other plant or infrastructure failures that would impede timely delivery of needed patient care services; • Excessive and persistent demands over a short timeframe that would result in: ○ receiving centre operating beyond their moderate surge capacity (occupancy > 115%) ○ result in an unacceptable delay in care and/or impact on patient outcomes • Health Human Resource Challenges that impact ability to safely meet care requirements **Exclusions:** • Bed resources not immediately available	**Inclusions:** • 1 or more complex Interventional Radiology cases (i.e., longer duration) occurring simultaneous to the new EVT case • 2 or more EVT cases occurring simultaneous to the new EVT case (i.e., 3 EVT cases) **Exclusions:** • 1 EVT case occurring simultaneous to the new EVT case (i.e., 2 EVT cases)

Examples	• No INR coverage for reasons other than concurrent cases (e.g., unplanned outbreak requiring isolation) • Servicing of Biplane Angiography machine	• EVT consult request received while complex aneurysm is underway (anticipated time to angiosuite availability >3 hours)

Decision Making, Leadership Involvement and Communication	**Formal Process**
	• To request CritiCall Redirect, the EVT site must call a meeting with
	  ○ Ontario Health Regional Lead
	  ○ The CEO/VPs of hospitals affected by redirect (i.e., R2 EVT Site)
	  ○ Any other impacted partners
	• If the decision is made to proceed with redirection, Hospital Administrators must utilize the Provincial EVT Redirect Communication Process (*Appendix B*) to notify system partners of Redirect Status
	
	Managing Redirection in Real Time
	• In situations where redirection is unplanned, the EVT site may adopt an informal redirection process to support consult requests that occur during the time that formal processes are being enacted (i.e., engagement with system partners and communication of redirect). Formal processes should be enacted as soon as possible
		Informal Process
		• Decisions to request R2 support occur in real-time after the consultation has been provided by the R1 EVT Site.
		• Although formal communication to system partners is not required, local processes should be developed to inform Hospital Leadership of the need to activate R2 due to multiple cases. These processes should not delay care for the patient, instead, they should occur simultaneously and/or immediately after R2 activation has occurred.

R1 Responsibilities	• **Consultation**: During the time of redirect, the R1 EVT Site remains responsible for providing EVT Life or Limb consultations (i.e., at minimum, the neurologist from the R1 EVT Site must discuss the case with the referring ED physician and/or Telestroke Neurologist) ○ If the Telestroke Neurologist is aware that the R1 Site is on Redirect Status, contacting the R2	• **Consultation:** The R1 EVT Site remains responsible for providing EVT life or limb consultations (i.e., at minimum, the neurologist from the R1 EVT Site must discuss the case with the referring ED physician and/or Telestroke Neurologist • **Providing Rationale:** The R1 EVT Site must provide CritiCall Ontario and the Telestroke Neurologist with clear rationale as to why R2 support is being explored

	EVT Site may be explored with the CritiCall Ontario call agent. • **Repatriation:** If the patient is referred and transferred to the R2 EVT Site due to a service interruption at the R1 EVT Site, the R1 EVT Site must accept the patient back in a timely manner (i.e., within 24 h) or support timely repatriation to the home stroke unit hospital. ○ *Note: Patient must be medically stable and suitable for transfer and the receiving facility must be able to provide the appropriate level of care.*	• **Accepting the Patient:** the R1 EVT Site (R1) remains accountable for the patient; If R2 is unable to accept the patient, the Stroke EVT Team at the R1 EVT Site should receive the case. • **Case Review:** All R2 activations should be reviewed within 24 hours by the clinical and administrative team to determine appropriateness, identify contributing factors and opportunities to mitigate future occurrences. • **Repatriation:** If the patient is referred and transferred to the R2 EVT Site due to a service interruption at the R1 EVT Site, the R1 must accept the patient back in a timely manner (i.e., within 24 h) or support timely repatriation to the home stroke unit hospital. ○ Note: Patient must be medically stable and suitable for transfer and the receiving facility must be able to provide the appropriate level of care.
R2 Responsibilities	• **Consultation:** The R2 EVT Site must provide consultation for all EVT Life or Limb cases, including consult requests from the R1 EVT Site (i.e., at minimum, the neurologist from the R1 EVT Site must discuss the case with the referring ED physician and/or Telestroke Neurologist) • **Accepting the Patient:** If, after consulting, the patient remains a candidate for EVT, the R2 EVT Site must accept the patient for transport.	• **Consultation:** The R2 EVT Site must provide consultation for all EVT Life or Limb cases, including consult requests from the R1 EVT Site (i.e., at minimum, the neurologist from the R1 EVT Site must discuss the case with the referring ED physician and/or Telestroke Neurologist ○ *Note: The R2 EVT Site is only required to accept the patient if there is capacity to do so (i.e., the site is **not** experiencing 1 or more complex INR cases occurring simultaneous to the new EVT case; OR 2 or more EVT cases occurring simultaneous to the new EVT case; or Redirect Status)*

Telestroke Neurologist Role	**Consultation:** The Telestroke neurologist should participate in the consultation process with both the R1 and R2 EVT Site (note: these consultations will occur separately). *Note: The R2 EVT Site team should already be aware of the R1 site's Redirect status, so relaying this information should not be required.*	**Consultation:** The Telestroke neurologist should participate in the consultation process with both the R1 and R2 EVT Site (note: these consultations will occur separately). **Information Sharing:** During the consultation with the R2 EVT Site, the Telestroke Neurologist should provide details as to why the R1 EVT Site made the decision to consult the R2 EVT Site

Appendix B: Provincial EVT Redirect Communication Process

If Redirect Status Criteria are met and the hospital is no longer able to provide EVT treatment, appropriate communication to system partners should be initiated by the Hospital CEO or Senior Level Vice President using the following standardized process:

1. Email notification must be sent to CritiCall Ontario's Executive Director, Medical Director, and Call Centre Manager as listed below
    - Isabel.hayward@criticall.org
    - Desmond.bohn@criticall.org
    - Julie.gordon@criticall.org
2. EVT Hospital must also inform all affiliated R2 EVT hospitals by email and cc Ontario Health-CorHealth Ontario's Service Desk (oh-corh_service@ontariohealth.ca) and Ontario Health-OTN (Provincial Lead, Emergency Services: amanda.willard@ontariohealth.ca, and telestroke@ontariohealth.ca)
    - Ontario Health- OTN will notify Telestroke Neurologists of the Redirect Status (note: this process will **only** occur during regular business hours M-F)
3. The EVT hospital should also notify CritiCall Ontario, Ontario Health-CorHealth Ontario, OTN and the R2 EVT Site of any changes during the time of redirect and when the redirect is no longer required.