Special Project 440: Endovascular Thrombectomy

Participation

- Optional in all jurisdictions
- Applicable to comprehensive stroke centres (CSCs), also known as regional stroke centres in some jurisdictions, that provide endovascular thrombectomy

Stroke Special Projects overview

Stroke Special Projects enable the capture of key process and outcome information based on the Canadian Stroke Best Practice Recommendations. They also support stroke surveillance, quality improvement, benchmarking and Accreditation Canada's Stroke Distinction program.

Special Project 440 is a joint effort between the Heart and Stroke Foundation (HSF), CorHealth Ontario[i] and the Canadian Institute for Health Information (CIHI).

It collects additional data on patients who undergo endovascular thrombectomy for large-vessel occlusion causing acute ischemic stroke.

Stroke Special Project series

- Stroke Special Project 340 Canadian Stroke Strategy Performance Improvement (DAD/NACRS)[ii]
- Stroke Special Project 440 Endovascular Thrombectomy (DAD)
- Stroke Special Project 640 Canadian Stroke Strategy Performance Improvement II (DAD/NACRS)
- Stroke Special Project 740 Alpha FIM® (DAD)

It is strongly recommended that all stroke projects be completed where applicable.

i. As of June 22, 2017, the Ontario Stroke Network (OSN) is CorHealth Ontario, an organization formed by the merger of the Cardiac Care Network of Ontario and the OSN, with an expanded mandate spanning cardiac, stroke and vascular services through the entire course of care. CorHealth Ontario provides a strategic understanding of the care needs of both patients and providers, as the basis for clinical quality improvement, provincial planning, resource allocation and measurement of quality and outcomes.
ii. DAD: Discharge Abstract Database; NACRS: National Ambulatory Care Reporting System.

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CIHI's role includes liaising/communicating with the project lead of the HSF Quality of Stroke Care in Canada performance program and with CorHealth Ontario. Please submit questions related to the stroke projects via CIHI's eQuery tool:

- For abstracting questions, select "Inpatient/ambulatory abstracting and education (DAD and NACRS)."
- For coding questions, select "Classifications coding."

Project data

Project 440: Endovascular Thrombectomy

Field name	Field number	Valid data/format
Project Number	99	440
CTA, CTP or MRA Scan Performed Prior to Start of Endovascular Thrombectomy Intervention	01	P, Y, N, 8
Date and Time of Qualifying Scan Prior to Endovascular Thrombectomy Intervention	02–09	MMDDHHMM
Date and Time of Arterial Puncture	10–15	DDHHMM
First Reperfusion Achieved	16	Y, N, 8 (Not applicable), 9 (Unknown)
Date and Time of First Reperfusion Achieved	17–22	DDHHMM
Final Endovascular Thrombectomy Reperfusion Outcome Achieved	23	Y, N, 8 (Not applicable), 9 (Unknown)

Notes
CTA: Computed tomography angiography.
CTP: Computed tomography perfusion.
MRA: Magnetic resonance angiogram.

Project completion guidelines

Project 440 should be completed for acute care records when at least one of the CCI codes listed in the inclusion criteria below is recorded on the abstract and performed for large-vessel occlusion causing acute ischemic stroke. It is applicable to patients age 1 and older.

Inclusion criteria

CCI code list

Endovascular thrombectomy (clot retrieval)

- 1.JE.57.GQ *Extraction, **carotid artery** using percutaneous transluminal (arterial) approach*
  Includes: Mechanical thrombectomy, carotid artery
- 1.JW.57.GQ *Extraction, **intracranial vessels** using percutaneous transluminal (arterial) approach*
  Includes: Mechanical thrombectomy, intracranial artery
- 1.JX.57.GP *Extraction, **other vessels of head, neck and spine** NEC using percutaneous transluminal approach*
  Includes: Mechanical thrombectomy, extracranial vessels of head, neck and spine

Project 440 (Field 01): CTA, CTP or MRA Scan Performed Prior to Start of Endovascular Thrombectomy Intervention

Specifications	
Field status	Mandatory if Project 440 is recorded
Field length	One (1) character
Valid data	P, Y, N, 8

Definition

This data element captures where the last (most recent) computed tomography angiography (CTA), computed tomography perfusion (CTP) or magnetic resonance angiogram (MRA) scan that qualified the patient for endovascular thrombectomy was performed.

Valid data legend

Code	Description
P	**Yes, prior** There is documentation in the chart that a CTA, CTP or MRA scan was performed at another facility prior to the patient being directly transferred from that facility to the reporting facility.
Y	**Yes** There is documentation in the chart that a CTA, CTP or MRA scan was performed at the reporting facility. **Y (Yes) takes precedence over P (Yes, prior).**
N	**No** There is no documentation in the chart indicating the patient received a CTA, CTP or MRA scan at the reporting facility or at the previous facility (if the patient transferred from another facility).
8	**Not applicable** There is documentation in the chart that a CTA, CTP or MRA scan was **not** performed at the reporting facility or at the previous facility (if the patient transferred from another facility) due to contraindication (e.g., allergy to contrast material).

Collection instructions

- A facility may perform a CTA, CTP or MRA scan, depending on the imaging modality used there.

Project 440 (fields 02 to 09): Date and Time of Qualifying Scan Prior to Endovascular Thrombectomy Intervention

Specifications	
Field status	Mandatory if Field 01 CTA, CTP or MRA Scan Performed Prior to Start of Endovascular Thrombectomy Intervention is Y or P
Field length	Eight (8) characters
Valid data	MMDDHHMM, 99999999 (Unknown), blank

Definition

This data element captures the date and time of the last CTA, CTP or MRA scan used to decide whether to attempt an endovascular thrombectomy. This is the date/time of the first slice image, which is electronically stamped on the images when the CTA, CTP or MRA scan is started.

Collection instructions

- Use the timestamp on the first slice image on the last scan performed, or as documented in the chart. The time entry on the first slice image of the last scan should be given priority.
- When CTA, CTP or MRA Scan Performed Prior to Start of Endovascular Thrombectomy Intervention (Field 01) is N (No) or 8 (Not applicable), leave these fields blank.
- Record the month, day, hour and minute. The year is not being recorded.
  - Fields 02 and 03: Month (MM) or 99 (Unknown)
  - Fields 04 and 05: Day (DD) or 99 (Unknown)
  - Fields 06 and 07: Hour (HH) or 99 (Unknown)
  - Fields 08 and 09: Minutes (MM) or 99 (Unknown)
- Record the time per the 24-hour clock (00:00 to 23:59). If your ADT system uses a 12-hour clock, record the hour converted per the 24-hour clock.
- To facilitate accurate and consistent data capture in this field, facilities should ensure this information is readily available to coders.

Project 440 (fields 10 to 15): Date and Time of Arterial Puncture

Specifications	
Field status	Mandatory if Project 440 is recorded
Field length	Six (6) characters
Valid data	DDHHMM, 999999 (Unknown)

Definition

These fields capture the date and time of the first puncture of whatever artery is being used for the endovascular thrombectomy intervention. Most often the groin artery (e.g., femoral) will be used for access, but in some cases a different artery may be used (e.g., arm artery [radial, brachial], neck artery [carotid]).

Collection instructions

- Record the day, hour and minute. The year and month are not being recorded.
  - Fields 10 and 11: Day (DD) or 99 (Unknown)
  - Fields 12 and 13: Hour (HH) or 99 (Unknown)
  - Fields 14 and 15: Minutes (MM) or 99 (Unknown)
- Record the time per the 24-hour clock (00:00 to 23:59). If your ADT system uses a 12-hour clock, record the hour converted per the 24-hour clock.
- This information should be available in the intervention documentation, neurology consult note, discharge note or nursing assessment. This information may also be available on a facility-specific data form.

Project 440 (Field 16): First Reperfusion Achieved

Specifications	
Field status	Mandatory if Project 440 is recorded
Field length	One (1) character
Valid data	Y, N, 8 (Not applicable), 9 (Unknown)

Definition

Reperfusion is achieved when flow is re-established to the ischemic region for the first time. Note that reperfusion may not be sustained by end of the intervention; this element captures whether initial flow occurred.

Valid data legend

Code	Description
Y	**Yes** Initial flow achieved.
N	**No** Initial flow not achieved.
8	**Not applicable** Intervention abandoned.
9	**Unknown** There is no documentation available in the chart.

Collection instructions

- This information should be available in the intervention documentation, neurology consult note, discharge note or nursing assessment. This information may also be available on a facility-specific data form.
- Record 8 (Not applicable) for abandoned interventions.

Project 440 (fields 17 to 22): Date and Time of First Reperfusion Achieved

Specifications	
Field status	Mandatory if Field 16 First Reperfusion Achieved is Y
Field length	Six (6) characters
Valid data	DDHHMM, 999999 (Unknown), blank

Definition

This field captures the time of the first evidence of flow into the affected ischemic territory.

Collection instructions

- Record the day, hour and minute. The year and month are not being recorded.
  - Fields 17 and 18: Day (DD) or 99 (Unknown)
  - Fields 19 and 20: Hour (HH) or 99 (Unknown)
  - Fields 21 and 22: Minutes (MM) or 99 (Unknown)
- Record the time per the 24-hour clock (00:00 to 23:59). If your ADT system uses a 12-hour clock, record the hour converted per the 24-hour clock.
- For abandoned interventions, leave fields 17 to 22 blank.

Project 440 (Field 23): Final Endovascular Thrombectomy Reperfusion Outcome Achieved

Specifications	
Field status	Mandatory if Project 440 is recorded
Field length	One (1) character
Valid data	Y, N, 8 (Not applicable), 9 (Unknown)

Definition

This field captures whether final perfusion was achieved and the grade of perfusion at the conclusion of the endovascular intervention, based on evidence during the final angiography imaging run.

Valid data legend

Code	Description
Y	**Yes** Final reperfusion achieved (TICI 2B or TICI 3).
N	**No** Final reperfusion not achieved (TICI 0/1 or TICI 2A).
8	**Not applicable** Intervention abandoned.
9	**Unknown** There is no documentation available in the chart.

Collection instructions

- Reperfusion may be documented using a thrombolysis in cerebral infarction (TICI) scale. It can be documented as grade 0/1, 2A, 2B or 3, or as the percentage of flow or reperfusion.
- TICI scale:
  - Grade 0/1 (no effect of perfusion)
  - Grade 2A (less than 50%)
  - Grade 2B (more than 50%)
  - Grade 3 (open)
- Record 8 (Not applicable) for abandoned interventions.

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