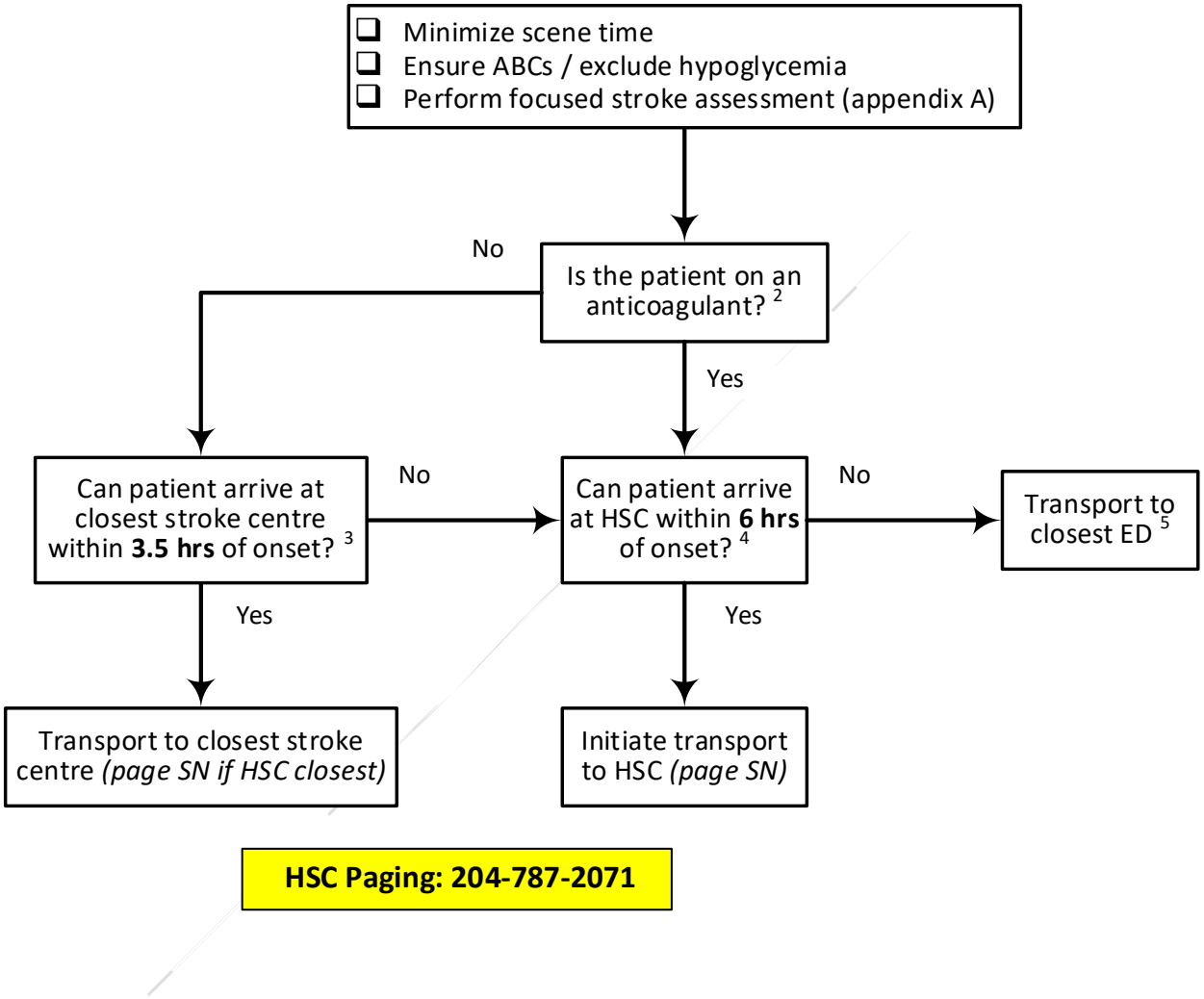
Shared health Soins communs Manitoba	E15A - ACUTE STROKE	
	Adult	MEDICAL
ALL - Paramedics with all work scopes will follow this protocol.		
Version date: 2022-09-23		Effective date: 2022-10-25 (0700 hrs)



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

QRG #2: LOS ANGELES MOTOR SCALE (LAMS) [8]			
FACIAL DROOP	0 - absent	1 - present	
ARM DRIFT	0 - absent	1 - drifts down	2 - falls down
GRIP STRENGTH	0 - normal	1 - weak	2 - absent

INDICATIONS

- All of the following are present:
  - Patient has a new neurological deficit known or suspected to be due to an acute stroke
  - Primary scene response *or* response to a facility where the patient has not been assessed by a physician [6]
  - The time from onset to arrival will be within 3.5 hour for any stroke / telestroke center *or* within 6 hours for the Health Sciences Centre (HSC)

CONTRAINDICATIONS

- DO NOT BYPASS A *CLOSER* EMERGENCY DEPARTMENT (ED) IF ANY OF THE FOLLOWING ARE PRESENT:
  - Resolution of neurological signs after treatment for hypoglycemia
  - Complete resolution of symptoms or signs prior to scene departure (for primary response only)
  - Instability of the airway, breathing or circulation that cannot be managed with available prehospital personnel, procedures, or equipment
  - Glasgow coma score equal to 8 or less
  - Known or suspected sepsis
  - Health care directive or advanced care plan indicating comfort care only (ACP-C)

NOTES

1. For the purposes of acute stroke management with this protocol,
   - **Onset** means the time at which the patient's stroke symptoms first appeared *or* the last time at which the patient was witnessed to be at their neurological baseline.
   - **Closest** means the stroke center or ED that has the shortest estimated transport duration from the patient's current location, regardless of regional health authority (RHA) boundaries.

   Due to the potential for referral to HSC for advanced care and challenges with patient repatriation, paramedics will only transport to Manitoba stroke centers (QRG #1) on primary response calls.
2. The risk of intracranial hemorrhage in patients taking anticoagulants who receive intravenous thrombolysis (IVT) is very high. These patients may benefit from mechanical thrombectomy (MT). Common anticoagulants include apixaban (ELIQUIS), Dabigatran (PRADAXA), rivaroxaban (XARELTO), and warfarin (COUMADIN).
3. A patient with an ischemic stroke who can be treated within 4.5 hours of onset may be a candidate for IVT which is available at multiple stroke and telestroke centers throughout the Province. As patient preparation can take up to

an hour, the **prehospital window** for consideration of IVT is one hour less (3.5 hours from symptom onset to arrival at the closest stroke center).

4. Patients within 6 hours of onset may be candidates for emergent mechanical thrombectomy (MT) currently available only at HSC.
5. Certain patients may benefit from MT within 6 to 24 hours if angiography (CTA) demonstrates an appropriate lesion. Management including the need for interfacility transfer (IFT) is best determined after assessment by a physician at the closest ED and consultation between the physician and stroke neurologist (SN). CTA is available at only some Provincial hospitals, so these patients may be transferred to another site for CTA before transport to HSC.

   The on-line medical support (OLMS) physician can assist with destination and transport decision-making.
6. In certain situations, such as with a rural ED or personal care home, it may not be possible for a physician to assess the patient prior to the request for an interfacility transfer (IFT). To limit delays to care, a registered nurse may contact the Medical Transportation Coordination Centre (MTCC) and request transport to a stroke center without the name of a receiving physician (**stroke IFT over-ride**).
7. 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.
8. The SN *may* ask for the Los Angeles Motor Scale (LAMS) score to help determine preferred therapy (QRG #2). A higher LAMS score predicts a large vessel occlusion which may derive greater benefit from MT.
9. Appendix A contains the clinical information that will be required when consulting with a stroke neurologist. Critical information includes the time of onset, anticoagulation, and estimated transport duration.

   Repeat vital signs as required. Keep the patient NPO. The frequency of reassessment will depend on the patient's condition and stability, as well as the transport duration.
10. EMS providers will encourage an individual who is able to verify the time of onset and/or provide collateral information and/or provide substitute (proxy) consent to accompany the patient. If the proxy cannot accompany the patient, obtain appropriate information (e.g. phone number) for immediate contact and advise them to remain readily available.
11. Ensure appropriate pre-arrival notification of ED staff.

LINKS
H11 - ANTICOAGULANTS

APPROVED BY	
	
Medical Director - Provincial EMS/PT	Associate Medical Director - Provincial EMS/PT

VERSION CHANGES (refer to X05 for change tracking)

- Reformatted (works scope indicator moved into header; compliance statement is now policy
- Simplified flow chart & revised notes for improved clarity
- Operational change patients must be transported to stroke center or ED within Manitoba
- Relabeling of appendices
- Extended list of anticoagulants moved to reference section

APPENDIX A: FOCUSED STROKE ASSESSMENT

Initial information:

- Patient age & gender
- Stroke symptoms or signs
- Time of onset
- Indicate if the patient is on an anticoagulant
- Time to closest stroke center or telestroke site
- Advanced health care directive

Identifying information *(required to access prior medical records):*

- Patient name
- Manitoba personal health information number (PHIN)
- Date of birth

Initial clinical assessment

- Vital signs, including point-of-care glucose
- LAMS score (QRG #2)
- Focused neurological examination for stroke - note right or left:
  - Level of consciousness (alert, responds to voice, responds to pain or unresponsive)
  - Speech (normal, slurred, incomprehensible or mute)
  - Smile (normal, partial droop or complete droop)
  - Arm strength (normal, slow drift or rapid fall)
  - Leg strength (normal, slow drift or rapid fall)

Medical history *(obtain as much detail as possible)*

- Within the last 3 months has the patient had a surgical procedure, major traumatic injury, myocardial infarction, and/or any serious bleeding?
- Has the patient had a seizure within the last 24 hours?
- What other health conditions does the patient have?
- Does the patient have a bleeding or clotting disorder?
- Is the patient on an anticoagulant? What other medications does the patient take?
- Is the patient allergic to any medication or substance?
- When did the patient last eat or drink?