

Code Stroke Update and EVT Tabletop

Stroke Best Practice Workshop
June 7, 2018

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Learner Objectives

Upon completion of this presentation, participants will be able to:

- Identify Canadian Stroke best practice Recommendations
- Identify the expanded 'window' for acute stroke intervention
- Verbalize the criteria for activating code stroke



Why?

1. To meet Canadian Stroke Best Practice Recommendations 2018
2. To align with 2018 Ontario Paramedic Prompt Card
3. To incorporate recommendations from our Neurologists
4. To adapt our policies and procedures for the acute stroke Endovascular Therapy (EVT) treatment window



Code Stroke Updates

- *NEW* Medical Directive Changes
- Last seen normal changed to **“Last Known Well”**
- 4 hour window in Medical Directive extended to **6 hours**
- **CTA added to Medical Directive and in Meditech**



Code Stroke Update

- ***NEW* Medical Directive Changes**
- **Patient Criteria:**
 - **Present with a NEW ONSET of AT LEAST ONE of the following suggestive of the onset of an acute stroke:**
 - **Unilateral arm/leg weakness or drift**
 - **Slurred Speech, difficulty expressing words, word finding, or difficulty understanding**
 - **Unilateral facial droop**
 - **Vision loss in one peripheral visual field**



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Code Stroke Update

- **Blue Folders: The following documents will be updated**
 - Medical Directive
 - Checklist for Nurses
 - Guidelines for tPA on back of Acute Stroke Thrombolytic Adult Dosage Chart
 - Information for patients regarding tPA
 - Information for patients regarding EVT **New**
 - Information for patients regarding their pathway in Stroke care **Unchanged**



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EVT – Endovascular Therapy Intervention

- *NEW* PPDO for Endovascular Therapy Intervention
- INTRA-PROCEDURE Monitoring **INCLUDES tPA section**
 - tPA MAY be running when patient arrives for EVT
 - Do not infuse tPA line with any other medications
 - Monitor patient for angioedema and active bleeding
 - Once tPA complete disconnect at saline lock
- Why?
 - tPA target door-to-needle is **30 minutes with a 60 minute infusion time**
 - TIME IS BRAIN – **Door to puncture target is 60 minutes**



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EVT

- *NEW* Policy for Endovascular Therapy Intervention
- Patient will go to ICU for 24 hours post EVT then to RSU on 2C
- Why?
 - tPA patients already go to ICU – using same processes



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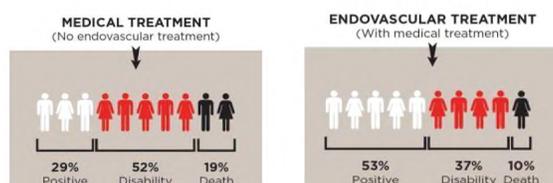
Who is eligible for EVT

- 20% of ischemic stroke patients
- Those eligible and those ineligible for tPA
- Disabling Stroke
- Stroke symptoms within 6 hours of time Last Known Well
- Large blood vessel blockage with a reachable clot
- Brain tissue that is still alive



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What is the impact of EVT?



(M. Hill ESCAPE TRIAL 2015)

EVT has shown significant reduction of patient disability and a 50% reduction in overall mortality compared with current standard of tPA alone.

It is a safe, highly effective treatment that saves lives and dramatically reduces disability



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REMEMBER...if your patient is showing signs of Stroke ACT FAST

■ TIME IS BRAIN

- 1.9 million brain neurons lost every minute!
- Door to needle target **30** minutes for tPA
- Door to puncture target **60** minutes for EVT
- Know your responsibilities in a CODE STROKE



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Last Known Well

- A 53-year-old man with a history of hypertension was brought to the ED by paramedics after his employer noticed that he had difficulty with speech, ambulation and vision
- The employer reported that the patient usually left his house at 3:40 am and arrived at work by 4:00am; however no one saw him arrive at work and no time clock was used
- Paramedics were called at about 5:00 am.



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Last Known Well

- **What was the time of onset of the stroke?**
 - When he went to bed?
 - 3:40 am?
 - 4:00am?
 - 5:00 am?



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Last Known Well

What do we know:

- Patient successfully drove to work. It is unlikely the stroke began before he left for work

Possible:

- Symptoms MAY have been very mild at first, that he ignored them and went to work anyway

Decision:

- Since we have no evidence for this yet, we TENTATIVELY assign an onset time of 3:40 am, subject to further history

Needed:

- Find someone at work who saw him and could report that he was normal; or obviously abnormal before the paramedics were called



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Last Known Well

Why is the time of onset of the stroke a critical piece of information?

Stroke Patient who arrive at the ED within four and a half hours of symptom onset may be candidates for tPA and as well as EVT

Stroke Patient who arrive at the ED within six hours of symptom onset will not receive tPA but may be candidates for EVT



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- 65 year old male, living at home with his wife, ambulates with a walker
- At 1400, while eating lunch with his wife, Mr. Walker experienced a sudden onset of slurred speech and right sided weakness
- His wife was very worried and wanted to call 911 but the patient refused, stating that he was just tired.



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Mr Walker

- At 1800 the symptoms remained and the weakness seemed to be worsening. Finally, Mrs. Walker convinced her husband that she should call 911
- The ambulance arrived at Mr. Walker's house at 1815
- Patient arrives at ED at 1900
- **What happens next?**



- What is the time "**Last Known Well**" ?
- 1400



- At 1400, Mr. Walker experienced a sudden onset of slurred speech and right sided weakness
- At 1800 the symptoms remained and the weakness seemed to be worsening. EMS called
- Patient arrives at ED at 1900
- Is Mr. Walker within the window for tPA?
- Is Mr Walker within the window for EVT?



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Mr. Barry B. Mytee

- Mrs. Mytee came into the kitchen at 13:00 hrs while Barry was having a cup of coffee and noticed he was having difficulty standing.
- This was new since they had lunch together at 1200.
- He seemed bewildered so she called an ambulance
- Arrives in the ED via ambulance at 14:00 hrs.
- He appears unaware of his deficits.



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Questions

- Determine the time Last Known Well.
- Do you call a Code Stroke?
- What are the most important tests that he needs?
- Does Mr Mytee fit the criteria for Code Stroke?
- Is Mr. Mytee a candidate for tPA?
- Is Mr Mytee a Candidate for EVT?



Abby Norml

- Ms Norml was admitted to 3B following an elective Left Hip replacement yesterday.
- Ms. Normal has a medical history of atrial Fibrillation for which she has been taking Warfarin for many years with no complications
- Ms Norml was taken off warfarin 7 days prior to surgery and has not been bridged with heparin.
- At 0500, Ms Norml rang requesting Analgesia and a bed pan.



Abby Norml

- You check at 0600 you find the Ms Norml sleeping comfortably and you do not want to disturb her as she had a poor night sleep



Abby Norml

- You check at 0600 you find the Ms Norml sleeping comfortably and you do not want to disturb her as she had a poor night sleep
- At 0730, Nurse Day shift enters the room to start his day and finds Ms Norml awake alert and following directions. with her eyes deviated to the left



Abby Norml

- You check at 0600 you find the Ms Norml sleeping comfortably and you do not want to disturb her as she had a poor night sleep
- At 0730, Nurse Day shift enters the room to start his day and finds Ms Norml awake alert and following directions. with her eyes deviated to the left
- Day has just last week received the Code Stroke Update teaching last week and jumps into action.



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Nurse Day

- Day notices when testing visual fields that Ms. Norml's eyes are deviated to the left and she does not see anything on the right.
- She has significant weakness to proximal and distal Right arm. And mild weakness to bilateral legs.
- Does Ms. Norml fit the criteria for Code Stroke?
- Nurse Day calls the code stroke



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Ms. Abby Norml

- Ms Norml is not a candidate for tPa as she has had major surgery less than 24 hours and after discussion with the surgeon, it was felt the risk of bleed was too high to consider tPA.
- A CTA was completed and the stars aligned for Ms. Norml , with Dr Marchuk being on call and available for consult



A Happy ending

- EVT was performed on Ms. Norml with good reperfusion to the Left hemisphere once the 2 cm blood clot was removed from the Left Internal carotid extending up into MCA territory



Take Home Message

- Tpa window has not changed. It is still 4.5 hours
- New window for EVT introduced and it is 6 hours
- A patient can be eligible for tPA but not EVT
- A patient can be eligible for EVT but not tPA
- A patient can be eligible for tPA and EVT.
- If onset is less than 6 hours, and patient meets the criteria, call CODE STROKE



- Code Stroke Updates going Live June 26
- Contact your CNS or Clinical Stroke Nurse or Manager with Questions



Thank You!

Please feel free to contact me

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