



Fast and Safe Thrombolysis

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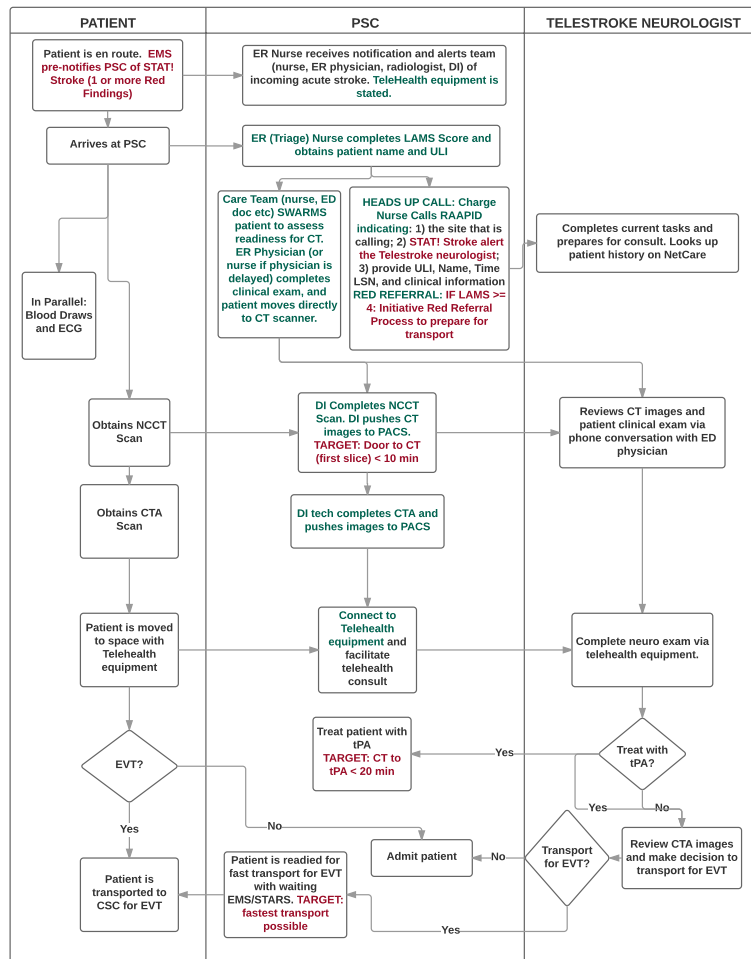
Disclosures

- None

Overall Process – In Your Package

ACUTE STROKE NEUROLOGY CONSULT

QuiCR January 2016



Arrival and Heads up
To RAAPID with LAMS

Imaging
Direct to CT
NCCT -> Push images
CTA -> Push imagea

Telestroke and decision
to treat with tPA and/or
transport for EVT

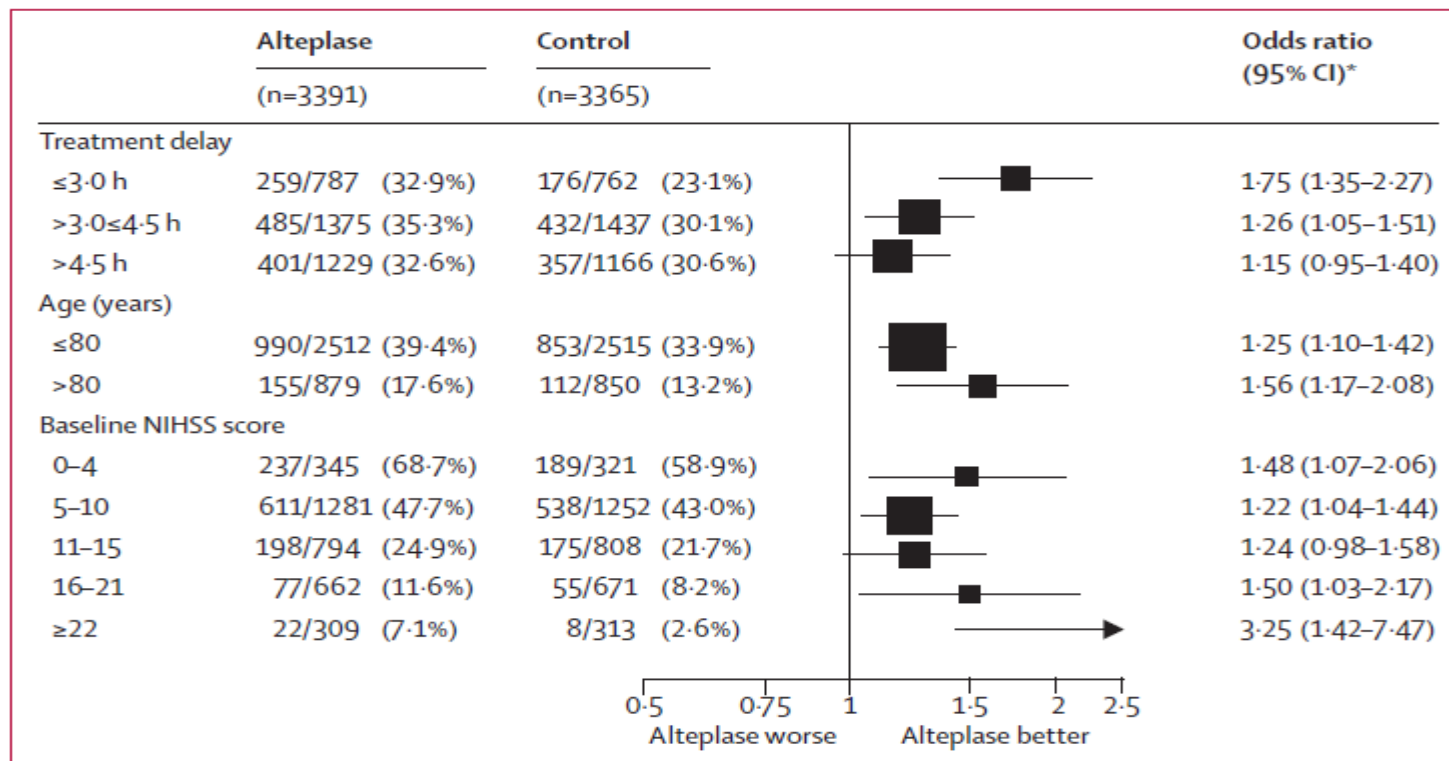


Figure 2: Effect of alteplase on good stroke outcome (mRS 0–1), by treatment delay, age, and stroke severity

*For each of the three baseline characteristics, estimates were derived from a single logistic regression model stratified by trial, which enables separate estimation of the OR for each subgroup after adjustment for the other two baseline characteristics (but not for possible interactions with those characteristics). mRS=modified Rankin Scale.

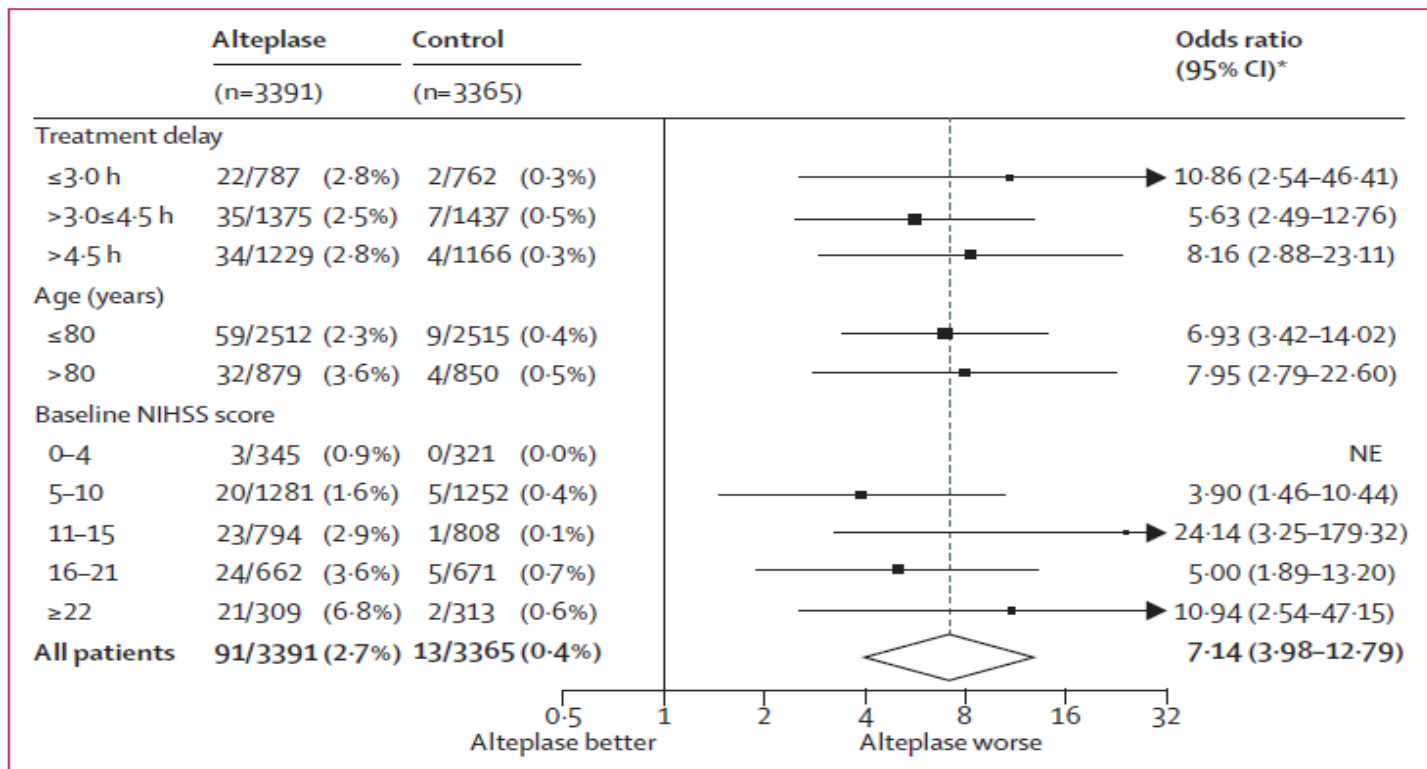


Figure 4: Effect of alteplase on fatal intracranial haemorrhage within 7 days by treatment delay, age, and stroke severity

*For each of the three baseline characteristics, estimates were derived from a single logistic regression model stratified by trial, which enables separate estimation of the OR for each subgroup after adjustment for the other two baseline characteristics (but not possible interactions with those characteristics). The overall effect in all patients is the trial-stratified logistic regression estimate adjusted only for treatment allocation. NE=not estimable.

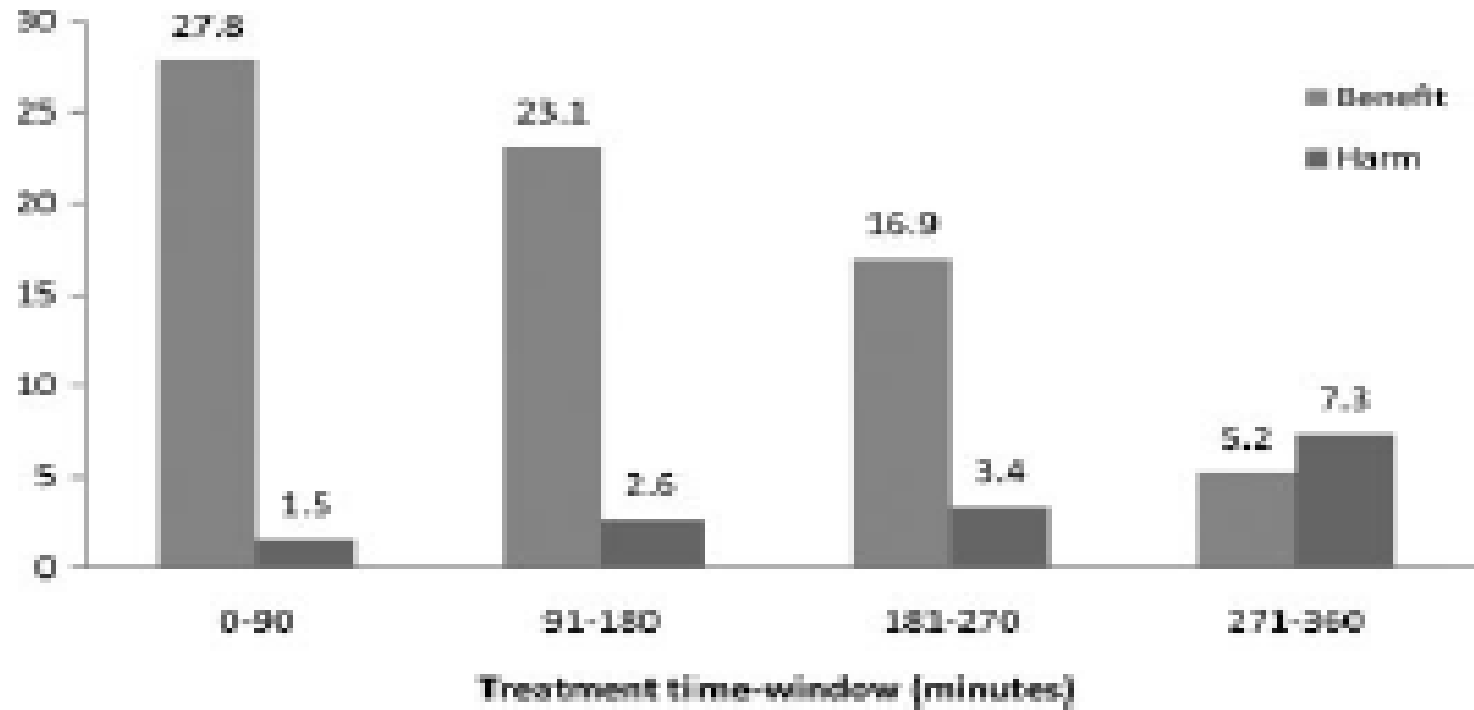


Figure. Number of patients who benefit and are harmed per 100 patients treated in each time window.

Analysis of all 6 trials of tPA. Out of 100 patients treated the number that benefits and the number harmed.

Principles of fast and safe thrombolysis

- Reduce avoidable delay
- Don't reduce unavoidable or essential delay
 - Take the time to understand the patient and what the risks might be and mitigate if possible
- Try to treat mostly strokes
 - Avoid treating mimics (but you will occasionally and that's OK)
- Consent process relevant to your patient
- Remember that usually fast = safe and effective where tPA is concerned

Avoidable Delay

- Inefficiency in the process
 - Late notification to RAAPID, late RAAPID response, late stroke team activation, late telestroke response
- Waiting for bloodwork to come back with no prior history of coagulopathy, warfarin treatment, liver failure, GI bleed or thrombocytopenia
 - In the absence of this history the chance of bloodwork abnormalities is extremely low
- Routine foley catheters in the absence of BP spikes or a suprapubic mass

Avoidable Delay 2

- Chest x-rays or EKG pre-thrombolysis in the absence of a clinical indication; (but use clinical judgement)
- Giving the bolus via bolus rather than IV push followed by infusion
- Delays in completing CT scan or CTA

Unavoidable/essential delay

- Do things in parallel where possible not in series!
- The pre CT 'swarm' or ED doc assessment
 - Establishes safety for direct to CT (2-5 min)
- Patient exam and NIHSS; (5 min)
- Brief history, review Netcare/medical records, medications! (5-7 min)
- Brain CT always; CTA if fast; (3-5 minutes)

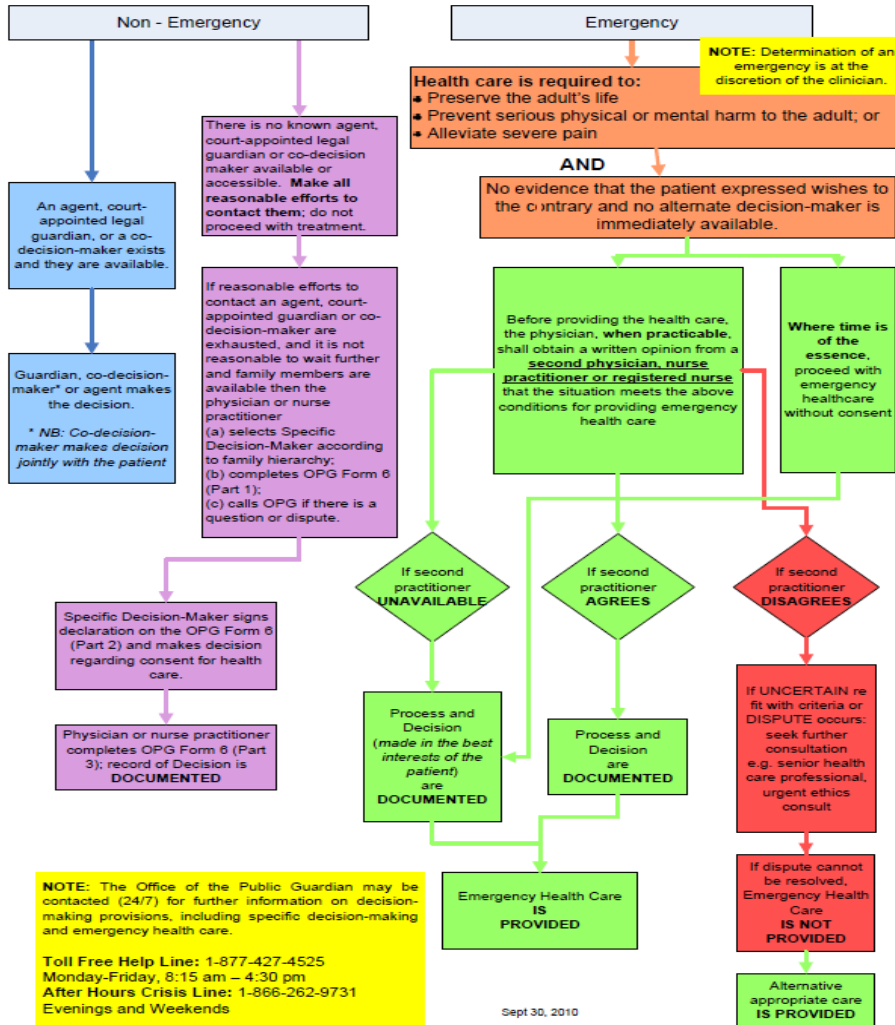
Unavoidable/essential delay

- Obtain 2 I.V.'s (and draw bloodwork in those on warfarin) (5 min)
- Treat extreme blood pressure spikes (5 min or longer)
- Brief verbal informed consent in a competent patient (not necessary in incompetent or incapacitated patient in an emergency) (1 minute)
- Await INR in patients on warfarin
- Mix tPA (3 minutes)

When Consent is Required

- Before a procedure or treatment is provided there must be express or implied consent
- -- Unless a valid exception applies
 - E.g. in an emergency
- Everything in the emergency is an emergency! We can't fully rely on that caveat but the policy of AHS will protect practitioners to an extent
- In a competent patient it's prudent practice to have some discussion of risks/benefits
- You can't spend much time establishing competency (base it on your NIH and pre-lytic exam)

This algorithm is intended to be a guide and is not to replace the content of the AHS policy Consent to Treatment/Procedure(s) and its five related procedures or legal advice. Examples herein are for illustrative purposes only; the application of the AHS policy/procedures and legislation may vary depending on circumstances unique to each situation. Readers are encouraged to view the policy/procedure documents and legislation directly and should consult Clinical Policy (clinicalpolicy@albertahealthservices.ca) if in need of clarification.



NOTE: The Office of the Public Guardian may be contacted (24/7) for further information on decision-making provisions, including specific decision-making and emergency health care.

Toll Free Help Line: 1-877-427-4525
Monday-Friday, 8:15 am – 4:30 pm
After Hours Crisis Line: 1-866-262-9731
Evenings and Weekends

Consent talk for tPA

- You are having a stroke from a blocked blood vessel
- If left untreated there could be permanent brain damage and loss of function
- A clot busting drug called tPA can open the vessel and improve the chances of recovery and cure
- There is a 2-3% chance the clot busting drug could cause a severe brain bleed which can be fatal but the stroke itself can also be fatal
- In our opinion the benefits are greater than the risks in your situation and this drug is the standard of care in Canada
- We recommend treatment with tPA

Protocols and deviation

- Protocols are an outline for care meant to be interpreted by clinicians
- Sometimes deviation from the protocol is required for the patient in the judgement of the clinician
- Keep track of deviations and feed it back to the clinicians to improve the system

Thanks!