TARGET: STROKE 10 KEY BEST PRACTICE STRATEGIES

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Target: Stroke advocates the adoption of these 10 best practice strategies for reducing door-to-needle times for IV rt-PA in acute ischemic stroke:

01 **Advance Hospital Notification by EMS:** Emergency medical service (EMS) providers should, if feasible, provide early notification to the receiving hospital when stroke is recognized in the field. Advance notification of patient arrival by EMS can shorten time to CT and improve the timeliness of treatment with thrombolysis.

02 **Rapid Triage Protocol and Stroke Team Notification:** Acute triage protocols facilitate the timely recognition of stroke and reduce time to treatment. Acute stroke teams enhance stroke care and should be activated as soon as the stroke patient is identified in the emergency department or after notification from pre-hospital personnel.

03 **Single Call Activation System:** A single call should activate the entire stroke team.A single-call activation system for the stroke team is defined here as a system in which the emergency department calls a central page operator, who then simultaneously pages the entire stroke team, including notification for stroke protocol imaging.

04 **Stroke Tools:** A stroke toolkit containing clinical decision support, stroke-specific order sets, guidelines, hospital-specific algorithms, critical pathways, NIH Stroke Scale and other stroke tools should be available and utilized for each patient.

05 **Rapid Acquisition and Interpretation of Brain Imaging:** It is essential to initiate a CT scan (or MRI) within 25 minutes of arrival and complete interpretation of the CT scan within 45 minutes of arrival to exclude intracranial hemorrhage prior to administration of intravenous rt-PA.

06 **Rapid Laboratory Testing (including point-of-care testing if indicated):** When indicated, laboratories such as platelet count and — for patients in whom coagulation parameters should be assessed due to suspicion of coagulopathy — INR(PT)/PTT results should be available as quickly as possible and no later than 45 minutes after ED arrival. If standard STAT laboratory turnaround times cannot meet this target, point-of-care testing in the emergency department can provide the data in the needed timeframe.

07 **Mix rt-PA Medication Ahead of Time:** A useful strategy is to mix drug and set up the bolus dose and one-hour infusion pump as soon as a patient is recognized as a possible rt-PA candidate, even before brain imaging. Early preparation allows rt-PA infusion to begin as soon as the medical decision to treat is made. It is the policy of some drug manufacturers to replace, free of charge, medications that are mixed but not used in time-critical emergency situations like this. Check with your hospital pharmacy for the proper procedures that will allow you to use this strategy to shorten time to treatment without financial risk.

08 **Rapid Access to Intravenous rt-PA:** Once eligibility has been determined and intracranial hemorrhage has been excluded, intravenous rt-PA should be promptly administered. tPA should be readily available in the emergency department or CT scanner area (if CT scanner is not located in the ED). Dosing charts and standardized order sets can also facilitate timely administration and minimize dosing errors.

09 **Team-Based Approach:** The team approach based on standardized stroke pathways and protocols has proven to be effective in enhancing the number of eligible patients treated and reducing time to treatment in stroke. An interdisciplinary collaborative team is also essential for successful stroke performance improvement efforts. The team should meet frequently to review your hospital's processes, care quality, patient safety parameters and clinical outcomes, as well as to make recommendations for improvement.

10 **Prompt Data Feedback:** Accurately measuring and tracking your hospital's door-to-needle times, IV rt-PA treatment rates in eligible patients and performance on other stroke performance/quality measures equip the stroke team to identify areas for improvement and take appropriate action. A data-monitoring and feedback system includes using the Get With The Guidelines®-Stroke Patient Management Tool (PMT) and creating a process for providing timely feedback on a case-by-case basis and in hospital aggregate. This system helps identify specific delays, set targets and monitor progress on a case-by-case basis.

Hospitals without local stroke expertise available 24x7 should explore building relationships with stroke centers to facilitate more timely evaluation, decision-making and treatment. Many hospitals have found telehealth solutions for image interpretation or clinical evaluation critical to building successful acute stroke teams.

See the Target: Stroke Manual for more information.

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