

KCHP Innovative Practice Award

To whom it may concern:

Delays in the administration of alteplase (tPA) and its overall cost burden remain a central focus of institutions across the country. The current benchmark for door to needle (DTN) administration time of tPA is ≤ 60 min for $\geq 50\%$ of acute ischemic stroke (AIS) patients. Prolonged administration times are associated with worsen neurological outcomes, therefore focuses of stroke centers have evaluated ways in which to reduce DTN times. In an effort to reduce DTN times, many facilities have implemented processes that utilize 100 mg vials prepared at the bedside, however this practice often results in a significant amount of drug waste.

In 2006, tPA amounted to roughly 27% of the diagnosis-related group (DRG) associated payment to hospitals for AIS compared to 53% in 2013. The DRG associated reimbursement for AIS to institutions has not increased enough to account for inflation of tPA cost to institutions, therefore it becomes valuable to maximize efficiency of its use. Approximate 2018 CMS reimbursement for 1 mg tPA $\sim \$84$.

Wesley Medical Center (WMC) has implemented a process in which we utilize 50 mg vials of tPA in the AIS process. This allows for early bedside mixing of tPA for faster administration and the ability of the main central pharmacy to prepare the remaining dose and salvage waste. The initial bolus and initial infusion dose are prepared bedside utilizing a 50 mg/50 mL vial into a syringe. While the first 50 mg portion of the dose is being utilized at the bedside a second 50 mg vial is prepared under sterile conditions by the main central pharmacy and any excess waste is salvaged into 1 mg/mL aliquots to be utilized primarily for catheter clearance. Patient example: 70 kg patient, tPA dose: 63 mg (total; 0.9 mg/kg). The bolus and first initial dose 50 mg prepared at bedside. A total of 13 mg would be prepared into a syringe from a

50 mg vial in the main central pharmacy and 37 mg would be distributed into 1 mg/mL aliquots. Approximate cost savings ~\$3,108 from the 37 mg. At Wesley Medical Center we have seen significant cost savings and have not seen any increases in DTN times since implementation.

This process has since gone on to be featured in the *American Journal of Emergency Medicine (AJEM)* and can be found [https://www.ajemjournal.com/article/S0735-6757\(18\)30834-9/pdf](https://www.ajemjournal.com/article/S0735-6757(18)30834-9/pdf). I have also attached the paper for your review. If there is anything else needed to aim in your decision of the Innovation Award please do not hesitate to ask.

Brian Gilbert, PharmD, BCPS, BCCCP
Emergency Medicine Clinical Pharmacy Specialist
Wesley Medical Center, Wichita KS, 67214
(316) 962-8294 (o)
Brian.gilbert.pharmd@gmail.com