

EMS Blood Draw for Stroke Patients

Performance Improvement Background

- Bon Secours Maryview Medical Center (MMC) is a 346-bed Primary Stroke Center located in Portsmouth, VA.
- MMC serves a community of 280,000 and has approximately 400 stroke patients each year.
- 70% of the acute stroke patients seen in the ED arrive via Portsmouth Fire, Rescue, and Emergency Services (PFRES).
- Maryview had an average DTN time of 70 minutes in 2014.
- Process gaps found in the ED included delays in care when transferring patients to ED beds and drawing blood in a timely manner.

Goal

1. Improve overall care of Code S/stroke patients through a streamlined process change
2. Decrease the time Door to Lab to reduce Door to tPA/intervention times
3. Improve treatment times and overall experience/outcome for the acute stroke patient

2015 Pilot Program Process

- Planning meeting in February 2015
- Worked with Lab/POC to have MEDIC ID# assigned
- Process Algorithm developed for EMS pre-hospital screen and lab draws
 - Placed in all PFRES ambulances
- Training will be provided to Super-Users who will train others
- Lab draw packets will be provided to PFRES EMS and restocked as needed
- Feedback will be provided to PFRES by MMC Stroke Coordinator
- Feedback will be provided by Lab for any problems with blood draw
- Go Live Blood Draws set for April 1, 2015

Pre-Hospital Stroke Pilot Program

EMS on scene with possible CVA with last seen normal ≤ 8 hours

EMS protocol based CVA evaluation and stabilization with IV access

Prior to starting IV fluids draw 5 tubes of blood in this order

- Red, orange, blue, green, then purple
- Each tube needs to be filled at least $\frac{3}{4}$ full
- Place a pre printed label with tech code **5130** on each tube
- Write the patient's name, drawer's initials, date, and time of the draw then place the blood back in the biohazard bag with the green label

- EMS Provider 2 validates the blood with the ED Tech/RN
- ED Tech hand delivers the blood to the lab

ED Notification of Code "S" with rapid transport. STAT assessment by ED Physician, RN, Tech upon arrival to the door

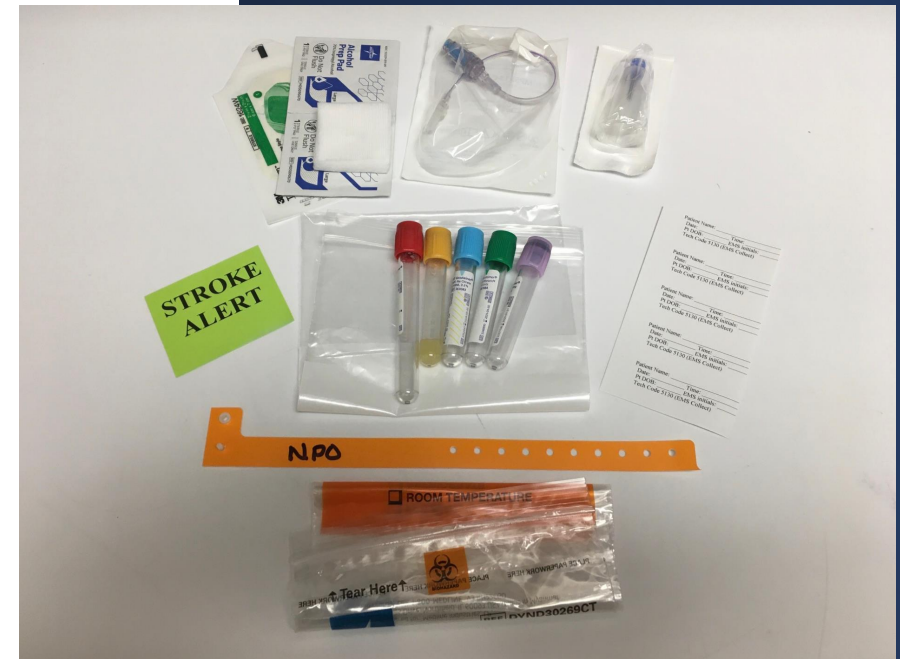
- EMS Provider 2 arrives the patient with the unit secretary
- Unit Secretary activates tele neurology consultation
- ED RN and Physician place CT and lab orders

- EMS Provider 1 transports the patient to CT with RN on the EMS monitor
- 2nd ED RN follows with ED stretcher and weighs the patient after CT

Transport to ED room and proceed with standard Code "S" care

Training & Support

- PFRES asked for Volunteers for Super Users
 - Hoped for 5 but 15 EMS Super-users volunteered
 - Had 3 training sessions in March 2015
- EMS Super-users trained additional 200 PFRES personnel



**STROKE
ALERT**



Patient Name: _____ Time: _____
Date: _____ EMS initials: _____
PI DOB: _____
Tech Code 5130 (EMS Collect)

Patient Name: _____ Time: _____
Date: _____ EMS initials: _____
PI DOB: _____
Tech Code 5130 (EMS Collect)

Patient Name: _____ Time: _____
Date: _____ EMS initials: _____
PI DOB: _____
Tech Code 5130 (EMS Collect)

Patient Name: _____ Time: _____
Date: _____ EMS initials: _____
PI DOB: _____
Tech Code 5130 (EMS Collect)

NPO





2015 Results for Lab Times

Average blood arrival in Lab times									
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
Avg Lab Received	0:19	0:23	:20						
With EMS	n/a	n/a	n/a	0:10	0:10	0:07	0:07	0:11	0:12
Without EMS				0:19	0:14	0:19	0:20	0:21	0:23
Difference				0:09	0:04	0:12	0:13	0:10	0:11
% of difference				47%	29%	63%	65%	48%	48%

6 Month Average:
With EMS: 9 min
Without EMS: 19 min



Bon Secours
Maryview Medical Center
2022-2023 EMS Blood Draw
and CT Data

With EMS Blood Draw

- Door to CT Average – 14.63 minutes
- Door to Decision Average – 24.27 minutes
- Arrival to Result Average – **26.24 minutes**

Without EMS Blood Draw

- Door to CT Average – 31.72 minutes
- Door to Decision Average – 33.39 minutes
- Arrival to Result Average – **58.96 minutes**