Stroke Care at MVHS 2022

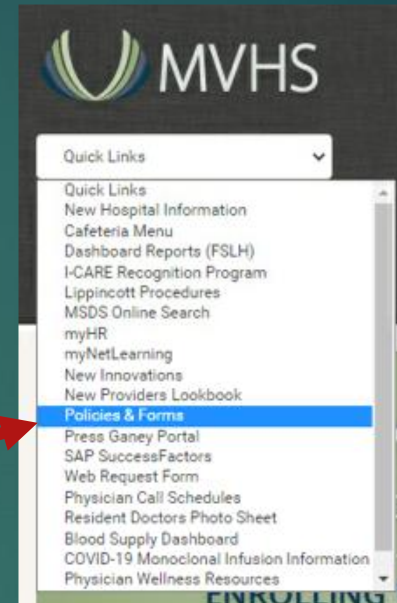
STROKE PATIENT MANAGEMENT POLICY - MVHS, MV-20-053

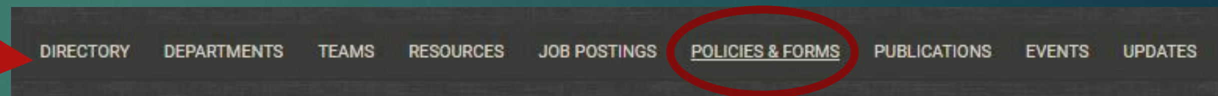
Welcome

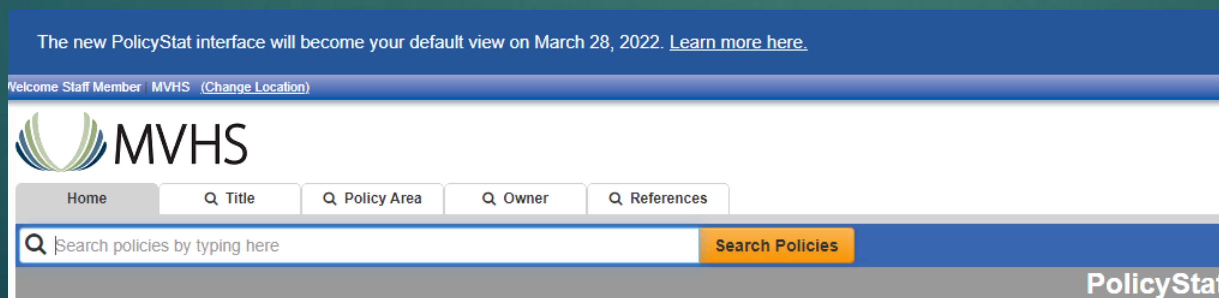
- July 22, 2021, MVHS Stroke Program at St. Luke's has been designated a ***Comprehensive Stroke Center***.
- That makes us the only Stroke Center between Syracuse and Albany
- Stroke units at MVHS include:
  - NVU-Neurovascular Unit *(This is the preferred unit for Stroke patients)*
    - Cares for stroke patients that are not intubated including bleeds and thrombolytic or thrombectomy patients
  - IMCU-Intermediate Care Unit
    - Stepdown from ICU. Used as overflow for non intervention patients if NVU is full. Patients who are not intubated, have select medicated drips, Neptune, Bipap, etc.
  - ICU-Intensive Care Unit
    - Highest level of care, patients are hemodynamically unstable, intubated, EVD's, and those on select medicated drips
  - 5th Floor-Step down from IMCU or NVU
    - Cares for patients who are hemodynamically stable and waiting for discharge

Stroke Patient Management Policy- MVHS, MV-20-053

- ***ALWAYS FOLLOW THE MOST CURRENT, UP TO DATE POLICY***
- Policies are located on the MVHS Intranet
  - To access MVHS Intranet
    - Sign into Citrix
    - Click on the Google Chrome Icon
    - Click on Quick Links & select Policies & Forms
    - *or* click on Policies & Forms in the menu bar
    - Search policies in the search box using key words

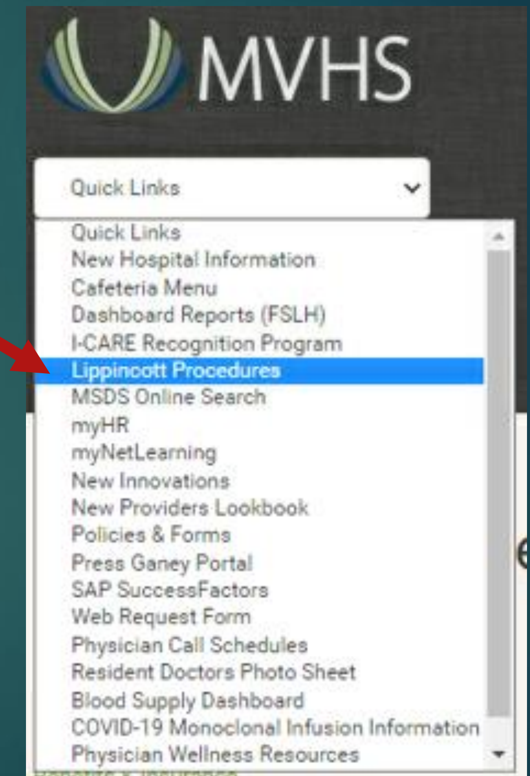






MVHS Policies from Lippincott

- For nursing instructions on specific patient care/how to, go to the Lippincott link located on the MVHS Intranet under the Quick Links tab, Ie:
  - Insertion of Foley catheter
  - Trach care
  - Central line dressing change
  - Etc.
- Other helpful policies
  - Adult Intravenous Medication Dosing Guidelines, MV-20-108
  - Code Blue-MVHS, MV-20-033
  - Code Airway-MVHS, MV-20-157
- ***ALWAYS FOLLOW THE MOST CURRENT, UP TO DATE POLICY***



Stroke Patient Management Policy-MVHS, MV-20-053

- **Target** Ranges for all Stroke types
  - Door to MD < 5 minutes
  - Door to CT < 20 minutes
  - Door to CT interpretation < 35 minutes
  - Door to Thrombolytic administration < 45 minutes
  - Door to NEV team activation < 40 minutes
  - Door to arrival in suite < 60 minutes
  - Door to puncture < 75 minutes
  - Door to device < 90 minutes
  - **Less than 60 minutes if transferred from another hospital
  - Door to admitted bed in < 180 minutes

Thrombolytic Therapy-Coming Soon!

- **Tenecteplase (TNK)** will become the thrombolytic of choice April 25, 2022!
  - Also Refer to Tenecteplase tip sheet for administration & monitoring
- Follow MD orders and policy
  - Document in Code Stroke Narrator
  - Select Alteplase checklist and complete documentation with second RN verification on medication bolus dose (remember to round up to the nearest 10th of an ml)
  - Administer TNK over 5 second IV Push (remember to use 5 ml syringe)
  - Monitor VS **&** NIHSS, along with the presence or absence of Angio-edema:
    - Perform VS & NIHSS within 15 minutes of administration, then-
    - Q 15 minutes for 2 hours, starting after the time of the bolus administration
    - Q 30 minutes X 6 hours (12 incidents)
    - Q 1 hour X 16 hours (32 incidents)
- If patient experiences Angio edema at any time, follow the policy and MD order set

***DOSE IS ALWAYS 0.25 MG/KG**
****MAX DOSE 25MG**

Critical Alert!!

- **After the administration of TNK, immediately notify the physician if the patient…**
  - Develops any signs or symptoms of Angioedema
  - Displays any changes in mental status or neurological deterioration
  - Any indications of bleeding
  - Shows any indications of a Hypertensive crisis
    - Relative – most CVA's *need* an elevated BP to perfuse the penumbra – if baseline BP suddenly rises 20-30 points, it could be an adverse reaction
      - ie: SBP 130's and then suddenly rises to 160's, think adverse reaction!!
- <u>Don't forget to document on presence/absence of angioedema!</u>

Thrombolytic Therapy

- **Alteplase (t-PA)**
  - Also refer to Alteplase tip sheet for administration & monitoring
  - ***Once a patient has received an Alteplase administration, they CANNOT receive Alteplase again for at least 3 months***
- Follow MD orders and policy
- Document in Code Stroke Narrator in ED, then go to Alteplase flowsheet for IP
  - Select Alteplase checklist and complete documentation with second RN verification on medication waste, bolus and drip dose
  - Administer t-PA via primary line on the Alaris IV pump
  - Medication drip and bolus should be programmed in the pump and the infusion will begin automatically after the bolus is complete. Document the administration time of the bolus and the infusion.
  - Verify and make sure that the flush is scanned & administered **within 60 minutes** of the infusion start time.

Thrombolytic Therapy

- **Alteplase (t-PA)** *Continued:*
  - Monitor VS **&** NIHSS, along with the presence or absence of Angio-edema:
    - Perform VS & NIHSS within 15 minutes of administration, then-
    - Q 15 minutes during infusion, starting after the time of the bolus administration
    - Q 15 minutes post infusion
    - Q 30 minutes X 6 hours (12 incidents)
    - Q 1 hour X 16 hours (32 incidents)
  - If patient experiences Angio edema at any time, follow the policy and MD order set
  - ***If Alteplase is mixed, but not administered, please return all medication to the Pharmacy for credit***

*DOSE IS ALWAYS: 0.9MG/KG
**MAX DOSE 90MG

Critical Alert!!

- **Stop Alteplase infusion immediately and notify the physician if the patient…**
  - Develops any signs or symptoms of Angioedema
  - Displays any changes in mental status or neurological deterioration
  - Any indications of bleeding
  - Shows any indications of a Hypertensive crisis
    - Relative – most CVA's *need* an elevated BP to perfuse the penumbra – if baseline BP suddenly rises 20-30 points, it could be an adverse reaction
      - ie: SBP 130's and then suddenly rises to 160's, think adverse reaction!!

Thrombolytic monitoring Flowsheet

Reminders of required frequencies

VS, GCS, NIH, pain, angioedema all in one place!

3/15/2022

Search (Alt+Comma)	0630	0700	0730	0731	0800	0830	0900	0930
Required Assessment Intervals								
Every 15 min. X 2 hrs.								
Every 30 min. X 6 hrs.								
Every hour X 16 hrs.								
Vital Signs								
Temp			36.8 (98.2)		36.8 (98.2)	36.8 (98.2)	36.1 (97)	
Temp Source			Oral				Oral	
Heart Rate	68	73	67		69	60	68	68
HR (ECG)								
Heart Rate Source								
Resp	13	9	20		20	17	14	
BP	144/63		168/62		167/74	164/75	126/68	130/70
MAP (mmHg)	84		89		91			
BP Location								
BP Method								
Patient Position								
Patient refused vital signs								
Glasgow Coma Scale								
Best Eye Response								
Best Verbal Response								
Best Motor Response								
Glasgow Coma Scale Score								
NIH Stroke Scale								
1A. Level of Consciousness	1	0	0		0	0	0	0
1B. Ask Month and Age	0	0	0		0	0	0	0
1C. Blink Eyes & Squeeze Hands	0	0	0		0	0	0	0
2. Best Gaze	0	0	0		0	0	0	0
3. Visual	0	0	0		0	0	0	0
4. Facial Palsy	0	1	1		1	1	0	0
5A. Motor - Left Arm	0	0	0		0	0	0	0
5B. Motor - Right Arm	0	0	0		0	0	0	0
6A. Motor - Left Leg	0	0	0		0	0	0	0
6B. Motor - Right Leg	0	0	0		0	0	0	0

Hand Grip								
R Hand Grasp			Strong			Strong		
L Hand Grasp			Strong			Strong		
Pain Score								
Pain Assessment			No/denies pain					
Pain Score			0 - No pain					
Assume Pain is Present								
Unable to Self-Report Pain Scales								
Thrombolytic Adverse Reaction Assessment								
Bleeding								
New Swelling / Angioedema								
New Onset of Severe Headache								
Yes to any of the above Questions: Int…								

Post NEV intervention monitoring

Search “cath” and use CL-EP-IR assessments FS

Shealth removal, site assessment, pulses all in one spot.

VS to be added to this FS soon

	2000	0400	0700	0900
Nursing Interventions				
Time Transferred to Unit				
Type of Procedure				
Sheath status				
Sheath Pulled by:				
Surgical Site Held (Min)				
Vascular Closure				
Charting Type				
Charting Type	Admission	Reassessment...	Shift assessment	
Modified Aldrete				
Activity				
Respiration				
Circulation				
Consciousness				
Oxygen Saturation				
Modified Aldrete Score				
Peripheral Vascular				
Peripheral Vascular (WDL)	WDL		WDL	
Bleeding/Hematoma Management				
Manual Pressure Start Time				
Manual Pressure Stop Time				
TR Band Assessment				
TR Band Application Site				
Non-Occlusive Arterial Flow				
Site Assessment				
Physician Notified				
TR Band Interventions				
Time TR Band Applied				
Air Instilled (mL)				
TR Band Interventions				
Site Management Post TR Band Removal				
TR Band Management				

Individualizing Patient Education

Specific risk factors and tpa included

Assessment | Education

Clear Selections | Active | All

- Stroke
  - Stroke
    - Activation of EMS (Call 911)
    - Follow-Up after Discharge
    - Personal Risk Factors for Stroke
    - RISK FACTOR: High Blood Pressure
    - RISK FACTOR: Physical Inactivity/Obesity
    - Stroke Medications Prescribed at Discharge
    - Warning Signs and Symptoms of Stroke
    - DASH Diet
    - Written Information Given
    - Alteplase (rtPA) Education
    - Procedure Education
- General Patient Education

Diabetic stroke who did not receive tpa

- Stroke
  - Stroke
    - Activation of EMS (Call 911)
    - Follow-Up after Discharge
    - Personal Risk Factors for Stroke
    - Stroke Medications Prescribed at Discharge
    - Warning Signs and Symptoms of Stroke
    - DASH Diet
    - Written Information Given
- Diabetes
  - Review Plan of Care
  - Treatments/Procedures
  - Medications
  - Self Care
  - Psycho/Social/Spiritual Support
    - Postpartum Depression
    - Anxiety Reduction
    - Coping Mechanisms
    - Support Systems
    - Spiritual/Emotional Needs

Note that Post partum depression is ***not*** selected as it does not pertain to this patient

Not individualized. This pt has COPD and high cholesterol only!

Clear Selections | Active | All

- Stroke
  - Stroke
    - Activation of EMS (Call 911)
    - Follow-Up after Discharge
    - Personal Risk Factors for Stroke
    - RISK FACTOR: High Blood Pressure
    - RISK FACTOR: Atrial Fibrillation (A-Fib)
    - RISK FACTOR: High Cholesterol
    - RISK FACTOR: Diabetes
    - RISK FACTOR: Tobacco Use and Smoking
    - RISK FACTOR: Alcohol Use
    - RISK FACTOR: Physical Inactivity/Obesity
    - RISK FACTOR: Patent Foramen Ovale
    - RISK FACTOR: Previous TIA/Stroke
    - Stroke Medications Prescribed at Discharge
    - Warning Signs and Symptoms of Stroke
    - DASH Diet
    - Written Information Given
- General Patient Education

Comprehensive Stroke Center DNV Plan of Correction (POC)

- Monitor all Thrombolytic Therapy administrations to insure all parameters are met for documentation criteria
  - Monitor angioedema appropriately
    - Documentation of any adverse reactions/MD notification/medication administrations
- Monitor all Mechanical Thrombectomy cases to insure all parameters are met for documentation criteria
- Monitor patient education and confirming education is patient specific per policy
  - Risk factors documented should include those in this patient's medical history
  - Neurovascular interventions being highlighted if provided

DNV Audit Tools Currently in Use

- All stroke tools are available on the Stroke Center webpage on the intranet in the Stroke Reference Resources section
- These tools are available in the Thrombolytic tool is in the current packet
- Thrombectomy tools are available on the unit

Thrombolytic checklist

... vital sign/NIH check monitoring review
Date: 3/15/22

...456789 Bolus time 0240 Drip start time 0241 Flush start time 0330

Every 15 Mins During & Post infusion			Every 30 Mins x 6			Every 1 hour x 16		
(During infusion)	VS	NIH		VS	NIH		VS	NIH
1 0258	✓	✓	1 0515	✓	✓	1 1145	✓	✓
2 0315	✓	✓	2 0545	✓	✓	2 1200 1300	✓	✓
3 0330	✓	✓	3 0615	✓	✓	3 1400	✓	✓
4 0345	✓	✓	4 0645	✓	✓	4 1500		
(Post Infusion) 5 0400	✓	✓	5 0715	✓	✓	5 1600		
6 0415	✓	✓	6 0745	✓	✓	6 1700		
7 0430	✓	✓	7 0815	✓	✓	7 1800		
8 0445	✓	✓	8 0845	✓	✓	8 1900		
			9 0915	✓	✓	9 2000		
			10 0945	✓	✓	10 2100		
			11 1015	✓	✓	11 2200		
			12 1045	✓	✓	12 2300		
Did Patient experience Angio-edema?	Yes___ No___	IF YES, WAS ORDER SET USED Yes___/No___	IF No: MD ORDERING-___			13 0000		
Notes:						14 0100		
						15 0200		
						16 0300		

Reminder: Bolus, Drip and Flush must be completed within 60 minutes. The flush should start to infuse approximately around the 45-minute mark

- The charge nurse or designee will complete this form to keep track of Alteplase vitals and NIH are completed per policy

frequencies

Post procedure (thrombectomy) checklist

Puncture site CMS & Distal Pulse Check Monito...

CSN#______ Pre pulse check charted______ Post Pu...

Sheath removed time______ Hemostasis charted______ Hemostasis time______

Every 15 Min	Puncture/CMS	Pulse	Vitals	Every 30 Min	Puncture/CMS	Pulse	Vitals	Every 1 hour	Puncture	Pulse	Vitals
1				1				1			
2				2				2			
3				3				3			
4				4				4			

Notes:

- The charge nurse or designee will complete this form to keep track of post thrombectomy or aneurysm site checks.
- To complete the form, enter a check mark or ND (not documented) in the puncture/CMS, pulse and VS box. All of the times are per policy
- This tracking sheet will be handed off between units until the last one hour check is complete. For example, IR to NVU. It will then be handed to the manager.
- Review should be complete before transfer so if data is missing but not yet entered it can be corrected.
- Once the form is complete: Turn into the Nurse manager for review then all forms get returned to the stroke team.

Document in EPIC!

Use these tools as a check off to keep track..
*what's left?
*avoid missing assessments at handoffs
*know when you can go to the lower frequency!
*avoid missing any checks