

# Abstracting Stroke for All Workshop Toolkit



WISCONSIN COVERDELL  
STROKE PROGRAM



American  
Heart  
Association®



American Heart Association®

Get with the Guidelines®

Stroke



WISCONSIN DEPARTMENT  
*of* HEALTH SERVICES

Division of Public Health  
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## **Overview**

Ensuring the quality of a hospital's stroke data is essential to its credibility and value. Stroke abstractors range from novice to expert. The need for an expanded training program focused on all levels of stroke certification was recognized by the Wisconsin (WI) Coverdell Stroke Program and the American Heart Association (AHA). The developed training workshop includes two mock charts, which incorporate data abstraction elements for Acute Stroke Ready, Primary Stroke Center, Thrombectomy Capable, and Comprehensive Stroke Centers. The training fosters networking and provides the opportunity to discuss the Get With the Guidelines® - Stroke PMT® (GWTG). This educational and training opportunity is titled "Abstracting Stroke Data That Will Work for All." The training assists the participants in understanding the GWTG Coding Instructions, and provides a non-threatening learning environment to discuss difficult-to-interpret data elements.

## **Acknowledgements**

Use or replication of any documents in this toolkit must include the Wisconsin Coverdell Stroke Program and AHA logos.

### **Contributors to the content and production of this tool kit include:**

- Dot Bluma, BSN, RN, CPHQ Stroke Project Specialist, MetaStar, Inc.
- Jessica Link, Coverdell Program Director, Wisconsin Department of Health Services
- Lynn Mallas-Serdynski, RN, BSN, Quality Programs Manager, AHA
- Maureen Hess, BSN, RN (retired)
- Renee Sednew, MPH, Senior Director, Quality & Systems Improvement, AHA
- Susan Abelt, MS, Director, Quality & Systems Improvement, AHA

## **Planning the Event**

When announcing the training and requesting registrations, be sure to request participants self-identify their level of GWTG abstraction proficiency. We use novice, competent, and expert. Provide round tables with seating for four. To ensure optimal learning opportunities, place people from different hospitals with different levels of abstraction proficiency at each table.

We recommend providing conference documents in a three-ring binder. Include the current paper GWTG case record form for abstracting the mock chart, or, if you will be performing the training with laptops, the online GWTG PMT can be utilized instead. Have several copies of the Coding Instructions available for participants to reference during the mock chart abstraction.

## **Workshop Binder**

The agenda is always sent in advance, and is included in the participant's binder. See pages five and six for a sample agenda.

An evaluation of pre-session and post-session understanding must be obtained to measure changes in confidence in performing specific tasks in GWTG. Ensure the pre-session surveys are collected immediately upon completion. This will safeguard participants from having access to their pre-survey responses when completing the post-session survey. See pages seven and eight for sample surveys.

The mock charts are available on pages 10-20. The mock chart guidelines must be updated to reflect future changes to abstraction guidelines. The mock chart included was utilized May 2019.

# Abstracting Stroke Data That Will Work for All



Insert your logo here

Time	Presentation Title	Faculty
7:30AM–8:00AM	<b>Registration</b>	Dot Bluma, BSN, RN, CPHQ Stroke Project Specialist MetaStar, Inc
8:00AM–8:15AM	<b>Welcome, introductions and overview of program</b>  <b>Pre-session survey</b>	Renee Sednew, MPH, Senior Director, Quality & Systems Improvement American Heart Association Susan Abelt, MS, Director, Quality & Systems Improvement American Heart Association
8:15AM–10:15AM	<b>Part 1: Making sense of get with the guidelines stroke data elements—drip and ship</b>	
8:15AM–9:00AM	<b>Drip and ship mock chart abstraction</b>	Attendees will complete a mock chart abstraction  Facilitator: Susan Abelt
9:00AM–10:00AM	<b>Review results of drip and ship mock chart abstraction and highlight difficult to abstract data elements</b>	
10:00AM–10:15AM	<b>Break</b>	
10:15AM–1:15PM	<b>Part 2: Making sense of get with the guidelines stroke data elements—arrival to discharge</b>	
10:15AM–11:15AM	<b>Arrival to discharge mock chart abstraction</b>	Attendees will complete a mock chart abstraction
11:15AM–12:30PM	<b>Review results of arrival to discharge chart abstraction and highlight difficult-to-abstract data elements</b>	Facilitator: Susan Abelt
12:30PM–1:15PM	<b>Lunch</b>	
1:15PM–2:15PM	<b>Part 3: Making sense of get with the guidelines stroke data elements—advanced care</b>  <b>Discuss advanced care chart highlight difficult-to-abstract data elements</b>	Group discussion of Advanced Care data elements  Facilitator: Dot Bluma, Renee Sednew, Susan Abelt
2:15PM–2:30PM	<b>Wrap-up and closing comments</b>  <b>Post-session survey</b>	

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**Abstracting Stroke Data That Will Work for All  
Get With The Guidelines Stroke® Training Pre-Session Survey**

**Date:** \_\_\_\_\_  
**Location:** \_\_\_\_\_

The purpose of this survey is to assess your level of confidence before the training, in understanding how to utilize the coding instructions and entering stroke data into the Get With the Guidelines® (GWTG) program.

**Please choose the response that best describes your level of confidence for each of the following GWTG functions.**

	Not at all confident	Not very confident	Somewhat confident	Very confident
1. Fully understand the GWTG coding instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Enter data accurately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Understand the data elements required for a drip and ship patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Understand data elements required for an Alteplase recipient discharged from the admission site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Understand data elements required for a patient who receives stroke mechanical thrombectomy intervention.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**The following information is needed to help us match your pre-session survey to your post-session survey, which will be administered at the end of this session. Thanks for helping by providing this information!**

What is the number of the month in which you were born? (Ex: May = 05) \_\_\_\_\_

What are the last two numbers of your Social Security number? \_\_\_\_\_

How many sisters do you have? \_\_\_\_\_

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Abstracting Stroke Data That Will Work for All
Get With The Guidelines Stroke® Training Post-Session Survey

Date:
Location:

The purpose of this survey is to assess your level of confidence after the training, in understanding how to utilize the coding instructions and entering stroke data into the Get With the Guidelines® (GWTG) program.

Please choose the response that best describes your level of confidence for each of the following GWTG functions.

Table with 5 columns: Not at all confident, Not very confident, Somewhat confident, Very confident. Rows include: Fully understand the GWTG coding instructions, Enter data accurately, Understand the data elements required for a drip and ship patient, Understand data elements required for an Alteplase recipient discharged from the admission site, ANSWER ONLY IF YOU ATTENDED THIS PART OF THE TRAINING: Understand data elements required for a patient who receives stroke mechanical thrombectomy intervention.

The following information is needed to help us match your post-session survey to your pre-session survey. Thanks for helping by providing this information!

What is the number of the month in which you were born? (Ex: May = 05)

What are the last two numbers of your Social Security number?

How many sisters do you have?

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## **Abstraction Chart Index**

Drip and Ship .....pages 9-10

Admit to Discharge - IV Alteplase and Thrombectomy .....pages 11-19

Starring the Stroke Team at the Hospital of the Perpetually Ready, in order of appearance:

- Dr. Al Teplase, ED MD
- Wanda Wonderful, Stroke RN Responder
- Dr. Penumbra, Critical Care Neurology
- Dr. Van Tastic, Neuro IR
- Angel Wrkhardt, RN NICU
- Tru Sweet, APNP Neuro IR
- Carrie Goodheart, RN NICU
- Gloria Glorious, Stroke Navigator
- Terri Terrific, APNP Critical Care Neurology



**Drip and Ship**

Date/Time	Caregiver	EHR Documentation
2/22/2018 1249	EMS Report	<p>Demographics: Male, Black, Non-Hispanic, 55yo, DOB-2/24/1964                      Insurance: Exchange                      Current PTA Medications taken this AM:</p> <ul style="list-style-type: none"> <li>• Amlodipine-Olmesartan (Azor)</li> <li>• Aspirin EC 81mg</li> <li>• Microzide</li> <li>• Lipitor</li> <li>• Coumadin, last dose 8 days prior to arrival</li> </ul> <p>Allergy: Latex, reaction unknown</p> <p>Code Stroke. County EMS has identified a 55yo male patient with stroke-like symptoms in the field. Stroke/CVA                      Right side deficits with right facial droop, right arm drift, slurred speech. ALOC, stroke scale +                      GCS 14, BP 174/128, P 120, 96%, R 16,                      BS 84, O2, IV, LKW 20 minutes ago</p>
1255	Hospital of the Perpetually Ready ED	<p>Patient arrived in ED at the Hospital of the Perpetually Ready; patient roomed in ED                      BP 184/120, P 125, R 20                      Height: 6 feet (183 cm) Weight: 200 lbs (90.7 kg)</p>
1255	Dr. Al Teplase, ED MD	<p>Provider contact with patient                      55 yo male who presents to ED via County EMS for right-sided stroke. LKW was witnessed by a fellow passenger at 1230 while he was on the bus. Presented with facial droop, slurred speech and right-sided weakness. Stroke alert called immediately. Patient went directly to CT with EMS. Initial NIHSS= 13. Failed dysphagia and made NPO. Patient denies any prodromal symptoms. He does admit to aortic valve and being on Coumadin; stating he has missed the last 8 days doses. Denies any active bleeding or head trauma.                      HX: HTN, mechanical aortic valve, hyperlipidemia, current cigarette smoker</p>
1305		<p>Patient's brother in ED. Brother confirming patient's baseline was living alone and ambulating independently. Brother involved in decision process for Alteplase (tPA).                      Patient and brother advised of risks and benefits regarding use of Alteplase.</p>
1309		<p>Discussed with Neurology, Dr. Graamatter, who recommends Alteplase treatment and admission.</p>
1312		<p>Risks/Benefits for Alteplase reviewed with patient and brother. All questions answered. Patient verbally agreed to plan for Alteplase.</p>
1305-order time		<p>BP 182/112, P 130, R 21</p>
1333-resulted time		<p>Labs:                      Platelets: 245                      Hcg: 13.8                      Hct: 41.0                      CBC: 4.5                      WBC: 8.3                      Crt: 1.05</p>

1305= order time 1308= CT Initiated 1321= reported time		Glucose: 115 INR: 1.2 CT report: No acute intracranial pathology identified. Probable chronic paranasal sinus disease
1328		BP 184/114, P 122, R 22
1330		Labetolol 10mg bolus IV for BP persisting > 180/90
1340		BP 174/100, P 116, R 20
1343		BP 168/96, P 110, R 20 IV Alteplase bolus followed with drip started
1400		NIHSS 16. Patient now exhibits some neglect; speech becoming non-discernable, does not consistently follow commands.
1403	Dr. Al Teplase	Discussed worsening exam with Neurology, Dr. Graamatter, he recommends transfer, to CSC for Interventional consideration as s/s now suggestive of LVO.
1406		Spoke with Dr. Penumbra, Critical Care Neurology, at Holy Moles Hospital. He will accept transfer. Plan to go direct to CTA on arrival.
1415		Patient status changed to transfer to Holy Moles- CSC hospital. EMS called for transfer. Report completed to Sally Sue, RN in NICU at Holy Moles Hospital. BP 160/95, P 112, R 22
1419		Patient departed from ED at the Hospital of the Perpetually Ready  <b>Procedure code:</b> <ul style="list-style-type: none"> <li>• 3E03317, Introduction of Other Thrombolytic into Peripheral Vein, Percutaneous Approach.</li> </ul>

**Arrival to Discharge-IV Alteplase and Thrombectomy**

Date/Time	Caregiver	EHR Documentation
		Demographics: Male, White, Hispanic, 82yo, DOB-7/3/1936 Insurance: Exchange Current PTA Medications taken this AM: <ul style="list-style-type: none"> <li>• Aspirin EC 81mg</li> <li>• Microzide</li> <li>• Lipitor</li> <li>• Coumadin, last dose 8 days pta</li> </ul> Allergy: Latex, reaction unknown
2/22/2018 1249	EMS Report	Code Stroke. County EMS has identified an 82yo male patient with stroke-like symptoms in the field. Stroke/CVA Right side deficits with right facial droop, right arm drift, slurred speech ALOC, stroke scale +, LKW<8 hours GCS 14, BP 174/128, P 120, 96%, R 16, BS 84, O2, IV, LKW 20 minutes ago
1255	Hospital of the Perpetually Ready ED	Patient arrived in ED at the Hospital of the Perpetually Ready; directly to CT BP 184/120, P 125, R 20 Height: 6 feet (183cm) Weight: 200lbs (90.7 kg)
1255	Dr. Al Teplase, ED MD	Provider contact with patient 82yo male who presents to ED via County EMS for right-sided stroke. LKW was witnessed by a fellow passenger at 1230 while he was on the bus. Presented with facial droop, slurred speech and right-sided weakness. Stroke alert called immediately. Patient went directly to CT with EMS and Stroke Responder. Patient denies any prodromal symptoms. He does admit to aortic valve and being on Coumadin; stating he has missed the last 8 days doses. Denies any active bleeding or head trauma. HX: HTN, mechanical aortic valve, hyperlipidemia, smoker
1255= order time 1258= CT Initiated 1308= reported time		CT report: No acute intracranial pathology identified. Probable chronic paranasal sinus disease
1255-order time 1325- resulted time		Labs: Platelets: 245 Heg: 13.8 Hct: 41.0 CBC: 4.5 WBC: 8.3 Crt: 1.05 Glucose: 115 INR: 1.2
1304	Wanda Wonderful, Stroke RN Responder	Initial NIHSS= 13. Failed dysphagia. LKW= 2/22/2018 at 1230 Pre-morbid Modified Rankin: no symptoms at all

1305	Dr. Al Teplase, ED MD	Patient's brother in ED. Brother confirming patient's baseline was living alone and ambulating independently. Brother involved in decision process for Alteplase. Patient and brother advised of risks and benefits regarding use of Alteplase.
1309		Discussed with Neurology, Dr. Graamatter, who recommends Alteplase treatment and admission.  Risks/Benefits for Alteplase reviewed with patient and brother. All questions answered. Patient verbally agreed to plan for Alteplase.
1312		BP 182/112, P 130, R 21
1328		BP 184/114, P 122, R 22
1330		Labetolol 10mg bolus IV for BP persisting > 180/90. Alteplase delayed due to need for elevated B/P management.
1340		BP 174/100, P 116, R 20
1343		BP 168/96, P 110, R 20 IV Alteplase bolus followed with drip started
1400	Wanda Wonderful, Stroke RN Responder	NIHSS 16. Patient now exhibits some neglect; speech becoming non-discernable, does not consistently follow commands.
1403	Dr. Al Teplase, ED MD	Discussed worsening exam with Neurology, Dr. Graamatter and Dr. Van Tastic, Neuro IR as s/s now suggestive of LVO.
1406		CTA head/neck completed
1415	Wanda Wonderful, Stroke RN Responder	<b>Progress note:</b> Assessment as: NIHSS= 21 Not following commands CSTAT Score: 4 (gaze=2; not following commands=1; extremity weakness=1)  Patient on arrival to CT was A&O, while transferring to table, began tonic/clonic seizure. Lasted for approx. 90 seconds. Respirations sonorous with sats 95%. Ativan IV stat. Dr. Penumbra, Critical Care Neurology, in CT room. No further seizure. CTA head/neck completed. Patient taken to NICU for emergent intubation prior to clot retrieval.  BP 181/90, P 93, R 37, T 99.0 po, SpO2 99% Wt 76.2 kg, BMI 24.3 kg/m2
1425		<b>NICU</b> Patient admitted to NICU and emergently intubated. Keppra started for seizures. Propofol for sedation.

	<p>Dr. Penumbra, Critical Care Neurology</p>	<p><b>H&amp;P</b>  Patient arrived to hospital via EMS. Alteplase administered. Stroke symptoms witnessed while on a bus at 12:30 today.  1st NIH Score= 13  AA male.  HX: Type A aortic dissection s/p AVR with mechanical valve in 2015, chronic use of Warfarin-denies taking for the last 8 days, HTN, HLD, and tobacco</p> <p><b>CTA head/neck</b> completed at 14:06. Patient's sibling at bedside and consented for procedure after being informed of risks/benefits by neuro endovascular team.</p> <p><b>ASSESSMENT:</b></p> <ul style="list-style-type: none"> <li>• L MCA syndrome. Etiology: work up pending. Presumably cardio-embolic. Impression LVO of left MCA.</li> <li>• Permissive HTN/SBP goal &lt;180 x 24 hours s/p Alteplase</li> <li>• Initiate stroke orders</li> <li>• S/p IV Alteplase, on ASA 81 mg PTA</li> <li>• LDL pending. Goal &lt; 70 for secondary stroke prevention</li> <li>• HgbA1C: pending. No History of DM</li> <li>• Telemetry monitoring</li> <li>• PT/OT/ST consulted. IPR in future as necessary</li> <li>• Drug screen positive for cannabinoids</li> <li>• Will provide patient and family with stroke education</li> <li>• Pulmonary: Intubated for procedure and airway protection. Wean as able post procedure; smoking cessation.</li> <li>• CV: On Hydrochlorothiazide per PTA med list; ECHO ordered to rule out thrombus; tele to assess for AF</li> <li>• Renal: Current creatinine 1.05, no active issues, making urine; monitor I&amp;O</li> <li>• GI: Maintain NPO until speech evaluation; then advance diet as per speech</li> </ul> <p><b>Best Practices:</b></p> <ul style="list-style-type: none"> <li>• VTE prophylaxis: SCDs</li> <li>• Peripheral IV</li> <li>• Antiplatelet: on hold for 24 hours until repeat CT</li> <li>• Nutrition: Currently NPO</li> <li>• Therapy/mobilization: Bedrest x 6 hours post angio, and then will advance as tolerated.</li> </ul> <p><b>Risk Factors:</b></p> <ul style="list-style-type: none"> <li>• Smoking, drug abuse (+ drug screen), gender, HTN</li> </ul> <p><b>Social History:</b></p> <ul style="list-style-type: none"> <li>• Smoking Status: current every day smoker; 0.50 packs/day cigarettes</li> <li>• Smokeless tobacco: Never used</li> <li>• Alcohol use: Yes</li> <li>• Drug use: No</li> <li>• Sexual activity: Yes</li> </ul> <p>No family history on file</p> <p>Allergies: Latex, unknown reaction</p> <p>BP 122/74; P 88; R 20; T 99.0 oral; SpO2 100%  Wt 76.2 kg, BMI 24.3 kg/m2</p>
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Dr. Van Tastic,  
Neuro IR

**Neurological Exam:**

- Mental Status- Alert, restless. No tracking. Non-verbal, no attempts to speak. No command following.
- CN:
  - II: no response to visual threat on right, pupils 3 mm bilateral constricting with appropriate accommodation.
  - III, IV, VI: left gaze deviation, PERRLA, no nystagmus, no ptosis
  - V: + corneal reflex bilateral
  - VII: right facial droop
  - VIII: UTD
  - IX, X: UTD
  - XI: shoulder shrug absent on right
  - XII: UTD

Strength: RUE and RLE flaccid, no motor response to noxious stimuli LUE and LLE spontaneous antigravity movement

Tone: No increased tone, cogwheel rigidity, or fasciculations present

Sensation: Does not grimace or withdraw to noxious stimuli on right

Reflexes: Up going toe on right

Coordination: UTA on RUE due to weakness

Gait/Stance: Not assessed due to acuity and right side hemiparesis.

PLAN: Start Heparin drip if CT head negative for acute bleed in am.

**Neuro IR Consult**

HX: Past TIA, marijuana use

**ASSESSMENT:**

- Left MCA acute ischemic stroke
- Aortic valve replacement- non-compliant with Warfarin therapy
- Subtherapeutic INR

**PLAN:**

- Proceed with emergent cerebral angiogram with thrombectomy and intra-arterial Alteplase.
- Dual energy CT scan post-procedure
- Bed rest x 3 hours
- Neuro checks, groin site checks, and VS per post-Neuro IR protocol
- SBP <140
- Nicardipine drip to maintain SBP goals
- High dose statin
- CT head 24 hours post Alteplase on 2/23/18
- Stroke team following
- Given risk for stroke/thromboembolic event with mechanical valve off anticoagulation will recommend resume Coumadin
- Daily INR

**Neuro IR Suite**

Time	EHR Documentation
1430	Patient arrived to IR
1435	Puncture time. Access secured right groin; catheter advanced
1437	Thrombus seen M2 branch L MCA
1440	Alteplase 3mg IA by Dr. Van Tastic

		1444	Penumbra catheter without clot removal. TIC1 1
		1447	Trevo cath x1
		1448	Alteplase 3 mg IA by Dr. Van Tastic
		1451	Penumbra, TIC1 2a
		1452	Trevo x 2, TIC1 2b
1500	Dr. Van Tastic, Neuro IR	<p><b>Neuro IR Procedure Note</b>  Procedure: Left ICA/MCA angio, mechanical and aspiration thrombectomy; 6 mg. Alteplase IA infusion.  Findings: TIC1 2a posterior frontal division of MCA (superior M2 branch of inferior division), marginal effect of 6 mg local Alteplase, following 1st pass there was TIC1 1 filling of the affected branch, 2nd pass Trevo 4x20 achieving TIC1 2b filling which appears nearly TIC1 3 though slowed distal transit possibly due to non-visualized microemboli vs. change in flow dynamic from reversal in collaterals.  Estimated Blood Loss: approx. 150ml  Complications: None immediate</p>	
1515	Angel Wrkhardt, RN NICU	<p><b>NICU</b></p> <ul style="list-style-type: none"> <li>• NIHSS 16</li> <li>• SCDs applied to bilateral LE</li> <li>• Propofol sedation; ET; Keppra IV maintained</li> <li>• BP 135/75, P 88, R, 14, vent control</li> </ul>	
1559		<p><b>CT Imaging-post procedure</b></p> <ol style="list-style-type: none"> <li>1. Probable chronic ischemic microvascular changes</li> <li>2. No acute hemorrhage</li> <li>3. Stable scattered paranasal sinus disease consistent with chronic sinusitis, raising possibility of areas of fungal sinusitis.</li> </ol>	
2/23/18 0432		<p><b>CT Imaging</b></p> <ol style="list-style-type: none"> <li>1. Findings concerning for evolving early subacute infarct involving the left MCA territory at the left precentral gyrus and left frontal operculum</li> <li>2. Small SAH within left precentral sulcus, alternatively, small cortical/gyriform petechial hemorrhage could have a similar appearance.</li> </ol>	
0700		BP 119/73; P 64; R 14, T 97.1 axillary, SpO2: 100%	
0900		<p>Labs:  Calculated LDL: 35  HbA1C: 5.7  Crt: 0.95</p>	
0929	Tru Sweet, APNP Neuro IR	<p><b>Neuro IR Note- Post Procedure day #1</b>  PLAN:  CVA</p> <ul style="list-style-type: none"> <li>• Consider heparin drip this am to bridge to Warfarin (? small SAH on CT head this AM)</li> <li>• Continue ASA</li> <li>• High dose statin for neuro-protective effect</li> <li>• Stroke Protocol per Critical Care</li> <li>• Weaning sedation to extubate per Critical Care</li> <li>• ECHO</li> <li>• Seizure management per Critical Care</li> </ul>	

1049	Dr. Penumbra, Critical Care Neurology	<ul style="list-style-type: none"> <li>Groin site WNL-Please remove dressing on 2/24/18</li> <li>Page with worsening neuro exam or groin site concerns-Will sign off, OP f/u per stroke neurology</li> </ul> <p>Subjective:</p> <ul style="list-style-type: none"> <li>Patient remains intubated, sedation vacation this AM</li> </ul> <p>Neurological Exam:</p> <ul style="list-style-type: none"> <li>PERRL 3 mm bilateral, left gaze preference, unable to look past midline to right. Appears to have both right visual and sensory neglect (no grimacing to pain on right, but some grimacing on left), RUE flaccid, RLE has some resistance to ROM, LUE/LLE with purposeful movement, no command following, right facial droop</li> </ul> <p><b>Progress Note</b></p> <ul style="list-style-type: none"> <li>Exam today: remains intubated and sedated. Left gaze preference and right side hemiparesis.</li> <li>Etiology: Embolic, due to mechanical valve and noncompliance with anticoagulant regimen</li> <li>Antiplatelet held in the setting of IV Alteplase</li> <li>Will initiate heparin infusion this am for mechanical valve- neuro protocol (PTT 40-60, no bolus)</li> <li>LDL: 35. On Lipitor 80mg PTA. LDL goal &lt;70 for secondary stroke prevention. Home dose resumed.</li> <li>CXR unremarkable</li> <li>+ murmur</li> <li>ECHO: NSR. s/p mechanical valve, no thrombus or vegetation. EF: 81, mildly hypo-kinetic left ventricle</li> <li>NOTE: Attending added post APNP documentation: 'No evidence of SAH on CT this AM</li> </ul>
1130	Carrie Goodheart, RN NICU	<ul style="list-style-type: none"> <li>Heparin drip started</li> <li>Aspirin rectally</li> <li>NIHSS 14</li> <li>PT/OT working with patient</li> <li>Modified Rankin score: 4</li> <li>Extubated</li> </ul>
1615  2/24/18 1100		<p>Speech Therapy Evaluation: allow meds crushed po. Ice chips when awake.</p> <p>Medications List:</p> <ul style="list-style-type: none"> <li>Heparin drip</li> <li>Coumadin</li> <li>Aspirin changed to po</li> <li>Lipitor 80 mg</li> <li>Metoprolol</li> <li>Keppra</li> <li>Norvasc</li> </ul>
1600		<p><b>CT Imaging</b></p> <ol style="list-style-type: none"> <li>Expected temporal evolution changes of the recent left MCA territory infarction.</li> <li>Marked paranasal sinus disease</li> </ol>



<p><b>2/25/18</b> 0900 1200</p>	<p>Gloria Glorious, Stroke Navigator</p>	<p>Transfer out of NICU to neuro telemetry floor</p> <p><b>Stroke Education Record</b> Unable to educate patient due to AMS and no co-learner present. Stroke Folder with materials left at bedside addressing:</p> <ul style="list-style-type: none"> <li>• Warning signs and symptoms</li> <li>• Personal risk factors</li> <li>• Calling EMS</li> <li>• Follow-up</li> <li>• Medications prescribed at discharge</li> <li>• Understanding Stroke Booklet</li> <li>• FAST magnet</li> <li>• Support group information</li> <li>• Quit Line pamphlet, and Quitting Tobacco</li> <li>• Low Cholesterol, Low Saturated Fat, Low Sodium Diet</li> <li>• Understanding Your Cholesterol</li> <li>• Understanding Hypertension</li> <li>• BMI: What Is It?</li> <li>• Exercise and Vascular Disease</li> <li>• Walking Warm-Up Home Exercise Program</li> <li>• Medication information on Alteplase, Heparin, Aspirin, Atorvastatin and Keppra</li> </ul>
<p><b>2/26/18</b> 1300</p>	<p>Carrie Goodheart, RN NICU</p>	<p>2/26/18 Patient and family interaction achieved:</p> <p>Patient's uncontrollable risk factors are: Male; prior TIA. Patient's controllable risks: High blood pressure; high cholesterol; smoking; physical inactivity; drug abuse</p> <p>The following lifestyle modifications were recommended: monitor blood pressure, quit smoking, start an exercise program with physician approval. Patient's personal modification goal is to quit smoking.</p> <p>Discussion and review with patient and family on documents in the previously given written materials contained in the Stroke Folder. Patient and family allowed to verbalize fears and concerns. Questions were encouraged and answered. Reviewed FAST and encouraged to call 911 if patient experiencing s/s of stroke. Discussed increasing activity. Encouraged patient to raise heart rate 30 minutes, 3 times a week. Encouraged patient to check BP at home. Discussed checking different times of the day and record readings to show to PCP. Discussed IPR. Reviewed admission process, gym, apartment, 3 hours of therapy a day, and average LOS. Discussed f/u with PCP 7-10 days after discharge and discussed f/u with Neurology after discharge.</p> <ul style="list-style-type: none"> <li>• NIHSS 4</li> <li>• Modified Rankin score: 2</li> </ul>
<p><b>2/27/18</b> 0730</p>	<p>Terri Terrific, APNP Critical Care Neurology</p>	<p><b>Brief Summary:</b></p> <ul style="list-style-type: none"> <li>• 2/23/18 Resumed Coumadin with Heparin bridge</li> <li>• 2/24/18 Extubated</li> <li>• 2/26/18 Speech Therapy advanced diet to puree consistency with honey thick liquids via small single sips from cup only. Meds crushed in puree.</li> </ul>

<p>2/28/18 1505</p>	<p>Carrie Goodheart, RN NICU</p>	<p>Fed via tsp.</p> <ul style="list-style-type: none"> <li>Labs: Hgb A1C: 5.7, no hx DM LDL: 35, goal &lt;70 for secondary stroke prevention.</li> <li>Continue Atorvastatin 80mg for neuro protection x3 months</li> <li>Permissive HTN. Goal SBP&lt;160. On Metoprolol. B/P 138/87, P 73, R 16, T 98.0 oral, SpO2 97%</li> <li>Seizure on presentation- Continue Keppra indefinitely</li> <li>Antiplatelet: Aspirin 81mg</li> </ul> <p>Subjective:</p> <ul style="list-style-type: none"> <li>No new neuro s/s. Patient continues with word finding difficulties, dysarthria, and dysphagia.</li> </ul> <p>Neurological Exam:</p> <ul style="list-style-type: none"> <li>Mental Status: AAO x3. Recent &amp; remote memory intact. Follows commands. Normal attention &amp; concentration. Speech is dysarthric. No evidence of neglect on double simultaneous stimulation.</li> <li>CN: <ul style="list-style-type: none"> <li>II, III, IV, VI, V: normal</li> <li>VII: right facial droop with slightly impaired lip seal, normal eye closure</li> <li>VIII, IX, X, XI: normal</li> <li>XII: right tongue deviation</li> </ul> </li> <li>PT/OT consulted. Recommend PM&amp;R to evaluate for IPR. Patient to follow up in stroke clinic after discharge.</li> </ul> <p>Discharged and transferred to inpatient rehab via wheelchair. B/P 135/84, P 70, R 16</p> <p><b>DC Summary:</b> Patient ambulatory at discharge. Requiring continued therapy for significant aphasic speech. RUE weakness improved. Remains with a subtherapeutic INR and will continue on heparin infusion.</p> <p>DC diagnosis:</p> <ol style="list-style-type: none"> <li>Stroke in LMCA with expressive aphasia and RUE weakness</li> <li>S/p Alteplase and IR Thrombectomy</li> <li>S/p type A aortic dissection s/p AVR with mechanical valve in 2015</li> <li>Tonic/clonic seizure in the ICU</li> <li>Long term anticoagulation, noncompliant for 8 days PTA</li> <li>Tobacco abuse</li> </ol> <p>Discharge disposition: Inpatient Rehab. Continue care by Hospitalist and Neurology teams.</p> <p>Activity: As tolerated</p> <p>Diet: Diet per speech therapy</p> <p>Transfer medications:</p> <ul style="list-style-type: none"> <li>Coumadin</li> <li>Continue Heparin drip bridge at 1100 units/hr until INR 2.5 then</li> </ul>
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		<p>discontinue, goal INR 2-3</p> <ul style="list-style-type: none"> <li>• Lipitor 80 mg</li> <li>• Norvasc 10 mg</li> <li>• Keppra</li> <li>• KCL 10 meq</li> <li>• Aspirin 81 mg</li> <li>• Metoprolol 25 mg</li> </ul> <p><b>ICD-10 codes:</b></p> <ul style="list-style-type: none"> <li>• I63.412, Stroke due to emboli LMCA</li> <li>• I60.8, other nontraumatic SAH</li> </ul> <p><b>Procedure codes:</b></p> <ul style="list-style-type: none"> <li>• 3E06317, Introduction of Other Thrombolytic into Central Artery, Percutaneous Approach</li> <li>• 03CG3ZZ, Extirpation of Matter from Intracranial Artery, Percutaneous Approach</li> </ul>
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This document was created for the WI Coverdell Stroke Program and American Heart Association and the logos must remain. To demonstrate scalability, all evaluation results must be shared with the WI Coverdell Stroke Program and American Heart Association.