EMERGENCY DEPARTMENT
ACUTE CORONARY SYNDROME (ACS) ORDERS

Suspect acute coronary syndrome patients with any of the following complaints: Chest pain or discomfort described as crushing, burning, pressure, tightness, heaviness, squeezing or fullness. Discomfort or pain in other areas of the body such as, abdomen, neck, jaw, shoulders, back, or 1 or both arms, shortness of breath with or without chest discomfort, nausea/vomiting, diaphoresis or lightheadedness. Remember, women, elderly and diabetic patients may present with atypical chest pain and symptoms more frequently than men.

Patients who present to the ED with c/o chest pain or discomfort with or without associated symptoms and are suspected ACS patients, should be placed in a treatment area as soon as possible.

ACS WORKUP:

☐ 12 lead EKG STAT (Goal: within 5 minutes of arrival)
☐ 12-lead EKG interpreted by provider (Goal: within 10 minutes of arrival). Date/Time Interpreted: _______
☐ Transmit EKG to consulting cardiologist: _Yes _No ______time. Maintain patient confidentiality (HIPAA)

Assign Level of Treatment:

☐ LEVEL 1 STEMI: i.e. - ST elevation ≥ 1mm in 2 or more contiguous leads with clinical signs/symptoms and/or elevated troponin.
☒ IMMEDIATELY initiate Level I STEMI Order Set

☐ Not a STEMI: (Obtain TIMI Risk Score and Troponin as it will assist in determining Level II, III or IV): Risks stratify using TIMI (Thrombolysis In Myocardial Infarction) risk score (One point for each of the following)
☐ Age ≥ 65 years
☐ ≥ 3 Risk Factors for CAD (DM, HTN, Hypercholesterolemia, Smoking, Family History)
☐ Known CAD (Stenosis ≥ 50%)
☐ ASA Use in Past 7 days
☐ Severe Angina (≥2 episodes within 24 hours)
☐ ST deviation ≥ 0.5mm
☐ + Cardiac Markers

Total Points* of TIMI Score

*Incidence of Death, New or Recurrent MI, Recurrent Ischemia requiring Revascularization at 14 days:

<table>
<thead>
<tr>
<th>Pts</th>
<th>%</th>
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<tbody>
<tr>
<td>0/1</td>
<td>4.7%</td>
</tr>
<tr>
<td>2</td>
<td>8.3%</td>
</tr>
<tr>
<td>3</td>
<td>13.2%</td>
</tr>
<tr>
<td>4</td>
<td>19.9%</td>
</tr>
<tr>
<td>5</td>
<td>26.2%</td>
</tr>
<tr>
<td>6/7</td>
<td>40.9%</td>
</tr>
</tbody>
</table>

☐ LEVEL 2 High-risk UA/NSTEMI: TIMI risk ≥3
☐ LEVEL 3 Typical Chest pain w/o high-risk features: TIMI risk <3
☐ LEVEL 4 Atypical Chest pain:
STEMI - LEVEL 1 CHEST PAIN:
Choose one of the following based on timeliness to PCI Facility. Initiate either Less than 60 minutes to PCI Facility-Transfer Orders, or, More than 60 minutes to PCI Facility-Thrombolytic Administration Orders

☐ If the STEMI patient is less than 60 minutes from PCI facility - Transfer

Goal: Patient will be transferred within 30 minutes of arrival at this facility to closest PCI facility for primary intervention. (This allows you approximately 60 minute total transport time).

(Name of PCI facility): _____________________________

☐ Initiate plans for transport AS SOON AS STEMI is identified – don’t delay for labs and X-ray results
☐ Vital signs: Initial BP in both arms then minimum of every 15 minutes
☐ Continuous cardiac monitor
☐ Administer supplemental oxygen only if necessary to maintain SaO2 >94% or patient has respiratory distress or other high-risk features for hypoxemia
☐ Two peripheral IV’s, 20 gauge or larger
☐ Keep patient NPO
☐ Labs: CBC, CMP, PTT, PT/INR, Mag, Troponin (POC labs acceptable) STAT.
☐ CXR (only if clinically indicated)
☐ Consult Cardiologist for additional orders in the event the patient is not a candidate for immediate transfer

Medications:
☐ ASA: 81mg x 4 to chew or document reason not given ______________________________
☐ Clopidogrel (Plavix): 600mg PO loading dose
☐ Unfractionated heparin: Give bolus 60 units/kg Heparin IV (max 4,000 units), followed by -
☐ Unfractionated heparin Infusion: 12 units/kg/h (max 1000 units)
☐ Atorvastatin (Lipitor): 80mg PO unless statin taken within 24 hours
☐ Metoprolol: 25mg PO for patients without usual contraindications to beta blockers
☐ Morphine Sulfate: 2-4mg IV prn cardiac pain, may repeat q 5 mins, max dose 18mg
☐ NTG SL: 0.4 mg every 5 minutes, up to 3 doses with continuing ischemic pain. Maintain SBP > 100
☐ NTG gtt: Begin with 5mcg/min. Increase NTG gtt by 5 mcg every 5 minutes for relief of chest pain
☐ Maintain SBP > 100

Caution: Use nitrates cautiously with ST segment elevation in leads II, III and aVF.
Contraindicated with phosphodiesterase inhibitors (Viagra, Cialis, etc.) taken within 24 hours
☐ Ondansetron (Zofran): 4mg IV PRN nausea/vomiting
☐ 0.9 % Normal Saline IV to infuse at: ____________
If the STEMI patient is more than 60 minutes from PCI Facility, thrombolytic is recommended.

Goal: Administer TNKase within 30 minutes of patient arrival to this facility.
Consider (TNKase) Fibrinolytic Therapy when the closest PCI facility is greater than 60 minute transport time.

- Initiate plans for transport as soon as STEMI is identified
- Complete TNKase check list (see Patient Selection Criteria for TNKase), consider consult with Cardiologist to assist
- Patient meets TNKase criteria, proceed with TNKase orders below
- TNKase contraindicated due to ____________________________ (cross through TNKase orders)
- Consult Cardiologist or Avera for additional orders in the event the patient is not a candidate for TNKase
- Vital signs: Initial BP in both arms, minimum of every 15 minutes
- Continuous cardiac monitor
- Administer supplemental oxygen only if necessary to maintain SaO2 >94% or patient has respiratory distress or other high-risk features for hypoxemia
- Two peripheral IV’s, 20 gauge or larger
- Keep patient NPO
- Labs: CBC, CMP, PTT, PT/INR, Mag, Troponin (POC labs acceptable) STAT.
- CXR (only if clinically indicated)

Medications:

Pre Tenecteplase/TNKase:
- Monitor BP every 15minutes. Keep BP < 180/110mmHg
- For BP >180/110mmHg, consult Cardiology

- Weight in kilograms ________ (if unable to weigh, obtain from patient/family or average 2 estimated weights).

Prep/Adminstration for TNKase (Tenecteplase):  Calculations checked by: (2 initials) _____ & ______
(Follow package insert to properly constitute and administer TNKase)
Reconstitute contents of 50mg vial of TNKase with 10ml of sterile water as provided by Manufacturer to a concentration of 5mg/ml. Gently swirl until contents are completely dissolved.

- Calculate TNKase dose:
Tenecteplase (TNKase) is weight based single bolus injection to be administered over 5 seconds:

<table>
<thead>
<tr>
<th>Patient's Weight</th>
<th>TNK dose</th>
<th>TNK Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 60 Kg</td>
<td>30 mg</td>
<td>6 ml</td>
</tr>
<tr>
<td>60-69.9 Kg</td>
<td>35 mg</td>
<td>7 ml</td>
</tr>
<tr>
<td>70-79.9 Kg</td>
<td>40 mg</td>
<td>8 ml</td>
</tr>
<tr>
<td>80-89.9 Kg</td>
<td>45 mg</td>
<td>9 ml</td>
</tr>
<tr>
<td>&gt;90 Kg</td>
<td>50 mg</td>
<td>10 ml</td>
</tr>
</tbody>
</table>

- Unfractionated heparin: 60 units/kg IV (max 4,000 units) bolus followed by
  Unfractionated heparin Infusion: 12 units/kg/h (max 1000 units)
  Administer Heparin before or concurrent with TNK
ASA: 81mg x 4 to chew or document reason not given

Metoprolol: 25mg PO for patients without usual contraindications to beta blockers

Clopidogrel (Plavix):
  □ If ≤75 yrs. old give 300 mg PO loading dose OR
  □ If >75 yrs. old give 75 mg PO

Atorvastatin (Lipitor): 80mg PO unless statin taken within 24 hours

Morphine Sulfate: 2-4mg IV prn cardiac pain, may repeat q 5 mins, max dose 18mg

NTG SL: 0.4 mg every 5 minutes, up to 3 doses with continuing ischemic pain. Maintain SBP > 100

NTG gtt: Begin with 5mcg/min. Increase NTG gtt by 5 mcg every 5 minutes for relief of chest pain
  Maintain SBP > 100

  Caution: Use nitrates cautiously with ST segment elevation in leads II, III and aVF

  Contraindicated with phosphodiesterase inhibitors (Viagra, Cialis, etc.) taken within 24 hours

Ondansetron (Zofran): 4mg IV PRN nausea/vomiting

During TNKase Infusion/Post TNKase Infusion/Transport Preparation:

Monitor vital signs every 15 minutes for 2 hours (then every 30 minutes for 6 hours)

Ensure adequate oxygen; delivery O2 to maintain SaO2 >94%

Keep BP <180/110 mmHg

Maintain end-organ perfusion, i.e., maintain SBP > 100

- Volume replacement, with is isotonic saline or lactated ringers. RATE: ____cc/hr.
- Vasopressors include:

  - Dopamine (5 to 20 mcg/kg per minute)
    Concentration: _____ Rate: ______

  - Norepinephrine (0.01 to 1 mcg/kg per minute; 0.5 to 70 mcg/minute)
    Concentration: ____ Rate: ______

  - Epinephrine (0.01 to 1 mcg/kg per minute; 0.5 to 70 mcg/minute).
    Concentration: _____ Rate: ______

  Note: Inotropic and vasopressor support can mitigate the myocardial dysfunction that is common during the first 24 to 48 hours after cardiac arrest. There is no evidence demonstrating the superiority of any one vasopressor in the post-cardiac arrest patient.

No unnecessary punctures, IM injections, catheters, invasive procedures

Monitor for bleeding; check secretions for blood

Monitor EKG for arrhythmias and follow ACLS algorithms when indicated

Monitor for signs of neurologic dysfunction

Monitor for allergy (<1%) /anaphylaxis (<0.1%)

Attempts should be made to manage minor bleeds without stopping treatment via compression and other supportive strategies

Should serious bleeding (not controlled by local pressure) occur, any concomitant heparin or antiplatelet agents should be discontinued and immediately call Consultant: ______________.
LEVEL 2 CHEST PAIN: (based on TIMI score and Troponin)
High Risk UA/NSTEMI or TIMI risk ≥3

☐ Repeat ECG:
   a. Serial ECGs every 15-30 minutes during the first hour if initial ECG is not diagnostic but patient remains symptomatic and a high clinical suspicion for ACS
   b. Change in patient status and/or reoccurring symptoms

☐ Continuous cardiac monitor
☐ Administer supplemental oxygen only if necessary to maintain SaO2 >94% or patient has respiratory distress or other high-risk features for hypoxemia
☐ Vital signs: Initial BP in both arms, then minimum of every 15 minutes
☐ Establish IV access, 20 gauge or larger
☐ Labs: CBC, CMP, PTT, PT/INR, Mag, Troponin, (POC labs acceptable) STAT.
☐ Repeat Troponin in approximately 4 hours from initial Troponin (3-6 hour range per guidelines).
☐ CXR (only if clinically indicated)

Medications:
☐ ASA: 81mg x 4 to chew or document reason not given
☐ Metoprolol: 25mg PO initiated within 24 hours for patients without usual contraindications to beta blockers

☐ Unfractionated heparin: 60 units/kg IV bolus (max 4,000 units), followed by Unfractionated heparin infusion:12 units/kg/h (max 1000 units)

   or

☐ Enoxaparin 30mg IV x 1 and 1mg/kg subq q 12h (not to exceed 180mg per dose)
☐ Morphine Sulfate: 2-4mg IV prn cardiac pain, may repeat q 5 mins, max dose 18mg.
☐ NTG SL: 0.4 mg every 5 minutes, up to 3 doses with continuing ischemic pain maintain SBP >100
☐ NTG gtt: Begin with 5mcg/min. Increase NTG gtt by 5 mcg every 5 minutes for relief of chest pain maintain SBP > 100
   Caution: Use nitrates cautiously with ST segment elevation in leads II, III and aVF
   Contraindicated with phosphodiesterase inhibitors (Viagra, Cialis, etc.) taken within 24 hours
☐ Consult Cardiology for additional medications and possible transfer
LEVEL 3 CHEST PAIN: (based on TIMI Score)
Typical Chest Pain w/o High Risk Features (TIMI risk <3)

☑ Repeat ECG if change in patient status and/or reoccurring symptoms
☑ Continuous cardiac monitor
☑ Labs: CBC, CMP, PTT, PT/INR, Mag, Troponin (POC labs acceptable) STAT
☑ Repeat Troponin in approximately 4 hours (3-6 hour range per guidelines)

Medications
☑ ASA: 81mg x 4 to chew or document reason not given_____________________________________

Admit to Cardiac or Inpatient Unit unless in need of Intensive care for other reason. Follow hospital’s standard admission order set

LEVEL 4 CHEST PAIN: (based on TIMI Score)
Atypical Chest Pain

Based on Evaluation by ED Medical Provider may be admitted for observation or discharged. Consider stress test.
Acute STEMI Patient Selection (TNKase Checklist)

I. Consider IV TNKase (a fibrinolytic) as the preferred therapy if all the following are “yes”:

___YES ___NO Transportation time to PCI facility is likely more than 1 hour

___YES ___NO Symptoms started greater than 15 minutes and less than 12 hours ago?

___YES ___NO Clear ST elevation in 2 or more contiguous leads of >1mm or new LBBB

___YES ___NO EKG reviewed by cardiologist

___YES ___NO Patient has no absolute contraindications to TNKase? (Listed below)

___YES ___NO Patient is stable w/o signs of cardiogenic shock? (For shock, PCI is preferred)

II. Absolute contraindications: Avoid TNKase if any answer is “yes”

___YES ___NO Any prior intracranial hemorrhage (ICH)

___YES ___NO Known structural cerebral vascular lesion (i.e. AVM)

___YES ___NO Know malignant intracranial neoplasm (primary or metastatic)

___YES ___NO Ischemic stroke within 3 months (except acute ischemic stroke within 4.5 hrs.)

___YES ___NO Suspected aortic dissection

___YES ___NO Active bleeding or bleeding diatheses (excluding menses)

___YES ___NO Significant closed head or facial trauma within 3 months

___YES ___NO Intracranial or intraspinal surgery within 2 months

___YES ___NO Severe uncontrolled hypertension (unresponsive to emergency therapy)

III. Relative contraindications: benefit of PCI may be > fibrinolytics, particularly if multiple factors are present. Reasonably assess combined factors.

___YES ___NO History of chronic severe, poorly controlled hypertension

___YES ___NO Severe hypertension on presentation (SBP >180mm Hg or DBP >110 mm Hg)

___YES ___NO History of prior ischemic stroke > 3 months

___YES ___NO Dementia

___YES ___NO Known intracranial pathology not covered in absolute contraindications

___YES ___NO Traumatic or prolonged (>10 min) CPR

___YES ___NO Recent major surgery (<3 weeks)

___YES ___NO Recent (within 2-4 weeks) internal bleeding

___YES ___NO Noncompressible vascular punctures

___YES ___NO Pregnancy

___YES ___NO Active peptic ulcer

___YES ___NO Oral anticoagulant therapy

Other factors:

___YES ___NO Patient/Family refused treatment

If patient clearly fits criteria for fibrinolytic therapy, proceed immediately! If you are not sure, prepare for fibrinolysis (mix drug) while waiting to talk to PCI Interventional Cardiologist. Continue to work on transport options.

If patient does not meet criteria, consult cardiologist to discuss transfer for PCI
48 YO WF Patient presents to RCHC via Plainville EMS. She had been to the chiropractor this morning where she had a neck adjustment. Per EMS report, about 15 minutes after her adjustment, patient began to feel weird, laid back and became unresponsive. It was about 10:45 at that time, which is her last known well. Patient is unable to participate in her care, but family denies any previous episodes of unresponsiveness. No new medicines, no changes in medication, no ingestion of any toxins or narcotics and states that patient had been in her general good health prior to this episode of unresponsiveness.

Upon presentation to the emergency room, patient did have a GCS of 8. She did withdrawal from pain, she had no verbal response and her eyes did open to voice stimuli. Finger stick blood sugar upon presentation was 100. An EKG was done and repeated within 10 minutes, both showing normal sinus rhythm. Lab was in to draw blood and a chest x-ray was completed, which was negative for any cardiopulmonary process. Patient did go to CT of her head and C-spine without contrast. CT showed (1) no acute intracranial process of the CT head, (2) no acute fractures or misalignment of the C-spine (3) Multi level degenerative spondylosis of the cervical spine without significant Stenosis or neuroforaminal narrowing. Upon return from CT, patient’s GCS had improved, she was verbal, she was opening her eyes spontaneously and had a GCS of 13. After the CT results were known, we did repeat a CT with contrast to evaluate her neck arteries.

Upon returning again from CT, patient again was only opening her eyes to voice. She was withdrawing from pain and was speaking, but was confused. Over the course of the next roughly 30 minutes, the patient did become more lethargic, had more trouble keeping her eyes open, would open her eyes to painful stimuli, but was again not following any instructions. Dr. Lampe, Neurologist at Wesley was contacted through the stroke robot and did perform an exam with patient’s family in the room. At that time Dr. Lampe stated that there were no obvious signs of a stroke and the patient appeared to be more generally confused, however she would like to know the results of the CTA. Dr. Oller, did discuss the CT results with the radiologist and upon results also coordinated with Wesley Trauma Team, who did accept patient’s care at that time. CTA did reveal (1) a short segment of suspected dissection of the distal left cervical vertebral artery at the level of C2 with associated intraluminal thrombus seen extending superior to the level of C1 (2) Abnormal asymmetric truncation of the mid to distal P2 segment of the right posterior cerebral artery suggesting thrombophilic occlusion and (3) no definitive developing gray white matter differentiation loss or for any type of density despite the suspected right PCA thrombus allowing for phase of contrast. These results were communicated with Dr. Lampe, who did suggest that patient be given TPA. Dr. Oller did discuss the risks and benefits of TPA with patient’s husband and patient’s husband was in agreement of giving the TPA. Patient was given 6 mg of TPA IV push and 54 mg to infuse over an hour. After the decision was made to give TPA, Dr. Oller did voice this change with the trauma team at Wesley and after some time we were notified by Wesley that due to the administration of the TPA, the patient was no longer a trauma patient but would be considered a medical patient. They were on diversion and were suspecting a 10 hour wait for an ICU bed and were deferring transfer at that time. Dr. Oller did make multiple phone calls to receiving hospitals, Via Christie also declined transfer. Patient was accepted by KU Med and was transferred by fixed wing Eagle Med to KU Med Center for definitive care.

She had some left sided neck pain for 2 days after her granddaughter reportedly jumped on her. This information was provided by Travis Seibert, Chiropractor in Plainville, Ks. She came in for a cervical neck adjustment. Dr. Siebert relayed that he performed cervical neck adjustment and then provided light massage. The patient then sat for 5-10 minutes and when she stood up, she reportedly sat back down immediately and he asked her how she was doing and she would not answer him and he helped her to a bed where she laid down for 5 minutes and after 5 minutes she was not acknowledging or talking to him at all and he called for paramedics and she was transferred to the hospital.

When the patient arrived in the ER, she had a reported GCS by Plainville EMS of 8. In the emergency room the patient’s initial GSC by my examination was 13. She was not opening eyes spontaneously and she was not using words but she was using noises to respond to stimuli. I did advise Emily Decker, PAC that the most likely biggest concern would be for a CVA or vertebral artery dissection. I did recommend a CT of the head and neck without contrast be performed first, which were both done and read out as no obvious bleeding, no fracture. I initially consulted with Dr. Clausen, Trauma Surgeon, Salina about the case and in preparation for transfer, who recommended that we look to a higher level facility for potential neuro surgery and neuro intensity based on the fact based on the likelihood, that there was a vertebral artery dissection prior to the CTA being done. CTA was performed while I was visiting with Dr. Leonard, Radiologist over reading films. Dr. Lampe the on call neurologist for our stroke robot programs was also consulted and evaluated the patient. Her initial concern was maybe
there was a basal artery thrombus but she did not see any signs of acute stroke. After consulting with Dr. Leonard, and verifying that the patient did have in fact a left artery dissection with thrombus present and occlusive event of the right PCA. This information was relayed to Dr. Lampe, who advised that we should in fact give TPA. Prior to the neurology consultation and the over read of the CTA being present, Dr. Thomas on call for Wesley Trauma was consulted. On the phone he was advised of the case and concern for vertebral artery dissection and the fact that the patient had become unresponsive and did accept her as a trauma. After Dr. Lampe recommended TPA based on the CT findings, I called Dr. Thomas and advised that both Dr. Lampe and the family had advised and agreed to the use of TPA. Dr. Thomas stated if I am comfortable with it and the neurologist recommends it, to go ahead and give it. Six milligrams of TPA was given as a loading dose of 54 was used over the next hour as an infusion. Approximately 10 minutes after TPA was bolused, we received a call from Wesley Medical Center, stating that the patient was no longer a trauma and to be considered medical and that there were no ICU beds available for approximately 10 hours. Upon receiving this news, I called Via Christie and spoke with a Neuro Intensivist, Dr. Johnson and explained the case to him in detail and advised him that the patient had been the recipient of TPA and was in need of higher level of care. Dr. Johnson advised me to "If I started with Wesley, I should finish with Wesley". Upon hearing this I called Wesley back and called to the ER physician who is Dave Hardig and explained the physician to Dave Hardig and asked if he had any other thoughts or recommendations. His only thought was that the patient likely needed her own intensivist and that he would be happy to help, however if the patient was transferred to Wesley, she would not likely get an ICU bed because of their congestion and patient population for approximately 10 hours. Upon hearing this news, I attempted to call Stormont Vale, whose numbers were busy. I called KU Medical Center and spoke to Dr. Rostmeyer, Neurologist on call. Explained the situation to Dr. Rostmeyer, who advised me that he would have to make some phone calls and call me back. He called me back within 15 minutes and explained that KU would be happy to accept the patient for post TPA monitoring and the patient was transferred care to Eagle Med and she was transferred by fixed wing to KU Medical Center. Of note, Eagle Med was placed on standby for a possible transfer at the time of the patient's first CT scan, the one of her head and neck without IV contrast. On another note, prior to the TPA being administered after Dr. Lampe's recommendations and my consultations with Dr. Leonard of there being an occlusive event in the right PCA, the family was advised of the risks and benefit of TPA. Very clearly they were advised that this may in fact alleviate any current and future residual symptoms from a stroke, however, the TPA should be considered a very potent blood thinner and that a chance for a hemorrhagic stroke or conversion to hemorrhagic stroke or other bleeding that may result in life threatening conditions and possibly death was advised to the patient's husband and all 4 of her children. Ultimately the consensus of the family was to administer TPA, which I concur with.

Prior to the patient leaving our facility, there was some residual improvement. The patient was using 2 and 3 word sentences. She still had no spontaneous eye opening. Her cranial nerves were still intact. She was as I would describe moderately to severely obtunded. Her GSC remained greater than 8, she was protecting her airway during her entitle time, her vital signs remained stable during her initial ER visit. Her blood pressure did rise as high as 180's /100. Patient again was transferred to the care of Eagle Med with instructions to proceed to KU Medical Center to be placed in a neuro intensive bed for TPA monitoring. Family was update at every change in the patient's progress and care and she was discharged in a stable condition to Eagle Med to fly to KU Medical Center.

This is a 48 year old woman presenting to the emergency department with unresponsiveness, difficulty speaking and confusion. Patient was at her chiropractor and had just completed a neck manipulation. Approximately 15 minutes after the procedure, the patient said she felt unwell and then became obtunded and unarousable at approximately 10:45 a.m. EMS was called, and was patient was brought in to Rooks County Emergency Department. A stroke alert was called at 11:27. Patient was evaluated via telemedicine at 11:35. Her NIH stroke scale was 12, however exam was very non specific and that she was difficult to arouse with minimal focal deficits. She did have a CTA prior to my examination and the results were pending at the time of my evaluation. Initially it was decided to await the results of the CTA, but when the results of the CTA showed a dissection with a PICA occlusion, we decided to go forward with IV TPA.

Recommendations: When we did discover the acute occlusion, IV TPA was recommended. She will likely be transferred to the trauma service in the Kansas facility. For now I do recommend keeping patient off any antiplatelet or any other anticoagulant medications until it has been 24 hours since IV TPA administration. Blood pressure goals should remain between 120/180 systolic. I do recommend an MRI of the brain when patient is able to tolerate. Further stroke work up could be done at the outside facility. LAMPE, EMILY MD

1114: PATIENT ARRIVED AND TRANSFERED TO ED BED, GCS 8
1116: BS AT 100 20 Ga HL
1117 60,95%,163/94
1119: STROKE /CARDIAC PROTOCOL INITIATED,97.5,55,167/93
1120 NS 100/hr GCS 12
1123: EKG #1 DONE NSR
1125: CXR DONE, 54,102/61
1128 #2 EKG done NSR,60,173/91
1130 NISHH stroke score 17
1135: C-COLLAR PUT ON PATIENT BY ED STAFF IN CT ROOM
1135: PATIENT SPEAKS SOME, CONFUSED AND SLURRED SPEECH
1140: Back from CT C/O NAUSEA, PATIENT ROLLED TO SIDE
1143 zofran IVP
1145 97.4,65,99% 2L,184/97
1149 66,100% 2L,150/96
1154: PATIENT HAS C/O HEADACHE
1156: PATIENT IS ORIENTED TO PLACE, KNOWS FAMILY, STILL CONFUSED W/GARBLED SPEECH
1200 GCS 12
1204: C-SPINE CLEARED, CTA OF HEAD AND NECK ORDERED
1210 20 GA CT IV RAC
1224 77,165/96
1226: STROKE ROBOT USED, WESLEY CONTACTED FOR NEURO CONSULT. PATIENTS SPEECH REMAINS SLURRED AND PATIENT IS CONFUSED AND LEATHARGIC
1302: 325MG OF BABY ASA ATTEMPTED, PT UNABLE TO CHEW OR OPEN MOUTH.
1309 74,16,100%,144/81
1315: FAMILY DECIDES TO ATTEMPT TPA
1316 62,18,140/71
1321 TPA 6 mg bolus, 54 mg drip over 1 hour,65,16,100%,141/73
1340 60,100%,143/65
1358,68,18,100%,118/64
1405 GCS 13
1415: KU MED ACCEPTS CARE OF PATIENT
1433: FOLEY PLACED PER STERILE TECH
1438 83,94%,180/101
1443 71,98%,154/77
1531 discharged via Eagle Med, report to Alisha at KU med

Total time in ER 77 min. no written risks or benefits.
Saving a life is the greatest dividend that an investment in a hospital and an airport will ever return. Francie Benedick and her doctor at KU Medical Center will tell you that without the resources at Rooks County Health Center (RCH) coupled with the Rooks County Regional Airport, Benedick would not be alive today.

On Sept. 18, Benedick suffered a stroke caused by a tear in the wall of her left vertebral artery. This caused a clot to form, which broke off and flowed to another artery. “I didn’t feel good, so I sat down. And then, I just went out,” said Benedick. The ambulance was called and rushed her to RCH where she was immediately attended to by a team of nurses, lab and radiology personnel and providers led by Emily Decker, PA-C.

Using RCH’s CT scanner was critical in finding the location of the clot. After stabilizing Benedick, the “stroke robot” was utilized to transfer vital information to a neurologist in Denver. This life saving machine, utilizing the most modern telemedicine technologies, is a rarity in small rural hospitals, and RCH was one of the first to acquire one. Based on the information delivered via the robot, the neurologist recommended that a specific clot busting medication might be used. The decision to use the clot buster entailed a very real risk. In order to be effective, the drug must be used as early as possible after stroke symptoms occur.

“The choices that were made that day were some of the toughest in medicine for both family and doctor,” said Dr. Michael Oller, who was part of the RCH team that day.

The drug, a potent blood thinning agent, could dissolve the clot and save Benedick’s life. However, there was a possibility that it might create a bleeding type of stroke, which could permanently and completely disable Benedick. The RCH providers and Benedick’s family decided to take the risk.

The drug was administered and Benedick was readied for air transport to KU Medical Center in Kansas City. The decision to use air transport was made immediately. As soon as the ambulance was paged to the scene where Benedick had collapsed, the emergency medical flight EagleMed was put on standby. After it was determined that Benedick would need a higher level of care, the plane was dispatched to the Rooks County Regional Airport.

Benedick suffered the stroke on a Friday, woke up in KU Medical Center on Saturday and was back home, alive and recovering with her family by the next Tuesday. Speaking of her experience, Benedick said, “The care and treatment I received at KU was just like the care and treatment I would receive at Rooks County Health Center—they know who you are. I think people are crazy for not using RCH.”
During her stay in the intensive care unit at KU Medical Center, Benedick recalls her doctor saying she was lucky RCH knew what it was doing. In a telephone interview, the same doctor said, “I think your doctors did a great job. She has had a dramatic recovery. She was better off that she was at a place like your hospital. I think it was great work.”

The ability to consult with a neurologist over 300 miles away in real time as this critical event was taking place was a crucial factor in saving this woman’s life. There is no doubt that telemedicine technology is the reason Francie is alive today.

Francie Benedick is back with her family because the talented and dedicated staff of RCH had the modern and efficient resources necessary to do their jobs to their greatest abilities. The vision and determination of the citizens of Rooks County to build a new hospital and a regional airport at a time when other counties in our state were giving up, sends a clear message that Rooks County takes care of its own.

Francie’s life is one of many results of Rooks County Health Center’s investment in the well-being of the people of northwest Kansas. In summing up her experience, Francie said, “I can’t believe I’m alive, but I do know that I am because of the care I got at our hospital.”
Acute Stroke Patient Selection (tPA Checklist)

Patient Selection Criteria

__YES__ __NO__ Age 18 or over

__YES__ __NO__ Clinical Diagnosis of Ischemic Stroke with a measurable neurologic deficit

NIHSS _________

__YES__ __NO__ Time of “Last Known Well” established less than 4.5 hours before treatment would begin; Date and Time___________

Contraindications

__YES__ __NO__ Time of onset of symptoms or last known well is greater than 4.5 hours

__YES__ __NO__ SBP > 185 or DBP is > than 110mmHG despite treatment

__YES__ __NO__ Recent significant head trauma ( < 3 MO )

__YES__ __NO__ Recent Intracranial or Spinal surgery ( < 3 MO )

__YES__ __NO__ CT findings of ICH or SAH

Considerations

__YES__ __NO__ Care team unable to determine eligibility

__YES__ __NO__ Presence of intracranial conditions that may increase risk of bleeding like brain aneurysm, vascular malformation and some brain neoplasms

__YES__ __NO__ Recent active internal bleeding

__YES__ __NO__ Platelets < 100,000, PTT > 40 sec after heparin use of INR > 1.7, or known bleeding diathesis

__YES__ __NO__ Use of Novel oral anticoagulants in past 48 hours

__YES__ __NO__ Increased risk of bleeding due to co-morbid conditions (example: hemorrhagic diabetic retinopathy)

__YES__ __NO__ Suspicion of SAH

__YES__ __NO__ Rapidly Improving with near resolution of symptoms

__YES__ __NO__ History of ICH

__YES__ __NO__ History of recent Ischemic Stroke

__YES__ __NO__ CT findings with major infarct signs

__YES__ __NO__ Major surgery or serious trauma ( < 15 days)

__YES__ __NO__ Left heart thrombus

__YES__ __NO__ Bacterial endocarditis

__YES__ __NO__ Life expectancy < 1 year or severe co-morbid conditions

__YES__ __NO__ Pregnancy

__YES__ __NO__ AMI < 3 MO
Acute Stroke Patient Selection (tPA Checklist)

Additional Warnings for patients treated between 3—4.5 hours

__YES   __NO  Age > 80
__YES   __NO  Prior stroke and diabetes
__YES   __NO  Any anticoagulant use prior to admission (even if INR < 1.7)
__YES   __NO  NIHSS > 25
__YES   __NO  CT findings > 1/3 MCA

Other factors

__YES   __NO  IV or IA tPA (Activase/Alteplase) given at outside hospital
__YES   __NO  Patient/Family refused treatment
Stroke Team Patient Evaluation

Today's Date: _____________ DATE/TIME LAST KNOWN WELL ______________

NIH Stroke Scale

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Time:</th>
<th>Score</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Consciousness</td>
<td>0 = Alert</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Not Alert but arousable by mild stimulation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Not alert; Requires repeated stimulation to attend</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = Responds only with reflex motor/or autonomic reflex or unresponsive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Consciousness Questions</td>
<td>0 = Answers both month and age correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Answers one question correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Answers neither question correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC-Commands</td>
<td>0 = Performs both tasks correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Performs one task correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Performs neither task correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaze</td>
<td>0 = Normal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Partial Gaze Palsy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Forced Deviation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Fields</td>
<td>0 = No visual loss</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Partial Hemianopia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Complete Hemianopia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = Bilateral Hemianopia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facial Movement (Facial Paresis)</td>
<td>0 = Normal symmetrical movements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Minor paralysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Partial paralysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = Complete paralysis of one or both</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Function- Arms (Right and Left)</td>
<td>0 = No drift</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Drift</td>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Some effort against gravity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = No effort against gravity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 = No movement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UN = Amputation or joint fusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Function- Legs (Right and Left)</td>
<td>0 = No drift</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Drift</td>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Some effort against gravity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = No effort against gravity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 = No movement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UN = Amputation or joint fusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limb Ataxia</td>
<td>0 = Absent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Present in one limb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Present in two limbs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UN = Amputation or joint fusion, explain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensory</td>
<td>0 = Normal: no sensory loss</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Mild to moderate sensory loss</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Severe to total sensory loss</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best Language</td>
<td>0 = No aphasia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Mild to moderate aphasia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Severe Aphasia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = Mute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dysarthria</td>
<td>0 = Normal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Mild to moderate dysarthria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Severe dysarthria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UN = intubated or other physical barrier, explain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extinction &amp; Inattention (formerly Neglect)</td>
<td>0 = No abnormality</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Visual, tactile, auditory, spatial, or personal inattention</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Profound hemi-inattention/extinction</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Score

ACUTE STROKE RESPONSE TEAM FORM

Plan of Care Discussed:
- ED Provider: ____________________
- Other Hospital: ____________________
- KU Stroke Service: ____________________

IV tPA (Activase/Alteplase)-Treatment Plan
☐ Contraindicated per Dr.
☐ > 4.5 hour window
☐ BP > 185/110
☐ Recent significant head trauma (<3mo)
☐ Recent intracranial or spinal surgery (<3mo)
☐ Current Intracerebral Hemorrhage
☐ Other: ____________________

☐ verbal or written consent obtained (do not delay treatment while consent is obtained)

Notes: ____________________

Nurse Signature Date/Time ____________________

Provider Signature Date/Time ____________________

PATIENT IDENTIFICATION
ACUTE ISCHEMIC STROKE ORDERS
& TRANSPORT PROTOCOL

STROKE WORKUP
☐ Date / Time patient last known well: ______________________
☐ Vital Signs: Minimum of every 15 minutes (with continuous O2 and cardiac monitoring)
☐ O2 at 2 liters per nasal cannula: titrate for SpO2 of 94% or greater
☐ Two peripheral IV’s (18 gauge preferable, one in AC)
☐ Labs: CBC, BMP, PT/INR, PTT, Blood Glucose, Troponin, and pregnancy test if applicable (*to save door to needle time, you may give tPA prior to the lab results back if patient has no HX of major liver, renal or bleeding issues and is not on Warfarin or NOAC) POC labs acceptable
☐ Diagnostic: CT Head Without Contrast (notify radiologist for STAT read); EKG
☐ Strict NPO
☐ NIH Stroke Scale Score: ______________
☐ Complete tPA/Alteplase Checklist:
  □ Patient meets tPA criteria, proceed with tPA orders below. ___Consult with Stroke Specialist obtained
  □ TPA contraindicated due to ________________________ (cross through tPA orders)
☐ Notify Dispatch / Transport Team
Best Family Member Phone Number – cell ___________ ___________ ___________

PRE TPA/ALTEPLASE
☐ Monitor BP every 15 minutes. Keep BP < 185/110mmHg
  • Labetalol 10 mg IVP (may repeat x 1). (Hold for HR < 60)
  • Nicardipine gtt. 5 mg/hr to max of 15 mg/hr
  • Or Antihypertensive agent of your choice
☐ Start Normal Saline IVF drip at 75 mL per hour
☐ Obtain signed informed consent.
Weight in kilograms ________________ (if unable to weigh, obtain from patient/family or average 2 estimated weights)

TPA (Activase/Alteplase) PREP / ADMINISTRATION
Calculations Checked by: (2 initials) _____ & _______
☐ Mix tPA with sterile water as provided by manufacturer to a concentration of 1 mg/mL
☐ Calculate Total Dose (will be the bolus + infusion):
  • Total Dose: (0.9mg/kg) = ___________ (max of 90 mg)
☐ Waste unneeded tPA portion.
  • Waste: (100mg – total dose) = ___________ mg.
☐ Administer Bolus over 1 minute IV push
  • Bolus Dose: 10% of total dose (total dose x 0.1) = ___________mg. / Time Given: ___________
☐ Administer Infusion Dose as a secondary infusion over 1 hour.
  • Infusion Dose: 90% of total dose (total dose x 0.9) = ___________mg. / Time Started: ___________
☐ Flush tPA remaining in IV tubing with NS – use same rate as tPA infusion.

DURING INFUSION / POST INFUSION / TRANSPORT PREPARATION:
☐ Monitor Vital Signs every 15 minutes.
  • Keep SBP <180mmHg, DBP <105 mmHg, (stop tPA if unable to maintain SBP <180 or DBP <105 constantly with Antihypertensive agents)
    • Labetalol 10 mg IVP (may repeat x 1). (Hold for HR < 60)
    • Nicardipine gtt. 5 mg/hr to max of 15 mg/hr
  • Keep SBP > 100: May try NS 500ml IVF bolus as an initial option
☐ Monitor Neuro Checks every 15 minutes.
  • If sudden change in baseline mental status, acute headache, or vomiting, STOP tPA infusion. Call Med Control
☐ Monitor for Adverse Reactions e.g. Angioedema (may follow anaphylactic management or protocol) or Hemorrhagic Complications (Abdominal and/or flank pain, hemoptysis, hemanemia, shortness of breath/rales/rhonchi)
  • STOP tPA infusion; Call Medical Control
☐ CAUTIONS
  • NO Anticoagulation or Antiplatelet Therapy for 24 hours
  • No Foley insertion/re-insertion, central venous line placement or arterial puncture at a non-compressible site for at least 24 hours after tPA
  • Avoid insertion of nasogastric tube for 6-8 hours after tPA administration
☐ Send copy of CT Head Scan (do not delay transport-report can be faxed)
☐ Send patient records with documentation of allergies, current medications, past medical history (can be faxed)
**all that is needed is the EMTALA paperwork with patient—DO NOT DELAY TRANSFER FOR COPY OF RECORDS

REVISED 12/2015

PATIENT IDENTIFICATION
☐ Telephone order from Dr. ______________________________
Nursing signature/RAV: ______________________ Date: ______ Time: ______
Provider Signature: ______________________ Date: ______ Time: ______

TEMPLATE
STROKE PATIENT PRESENTATION

Sending Physician: _______________________
Sending Physician Phone Number: _______________________

NOTE: PLEASE DON’T WAIT FOR LABS BEFORE CALLING STROKE SERVICE/24hr Help Line

Name of Patient: _______________________
Age: _______________________
Sex: _______________________
Symptoms: __________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
Time of Onset: _______________________
Last known well: _______________________
Wake Up Stroke/Time indeterminate: _______________________
NIHSS: _______________________
Previous Stroke: _______________________
Old Deficits: _______________________

(Substring the old deficit points from the total NIHSS to get the ACUTE score)

B/P: _______________________
Anticoagulated: _______________________
Antiplatelet Meds: _______________________
Novel Oral Anticoagulants: _______________________

Patient has the following Modifiable Risk Factors for Stroke:
Smoker □ HTN □ CAD □
A-Fib □ DM □ HLD □ OSA □

Past Medical History:
Migraines □ Recent Head trauma □
Cancer □ Seizure HX □
Recent Surgeries _______________________
Kidney Problems _______________________
Recent illness or infection: _______________________

Head CT Results: _______________________
12 lead EKG: _______________________

Recent hospital admissions:
__________________________________________________________________________________
__________________________________________________________________________________
Hyper-acute Lab results if available:
FSBS: _______________________
Cr: _______________________
INR/PT/PTT: _______________________
Platelets: _______________________

Do you feel the patient is a tPA candidate: ____
Endovascular candidate: _______________________

AHA/ASA recommendations for endovascular intervention for large vessel occlusions include:
NIHSS: equal to or greater than 6 _______________________
ASPECT score: equal to or greater than 6 _______________________
Hyper-dense MCA sign _______________________
Prior to event-mRS—0-1 _______________________

Additional Patient Notes: _______________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

12/2015
TRAUMA RESUSCITATION FORM

Patient Name: __________________________  Date of Birth: ________________

Medical Record No.: ____________________  Account Number: ________________  Admission Date: ________________

PATIENT INFORMATION

ARRIVAL DATE/TIME: ________________  ARRIVAL MODE
- Ambulance  - Private Vehicle  - Other

MECHANISM OF INJURY
- Blunt  - MVC  - ATV  - GSW  - Assault
- Motorcycle crash  - Stabbing  - Fall _____ ft.
- Electrocution  - Burn  - Ejection ______ (ft.)  - Partial ejection
- Other: _________________________________________________________

TRANSPORTED FROM
- Scene  - Home  - Other

LOCATION
- Street  - Residence  - Highway  - Outdoor  - Other

PATIENT INFORMATION

Injury Time: ________________  Speed: ________________  Time: ________________

PATIENT LOCATION IN VEHICLE
- Driver  - Front Passenger  - Unknown
- Right  - Rear Passenger  - Left
- Other: ________________________________

PROTECTIVE DEVICES
- 3 point  - Lap belt only  - Air bag deployed
- Child seat  - Helmet  - Personal Flotation Dev.
- None  - Other: __________________________

MECHANISM OF INJURY
- Blunt  - MVC  - ATV  - GSW  - Assault
- Motorcycle crash  - Stabbing  - Fall _____ ft.
- Electrocution  - Burn  - Ejection ______ (ft.)  - Partial ejection
- Other: _________________________________________________________

LOCATION
- Street  - Residence  - Highway  - Outdoor  - Other

PATIENT INFORMATION

PMH: ___________________________________
- ___________________________________

Meds: ___________________________________
- ___________________________________

Height: _____  Weight: _____  LMP: _______

Last meal: ___________  Last tetanus: ___________

PRACTITIONER  TESTS  TIME  PROCEDURES

Name: CT

Time Called: Lab

Time Here: CXR

Time Out: C-spine

Pelvis

Procedures  Time  Comments/Results

ET/NT Intubation

Cricothyrotomy

Neddle Decompress

Chest Tube Insertion  R____  L____

OG/NG Insertion

Foley Insertion

INITIAL GLASGOW COMA SCALE

EYE OPENING
- Spontaneous  - To Voice  - To Pain  - None

VERBAL RESPONSE
- Oriented  - Confused  - Inappropriate Words  - Incomprehensible Words  - None

EYE OPENING
- Spontaneous  - To Voice  - To Pain  - None

Identify Areas of Injury

1. Deformity
2. Contusion
3. Abrasion
4. Punctures - Penetration
5. Burns
6. Tenderness
7. Lacerations
8. Swelling
9. Amputation
10. Avulsion
11. Edema
12. Hematoma
13. Rash
14. Treadmarks

Pain Index: 1 2 3 4 5 6 7 8 9 10
### INITIAL TRAUMA ASSESSMENT

**Patient Name:**

**Medical Record No.:**

**Date of Birth:**

**Account Number:**

**Admission Date:**

#### INITIAL VITAL SIGNS:

<table>
<thead>
<tr>
<th>Time:________ Date: _____________</th>
<th>BP_______ P______ R_____ T________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical Collar □ Yes □ No</td>
<td>On □ Yes □ No</td>
</tr>
<tr>
<td>Backboard □ Yes □ No</td>
<td>Inflated: □ Yes □ No</td>
</tr>
<tr>
<td>Pad □ Yes □ No</td>
<td>Right leg □ Yes □ No</td>
</tr>
<tr>
<td>KED □ Yes □ No</td>
<td>Left leg □ Yes □ No</td>
</tr>
</tbody>
</table>

#### PASG:

- PASG: □ Yes □ No
- Inflated: □ Yes □ No
- Right leg □ Yes □ No
- Left leg □ Yes □ No
- Abdomen □ Yes □ No
- Mottled

#### SKIN:

- Pink □ Warm □ Dry □ Pale
- Flushed □ Cyanotic □ Cool
- Moist □ Diaphoretic

#### AIRWAY:

- Patent □ Stridor □ Edema
- Loose Teeth/Debris
- Singed Nasal Hair
- Carbon in Sputum
- Nasal Airway □ BVM
- Oral Airway
- Nasal Cannula □ Mask
- O2 @ ______ L/min
- ETT/NTT #______ @ ______ cm
- Cricothyrotomy
- Tracheostomy

#### BREATHTHOUNDS/CHEST:

- Clear □ Right □ Left
- Wheezing □
- Decreased
- Coarse □
- Absent □
- Crepitus □
- Tenderness □
- S/Q Air □

#### NEUROLOGICAL:

- AVPU: □ Alert □ Responds to verbal □ Responds to pain □ Unresponsive
- Brisk □ Right □ Left
- Sluggish □
- Nonreactive □
- Size ______ ______

#### GENITO-URINARY:

- Continent: □ Urine □ Stool
- Incontinent: □ Urine □ Stool
- Blood @ Meatus: □ Yes □ No
- Hematuria: □ Yes □ No
- Rectal Tone: □ + □ -

#### EXTREMITIES:

- Moves all extremities □ Yes □ No
- Tattoos:
- Burns
- Abrasions
- Lacerations
- Ecchymosis
- Swelling
- Edema □ Pallor □ Pain

#### POSTERIOR EXAMINATION: Findings:


### GLASGOW COMA SCORE

<table>
<thead>
<tr>
<th>Best Eye Opening</th>
<th>Best Verbal</th>
<th>Best Motor Response</th>
<th>WARMIN MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous</td>
<td>Oriented</td>
<td>Obeys Commands</td>
<td>□ Blanket</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>□ Warming Lights</td>
</tr>
<tr>
<td>To sound</td>
<td>Confused</td>
<td>Localizes pain</td>
<td>□ Fluid Warmer</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>To pain</td>
<td>Inappropriate</td>
<td>Withdraws (pain)</td>
<td>□ Bair Hugger</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>Incoprehensible</td>
<td>Flexion (pain)</td>
<td>□ Other</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

| Time: ______ By: ________________ |

---

Warming Measures:

- □ Blanket
- □ Warming Lights
- □ Fluid Warmer
- □ Bair Hugger
- □ Other
Patient Name: __________________________   Date of Birth: __________________________

Medical Record No.: __________________   Account Number: __________________   Admission Date: __________________

<table>
<thead>
<tr>
<th>(A) Respiratory Rate</th>
<th>(B) Systolic BP</th>
<th>(C) GCS Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-29/minute</td>
<td>&gt;89 mm Hg</td>
<td>4</td>
</tr>
<tr>
<td>&gt;29/minute</td>
<td>76-89 mm Hg</td>
<td>3</td>
</tr>
<tr>
<td>6-9/minute</td>
<td>50-75 mm Hg</td>
<td>2</td>
</tr>
<tr>
<td>1-5/minute</td>
<td>1-49 mm Hg</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>No pulse</td>
<td>0</td>
</tr>
</tbody>
</table>

TOTAL (A)  TOTAL (B)  TOTAL (C)  RTS TOTAL (A)+(B)+(C) = __________

<table>
<thead>
<tr>
<th>IV #</th>
<th>Solution/Amt</th>
<th>Site</th>
<th>Warmer</th>
<th>Time Up</th>
<th>Time DC</th>
<th>Amt. In</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

ECG RHYRHM STRIP

<table>
<thead>
<tr>
<th>Time</th>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Site</th>
<th>Effect</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

MEDICATIONS
# NURSE’S NOTES/FLOW SHEET

<table>
<thead>
<tr>
<th>TIME</th>
<th>BP</th>
<th>P</th>
<th>R</th>
<th>GCS</th>
<th>O2 SAT</th>
<th>PUPIL</th>
<th>R</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intake</th>
<th>Output</th>
<th>Disposition</th>
<th>Signature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO Fluids</td>
<td>Emesis</td>
<td>Time: _______ □ Admit □ DC □ Death</td>
<td>Recorder:</td>
</tr>
<tr>
<td>Crystalloids</td>
<td>Naso/Orogastric</td>
<td>Transferred to: _________________</td>
<td></td>
</tr>
<tr>
<td>Blood</td>
<td>Chest tube #1</td>
<td>Via: □ EMS □ Air Transport □ Private Car</td>
<td></td>
</tr>
<tr>
<td>Medications</td>
<td>Chest Tube #2</td>
<td>Records/X-rays with patient: □ Yes □ No</td>
<td></td>
</tr>
<tr>
<td>Lavage In</td>
<td>Foley:</td>
<td>Mode: □ Amb □ W/C □ Carried □ Cart</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td>Accompanied by: __________________</td>
<td></td>
</tr>
<tr>
<td>Total In</td>
<td>Total Out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Autopsy □ Organ Donor Reference #</td>
<td>Report to: ______________________</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D/C Status: □ Good □ Fair □ Serious □ Critical
Family notified: ___________________________
By Whom: ____________________________
Relative Contacted: ______________________
Phone #: _____________________________
Call time(s): __________________________
Unable to Contact: ______________________
Valuables: ____________________________
Given to: _____________________________

Patient Name: ____________________________ Date of Birth: __________________
Medical Record No.: ____________________ Account Number: __________________ Admission Date: ____________
### RCHC Adult Sepsis Order Set (ASOS)

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>ORDER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Criteria for SEPSIS: suspected/confirmed infection + two SIRS markers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ temperature &gt; 100.4 or &lt;96.8  ☐ pulse &gt; 90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ respirations &gt; 20  ☐ WBC &gt; 12,000 or &lt; 4,000 or &gt; 10% bands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Criteria for SEVERE SEPSIS: SEPSIS + evidence of organ dysfunction (one or more systems)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ CNS (altered MS)  ☐ CV (hypotension; MAP&lt;65, SBP&lt;90, SBP ↓ 40 from base)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ PULM (hypoxemia; SaO2&lt;90%)  ☐ RENAL (oliguria, anuria, creat, ↑ 0.5 from base)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ HEPATIC (t bili&gt;4, LFT 2 x NL)  ☐ Thrombostasis (plt&lt;100,000, INR&gt;1.5, PTT&gt;60, d--dimer &gt; 400)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Global Tissue Hypoxia (lactatex)2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ TIME ORDER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ DIAGNOSIS: ☐ SEPSIS ☐ SEVERE SEPSIS ☐ Etiology/Infection:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Activate SEPSIS RESPONSE TEAM (code response)3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ LABS: ☐ CBC with differential, CMP, Serum Lactate STAT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Blood Culture x 2 sites STAT (preferably before antibiotics, but DO NOT DELAY)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ UA + Urine Cx [URINE or UNKNOWN source]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Sputum Cx [PULMONARY source]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Urine Strep Pneumo [PULMONARY source]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Urine Legionella [PULMONARY source]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ ABG [PULMONARY source]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Amylase/Lipase [ABDOMINAL source]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Type and Screen [HEMATOLOGIC source or ANEMIA present]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ D–Dimer [COAGULOPATHY suspected]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ D–Dimer, Fibrinogen, PT/PTT/INR [COAGULOPATHY suspected, DIC Panel]</td>
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<td></td>
<td>☐ Wound Cx = site: __________________ [SKIN/WOUND source]</td>
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<td>☐ Place two large bore (18 gauge or larger) peripheral IV lines</td>
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<tr>
<td></td>
<td></td>
<td>☐ IV Fluids: ☐ NS 2 liter bolus over 1 hour ☐ NS TRA ______cc/hour after bolus complete</td>
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<tr>
<td></td>
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<td>☐ Saline Lock ☐ Other: ______________</td>
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<tr>
<td></td>
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<td>☐ Supplemental oxygen per NC or face mask, titrate to keep SpO2&gt;90%</td>
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<tr>
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<td>☐ ANTIMOBICS STARTED (do NOT delay for blood cultures if difficulty obtaining)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Zosyn 4.5gm IV Q6 hours [ALL sources]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Cefepime 2gm IV Q12 hours [ALL sources if Penicillin allergic; ADD for suspected CNS infect]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Clindamycin 600mg IV Q8 hours [Use with Cefepime if Penicillin allergic, above the diaphragm]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Flagyl 500mg IV Q8 hours [Use with Cefepime if Penicillin allergic, above the diaphragm]</td>
</tr>
<tr>
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<td></td>
<td>☐ Levaquin 750mg IV Q24 hours [Add for PULMONARY sources]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Vancomycin 1gm IV Q12 hours [Add for suspected MRSA infections]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Ampicillin 3gm IV Q6 hours [Use with Cefepime for suspected CNS infection, over age 65]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ All above orders to be completed within ONE hour of presentation to hospital:3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ VITALS (include oxygen saturation and MAP with each set)</td>
</tr>
<tr>
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<td>☐ Q1 hour x 4 hours, then Q4 hours if stable ☐ Q2 hours</td>
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<tr>
<td></td>
<td></td>
<td>☐ Q _____ hour(s) ☐ Monitor and record urine output Q hour</td>
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<tr>
<td></td>
<td></td>
<td>☐ RADIOLOGY</td>
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<tr>
<td></td>
<td></td>
<td>☐ CXR (PA + Lateral) ☐ Portable CXR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Acute Abdomen Series ☐ Portable KUB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Notify provider STAT if any significant changes in patient status or treatment regimen. Specifically, notify provider if HR &gt; 120 or &lt; 60; MAP &lt; 65; SBP &lt; 100; Temperature &gt; 102; SpO2 &lt; 90%; Respiration &gt; 26; Urine Output &lt; 30ml/hour for 2 consecutive hours; change in mental status; worsening of clinical condition.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Admit to Acute Care ☐ Transfer to higher level of care3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ See RCHC Provider Order Sheet for further admission orders.</td>
</tr>
</tbody>
</table>

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1 SRT includes: provider, charge nurse, floor nurse, lab, radiology, pharmacy, respiratory therapy at a minimum
2 Antibiotics should be hung and running before one hour goal has elapsed. Run concurrently using both IV sites.
3 Consider transfer if any of the following criteria are met: serum lactate >4; SBP<90 or MAP<60 after 2 liters of crystalloid
**NIH Stroke Scale**

**Patient Name**

**Attending Physician**

**Account No.**

**Date.**

**Record No.**

**Date/Time Last known well:**

<table>
<thead>
<tr>
<th>Category: Level of Consciousness</th>
<th>Description:</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Alert</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Not Alert but arousable by mild stimulation</td>
<td></td>
<td></td>
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<tr>
<td>2 = Not alert; Requires repeated stimulation to attend</td>
<td></td>
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<tr>
<td>3 = Responds only with reflex motor/or autonomic reflex or unresponsive</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Level of Consciousness</th>
<th>Questions</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Answers both month and age correctly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Answers one question correctly</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2 = Answers neither question correctly</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: LOC–Commands</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Performs both tasks correctly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Performs one task correctly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Performs neither task correctly</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Category: Gaze</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Partial Gaze Palsy</td>
<td></td>
<td></td>
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<tr>
<td>2 = Forced Deviation</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Category: Visual Fields</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No Visual Loss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Partial Hemianopia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Complete Hemianopia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = Bilateral Hemianopia</td>
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<table>
<thead>
<tr>
<th>Category: Facial Movement (Facial Paresis)</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Normal symmetrical movements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Minor Paralysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Partial Paralysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = Complete Paralysis of one or both</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Motor function (Arms, Right &amp; Left)</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No Drift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Drift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Some effort against gravity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = No effort against gravity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 = No movement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN = Amputation or joint fusion</td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Motor function (Legs, Right &amp; Left)</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No Drift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Drift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Some effort against gravity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = No effort against gravity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 = No movement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN = Amputation or joint fusion</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Limb Ataxia</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Present in one limb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Present in two limbs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Sensory</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Normal: No sensory Loss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Mild to moderate sensory loss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Sever to total sensory loss</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Best Language</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No Aphasia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Mild to moderate aphasia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Severe Aphasia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = Mute</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Dysarthria</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Mild to moderate dysarthria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Severe dysarthria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN = Intubated or other physical barrier, explain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Dysarthria</th>
<th>Time:</th>
<th>Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No Abnormality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = Visual, tactile, auditory, spatial, or personal inattention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = Profound hemi–inattention/extinction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**

**Plan of care discussed:**

- ED Physician / PA ________________

- Other Hospital: ________________

**IV tPA – Treatment Plan**

- Contraindicated per Dr. ________________

- Indicated per Dr. ________________

**Note:**

Nurse Signature ________________

Date/Time ________________

MD/ARNP Signature ________________

Date/Time ________________
Physician Certification for Transfer/Patient Consent

Patient Name ________________________________________     Date ______________       Hosp. No. ________________

RCHC is required by federal law to provide any presenting patient with a medical screening examination to determine whether an emergency medical condition exists, and to provide necessary stabilizing care within its capabilities for emergency medical conditions without regard to means or ability to pay. This hospital does participate in Medicare and Medicaid.

1. **PATIENT CONDITION**
   - ☐ There is no reasonable likelihood of deterioration from or during transport.
   - ☐ The patient may be at risk for deterioration from or during transport.
   - ☐ Patient is pregnant with contractions.
   
   Based upon my examination of the patient and the information available to me at the time of transfer, I certify that the risks of transfer are outweighed by the benefits reasonably anticipated from proper care at the receiving facility.

   I consulted ______________________ at ___________ on _______

   (Name of physician contacted) (time) (date)

   The above physician agrees with the need to transfer the patient.

2. **REASON FOR TRANSFER**
   - ☐ For equipment or services not available at this facility:
   
   Patient-initiated request for transfer. Services are available here and offered to the patient. Patient wishes of their own volition and request to be transferred.

3. **HOSPITAL ACCEPTANCE**
   
   Name of the destination hospital:__________________________

   Accepting M.D. ______________________________@

   NAME TIME

   Initials of person obtaining acceptance ____________________________

   Bed Confirmation:___________________________________________

   Initials of person obtaining confirmation:______________________

   Nurse report called to _______________________ Time:_________

   Initials of person calling report:______________________________

4. **RISKS OF TRANSFER**

   All transfers have inherent risks of delays or accidents in transit, pain, or discomfort upon movement, and limited medical capacity of transport units that may limit available care in the event of a crisis

5. **BENEFITS OF TRANSFER**

6. **MODE OF TRANSPORT**
   - ☐ ALS Ambulance
   - ☐ BLS Ambulance
   - ☐ Helicopter
   - ☐ Fixed Wing Aircraft
   - ☐ Additional Personnel: ☐ R.N. ☐ Physician ☐ Other

   Service contacted: ________________________________

   By:__________________________ Time:_______ ETA:__________

7. **PATIENT CONSENT TO TRANSFER**
   
   I UNDERSTAND THE RISKS AND BENEFITS OF MY (PATIENT’S) TRANSFER

   ☐ I hereby CONSENT to transfer.
   ☐ I hereby REFUSE to transfer.

   Patient or patient representative signature @ TIME

   Witness @ TIME
RCHC Stroke Treatment Algorithm

<table>
<thead>
<tr>
<th>Patient Name/Date of Birth</th>
<th>Attending Physician</th>
<th>Account No.</th>
<th>Room/Bed</th>
<th>Record No.</th>
</tr>
</thead>
</table>

**Patient Selection Criteria**

**Age:**
- 0–17 years  □ Stop
- 18+ years □ Continue

**Last known well:**
- > 4.5 hours □ Stop
- 3–4.5 hours □ Age > 81 □ CAUTION □ Continue
- □ Age < 81 □ Continue
- < 3 hours □ Continue

**Clinical DX of CVA:**
- □ No Stop
- □ Yes Continue

**NIHSS Stroke Score:**
- □ 0–4 Stop
- □ 5–22 Continue
- □ 23–25 CAUTION
- □ 26–42 CAUTION

**Stroke Order Set** [start concurrently or immediately after completing Patient Selection Criteria]

- Alert Stroke Team [ER Provider, ER Nurse, Radiology, Laboratory, Respiratory Therapist, Pharmacy]
- Oxygen per nasal canula or face mask to keep sats > 94%; minimum 2 liters per nasal canula
- Cardiac Monitor
- Vital Signs Q 15 minutes
- Weight: __________________________
- Place 2 peripheral IV sites
- Strict NPO
- Fingerstick Blood Sugar STAT
- CBC, CMP, PT/INR, PTT, Troponin STAT
- Serum Pregnancy test in females age 18 to 50
- CT head WITHOUT contrast with STAT reading
- EKG (after CT complete)

**Secondary Assessment** [complete immediately after Stroke Order Set initiated]

**Absolute Contraindications:**

- □ Evidence of intracranial hemorrhage or major early infarct signs on CT head
- □ Internal bleeding (GI/GU, hemoptysis) actively or within last 3 weeks
- □ Known bleeding diathesis
  - [Including but not limited to: platelets < 100k, elevated aPTT, PT>15, INR>1.7, current RX Pradaxa (dabigatran)]
- □ CBA, serious head trauma, intracranial or intraspinal surgery within last 3 months
- □ SBP > 185 or DBP >110 despite aggressive treatment (in ER)
- □ Known intracranial neoplasm, AV malformation or aneurysm
- □ History of intracranial hemorrhage (intraparenchymal or subarachnoid)

**Warnings:** [may proceed but weigh against anticipated benefits]

- □ Only minor or rapidly improving stroke symptoms (eg, TIA)
- □ Patients with severe neurological deficit at presentation (eg, NIHSS > 22)
- □ Currently receiving oral anticoagulants (eg, Coumadin/warfarin)
- □ Major surgery within past 14 days
- □ Arterial puncture at noncompressible site
RCHC Stroke Treatment Algorhythm – Page 2

Warnings (continued)

☐ Abnormal blood glucose (less than 50 or greater than 400)
☐ Acute pericarditis
☐ Known subacute bacterial endocarditis
☐ Significant hepatic or renal dysfunction
☐ Female patient of child-bearing age with positive pregnancy test
☐ Hemorrhagic ophthalmic conditions (e.g., diabetic hemorrhagic retinopathy)
☐ High likelihood of left heart thrombus (e.g., mitral stenosis with atrial fibrillation)
☐ AMI within last 3 months
☐ Acute seizure [may proceed if residual symptoms are stroke and not a postictal phenomenon]

Additional Warnings: [3−4.5 hour window ONLY]

☐ History of prior CVA and diabetes
☐ Any anticoagulant use prior to admission, even if INR < 1.7

Decision [provider must document this section and initial]

☐ Patient meets TPA criteria, proceed with TPA order set. [Benefits > Risks]
☐ Patient does NOT meet TPA criteria. [Risks > Benefits]
   ☐ See Algorhythm above.
   ☐ Other contraindication: _______________________________________________________

Provider Initials: _______________________________________________________________
Pre TPA

- Arrange for transport to Stroke Survival Hospital [do not delay remainder of orders!]
  University of Kansas Hospital/Kansas City [877.738.7286; ask for stroke neurologist on call]
  Via Christi St. Francis/Wichita [800.353.3111; ask for stroke team]
- Notify Dispatch and Transport Team
- Insert Foley catheter
- Monitor BP Q 15 minutes
- If SBP > 185 or DBP > 110, give medication per below to keep BP < 185/110
  - Labetolol 10mg IVP, may repeat x 1 if BP not in guidelines at next check [max 20mg PRE TPA; hold for HR < 60]
  - Nicardipine GTT: start 5mg/hour, increase by 2.5mg/hour every 10 minutes to maximum of 15mg/hour
- IVF NS at 75cc/hour
- Document patient weight in kilograms: _____________

TPA Preparation and Administration

- Mix TPA with sterile water as provided by the manufacturer to a concentration of 1mg/mL
- Calculate total dose [bolus + infusion]
  Total Dose = weight in kg _______ x 0.9 mg/kg = _______ mg [max of 90 mg]
- Waste unneeded portion of TPA
  Waste = 100mg − _______ (total dose) = _______ mg
- Administer Bolus over 1 minute IVP
  Bolus Dose = _______ (total dose) x 0.1 (10%) = _______mg [max of 9mg]
- Administer Infusion Dose (secondary infusion) over 1 hour
  Infusion Dose = _______ (total dose) x 0.9 (90%) = _______mg [max of 81mg]
- Transport patient to higher level of care ASAP after bolus dose of TPA given

POST TPA and Transport Preparation

- Monitor BP Q15 minutes
- If SBP > 185 or DBP 110, give medication per below to keep BP < 185/110
  - Labetolol 10mg IVP, may repeat x 1 if BP not in guidelines at next check [max 20mg POST TPA; hold for HR < 60]
  - Nicardipine GTT: start 5mg/hour, increase by 2.5mg/hour every 10 minutes to maximum of 15mg/hour
- Neuro Check Q 15 minutes, stop TPA infusion if sudden change in baseline mental status, acute headache, or vomiting
- Monitor for adverse reactions [tongue swelling, abdominal/flank pain, hemoptysis, hematemesis, dyspnea]
- STOP TPA infusion if any adverse reaction develops
- Send patient records with patient at time of transport [history, CT Head, ER documentation]
STEMI PATIENT PRESENTATION

BEFORE CALLING Cardiology Service collect the following:

Sending Physician: __________________________

Phone Number: ______-_______-__________

NOTE: PLEASE DON’T WAIT FOR ANY LABS or PCXR BEFORE CALLING Cardiology Service

Name of Patient: __________________________

Age: ______

Sex: ______

DNR Status: __________________________

Specific Time of Onset: ______ date: ________

Current Symptoms: __________________________

Resolved Symptoms: __________________________

12 lead EKG confirms STEMI (> 1mm elevation) in leads:

Vital Signs: BP _______ Pulse _______ SaO2 _______

Transferring for:

□ Primary PCI (pt. has <60 minute transport time)

□ Met TNKase criteria, planning to administer (or discuss criteria if needed)

□ Did not meet TNKase criteria

Past Medical History: (what is known)

Non-modifiable Risk Factors for MI: Family Hx □

Previous MI(s) _______ (Year(s) _______)

Location: _______ Interventions: _______

# stents: _______ C ABG: □

Modifiable Risk Factors:

Smoker □ HTN □ CAD □ HLD □ DM □

EF: _____ Previous Stress Test Results: __________

Other PMH: ______________________________________

Renal Failure or on current dialysis: __________

Hx of dye or contrast allergy: _____ Y/N

Recent hospital admissions: __________________________

________________________

Brief Report of Treatment so far:

Arrived to our hospital at: ______ by EMS □ POV □

From: Home □ Work □ Assisted living/NH □

From other location: __________________________

CPR/Defibrillation: Y/N __________________________

Intubated: Y/N __________________________

Medications: (given or WILL BE given prior to transfer)

_____ TNKase dose base on weight of: ______ kg

_____ mg ASA or reason not given: __________

_____ mg Plavix given

_____ Bolus heparin followed by ______ gtt heparin

_____ mg PO Metoprolol

_____ 0.4 mg Nitro and/or ______ gtt Nitro

_____ mg Lipitor

_____ mg Morphine

_____ mg Zofran

Other medications: __________________________

Lab results (if available. These can be faxed – DO NOT DELAY PATIENT TRANSFER)

Troponin: __________ BS: _________ Cr: __________

INR/PT/PTT: __________

Platelets: __________

Other: __________________________

Additional Patient Notes: __________________________

________________________

Estimated ETA to PCI facility: __________

Being transported by: __________________________
Prehospital: the patient has a history of a stroke 2 years ago. EMS today was paged to the residence for possible stroke. When we arrived the patient was sitting at his kitchen table. He was extremely diaphoretic, ashen and complaining of pain in his chest going to his left jaw. He was insisting to go to a hospital 30 min away. We explained to the wife the he appeared to be too unstable to travel that far. She was able to convince him to go with us to the closest facility. Patients pain was 9 the entire transfer and ECG monitor shows ST elevation. Paged at 1618, enroute 1620, at pt 1622, depart 1627 arrive RCH 1639. Nitro given at 1630 and ASA at 1633

This is a 60 year old gentleman, brought in by Stockton EMS, after the patient experienced sudden chest pressure at approximately 1420 with pain radiating into the lower left neck. Patient had initially wanted to be transferred to Graham County, where his primary care physician is, however EMS felt that the patient's situation was much more dire and so they transported in the direction of the cath lab. Final arrival in the emergency room, the patient was found to have a GCS of 14 with his eyes closed clutching his chest, stating he has pain, that he is suppose to be taking blood pressure and cholesterol medicines but doesn't because of insurance. Patient does smoke, he couldn't tell me exactly how much he smokes and patient states that he has had a heart attack in the past.
Nitro and aspirin were given PTA by SEMS for ST elevation ECG. Nitro at 1630 and Aspirin 324 mg at 1633. pt was transported code red to RCHC
This is a 60 year old male who presented with chest pain. His initial EKG demonstrated ST elevation in 2,3 AVF with reciprocal ST depression in precordial leads in V2-V4. The patient's presentation and appearance of his EKG prompted the use of Heparin bolus and a call to the Hays Medical Center Cardiac Center. Spoke with cardiologist who is a locum, cardiologist with the last name of Bordeau I believe. The patient's history was described as well as the EKG. They did request an EKG, however given the patient's appearance, and the appearance of his EKG, I strongly recommended that a transfer be initiated and they did accept. EKG was sent to them electronically and he was given both aspirin enroute and Nitro in the emergency room which does not abate the pain. He was also given a Heparin bolus of 4,000 units followed by a Heparin bolus of 1,000 units per hour IV. He was given a milligram of Morphine, which did help the pain and was transported by ALS ambulance, Stockton EMS to HMC for further evaluation by cardiology. MHinger RN, AGivens RN and LFisher MD rode with the ambulance.
Arrived in ER 1640 pre hospital notification had physician and staff ready for patient. 12-lead EKG done 1643.
1642 HL R Hand,
1645 Heparin 4000 units IVP,
1648 HL L Hand,
1650 Morphine 1 mg,
1651 Heparin drip 1000U/hr
1655 depart PER STOCKTON EMS TO HMC, MICHELLE HINGER RN, ANN GIVENS RN, DR FISHER TO RIDE AMBULANCE HAYS. Arrived at HMC 1720.
Vitals remained stable, Morphine 2 mg given 1702 and 1710
Total time in ER 15 min. Transport time 25 min. In Cath Lab 1725. From time of patient contact until in cath lab 63 min.
RV120220151255  Chest Pain

Ron
Diagnosis: Stemi
71 YO M Presents via POV to ER for evaluation of chest pain. Reports onset this morning approx 2-3 hours PTA while pheasant hunting. Reports initial onset of diaphoresis, the subsequently developed mid-scapular back pain/substernal chest pain. Back pain and diaphoresis resolved PTA, continues with chest pain.
1255: Patient presents to Emergency Room via private vehicle transported by his brother. Patient reports having chest pain radiating to his back and left shoulder beginning around 1030 this morning. Patient reports that he was walking trees while deer hunting when his chest pain began and he began to sweat. He walked back to his truck and drove into to Palco where he met his brother and had him drive into the ER.

Upon arrival patient is connected to the cardiac monitor and cardiac protocol initiated. M. Hinger, RN and B. Foster, RN in room with K. Wyatt, CNA/HUC and T. Grgurich, CNA also in room. Lab and X-ray aware of patient upon patient arrival and R. Williams, APRN also aware of patient arrival and chief complaint.
1300: Jericha with lab and Randy and Carla from x-ray in room at this time.
1302: 20 g IV started in right forearm by M. Hinger RN at this time. 10 mL blood drawn off of IV site for lab and given to Jericha at this time. IV site flushed.
1304: EKG #1 completed by Randy
1305: Patient chews 4x 81mg ASA and is given Nitroquick 0.4mg. Patient rates CP at 8/10
1308: Chest x-ray is completed at this time by Carla. R. Williams, APRN back in room at this time.
1313: Heparin 5000 unit bolus given at this time.
1314: EKG #2 complete at this time by Randy.
1316: Zofran 4mg IVP given at this time
1317: Morphine 1mg IVP given at this time. Patient rates CP at 6/10
1320: 18g IV in left forearm started by BFoster, RN at this time. Normal Saline started at 100mL/hr in right forearm
1321: Heparin 1000units/hr (20mL/hr) started in left forearm at this time.
1325: Plavix 600mg given PO at this time by M. Hinger, RN.
1330: J. Jones, RN paged Stockton EMS for patient transfer to HMC. Bed Confirmed by Tammie Williams, RN at HMC ER. Patient will be transferred to HMC ER and Cath Lab.
1340: Morphine 1mg IVP given at this time. Patient continues to rate CP at 5/10.
1343: M. Hinger, RN called report to T. Williams, RN at this time.
1350: Stockton EMS in room. Patient transferred to cot. Heparin and Saline continue to run. M. Hinger, RN to ride along with transport ACLS box.
1353: Patient loaded and EMS transporting to HMC ER. Patient continues to have chest pain 6/10, Morphine 2 mg given slow IVP. Transported without incidence and taken directly to the cath lab. Reviewed case and EKG's with Dr. Parpap, on-call cardiologist for HaysMed. Agrees with assessment of STEMI. Will transfer to HaysMed for emergent heart cath.

Total time in ER 58 min. EKG done 9 min .and 19 min. no date and time interpreted on EKG, consents complete