STEMI
EMS Triage and Destination Plan

STEMI Patient
(ST Elevation Myocardial Infarction)

* **Cardiac symptoms greater than 15 minutes and less than 12 hours**

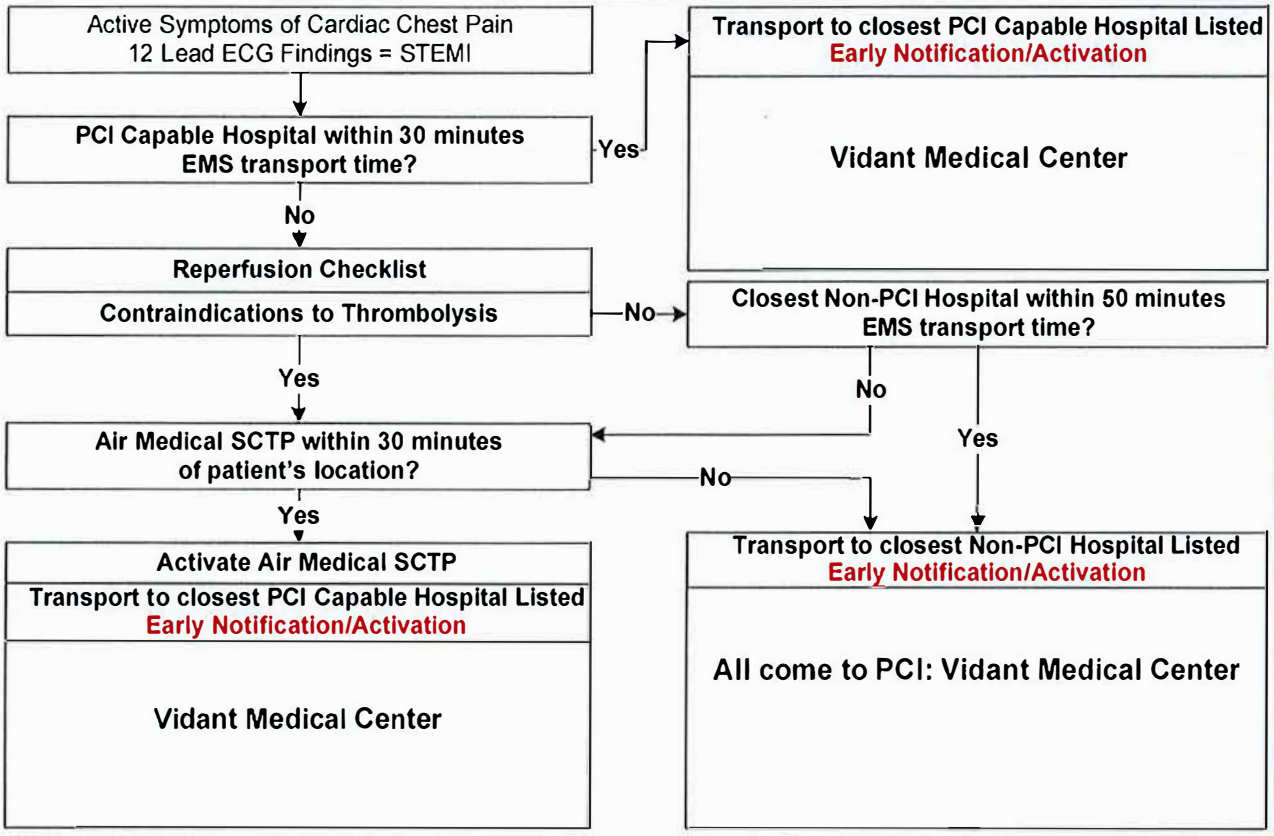
And

* **12 lead ECG criteria of 1 mm ST elevation in 2 or more contiguous leads**

or

* **Left Bundle Branch Block NOT KNOWN to be present in the past**

The Purpose of this plan is to:
* Rapidly identify STEMI patients who call 911 or present to EMS
* Minimize the time from onset of STEMI symptoms to coronary reperfusion
* Quickly diagnose a STEMI by 12 lead ECG
* Complete a reperfusion checklist (unless being transported directly to a PCI hospital) to determine thrombolytic eligibility
* Rapidly identify the best hospital destination based on symptom onset time, reperfusion checklist, and predicted transport time
* Early activation/notification to the hospital prior to patient arrival
* Minimize scene time to 15 minutes or less (including a 12 lead ECG)
* Provide quality EMS service and patient care to the EMS Systems citizens
* Continuously evaluate the EMS System based on North Carolina's STEMI EMS performance measures



Pearls and Definitions

* **All STEMI Patients must be triaged and transported using this plan. This plan is in effect 24/7/365**
* **All Patient Care is based on the EMS Chest Pain and STEMI Protocol**
* **Consider implementing a prehospital thrombolytic program if a STEMI patient cannot reach a hospital within 90 minutes using air or ground EMS transport.**
* **PCI (Percutaneous Coronary Intervention) Capable Hospital** = a hospital with an emergency interventional cardiac catheterization laboratory capable of providing the following services to acute STEMI patients. Free standing emergency departments and satellite facilities are not considered part of the PCI Capable Hospital.
  * 24/7 PCI capability within 30 minutes of notification (interventional cardiologist present at the start of the case)
  * Single Call Activation number for use by EMS
  * Accepts all patients regardless of bed availability
  * Provides outcome and performance measure feedback to EMS including case review
* **Non-PCI Hospital** = a local hospital within the EMS System's service area which provides emergency care, including thrombolytic administration, to an acute STEMI patient but does NOT provide PCI services.
* **Specialty Care Transport Program** = an air or ground based specialty care transport program which can assume care of an acute STEMI patient from EMS or a Non-PCI hospital and transport the patient to a PCI capable hospital.

Pitt County EMS System **Revised: 1/2022**

STROKE and LVO Stroke
EMS Triage and Destination Plan

Stroke Patient

- Signs and symptoms of an acute Stroke identified on EMS Stroke Screen Assessment.

Last Known Well (LKW)

- Refer to UP 14 Suspected Stroke Protocol

The Purpose of this plan:

- Use plan in conjunction with UP 14 Suspected Stroke Protocol
- Rapidly identify acute Stroke patients presenting to EMS system and minimize the time from Stroke onset to definitive care
- Rapidly identify most appropriate facility destination in region
- Provide quality EMS service and patient care to the EMS system's citizens
- Maintain performance improvement of the EMS system based on NC Stroke Performance measures

Stroke Screen/Severity Tool & LVO Suspected Score:

RACE SCORE

Positive Stroke Screen Tool and/or Positive Stroke Screen/ Stroke Severity Tool

Last Known Well Greater than 24 Hours

YES → **Vidant Medical Center**

NO

Regional Stroke Centers Criteria
Absolute Contraindications to fibrinolysis

Vidant Medical Center

COMPREHENSIVE STROKE CENTER
Rapid / Early Notification of receiving facility
Activation of Stroke Team
Nearest Comprehensive Stroke Center
patient/family preference (Contact OMD)

Vidant Medical Center

Stroke EMS Triage and Destination Plan

STROKE
EMS Triage and Destination Plan

Pearls

- **If unstable airway or unstable hemodynamic condition may divert transport to closest appropriate facility.**
- **All Stroke patients should be triaged and transported using this plan.**
- **Expectation: EMS agency will collaborate with their regional stroke resources to establish point-to-point and inter-facility transport workflows for patient requiring higher level of acute care in consideration of potential EMS system impact and regional approach to stroke care.**
- **Stroke Severity/Large Vessel Occlusion (LVO) Tool and Score:**
  Score severity and LVO score level should be set based on collaboration with all stroke centers where EMS agency routinely transports in the region. Majority of strokes are NOT large vessel occlusion strokes and inappropriately low severity scores can result in an over-triage of patients to TSC / CSC negatively impacting both the EMS and healthcare system.
- **EMS Transport Times in Destination Decisions:**
  EMS Transport times should be set based on collaboration with all stroke centers where EMS agency routinely transports in the region.
- **Reperfusion Checklist and contraindications to fibrinolysis in acute stroke patients:**
  Systems may use the Reperfusion Checklist or may establish regionally agreed upon absolute contraindications.
- **Many EMS systems have a variety of stroke certified medical facilities within similar transport time parameters.**
- **Destination choices should use regional stroke system of care plans and patient/family preferences in choosing most medically appropriate facility.**
- **Modality of transport in acute stroke depends on multiple factors, but safest and fastest should be considered, whether ground EMS, air medical EMS, or specialty/critical care ground transport.**
  Consider air medical transport options when no Comprehensive or Thrombectomy Capable Stroke Centers are within a 60 minute total transport time.
- **Acute Stroke-Ready Hospital Components:**
  Director of stroke care, written emergency stroke care protocols and transfer agreements with a neurosurgical capable hospital, 24-hour CT capability, and ability to administer thrombolytics.
  Facility may have Telemedicine / Telestroke capability for consultation with neurologic specialist.
- **Primary Stroke Center:**
  Has same capabilities as Acute Stroke-Ready Hospital.
  Accredited and certified by the Joint Commission.
- **Thrombectomy-Capable Stroke Center:**
  Has same capabilities as Primary Stroke Center.
  Capable of providing mechanical thrombectomy with no day or hour limitation.
- **Comprehensive Stroke Center:**
  Has same capabilities as a Primary Stroke Center.
  Capable of offering full spectrum, state-of-the art Stroke care with no day or hour limitation.
  Ability to treat stroke patients with catheter-based procedures to remove or dissolve blood clots.
  Accredited and certified by the Joint Commission.
- Guidelines only for prioritization of hospital choices based on capabilities:
  Prioritize rural hospitals that have formal agreements with Comprehensive Stroke Center or Thrombectomy-Capable Stroke Center with access to expert stroke consultation.
  Prioritize rural hospitals with stroke center certification and/or those actively engaged in stroke center certification and who track their performance on evidenced-based stroke care.
  Prioritize Primary Stroke Centers over Acute Stroke Ready Hospitals when total transport time is < 30 minutes difference.
  Prioritize Comprehensive Stroke Center over Thrombectomy-Capable Stroke Center when total transport time is < 30 minutes difference.

Trauma and Burn
EMS Triage and Destination Plan

Trauma or Burn Patient = Any patient less (regardless of age) with a significant injury or burn

The Purpose of this plan is to:

* Rapidly identify injured or burned patients who call 911 or present to EMS
* Minimize the time from injury to definitive care for critical injuries or burns
* Quickly identify life or limb threatening injuries for EMS treatment and stabilization
* Rapidly identify the best hospital destination based on time of injury, severity of injury, and predicted transport time
* Early activation/notification to the hospital of a critically injured or burned patient prior to patient arrival
* Minimize scene time to 10 minutes or less from patient extrication with a "load and go" approach
* Provide quality EMS service and patient care to the EMS Systems citizens
* Continuously evaluate the EMS System based on North Carolina's EMS performance measures

Acutely Injured or Burned Patient

Evidence of extreme shock or un-manageable airway

Yes → **Transport to the Nearest Hospital for Stabilization Unless Minimal Additional Time to a Trauma Center**

No ↓

Any Abnormal Vital Signs?

* Glasgow Coma Score: <13 or intubated
* Systolic Blood Pressure: <90 mmHg
* Respiratory Rate: <10 or >29 breaths per min. (<20 in infant aged <1 year)

Yes → **Trauma Center (Burn Center for isolated Burn Injury) within 60 minutes of EMS Transport?**

No ↓

Air Medical SCTP within 30 minutes of patient's location or helipad?

Yes ↓

Activate Air or Ground SCTP

No ↓

Critical Injury by Assessment?

* Penetrating injury to head, neck, torso, or extremities proximal to elbow and knee
* Flail Chest or Pneumothorax
* Two or more proximal long-bone fractures
* Crushed, degloved, or mangled extremity
* Amputation proximal to wrist and ankle
* Pelvic fractures
* Visibly Open or depressed skull fracture
* Paralysis
* Critical or Serious Burns (per EMS Burn Protocol)

Yes → **Transport to closest Trauma Center (Burn Center for isolated Burn)**

* Choose a Level 3 Trauma Center if EMS transport time is less than30 minutes compared to a Level 1 or 2 Trauma Center

Early Notification/Activation

Vidant Medical Center

No ↓

Special Considerations?

* Anticoagulation and bleeding disorders
* Pregnancy >20 weeks

Yes → **Transport to closest Community Hospital Listed Unless Trauma Center can be reached in a near equal time**

Early Notification/Activation

No ↓

Significant Mechanism?

* Falls: Adults >20 ft, Children >10 ft.
* MVC: Intrusion >12 inches occupant side
  >18 inches any site
  Ejection
  Death in same vehicle
  Vehicle Telemetry with high risk injury
* Auto vs. pedestrian/bicyclist thrown, run over
* Motorcycle crash >20 mph

Vidant Beaufort Hospital
Vidant Edgecombe Hospital
CarolinaEast Medical Center (Craven)
Lenoir Memorial Hospital
Martin General Hospital
Wilson Medical Center

Trauma and Burn EMS Triage and Destination Plan

Pearls and Definitions

* **All Injury and Burn Patients must be triaged and transported using this plan. This plan is in effect 24/7/365**
* **All Patient Care is based on the EMS Trauma Protocols**
* **Designated Trauma Center** = a hospital that is currently designated as a Trauma Center by the North Carolina Office of Emergency Medical Services. Trauma Centers are designated as Level 1, 2, or 3 with Level 1 being the highest possible designation. Free standing emergency departments and satellite facilities are not considered part of the Trauma Center.
* **Burn Center** = a ABA verified Burn Center co-located with a designated Trauma Center
* **Community Hospital** = a local hospital within the EMS System's service area which provides emergency care but has not been designated as a Trauma Center
* **Specialty Care Transport Program** = an air or ground based specialty care transport program which can assume care of an acutely injured patient from EMS or a Community Hospital and transport the patient to a designated Trauma Center.

Pitt County EMS System Revised: 1/2022

Pediatric
EMS Triage and Destination Plan

Pediatric Patient

* **Any patient less than 16 years of age with a life-threatening illness (Not Trauma)**

Life Threatening Illness

* **Decreased Mental Status (GCS<13)**
* **Non-Responsive Respiratory Distress**
* **Intubation**
* **Post Cardiac Arrest**
* **Non-Responsive Hypotension (shock)**
* **Severe Hypothermia or Hyperthermia**
* **Status Epilepticus**
* **Potential Dangerous Envenomation**
* **Life Threatening Ingestion/Chemical Exposure**
* **Children with Special Healthcare Needs** (and destination choice based on parental request)

The Purpose of this plan is to:

* Rapidly identify pediatric patients who call 911 or present to EMS with a life-threatening illness
* Minimize the time from EMS contact to definitive care
* Quickly diagnose patients with pediatric life-threatening illness for EMS treatment and stabilization
* Rapidly identify the best hospital destination based on symptom onset time, vital signs, response to treatment, and predicted transport time
* Early activation/notification to the hospital prior to patient arrival
* Minimize scene time with a "load and go" approach
* Provide quality EMS service and patient care to the EMS community
* Continuously evaluate the EMS System based on North Carolina's EMS performance measures

Pediatric Patient with Life Threatening Illness (Not Trauma/Injury)

↓

Pediatric Patient too unstable to transport beyond closest hospital? — Yes → **Transport to closest Community Hospital Listed**
Early Notification/Activation if Life Threatening

Consider:
Vidant Beaufort Hospital
Lenoir Memorial Hospital

No

↓

Pediatric Capable Hospital within a 50 minute EMS transport? — No → (Transport to closest Community Hospital Listed)

Yes

↓

Transport to closest Pediatric Capable Hospital Listed
Early Notification/Activation

Vidant Medical Center

Pediatric EMS Triage and Destination Plan

Pearls and Definitions

* **All Pediatric Patients with a life-threatening illness must be triaged and transported using this plan. This plan is in effect 24/7/365.**
* **The Trauma and Burn Triage and Destination Plan should be used for all injured patients regardless of age.**
* **All Patient Care is based on the EMS Pediatric Protocol**
* **Pediatric Capable Hospital** = a hospital with an emergency and pediatric intensive care capability including but not limited to:
  * Emergency Department staffed 24 hours per day with board certified Emergency Physicians
  * An inpatient Pediatric Intensive Care Unit (with a physician pediatric intensivist available in-house or on call 24/7/365)
  * Accepts all EMS patients regardless of bed availability
  * Provides outcome and performance measure feedback to EMS including case review
* **Community Hospital** = a local hospital within the EMS System's service area which provides emergency care but does not meet the criteria of a Pediatric Capable Hospital
* **Pediatric Specialty Care Transport Program** = an air or ground based specialty care transport program that has specific pediatric training and equipment addressing the needs of a pediatric patient that can assume care of a pediatric patient from EMS or a Community Hospital and transport the patient to a Pediatric Capable Hospital.