



## Standards Policy

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## Standards Policy

# Air Transport

### Policy:

Air transport should be utilized whenever patient care can be improved by decreasing transport time or by giving advanced care not available from ground EMS services, but available from air medical transport services (i.e. blood).

### Purpose:

The purpose of this policy is to:

- Improve patient care in the prehospital setting.
- Allow for expedient transport in serious, mass casualty settings.
- Provide life-saving treatment such as blood transfusion.
- Provide more timely access to interventional care in acute Stroke and ST-elevation

### Procedure:

Patient transportation via ground ambulance will not be delayed to wait for helicopter transportation. If the patient is packaged and ready for transport and the helicopter is not on the ground, or within a reasonable distance, the transportation will be initiated by ground ambulance.

Air transport should be considered if any of the following criteria apply:

- High priority patient with > 20 minute transport time
- Entrapped patients with > 10 minute estimated extrication time
- Multiple casualty incident with red/yellow tag patients
- Multi-trauma or medical patient requiring life-saving treatment not available in prehospital environment (i.e., blood transfusion, invasive procedure, operative intervention)
- Time dependent medical conditions such as acute ST-elevation myocardial infarctions (STEMI) or acute Stroke that could benefit from the resources at a specialty center as per the EMS System's Stroke and STEMI Plans.

If a potential need for air transport is anticipated, but not yet confirmed, an air medical transport service can be placed on standby.

If the scene conditions or patient situation improves after activation of the air medical transport service and air transport is determined not to be necessary, paramedic or administrative personnel should cancel the request for air transport.

Minimal Information which should be provided to the air medical transport service include:

- Number of patients
- Age of patients
- Sex of patients
- Mechanism of injury or complaint (MVC, fall, etc)



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# Criteria for Death / Withholding Resuscitation

## Policy:

CPR and ALS treatment are to be withheld only if the patient is obviously dead or a valid South Carolina ***Do Not Resuscitate*** form (see separate policy) is present.

## Purpose:

The purpose of this policy is to:

- Honor those who have obviously expired prior to EMS arrival.

## Procedure:

1. If a patient is in complete cardiopulmonary arrest (clinically dead) and meets one or more of the criteria below, CPR and ALS therapy need not be initiated:
  - Body decomposition
  - Rigor mortis
  - Dependent lividity
  - Blunt force trauma
  - Injury not compatible with life (i.e., decapitation, burned beyond recognition, massive open or penetrating trauma to the head or chest with obvious organ destruction)
  - Extended downtime with Asystole on the ECG
2. If a bystander or first responder has initiated CPR or automated defibrillation prior to an EMS paramedic's arrival and any of the above criteria (signs of obvious death) are present, the paramedic may discontinue CPR and ALS therapy. All other EMS personnel levels must communicate with medical control prior to discontinuation of the resuscitative efforts.
3. If doubt exists, start resuscitation immediately. Once resuscitation is initiated, continue resuscitation efforts until either:
  - a) Resuscitation efforts meet the criteria for implementing the **Discontinuation of Prehospital Resuscitation Policy** (see separate policy)
  - b) Patient care responsibilities are transferred to the destination hospital staff.



## Standards Policy

# Deceased Subjects

### Policy:

EMS will handle the disposition of deceased subjects in a uniform, professional, and timely manner.

### Purpose:

The purpose of this policy is to:

- Organize and provide for a timely disposition of any deceased subject
- Maintain respect for the deceased and family
- Allow EMS to return to service in a timely manner.

### Procedure:

1. Do not remove lines or tubes from unsuccessful cardiac arrests/codes unless directed below.
2. Notify the law enforcement agency with jurisdiction if applicable.
3. If subject was found deceased by EMS, the scene is turned over to law enforcement.
4. If EMS has attempted to resuscitate the patient and then terminated the resuscitative efforts, the EMS personnel should contact the family physician (medical cases) or medical examiner (traumatic cases or family physician unavailable) to provide information about the resuscitative efforts.
5. Transport arrangements should be made in concert with law enforcement and the family's wishes.
6. If the deceased subject's destination is other than the county morgue, any line(s) or tube(s) placed by EMS should be removed prior to transport.
7. Document the situation, name of Physician or Medical Examiner contacted, the agency providing transport of the deceased subject, and the destination on the patient care report form (PCR).



## Deceased Subjects (Termination of Resuscitation)

### Policy:

Unsuccessful cardiopulmonary resuscitation (CPR) and other advanced life support (ALS) interventions may be discontinued prior to transport or arrival at the hospital when this procedure is followed.

### Purpose:

The purpose of this policy is to:

- Allow for discontinuation of prehospital resuscitation after the delivery of adequate and appropriate ALS therapy.

### Procedure:

1. Discontinuation of CPR and ALS intervention may be implemented **prior to contact with Medical Control** if **ALL** of the following criteria have been met:
  - Patient must be 18 years of age or older
  - Adequate CPR has been administered
  - Airway has been successfully managed with verification of device placement. Acceptable management techniques include orotracheal intubation, nasotracheal intubation, Blind Insertion Airway Device (BIAD) placement, or cricothyrotomy
  - IV or IO access has been achieved
  - No evidence or suspicion of hypothermia
  - Rhythm appropriate medications and defibrillation have been administered according to local EMS Protocols for a total of 3 cycles of drug therapy without return of spontaneous circulation (palpable pulse)
  - All EMS paramedic personnel involved in the patient's care agree that discontinuation of the resuscitation is appropriate
2. If all of the above criteria are not met and discontinuation of prehospital resuscitation is desired, **contact Medical Control**.
3. The **Deceased Subjects Policy** should be followed.

Document all patient care and interactions with the patient's family, personal physician, medical examiner, law enforcement, and medical control in the EMS patient care report (PCR).

If Medical Control contact is NOT required, then notification of Shift Supervisor should be made and documented.



## Deceased Subjects (Disposition)

### Policy:

All patient encounters responded to by EMS will result in the accurate and timely completion of:

- The Patient Care Report (PCR) for all patients transported by EMS
- The Patient Disposition Form for all patients not transported by EMS

### Purpose:

To provide for the documentation of:

- The evaluation and care of the patient
- The patient's refusal of the evaluation, treatment, and/or transportation
- The patient's disposition instructions
- The patient's EMS encounter to protect the local EMS system and its personnel from undue risk and liability.

### Procedure:

1. All patient encounters, which result in some component of an evaluation, must have a Patient Care Report completed.
2. All patients who refuse any component of the evaluation or treatment, based on the complaint, must have a Disposition Form completed.
3. All patients who are NOT transported by EMS must have a Disposition (patient instruction) Form completed including the Patient Instruction Section.
4. A copy of the Patient Disposition Form should be maintained with the official Patient Care Report (PCR)





# Do Not Resuscitate Form

**Policy:**

Any patient presenting to any component of the EMS system with a completed **South Carolina Do Not Resuscitate (DNR)** form shall have the form honored. Treatment will be limited as documented on the DNR form.

**Purpose:**

- To honor the terminal wishes of the patient
- To prevent the initiation of unwanted resuscitation

**Procedure:**

1. When confronted with a patient or situation involving the SC DNR form, the following form content must be verified before honoring the form request.
  - The form(s) must be an original South Carolina DNR form.
  - The effective date and expiration date must be completed and current
  - The DNR Form must be signed by a physician, physician's assistant, or nurse practitioner.
2. A valid DNR form may be overridden by the request of:
  - The patient
  - The guardian of the patient
  - An on-scene physician

If the patient or anyone associated with the patient requests that a SC DNR form not be honored, EMS personnel should contact **Medical Control** to obtain assistance and direction

3. A living will or other legal document that identifies the patient's desire to withhold CPR or other medical care may be honored with the approval of **Medical Control**. This should be done when possible in consultation with the patient's family and personal physician.



# EMS Documentation and Data Quality

**Policy:**

The complete EMS documentation associated with an EMS events service delivery and patient care shall be electronically recorded into a Patient Care Report (PCR) within 24 hours of the completion of the EMS event with an average EMS Data Score of 5 or less.

**Definition:**

The EMS documentation of a Patient Care Report (PCR) is based on the appropriate and complete documentation of the EMS data elements as required and defined within the South Carolina EMS Standards. Since each EMS event and/or patient scenario is unique, only the data elements relevant to that EMS event and/or patient scenario should be completed.

The EMS Data Score is calculated on each EMS PCR as it is electronically processed into the South Carolina PreHospital Medical Information System (PreMIS). Data Quality Scores are provided within PreMIS and EMS Toolkit Reports. The best possible score is a 0 (zero) and with each data quality error a point is added to the data quality score.

A complete Patient Care Report (PCR) must contain the following information (as it relates to each EMS event and/or patient):

- Service delivery and Crew information regarding the EMS Agency's response
- Dispatch information regarding the dispatch complaint, and EMD card number
- Patient care provided prior to EMS arrival
- Patient Assessment as required by each specific complaint based protocol
- Past medical history, medications, allergies, and DNR/MOST status
- Trauma and Cardiac Arrest information if relevant to the EMS event or patient
- All times related to the event
- All procedures and their associated time
- All medications administered with their associated time
- Disposition and/or transport information
- Communication with medical control
- Appropriate Signatures (written and/or electronic)

**Purpose:**

The purpose of this policy is to:

- Promote timely and complete EMS documentation.
- Promote quality documentation that can be used to evaluate and improve EMS service delivery, personnel performance, and patient care to the county's citizens.
- Promote quality documentation that will decrease EMS legal and risk management liability.
- Provide a means for continuous evaluation to assure policy compliance.



## EMS Documentation and Data Quality

### Procedure:

The following procedures shall be implemented to assure policy compliance:

1. The EMS Patient Care Report (PCR) shall be completed as soon as possible after the time of the patient encounter. **Documentation should be completed prior to leaving the destination facility unless call demand dictates otherwise, in which case documentation must be completed prior to the end of the personnel's shift.**
2. **A copy of the patient care report form SHOULD be provided to the receiving medical facility. If the final PCR is not available at the time the patient is left with the emergency department or other healthcare facility, an interim report such as the PreMIS Preliminary Report Form MUST be provided.**
3. The PCR must be completed in the PreMIS System or electronically submitted to the PreMIS System within 24 hours of the EMS event or patient encounter's completion. The EMS data quality feedback provided at the time of the electronic submission into PreMIS should be reviewed and when possible any identified errors will be corrected within each PCR. Each PCR may be electronically resubmitted to PreMIS as many times as needed.
4. The EMS Data Quality Scores for the EMS System, EMS Agency, and individual EMS personnel will be reviewed regularly within the EMS System Peer Review Committee.

**Policy:**

Every patient encounter by EMS will be documented. Vital signs are a key component in the evaluation of any patient and a complete set of vital signs is to be documented for any patient who receives some assessment component.

**Purpose:**

To insure:

- Evaluation of every patient's volume and cardiovascular status
- Documentation of a complete set of vital signs

**Procedure:**

1. An **initial** complete set of vital signs includes:
  - Pulse rate
  - Systolic **AND** diastolic blood pressure
  - Respiratory rate
  - Pain / severity (when appropriate to patient complaint)
  - GCS for Injured Patients
2. When no ALS treatment is provided, palpated blood pressures are acceptable for **REPEAT** vital signs.
3. Based on patient condition and complaint, vital signs may also include:
  - Pulse Oximetry
  - Temperature
  - End Tidal CO<sub>2</sub>
  - Breath Sounds
  - Level of Response
4. If the patient refuses this evaluation, the patient's mental status and the reason for refusal of evaluation must be documented. A patient disposition form must also be completed.
5. Document situations that preclude the evaluation of a complete set of vital signs.
6. Record the time vital signs were obtained.
7. Any abnormal vital sign should be repeated and monitored closely.



**Domestic Violence (Partner and/or Elder Abuse)  
Recognition and Reporting**

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## Standards Policy

# EMS Back in Service Time

### Policy:

All EMS Units transporting a patient to a medical facility shall transfer the care of the patient and complete all required operational tasks to be back in service for the next potential EMS event within 30 minutes of arrival to the medical facility, 90% of the time.

### Definition:

The EMS Back in Service Time is defined as the time interval beginning with the time the transporting EMS Unit arrives at the medical facility destination and ending with the time the EMS Unit checks back in service and available for the next EMS event.

### Purpose:

The purpose of this policy is to:

- Assure that the care of each EMS patient transported to a medical facility is transferred to the medical facility staff in a timely manner.
- Assure that the EMS unit is cleaned, disinfected, restocked, and available for the next EMS event in a timely manner.
- Assure that an interim or complete EMS patient care report (PCR) is completed and left with the receiving medical facility documenting, at a minimum, the evaluation and care provide by EMS for that patient (It is acceptable to leave the PreMIS Preliminary Report or equivalent if the final PCR cannot be completed before leaving the facility).
- Provide quality EMS service and patient care to the county's citizens.
- Provide a means for continuous evaluation to assure policy compliance.

### Procedure:

The following procedures shall be implemented to assure policy compliance:

1. The EMS Unit's priority upon arrival at the medical facility will be to transfer the care of the patient to medical facility staff as soon as possible.
2. EMS personnel will provide a verbal patient report on to the receiving medical facility staff.
3. EMS personnel will provide an interim (PreMIS Preliminary Report or equivalent) or final Patient Care Report (PCR) to the receiving medical facility staff, prior to leaving the facility, that documents at a minimum the patient's evaluation and care provided by EMS prior to arrival at the medical facility. A complete PCR should be completed as soon as possible but should not cause a delay in the EMS Back in Service Time.
4. The EMS Unit will be cleaned, disinfected, and restocked (if necessary) during the EMS Back in Service Time interval.
5. Any EMS Back in Service Time delay resulting in a prolonged EMS Back in Service Time will be documented in Patient Care Report (PCR) as an "EMS Turn-Around Delay" as required and defined in the South Carolina DHEC – Division of EMS & Trauma EMS Dataset Standards Document.
6. All EMS Turn-Around Delays will be reviewed regularly within the EMS System Peer Review Committee.



# EMS Dispatch Center Time

**Policy:**

The EMS Dispatch Center Time will be less than 90 seconds, 90% of the time, for all events identified and classified as an emergent or hot (with lights and siren) response.

**Definition:**

The EMS Dispatch Center Time is defined as the time interval beginning with the time the initial 911 phone call rings at the 911 Communications Center requesting emergency medical services and ending with the dispatch time of the EMS Unit responding to the event.

**Purpose:**

The purpose of this policy is to:

- Provide the safest and most appropriate level of response to all EMS events within the EMS System.
- Provide a timely and reliable response for all EMS events within the EMS System.
- Provide quality EMS service and patient care to the county's citizens.
- Provide a means for continuous evaluation to assure policy compliance.

**Procedure:**

The following procedures shall be implemented to assure policy compliance:

1. A public calls into the 911 Communications Center requesting emergency medical assistance will never be required to speak with more than two persons before a formal EMS Unit is dispatched.
2. In EMS Dispatch Centers where Emergency Medical Dispatch (EMD) has been implemented, EMS Units will be dispatched by EMD certified personnel in accordance with the standards developed by the Medical Director and the Emergency Medical Dispatch Protocols.
3. EMS Units will be dispatched hot (with lights and sirens) or cold (no lights and sirens) by the 911 Call Center based on predetermined criteria. If First Responders are dispatched as a component of the EMS response, they should typically be dispatched hot (with lights and sirens).
4. Without question, exception, or hesitation, EMS Units will respond as dispatched (hot or cold). This includes both requests to respond on active calls and requests to "move-up" to cover areas of the System that have limited EMS resources available.
5. EMS Units may, at their discretion, request for a First Responder on Non-First Responder calls in situations where additional resources are required such as manpower, extreme response time of the EMS Unit, need for forcible entry, etc.



## EMS Dispatch Center Time

6. EMS Units dispatched with a cold (no lights and sirens) response, will not upgrade to a hot (with lights and sirens) response **UNLESS**:
  - Public Safety personnel on-scene requests a hot (with lights and sirens) response.
  - Communications Center determines that the patient's condition has changed, and requests you to upgrade to a hot (with lights and sirens) response.
  
7. An EMS Unit may divert from a current cold (no lights and sirens) call to a higher priority hot (with lights and sirens) call **ONLY IF**:
  - The EMS Unit can get to the higher priority call before it can reach the lower priority call. Examples of High Priority Calls: Chest Pain, Respiratory Distress, CVA, etc.
  - The diverting EMS Unit must notify the EMS Dispatch Center that they are diverting to the higher priority call.
  - The diverting EMS Unit ensures that the EMS Dispatch Center dispatches an EMS Unit to their original call.
  - Once a call has been diverted, the next EMS Unit dispatched must respond to the original call. A call cannot be diverted more than one (1) time.
  
8. Any EMS Dispatch Center Time delays resulting in a prolonged EMS Dispatch Center Time for emergent hot (with lights and sirens) events will be documented in Patient Care Report (PCR) as an "EMS Dispatch Delay" as required and defined in the South Carolina DHEC – Division of EMS & Trauma EMS Dataset Standards Document.
  
9. All EMS Dispatch Delays will be reviewed regularly within the EMS System Peer Review Committee.





# EMS Wheels Rolling (Turn-Out) Time

**Policy:**

The EMS Wheels Rolling (Turn-out) Time will be less than 90 seconds, 90% of the time, for all events identified and classified as an emergent or hot (with lights and siren) response.

**Definition:**

The EMS Wheels Rolling (Turn-out) Time is defined as the time interval beginning with the time the EMS Dispatch Center notifies an EMS Unit to respond to a specific EMS event and ending with the time the EMS Unit is moving en route to the scene of the event.

**Purpose:**

The purpose of this policy is to:

- Provide a timely and reliable response for all EMS events within the EMS System.
- Provide quality EMS service and patient care to the county's citizens.
- Provide a means for continuous evaluation to assure policy compliance.

**Procedure:**

The following procedures shall be implemented to assure policy compliance:

1. In EMS Dispatch Centers where Emergency Medical Dispatch (EMD) has been implemented, EMS Units will be dispatched by EMD certified personnel in accordance with the standards developed by the Medical Director and the Emergency Medical Dispatch Protocols.
2. The EMS Unit Wheels Rolling (Turn-out) time will be less than 90 seconds from time of dispatch, 90% of the time. If a unit fails to check en route within 2:59 (mm:ss), the next available EMS unit will be dispatched.
3. Without question, exception, or hesitation, EMS Units will respond as dispatched (hot or cold). This includes both requests to respond on active calls and requests to "move-up" to cover areas of the System that have limited EMS resources available.
4. An EMS Unit may divert from a current cold (no lights and sirens) call to a higher priority hot (with lights and sirens) call **ONLY IF**:
  - The EMS Unit can get to the higher priority call before it can reach the lower priority call. Examples of High Priority Calls: Chest Pain, Respiratory Distress, CVA, etc.
  - The diverting EMS Unit must notify the EMS Dispatch Center that they are diverting to the higher priority call.
  - The diverting EMS Unit ensures that the EMS Dispatch Center dispatches an EMS Unit to their original call.
  - Once a call has been diverted, the next EMS Unit dispatched must respond to the original call. A call cannot be diverted more than one (1) time.
5. Any EMS Wheels Rolling (Turn-out) Time delay resulting in a prolonged EMS Response Time for emergent hot (with lights and sirens) events will be documented in Patient Care Report (PCR) as an "EMS Response Delay" as required and defined in the South Carolina DHEC – Division of EMS & Trauma EMS Dataset Standards Document.
6. All EMS Response Delays will be reviewed regularly within the EMS System Peer Review Committee.



Standards Policy  
**Infant Abandonment**

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## Patient Without a Protocol

### Policy:

Anyone requesting EMS services will receive a professional evaluation, treatment, and transportation (if needed) in a systematic, orderly fashion regardless of the patient's problem or condition.

### Purpose:

To ensure the provision of appropriate medical care for every patient regardless of the patient's problem or condition.

### Procedure:

1. Treatment and medical direction for all patient encounters, which can be triaged into an EMS patient care protocol, is to be initiated by protocol.
2. When confronted with an emergency or situation that does not fit into an existing EMS patient care protocol, the patient should be treated by the **Universal Patient Care Protocol** and it is recommended that the **Medical Control Physician** be contacted for further instructions.



## Standards Policy Physician On Scene

### Policy:

The medical direction of prehospital care at the scene of an emergency is the responsibility of those most appropriately trained in providing such care. All care should be provided within the rules and regulations of the State of South Carolina.

### Purpose:

- To identify a chain of command to allow field personnel to adequately care for the patient
- To assure the patient receives the maximum benefit from prehospital care
- To minimize the liability of the EMS system as well as the on-scene physician

### Procedure:

1. When a non medical-control physician offers assistance to EMS or the patient is being attended by a physician with whom they do not have an ongoing patient relationship, EMS personnel must review the On-Scene Physician Form with the physician. All requisite documentation must be verified and the physician must be approved by on-line medical control.
2. When the patient is being attended by a physician with whom they have an ongoing patient relationship, EMS personnel may follow orders given by the physician if the orders conform to current EMS guidelines, and if the physician signs the PCR. Notify medical control at the earliest opportunity. Any deviation from local EMS protocols requires the physician to accompany the patient to the hospital.
3. EMS personnel may accept orders from the patient's physician over the phone with the approval of medical control. The paramedic should obtain the specific order and the physician's phone number for relay to medical control so that medical control can discuss any concerns with the physician directly.



**Policy:**

The state poison center should be utilized by the 911 centers and the responding EMS services to obtain assistance with the prehospital triage and treatment of patients who have a potential or actual poisoning.

**Purpose:**

The purpose of this policy is to:

- Improve the care of patients with poisonings, envenomations, and environmental/biochemical terrorism exposures in the prehospital setting.
- Provide for the most timely and appropriate level of care to the patient, including the decision to transport or treat on the scene.
- Integrate the State Poison Center into the prehospital response for hazardous materials and biochemical terrorism responses

**Procedure:**

1. The 911 call center will identify and if EMD capable, complete key questions for the Overdose/Poisoning, Animal Bites/Attacks, or Carbon Monoxide/Inhalation/HazMat emergency medical dispatch complaints and dispatch the appropriate EMS services and/or directly contact the State Poison Center for consultation.
2. If no immediate life threat or need for transport is identified, EMS personnel may conference the patient/caller with the Poison Center Specialist at the **State Poison Center at 803-765-7359 or 800-222-1222**. If possible, dispatch personnel should remain on the line during conference evaluation.
3. The Poison Center Specialist at the State Poison Center will evaluate the exposure and make recommendations regarding the need for on-site treatment and/or hospital transport in a timely manner. If dispatch personnel are not on-line, the Specialist will recontact the 911 center and communicate these recommendations.
4. If the patient is determined to need EMS transport, the poison center Specialist will contact the receiving hospital and provide information regarding the poisoning, including treatment recommendations. EMS may contact medical control for further instructions or to discuss transport options.
5. If the patient is determined not to require EMS transport, personnel will give the phone number of the patient/caller to the Poison Center Specialist. The Specialist will initiate a minimum of one follow-up call to the patient/caller to determine the status of patient.
6. Minimal information that should be obtained from the patient for the state poison center includes:
  - Name and age of patient
  - Time of exposure
  - Signs and symptoms
  - Substance(s) involved
  - Any treatment given
7. Minimal information which should be provided to the state poison center for mass poisonings, including biochemical terrorism and HazMat, includes:
  - Substance(s) involved
  - Signs and symptoms
  - Time of exposure
  - Any treatment given



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## Standards Policy

# Transport

### Policy:

All individuals served by the EMS system will be evaluated, treated, and furnished transportation (if indicated) in the most timely and appropriate manner for each individual situation.

### Purpose:

To provide:

- Rapid emergency EMS transport when needed.
- Appropriate medical stabilization and treatment at the scene when necessary
- Protection of patients, EMS personnel, and citizens from undue risk when possible.

### Procedure:

1. All trauma patients with significant mechanism or history for multiple system trauma will be transported as soon as possible. The scene time should be 10 minutes or less.
2. All acute Stroke and acute ST-Elevation Myocardial Infarction patients will be transported as soon as possible. The scene time should be 10 minutes or less for acute Stroke patients and 15 minutes or less (with 12 Lead ECG) for STEMI patients
3. Other Medical patients will be transported in the most efficient manner possible considering the medical condition. Advanced life support therapy should be provided at the scene if it would positively impact patient care. Justification for scene times greater than 20 minutes should be documented.
4. No patients will be transported in initial response non-transport vehicles.
5. In unusual circumstances, transport in other vehicles may be appropriate when directed by EMS administration.



# STEMI

## 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 STEMI receiving hospital) to determine fibrinolytic eligibility
- \*Rapidly identify the best hospital destination based on symptom onset time, reperfusion checklist and predicted transport time
- \*Minimize scene time to 15 minutes or less (including a 12 lead ECG)
- \*Continuously evaluate the EMS System based on SC's STEMI EMS performance measures

## STEMI Policy and Considerations:

- **STEMI Receiving 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 STEMI Receiving Hospital
  - \*24/7 Percutaneous Coronary Intervention (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
- **STEMI Referral Hospital** – a local hospital within the EMS System's service area which provides emergency care, including fibrinolytic administration, to an acute STEMI patient but does NOT provide PCI services.
- Determination of Acute ST Elevation Myocardial Infarction (**STEMI**) is made by
  - \*Cardiac Symptoms greater than 15 minutes and less than 12 hours **AND**
  - \*ST Segment elevation of  $\geq 1$  mm in 2 or more anatomically contiguous leads **OR**
  - \*Left Bundle Branch Block **NOT KNOWN** to be present in the past
- If patient is "**Unstable**" as defined by unstable airway, cardiac arrest, or hemodynamic instability transport to the nearest facility for emergency stabilization.
- **High Risk** factors include:
  - *Cardiogenic shock* – inadequate tissue perfusion due to low cardiac output. This condition is frequently a precursor to death, and may be recognized by Systolic Blood Pressure of  $\leq 90$  mmHg in the setting of Acute Myocardial Infarction.
  - *Killip class  $\geq$  III*
- **Travel Time** should be defined to incorporate completion of the PCI procedure within 90 minutes or less – including Transport Time.
- Transportation directly to a **STEMI Receiving** Hospital should be considered:
  1. **By ground** – if the ground transport time to the PCI hospital is  $\leq 60$  minutes (to achieve primary PCI within 90 minutes). [Consider weather and time of day (traffic flow) when calculating ground transport times.]
  2. **By air-medical transport** – if required to achieve PCI within 90 minutes [Consider weather, time of day, and launch availability/times.]
- Destination and Fibrinolytic Screening:
  1. Transport to **STEMI Receiving Hospital** – no need for fibrinolytic screen
  2. Transport to **STEMI Referral Hospital** – needs fibrinolytic screen completion
- 12 lead ECG should be acquired as early as feasible during the initial assessment.
- ECG's reflecting STEMI should be transmitted directly to Medical Control and/or the **STEMI Receiving Hospital**. *Transmission* may be defined as direct paramedic interpretation and voice communication; automated computer algorithm interpretation, wireless transmission and physician interpretation, or any combination of these strategies.
- Early activation/notification for positive STEMI from field to the hospital prior to patient arrival.
- Primary PCI is the preferred reperfusion strategy if initiated within 90 minutes of first medical contact or patient has contraindications to fibrinolytic therapy when primary PCI within 90 minutes is not possible.
- EMS Medical Director or designee should monitor care related to EMS patients with STEMI by meeting routinely (e.g. quarterly) with EMS personnel; emergency physicians; Interventional Cardiologists, nursing staff, receiving hospital representatives, and other appropriate individuals (i.e. STEMI Survivor).

## EMS Best Practices:

1. EMS – 12 lead ECG within 5 minutes of patient contact
2. On-scene time  $\leq 15$  minutes
3. Travel distance/time – to allow completion of PCI  $< 90$  minutes from first patient encounter
4. Pre-fibrinolytic survey utilization/completion
5. Non-PCI "*door in – door out*" time  $\leq 30$  minutes.
6. EMT-B and EMT-A application of 12 lead EKG
7. Transmission of ECG and structured communication tool (S-Bar) for EMT-P and ED Staff
8. Participation in multidisciplinary meetings of Cardiology, Emergency Department (ED) and EMS
9. AHA Guidelines