
# Regional Acute Coronary Syndrome (ACS) System Plan

**Endorsed by SETRAC Board of Directors**
**Date: 07/17/2023**

**Approved by SETRAC Stakeholders**
**Date: 04/28/2023**

1111 North Loop West, STE 160
Houston, TX 77008
Phone: 281.822.4444
Fax: 281-822-4668

www.SETRAC.org

*SETRAC serves the counties of Austin, Colorado, Fort Bend, Harris, Matagorda, Montgomery, Walker, Waller, and Wharton.*

# TABLE OF CONTENTS

# I. INTRODUCTION

- *PURPOSE*

  The purpose of the Acute Coronary Syndrome (ACS) Plan is to facilitate coordination of heart attack care providers to promote the most efficient, consistent, and expeditious care of each individual who experiences a heart attack.

- *MISSION*

  The mission of the Southeast Texas Regional Advisory Council (SETRAC) Cardiac Committee is to reduce heart disease morbidity and mortality by developing and maintaining integrated quality processes in patient care and public education.

- *VISION*

  SETRAC will provide leadership in ACS treatment within TSA Q through a stakeholder coalition supported by resources which will develop, operate, evaluate, and integrate a regionalized cardiac system of care.

- *ORGANIZATION*

  SETRAC provides the infrastructure and leadership necessary to sustain an ACS treatment and transfer system within the designated nine-county region of Trauma Service Area Q (TSA Q) and works to improve the level of care provided to persons living or traveling through this region. Together, through the work of designated standing committees, SETRAC member organizations (hospitals, first responder organizations, EMS providers, air medical providers, emergency management, public health, etc.) collaborate to assure that quality care is provided to ACS patients by pre-hospital and hospital professionals. SETRAC will provide heart health awareness and education to the public and healthcare providers in each of the nine counties it serves.

- *REGIONAL PLAN*

  This plan has been developed in accordance with the general accepted ACS guidelines and procedures for implementation of a comprehensive Emergency Medical Services (EMS) and ACS system plan. This plan does not establish a legal standard of care but is intended as an aid to decision-making in ACS patient care. It is not intended to supersede the physician's prerogative to order treatment.

# II. ACS SYSTEM OF CARE GOALS

The purpose of the SETRAC Cardiac Care Committee is to facilitate the development, implementation, and operation of a comprehensive ACS system based on accepted, evidence-based standards of care to decrease morbidity and mortality related to ACS. SETRAC will solicit participation from health care

facilities, organizations, entities, and professional societies involved in health care. SETRAC will encourage multi-community participation in providing ACS care, work to promote improvement of facility services, and cooperate with all member entities, agencies, and organizations in the establishment of an efficient and effective system of ACS care. SETRAC will develop a plan for a regional comprehensive ACS system that will:

- Identify and integrate resources to foster commitment and collaboration in developing a regional cardiac system of care.
- Identify strategies to promote EMS provider participation in the cardiac system of care.
- Establish system coordination relating to access, protocols/ procedures, and referrals. This coordination intends to establish continuity and uniformity of care among the providers of cardiac patient care.
- Promote internal communication as the mechanism for system coordination. This communication will include stakeholders such as EMS providers, hospitals, and members of the SETRAC Cardiac Committee.
- Create system efficiency through continuous quality improvement processes to develop standardization and uniformity in approaches to cardiac patient care.

## III. CARDIAC FACILITY CAPABILITIES/EXTERNAL CREDENTIALING

- To ensure that there is understanding throughout the region with regards to facility capabilities for the care of the ACS patient, and this information is available for patient destination decision making.
- EMResource is the official means of notification of these capabilities and their availability. To remain listed in EMResource as a cardiac facility, the facility must remain in good standing through the participation requirements listed below.
- Because the Texas Department of State Health Services (DSHS) does not designate ACS facilities in Texas, the committee will encourage external credentialing organizations as the means for recognition of cardiac facilities. Examples of credentialing bodies are:
    - American College of Cardiology
    - Joint Commission
    - Mission: Lifeline
    - Accreditation for Cardiovascular Excellence
- SETRAC participation requirements specific to PCI facilities include, but are not limited to:
    - Payment of dues as an accredited center.
    - Participation in SETRAC—6 annual meetings with at least 3 being cardiac committee meetings.
    - Submission of cardiac data to SETRAC on a quarterly basis.
    - Compliance with all rules established by the SETRAC Board and the Cardiac Committee (with approval by the SETRAC Board.)

NOTE: Any facility that does not meet participation requirements of the above-mentioned committees and misses two fiscal quarters of data submission will be deemed “Not participating with SETRAC” and

arrangements will need to be made on an individual basis between the facility and SETRAC in relation to any discrepancies.

# IV. HEART ATTACK AWARENESS AND PREVENTION

*Goal:* The SETRAC Cardiac Care system stakeholders (SETRAC, EMS and facilities) will partner to conduct health education, public awareness and community outreach on heart health, early heart attack care, recognition of signs and symptoms of heart attack, and the emergent care of the heart attack victim.

# V. SYSTEM ACCESS

*Goal:* Persons in the region will have access to emergency cardiac care. In portions of this region, First Responder Organizations (FRO) may provide initial treatment pending EMS arrival.

A primary element of an EMS/ACS system is the provision of easy and rapid access to EMS and subsequent mobilization of a medical response to the scene. Every call for emergency services should universally and automatically be accompanied by location identifying information. Routing is based on telephone exchange area, not municipal boundaries. Automatic Number Identification (ANI) and Automatic Location Identification (ALI) should be available. Alternative Routing allows 911 calls to be routed to a designated alternative location when in effect. Most areas route their calls to the county 911 in case of overload or failure.

## *Committee Charge*

EMS Committee in collaboration with the Cardiac Care Committee will promote written protocols and proper training of dispatch personnel.

# VI. COMMUNICATIONS

- EMS to hospital alerts
    - EMS should have the ability to alert the hospital when a STEMI is identified to activate care teams prior to the patient's arrival at the hospital.
    - Hospitals should work with local EMS to define and continually improve communications methods and procedures that describe how EMS alerts are received in the hospital and then distributed to physicians and treatment teams.
- EMS to hospital 12-leads
    - EMS should have the ability to send 12-lead ECGs from the field to the hospital.
    - EMS protocols should describe which patients should have their 12-lead ECG transmitted to the hospital.
    - STEMI Team Notification should not be dependent on 12-lead ECG transmission.
- Follow Up
    - Hospitals should provide feedback to EMS on all patients where EMS initiated a STEMI alert as well as any patient transported by EMS that was later found to have a STEMI.

## VII. MEDICAL DIRECTION/OVERSIGHT

- Each EMS agency Medical Director is responsible for developing local protocols and for monitoring and improving their agencies performance.
- Local guidelines should be generally compatible with regional prehospital guidelines but may be modified at the discretion of the agency Medical Director.
- The SETRAC Cardiac Care Committee should work with the Medical Director and EMS Committees to complete a periodic review and update of prehospital guidelines.

## VIII. PRE-HOSPITAL TRIAGE CRITERIA

- EMS should follow local protocols regarding triage criteria.
- Local protocols should describe when a patient should be taken preferentially to a PCI center over a non-PCI center as well as situations where air medical transport should be considered.

## XII. FACILITY SATURATION

*Goal:* SETRAC ACS/Chest Pain facilities will communicate "facility saturation" (formerly known as "facility diversion") status promptly and clearly to regional EMS and other facilities through EMResource to assure that cardiac patients are transported to the nearest appropriate ACS/Chest Pain facility.
Facility Saturation is used by ACS/Chest Pain System entities to assure ACS/Chest Pain patients will be transported to the nearest appropriate ACS/Chest Pain facility when the facility cannot at that time accept a patient for safe and appropriate patient care. (See ACS/Chest Pain Prehospital guidelines). These include situations which would require the facility to go on saturation, notification/ activation of saturation status, and the procedure for termination of saturation status. All facilities and pre-hospital providers should use the EMResource to notify EMS partners of saturation status.

## XIII. FACILITY BYPASS

*Goal:* Suspected ACS/Chest Pain patients who are eligible within the timeframe for United States FDA approved cardiac therapies will be safely and rapidly transported to the nearest appropriate ACS/Chest Pain facility in accordance with published SETRAC transport guidelines.
**SEE APPENDIX A: ACS/Chest Pain Prehospital Guidelines.**

## XIV. FACILITY TRIAGE CRITERIA

*GOAL:* To promote the use of National, evidence-based guidelines for the triage of ACS/Chest Pain patients

## XV. INTER-HOSPITAL TRANSFERS

*GOAL:* To assure that those ACS/Chest Pain patients requiring additional or specialized care and treatment beyond a facility's capability are identified and transferred to the most appropriate facility as soon as possible.

According to the federal Emergency Medical Treatment and Labor Act (EMTALA), a cardiac facility must accept any transfer of patients whose condition requires a higher level of care that cannot be provided at the initial facility.

## XVI. SYSTEM QUALITY MANAGEMENT AND PERFORMANCE IMPROVEMENT

*GOAL:* To promote participation in SETRAC's data collection registry for regional performance improvement.

SETRAC has established a method for monitoring and evaluating ACS/Chest Pain system performance over time and assessing the impact of ACS/Chest Pain system development on the region's public health. SETRAC has established regional cardiac data filters which reflect processes and outcomes of the SETRAC ACS/Chest Pain system of care. SETRAC also provides a multidisciplinary forum for cardiac care providers to evaluate cardiac patient outcomes from a system perspective and facilitates the sharing of information, knowledge, and scientific data.

SETRAC and our stakeholders shall conduct ongoing performance evaluation through quality indicators developed by each Committee Chair of the Board Recognized Committees, to ensure continued compliance with regional guidelines. The Medical Director for the Cardiac Committee will facilitate case reviews based on criteria established in the SETRAC QI Plan.

# ACS/CHEST PAIN Prehospital Guidelines

**History:**
-Age
-Medications (Viagra/ Levitra/Cialis)
-PMH (HTN,MI, stents)
-Allergies
-Recent physical exertion
-Palliation/Provocation
-Quality (Dull, sharp)
-Region/Radiation/ Referred
-Severity (1-10)
-Time (onset/duration/ repetition
-Worsening factors

**ACS Signs & Symptoms:**
-Chest pain (discomfort, pressure, tightness, heaviness)
-Palpitations (heart racing) -Jaw Pain
-Arm tingling/numbness -Shortness of Breath
-Back/shoulder pain -N/V/GI complaints
-Diaphoresis/Pale/Clammy -Syncope/Dizziness
**Women:**
-More likely to have dyspnea, N/V, weakness, back or jaw pain

**12 Lead EMS ECG Criteria:**
Any age with ACS signs & symptoms AND/OR a history of:
-HTN -Cardiac disease
-Smoking -DM
-Severe Obesity
-High Cholesterol
-Recent cocaine use

**STEMI Criteria:**
ST segment elevation of ≥ 1 mm in 2 contiguous leads with or without signs of symptoms of ACS

**12-Lead EKG**
*(Obtain within 10 min of FMC)*

**STEMI**
(see criteria box)

NO → -Continue to monitor patient
-Follow advanced protocols per individual EMS provider

YES → **Contact STEMI center, activate CODE STEMI & transmit ECG**
*(Contact within 10 minutes of EKG)*
***Rapid transport per STEMI destination Guidelines**
*(FMC to Door < 30 min)*
**Apply Defib Pads to all STEMI patients**

-Oxygen therapy (titrate to keep SaO2 ≥ 94%)
-Aspirin 81 mg X 4 PO (chewed) Or 325 mg PO
-NTG 0.4 mg SL (q 5 min X 3 IF SBP > 90 mmHg)
-Establish IV access at TKO rate

If transporting to a STEMI referral (non-PCI-capable) hospital refer to:
-**Agency Specific Thrombolytic Therapy**

**Code STEMI Considerations:**

-Establish 2nd IV if possible with NS (250-500 ml) infusing at TKO as pre-cath hydration

-Keep patient connected to monitor, place defibrillator pads & 12 lead cables when brought into ED for physician evaluation

-If possible, remain on EMS stretcher and monitor in ED

-Prepare to be escorted to CATH Lab on EMS stretcher and monitor to expedite transfer of care to CATH LAB nurse/physician.

**Pearls**

- Exam: Mental status, neuro, skin, neck, lung, heart, abdomen, back, extremities
- Consider STEMI imposters: LBBB, Pericarditis, Benign Early Repolarization, LV Hypertrophy, and Brugada Pattern.
- Avoid Nitroglycerin in any patient who has used Viagra (sildenafil) or Levitra (vardenafil) or Cialis (tadalafil) in the past 24 hours due to potential severe hypotension.
- Document the time of the FMC, 12-Lead ECG and STEMI activation
- Apply Defib pads to all patients for whom a STEMI alert is called; pads are not mandatory for those with ECG transmitted for consult only. Provider judgment may guide pad application in non-STEMI alert patients.

O'Gara, P. T., Kushner, F. G., Ascheim, D. D., & Casey, D. E. (2013). 2013 ACCF/AHA Guideline for the Management of ST-Elevation Myocardial Infarction. *Journal of the American College of Cardiology*, *61*(4), 78–140. https://doi.org/https://doi.org/10.1016/j.jacc.2012.11.019