

ST. TAMMANY PARISH



PRE-HOSPITAL TREATMENT PROTOCOL

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ST TAMMANY PARISH PRE-HOSPITAL TREATMENT PROTOCOL ADMINISTRATIVE POLICIES



These Guidelines are revised, reviewed and approved by St. Tammany Parish Board Certified Emergency Department Physicians, Pre-Hospital Healthcare Professionals, the EMS Advisory Council to the Parish President, and the St. Tammany Parish Medical Society.

These Guidelines address the Standard of Care required for the delivery of pre-hospital care in St. Tammany Parish. EMS providers in St. Tammany Parish will adhere to the guidelines established in this document. Any deviation from these guidelines will be subject to medical review by the healthcare professionals listed previously in this document.

*St. Tammany Parish EMS Advisory Council to the Parish President members are:
An Emergency Department Physician Representative from each of the five area hospitals,
A Representative from a Public EMS Provider, and
A Representative from a Private EMS Provider*

GENERAL ADMINISTRATIVE POLICY

1. EMS Professionals will provide care under the direction of the highest skilled level and Medical Control.
2. The following protocols reflect the standard of care for all pre-hospital providers within St. Tammany Parish.
3. Patients in need of transport to a hospital will be transported in an ambulance or an approved vehicle that meets the requirements of the regulatory agencies of St. Tammany Parish and the State of Louisiana.
4. EMS personnel will display his/her name, name of employing agency and level of EMS certification on his/her uniform or on an employee ID tags affixed to the uniform while in response to medical emergencies and during patient delivery to the patient's destination.

Medical Control Policy

1. Medical Control may be contacted at any step in patient care. The pre-hospital professional should contact Medical Control if a patient's presentation is atypical and the protocol treatment may not be the best treatment.
2. In the event primary Medical Control cannot be reached, Medical Control will become the responsibility of the receiving facility.
3. Medical Directors may place limitations on a pre-hospital professional that require contact with medical control earlier than defined by these guidelines.
4. If medical control cannot be contacted then patient care would promptly follow the guidelines set forth in the St. Tammany Parish Protocols, the Louisiana EMS Commission Scope of Practice and their Medical Director.
5. The Medical Control Physician is expected to be familiar with these protocols and use them as a guide for patient care in the pre-hospital setting.
6. The physicians who serve in the capacity of Medical Control shall notify the St. Tammany Parish EMS Council in writing or E-mail with protocol revisions they feel are needed to meet the standard of care. The EMS Council will make the necessary notifications to the St. Tammany Parish Medical Society as well as LERN Regional Commission.
7. The Medical Control Physician shall notify the EMS service director in writing or by E-mail whenever care has been rendered which they believe does not comply with the established protocols.
8. Medical Control must be contacted for orders as it is indicated within the protocols or when medical direction is desired by the EMS Provider.
9. These protocols embody the standard of care expected by the pre-hospital care providers in St. Tammany Parish.

Selection of Hospital

1. When patient condition and EMS unit status allows, patients or the authorized guardian of such, will be allowed to select the hospital Emergency Department of choice within the EMS service area. In cases of major trauma or critically ill patients, Hospital selection will be directed to ensure definitive, quality patient care.
2. If, in the opinion of Medical Control or the highest certified EMS Professional, the patient's condition is unstable the patient will be transported to the closest appropriate hospital Emergency Department.
3. Patients who have sustained rabid animal bites, venomous snake bites or any other poisonous bites / stings must be transported to an ED that has antivenin and rabies treatment. Contact Dispatch for the appropriate receiving Emergency Department.

STANDING ORDERS

Standing orders are designed for EMS to initiate care without having to contact Medical Control. Each protocol clearly defines at what point Medical Control will intervene. Listed below are several reasons for which Medical Control **MUST** be contacted:

- As indicated in the On-Scene Physician Policy
- At any point within these protocols as it may be indicated
- If a line of treatment is in question or becomes unclear
- Prior to the administration of medications which are not standing orders
- To convey patient information requiring physician intervention i.e. **ORDERS TO "DONOT RESUSCITATE" (DNR), OR TO TERMINATE FIELD RESUSCITATIVE EFFORTS POST CARDIAC ARREST.**
- Anytime the first choice of hospital destination is not available.
- Anytime a patient requires physician intervention and declines transport by EMS.
- For **ALL** mental health patients that are **NOT TRANSPORTED TO THE EMERGENCY DEPARTMENT** by EMS

Minimal Requirements

In addition to state requirements, St. Tammany Parish mandates all EMS transporting agencies licensed to operate in St. Tammany Parish carry the following equipment:

- 12-lead ECG, with the ability to transmit to medical control hospital or receiving facility.
- All medications and airway equipment listed within these protocols
- Biphasic defibrillation
- End Tidal CO₂ (ETCO₂) detectors and/or capnography* (quantitative)
- Intraosseous vascular access (adult and pediatric)
- SpO₂
- Transcutaneous pacing
- CPAP (Continuous Positive Airway Pressure)

EMS Professional's Scope of Practice

The Louisiana EMS Commission in conjunction with the Louisiana Bureau of EMS have established the scope of practice for all EMS Professionals licensed in Louisiana. Certain interventions require additional documented training and written approval from the agency's Medical Director. The St. Tammany Parish Medical Society, and agency Medical Directors may limit the scope of practice at any time.

Mass Casualty Incident (MCI)

- The first arriving responder estimates the number of casualties and the type of incident. If an obvious Mass Casualty Incident (MCI) exists, immediately notify **DISPATCH**. It is critical that the dispatcher be clearly told that “**THIS IS A MASS CASUALTY INCIDENT**”, in order to begin moving the appropriate resources to the scene and to begin making all the necessary notifications.
- Determine an approximate number of victims, the mechanism of injury (MOI) i.e., MVA, building collapse, chemical release.
- Begin TRIAGE using S.T.A.R.T. (Simple Triage and Rapid Treatment) See Appendage for Guideline
- **DISPATCH** will immediately initiate a call out for all available resources to stand-by for activation and notify the Region 9 Disaster Resource Contact (DRC) for EMS & Hospitals

MASS CASUALTY RESPONSE CONTINUED

- Establish Command and designate an area for a Command Post
 - Have dispatch move all communications to a common talk group as soon as possible
 - all radio communications should be between group leaders only
 - the transportation officer will deliver all patient reports to the receiving emergency departments
- Designate an EMS Branch Director who will assign the following group leaders:
- Triage Officer
 - Tag and move on; do not treat
 - As resources become available begin moving patients determined by acuity to the treatment area
 - Blacks stay, **Reds moved to treatment area first**, Yellows and soon as all reds have moved
 - Treatment Officer
 - Treat and continue to reassess until transport unit is available
 - Transport Officer
 - Designate the destination and track all patients moving from the scene to area hospitals for treatment
 - Notify each hospital of incoming patients
 - Staging Officer
 - Keeps a live record of resources available
 - Transport units
 - Personnel
 - EMT
 - Paramedic
 - Nurse
 - Physician
 - Equipment
- Designate a location as treatment area
 - Designate a location for staging of EMS units
 - Designate a location to drop immobilization equipment
- As personnel begin to arrive move patients tagged red and yellow to the treatment area placing each in the designated red or yellow categories of acuity.
 - off load equipment in treatment area
 - report to staging officer
 - back boards only in treatment area; no stretchers
 - units returning from hospitals should gather as much equipment from the hospital as possible before returning to the scene
- Treatment group will initiate treatment until a transport unit has been made available.
- Transportation Officer will coordinate directly with the regional hospitals to determine the appropriate location for each patient.

The first step is to identify the ambulatory victims. Victims who are able to walk will rarely have life-threatening injuries. Certainly, they do not need care as urgently as those who are unable to walk. The first step, then, is to ask all who can walk to move to a designated area. A simple instruction such as "If you can walk, go stand by the large tree," is adequate. If possible, use an external broadcasting system to give this command before exiting the unit. Also, unless there is no other alternative, do not instruct victims to "walk to the ambulance." A group of distraught victims surrounding your unit will interfere with your ability to rapidly address the remaining, non-ambulatory victims. All victims who follow this command have essentially designated themselves as "walking wounded" or minimal status. This designation will eventually place them in either the non-hospital or the delayed category. Spend no further time with this group. Move immediately to the victims who are unable to walk.

You are now ready to apply the three assessments and two treatments of START triage.

The assessments are:

1. Is ventilation adequate?
2. Is perfusion adequate?
3. Is the brain injured?

The treatments are:

1. Rapid Treatment
2. Airway maintenance
3. Hemorrhage control

START WHERE YOU STAND and proceed by an orderly, systematic route through the victims. Assessment and tagging of each victim should take no more than sixty (60) seconds. Do not allow your systematic approach to be disrupted or take too long with one victim. In this way, the greatest number of victims can be screened for urgent, life threatening conditions. Simultaneously, those in most need of care are identified for the second wave of rescuers.

Begin with the first START assessment Is ventilation adequate?

CHECK FOR RESPIRATIONS.

If the victim _____ to reposition or clear the airway.

If breathing does not spontaneously begin, tag the victim "**dead/non-salvageable**" (black) and MOVE ON TO THE NEXT VICTIM. Spend no further time with this victim.

If the victim is not breathing, but begins to breath upon airway intervention, or clearing, tag the victim **immediate (RED)**.

Airway interventions are the most time critical intervention. If the rescuer can clear obstructed airways, additional victims may be salvaged. However, the rescuer cannot become tied up in maintaining the airway. Several methods of airway maintenance may be attempted. Loosen dentures, tissue, or foreign bodies can be swept from the mouth. The victim's head may be repositioned with the cervical spine hyper extended. Perhaps some debris can be used to maintain that position. Or one of the "walking wounded" might be used to maintain the airway of an unconscious victim. Place an object under the

shoulder blades to maintain a proper position. Not that the usual cervical spine precautions may have to be ignored. It is better to open the airway, prop the victim in a new position, and move on to other victims. The sheer number of victims and the urgency for rapid triage and treatment in a Mass Casualty incident preclude the use of the meticulous spinal stabilization that is used when there is just one, or a few victims. If neck extension is done despite the potential risk of worsening a spinal injury. All victims who require help in maintaining an open airway are classified and tagged immediate (RED).

If, when checked for respiration, the victim *is breathing*, quickly estimate the rate of respirations. Victims with respiration rates of greater than 30 respirations per minute are categorized and tagged "immediate" (RED). While victims with respiration rates of less than 30 respirations per minute are not categorized in this assessment. Thirty respirations per minute is an arbitrary cut-off-point. Rescuers do not have time to count respirations, but are expected to estimate the rate. Prepare to estimate respirations by observing others simulate rapid respirations by breathing at a rate of 30 respirations per minute. After a little practice and observation, the difference between 15 respirations per minute and 30 respirations per minute becomes obvious at a glance. If the rescuer is in doubt, the victim should be assigned to the "immediate" (RED) category. Victims with slow respirations are at risk as well, but slow respiratory rates are almost always due to decreased levels of consciousness.

This first assessment, ventilation, places the victim in one of the three categories:

Immediate - RED
Delayed - YELLOW
Minimal - GREEN
Dead/Non-Salvageable - BLACK

No further attention is given to the victims in the "Dead/Non-Salvageable - BLACK" category, or those already tagged Immediate - RED". Victims with adequate respirations, close to normal range, then undergo the second START assessment.

IS PERFUSION ADEQUATE?

The most sensitive, rapid field method for assessing the adequacy of perfusion is the capillary refill test. Pressure is applied to the lip or nail bed and then released. The skin should return to normal color within two seconds if skin perfusion is adequate. (The rescuer counts, "One thousand-one, one thousand-two," beginning at the time the pressure is released.) If the skin does not return to normal color within two seconds, the victim has signs of inadequate perfusion and should be tagged with an "immediate (RED) tag.

The radial pulse can also be a test for adequate perfusion. This is especially useful in condition of reduced lighting. In most persons, the radial pulse will not be palpable when the systolic blood pressure falls below 80. Therefore, a victim without a palpable radial pulse can be assumed to have inadequate perfusion and should be tagged with an "immediate (RED) tag.

Two stabilization maneuvers can be attempted for victims triaged into the immediate group on the basis of inadequate perfusion. First, the victims' legs should be elevated to maximize perfusion of the heart, lungs and head. This can be done by walking wounded. If a patient has obvious external bleeding, hemorrhage control measures should be undertaken. Direct pressure.

If, as a result of the capillary refill test or the check of the radial pulse, the victim is determined to have adequate perfusion, the rescuer begins the third, and final START assessment

IS THE BRAIN INJURED?

Possible injury to the brain is indicated by altered mental status. The ability to follow simple directions is used. The victim is asked to open or close his eyes or to squeeze the rescuer’s hand. If this simple command cannot be followed, the victim is triaged into the immediate (RED) category.

If the victim can respond to simple commands, the central nervous system is assumed to be intact enough to assign this victim to the “delay” (YELLOW) category.

It should be noted that it is usually possible to skip this assessment because during the earlier assessments and interventions, the rescuer has already had a chance to observe whether the victim can follow simple commands. However, this test can be used if doubt remains.

Thus, the START plan examines only three body systems. It determines the adequacy of respiration or ventilation, perfusion and mental functioning. This can be done in 30 seconds.

Pediatric trauma victims present some special considerations for triage, but the START system adequately addresses these concerns.

A brief look at normal pediatric respirations rates indicates that using the START decision point of 30 respirations per minute with pediatric patients would result in “over triaging” these victims. This is true, but appropriate. Pediatric trauma victims tend to compensate for their injuries and maintain “normal” vitals for longer than older patients. On the other hand, once the ability to compensate is gone, these patients deteriorate rapidly and often, permanently.

NORMAL PEDIATRIC VITAL SIGNS

AGE	HEART RATE	BLOOD PRESSURE	RESPIRATIONS
Newborn	100-160	50-70	30-60
1-6 Weeks	100-160	70-95	30-60
6 Months	90-120	80-100	25-40
1 Year	90-120	80-100	20-30
3 Years	80-120	80-110	20-30
6 Years	70-120	80-110	18-25
10 Years	60-90	90-120	15-20

Younger pediatric victims do not yet have the language skills to respond to simple commands, so impaired mental status must be determined from other clues. An infant that fails to make eye contact with mother may have impaired mental status. An older child who appears too calm for the circumstances (inappropriate response) may also have impaired mental status. If a rescuer suspects impaired mental status in a pediatric victim, that victim should be placed in the “immediate” (RED) category.

Geriatric trauma victims also merit special consideration during field triage. A number of normal aging processes place the elderly at increased risk from trauma. Primary among these risk factors is a diminished ability to compensate for injuries. In many circumstances then, the elderly may deteriorate more rapidly than their younger counterparts.

At the same time, geriatric trauma victims may be difficult to evaluate. Because many elderly experience decreased pain perception, a geriatric victim may not perceive his or her injuries as severe. Additionally, the presence of chronic disease may make it difficult for the rescuer to distinguish between chronic and acute findings.

START triage addresses these considerations. Orderly progression through non-ambulatory victims ensures that no one is ignored, while the clear-cut assessment process compensates for any difficulty in distinguishing between chronic and symptomology.

With START, the steps are always the same, no matter what type of victim the rescuer is assessing. On this basis, a rescuer can quickly and efficiently triage large numbers of disaster victims. Triage assessments are clearly identified to subsequent rescue personnel. As these additional rescuers arrive, they can quickly begin a more comprehensive triage, treatment and re-evaluation, beginning with victims tagged "immediate" (RED).

Victims may need to be moved to central treatment areas either for safety or for ease of treatment. More extensive evaluation, stabilization, resuscitation, and transport efforts can gradually begin as the necessary personnel and equipment arrive on scene.

This simple triage and rapid treatment plan gives you a place to start in the medical management of a Mass Casualty Incident (MCI). The START plan is not intended to replace an established Incident Command System (ICS) but is flexible enough to be incorporated into any disaster plan.

AIR MEDICAL PROTOCOL

Air Medical transport should be considered for the following:

- Any patient that meets “Major Trauma Triage Criteria” requiring services not locally available
- Any stroke patient that could realistically arrive at a “Designated Stroke Center” faster than ground transport (Consult with Medical Control)
- Any time patient outcome could be improved by shortened transport time, such as:

Prolonged extrication

A remote / wilderness area, difficult terrain, or any other time when ground ambulance access is prevented or delayed

Multiple critical / unstable patients / multiple casualty incident

To bring special medical personnel and equipment to the scene, such as physician or surgeon

Paramedic level care is otherwise unavailable

Patient transport should not be delayed awaiting a helicopter. Begin transport to the hospital and rendezvous with the helicopter, if possible at a predetermined safe landing site, enroute to the Trauma Center or local hospital.

Requests from the scene should be made by the highest trained EMS provider (through the incident commander, as appropriate).

Call Disposition Policy

Purpose:

In an effort to deliver the highest level of pre-hospital care to our patients, all 911 calls received will be given one of the following dispositions:

1. Patient transported to an appropriate ED.

2. Patient Refusal

- this is reserved for a low acuity call in which neither the patient/guardian nor the medic feels that the patient's condition warrants transport via an ambulance. A patient refusal on a patient care report will be signed by the patient/guardian and witnessed by another party on the scene and/or the medic's partner if no unbiased third party is present (fire department, law enforcement agency, etc).

3. Patient Refusal AMA

- this is reserved for a more acute call in which the medic feels the patient needs EMS treatment and transport and the patient/guardian is declining EMS treatment and transport.
- this requires consultation with a physician.

4. Cancelled prior to arrival on scene

- this is done by the Communications Center (Dispatch)
- A name of the canceling party must be documented on a recorded line and relayed to the EMS crew for proper documentation on their Daily Trip Sheet or Cancellation Form.

5. Cancelled on scene

- this is reserved for scenarios when an EMS unit arrives on the scene of an **MVA** and there are **no injuries** or **medical complaints**. A unit cannot be on scene for an extended period of time and must give the name of the canceling party (whether it is law enforcement, fire departments or Medical Professionals). Should the medic render ANY type of assessment or treatment, this disposition cannot be utilized. Upon arriving on scene of an MVA with significant mechanism of injury (MOI), it is in the best interest of the medics to obtain refusals / AMA's on all involved persons refusing EMS transport.

6. Patient Deceased on Scene

- this may be from medical or traumatic causes and warrants notification of law enforcement who will rule out whether or not a crime has taken place and then contact the coroner's office.
- Medical Control must be contacted for a DNR order and time of death.
- the local EMS provider will reflect on the PCR (patient care report) the time of death as per medical control or closest facilities ER physician as well as the physicians name receiving the report.

7. Patient "gone on arrival" (GOA)

- this is reserved for an instance when an EMS crew arrives on a scene and the patient has left the scene. Every effort must be made to obtain information regarding how and when the patient left and the party relaying that the patient is gone must be documented over the radio. Notify the potential receiving hospital that the victim is en route to their facility if the information is available.

8. Unfounded- this is reserved for instances when an EMS crew or first responding agency arrives at a location and is unable to locate a patient. Every attempt will be made by the responding crew to locate the patient.

Hospital Diversion Policy

The dispatch centers of ST. Tammany's EMS providers will monitor ESF8 Portal for Resource Management. EMS crews will make every attempt to honor diversions and acknowledge off-load times of hospitals. Each provider must attempt to honor limited diversion notices and extended off-load time notices of each facility listed on the website. However, patient preference and **informed** decisions by patients may be honored.

Each provider's communication center will access the website and update on-duty crews periodically throughout the shift. **Posting current and updated information will be the hospital's responsibility.** Facility diversion information will be passed on to the EMS crews.

Hospital's approximate off-load times correspond to the colors listed on the website.

- Green** → **off-load times less than 15 minutes;**
- Yellow** → **off-load times of 15 – 30 minutes;**
- Red** → **off-load times of 30 – 60 minutes;**
- Black** → **off-load times of greater than 60 minutes,**
- Purple** → **off load times greater than 120 minutes.**

Limited Diversion Status – This notice is issued by hospitals to inform EMS providers that an area(s) (department) of the hospital is without further available resources. In the diversion status/notice, a list of certain departments on diversion will be provided. This may include **“Emergency Department Saturation.”** EMS providers must make every effort possible to avoid transporting to hospitals on ED saturation. This Limited Diversion Status does not apply to patients who are critically ill requiring immediate stabilization.

Full Hospital Diversion is only honored in cases of level three closures within the hospital's infrastructure; these diversions will be honored without exceptions. Hospitals requesting full diversion status **for reasons other than level three closures**, must notify the primary 911 providers of St. Tammany.

Physician on Scene

A. Physician is first to arrive at the scene of emergency:

1. The Good Samaritan Statute applies in this situation. The Physician on-scene can choose to treat the patient with all the protection from liability as stated in the law.
2. Upon arrival of the EMS Professional, the physician has three options:
 - a. to allow the EMS Professional to assume full authority for directing the care of the patient – the physician will not have any risks of liability for abandonment in this situation.
 - b. to assist the EMS Professional in the care of the patient without assuming authority for directing patient care.
 - c. can express his/her desire to assume full authority for directing patient care – the physician must agree to follow the criteria in section B

B. Protocol for Physicians Assuming Care of Patient at the Scene of a Medical Emergency

Indications: When a physician is at the scene of a medical emergency and wishes to assume authority for directing patient care.

Policy: Patient care is established by parish protocol and on-line Medical Control physicians. It is not however meant to interfere with an established physician-patient relationship. By law, the EMT's are providing pre-hospital care under the license of a medical director and/or according to the protocols approved by a parish medical society. They may additionally receive direction via on-line Medical Control from an Emergency Department physician. If responsibility for patient care is transferred to a physician at the scene, that physician becomes responsible for any care given and must accompany the patient to the hospital. Furthermore, the physician accepting these responsibilities must sign an agreement to assume care for the patient and the patient's pre-hospital medical record.

Procedure:

1. EMT's shall treat all on-scene physicians with respect and shall endeavor to work in cooperation with an on-scene physician for the patient's best interest.
2. If a physician desires to help assist the EMS Professional in the care of the patient without assuming authority over patient care, the EMS Professional must explain to the physician that their assistance is appreciated, but the State Law requires EMS personnel to comply with local protocol and/or established Medical Control with the base hospital physician.
3. If on-scene physician wishes to assume responsibility for the direction of patient care, the EMS Professional must ask the physician to show his/her Louisiana State Board of Medical Examiners license as verification of his/her identity as a physician.
4. The EMS Professional must establish contact with Medical Control. After advising the Medical Control Physician (MCP) of useful patient information, the EMS Professional must inform the MCP that a physician is present and identify the physician. The EMS Professional will then place the physician in contact with the on-line MCP and the two physicians will discuss patient treatment and who will have authority over patient care.
5. On-scene physicians who accept Medical Control and the responsibility for the direction of patient care must:
 - a. agree to full medical - legal responsibility
 - b. accompany the patient to the hospital, and
 - c. sign the EMS run sheet indicating that they have accepted responsibility for patient care and any medical orders given

Physician on Scene (Continued)

6. EMS personnel (medics) shall only accept orders from the on-line MCP, unless informed by the MCP that Medial Control is being transferred to the on-scene physician. The medic must make their services, equipment, supplies and ambulance available to the on-scene physician for patient care. If Medial Control is transferred to the on-scene physician, medic may follow only those orders that are within their scope or practice.
7. If at any time the on-scene physician's orders become questionable, or are contrary to the established parish protocols, or if interference with patient care occurs, the medic must immediately re-establish contact with the on-line MCP for guidance before any further action is taken. In any case of conflict, the MCP's orders shall prevail.
8. A patient who is lucid and understands the medical risks and consequences of their decisions (or in the case of a minor, their guardian/parent), has the legal right to refuse care by the EMS and/or on-scene physician after such risks and consequences have been explained to him/her.
9. In the event that the patient refused the care of the on-scene physician even when MCP is willing to transfer care to the on-scene physician, but accepts the care of the medic, the MCP will be responsible for directing the medic's care of the patient.
10. In the event that the patient wishes the on-scene physician to assume their care, but the MCP does not feel that transfer of patient care to the on-scene physician may be in the patient's best interest, the EMS team must attempt to have the patient sign a refusal of service form, as is standard practice, before leaving the scene. The on-scene physician is then responsible for further patient care and for arranging transport of the patient to an appropriate hospital or facility.

Restraint of Patient

Purpose: To provide guidance for the use of physical or chemical restraint in the management and transport of patients who become violent, potentially violent, or who may harm themselves or others. This policy has been approved for EMS Professionals.

Guidelines

The safety of the patient, community, and responding EMS provider is of paramount concern when following this policy.

Restraints are to be used only when necessary in situations where the patient is potentially violent or exhibiting behavior deemed dangerous to self or others. Any restraint should be administered in a humane and professional manner.

EMS Professionals must consider that aggressive or violent behavior may be a symptom of medical conditions such as head trauma, alcohol or drug related problems, and metabolic or psychiatric disorders.

The method of restraint used shall allow for adequate monitoring of vital signs and shall not restrict the ability to protect the patient's airway or compromise neurologic, respiratory, or vascular status.

Patients in Police Custody

This policy is not intended to negate the need for law enforcement personnel to use appropriate restraint equipment approved by their respective agencies for arrest and control.

The responsibility for patient health management rests with the highest medical authority on the scene. Regardless of the arrest status, the competent patient never loses the right to participate in the making of decisions regarding his/her medical care.

In situations where handcuffs are applied by law enforcement officers:

- The patient will not be cuffed to the ambulance stretcher.
- The law enforcement officer shall accompany the patient in the ambulance if the handcuffs are to remain applied. A law enforcement officer shall follow the ambulance in a patrol car to the receiving facility if the patient has been restrained on the ambulance stretcher by using the approved restraint technique described below.

Policy

Restraint devices applied by pre-hospital personnel must be either padded leather or soft restraints (e.g. Posey vest, Velcro, or seatbelt-type).

Suggested restraint technique is a six-point restraint system. Ideally, restraint devices should connect the patient to a backboard for ease of transfer at the receiving facility.

Both legs and arms should be restrained by a snug fitting device at the ankle and wrist, respectively. Both legs and arms should be fully extended and the restraint straps drawn taut.

PATIENT RESTRAINT CONTINUED

The patient should be prevented from sitting up by an appropriate restraint device about the chest and knees. The restraint straps should be drawn taut. If a backboard is used, the patient must be restrained supine. If the patient condition calls for a lateral position, the backboard can be tilted to the appropriate angle and supported. In the lateral position, the patient must be facing EMS personnel and not the wall of the ambulance.

Paramedic Level -All patients placed in restraints must be continuously monitored by pulse oximetry, capnography, and the ECG monitor as soon as they become available.

Restrained extremities should be evaluated for pulse quality, capillary refill, color, temperature, and nerve and motor function immediately following application of the restraint device and every 10 minutes thereafter.

Any abnormal findings require the restraint device of concern to be removed, re-evaluated, and reapplied, if indicated. It is recognized that the evaluation of nerve and motor status requires patient cooperation and thus may be difficult to monitor.

The restraints must not be placed in such a way as to prevent evaluation of the patient's medical status (e.g., airway, breathing, circulation), to prevent necessary patient care activities, or in any way jeopardize the patient. A means of immediately releasing the restraints must be available.

The use of restraint should be carefully documented with the following information:

- Reasons for restraint;
- Technique and materials used;
- Assessment findings of the extremities, including periodic reevaluation;
- Mental, respiratory, and circulatory status of the restrained patient, including periodic reevaluation;

Methods of Restraint Prohibited in the St Tammany Parish System

Application of any of the following forms of restraint shall **not** be applied by any **EMS provider** within the St Tammany Parish system:

- The "Sandwich Technique" where the patient is placed between two objects, such as a backboard and a scoop stretcher.
- Hobble (hogtie) restraint where wrists and ankles are bound or handcuffed behind the back.
- Any prone restraint position.
- Any restraint procedure that restricts the movement of the abdomen (diaphragm) or chest either by direct compression or hyperextension of the chest wall.
- Hard plastic ties or any restraint device requiring a key to remove.

Chemical Restraint (Paramedic-Level Only)

For patients who continue to struggle following the application of restraint as described above, including patients who may have ingested a stimulant or hallucinogen, follow the "Excited Delirium" protocol and contact Medical Direction as needed.

Adult Protocol Preambles

To have a guideline or protocol to follow for every possible pre-hospital scenario is **unrealistic**. Therefore, when presented with a clinical situation not specifically addressed in a protocol paramedics must refer back to the basics of patient care and sound clinical judgment. The entire existence of Medical Control is to facilitate treatment in the pre-hospital setting. Medical Control must be used as a resource whenever needed.

Listed below are generalized guidelines to be followed while operating within St. Tammany Parish. These guidelines are additional references that are to coincide with each protocol.

- All patients must have their vital signs assessed upon patient contact as soon as reasonably possible.

St. Tammany Parish EMS Council recognizes vital signs as:

- blood pressure
- capillary refill in pediatrics
- GCS
- heart rate
- pain scale
- respiratory rate
- SpO₂
- temperature (where indicated)

- As scene safety and scene conditions allow, all routine medical care and initial treatment must be completed **prior to moving the patient to the ambulance.**
- Upon administration of any medication, patients will ideally have O₂, IV access, EKG and pulse oximetry monitored.
- All medications given IV / IO to a pulseless patient will be followed by a 20 ml bolus, elevation of extremity (when applicable) & effective chest compressions.
- When a fluid bolus is not required or anticipated, saline locks may be used at the medic's discretion.
- Orthostatic vital signs must be considered whenever clinically indicated.
- **ADULT MEDICAL** patients in cardiac arrest should be treated on scene where found for no less than 30 minutes unless unable to secure a patent airway and/or unable to establish IV/IO access for proper administration of medications. Patient care including adequate, aggressive CPR / BLS is the focus in cardiac arrest, not patient packaging and transport. If a scene becomes unsafe where patient care cannot be delivered properly, law enforcement must be requested. The patient must then be transported to the closest ED.

For trauma calls 10 minutes on scene is an industry standard however, you should never stay on scene for 10 minutes because you are allotted the time. Documentation must be provided on the pre-hospital run report when on scene times exceed ten minutes.

Notation and References

Cardiac Risk Factors

Major risk factors

1. Diabetes Mellitus (type I or II)
2. Use of tobacco products (packs per day / years)
3. Hypertension
4. High cholesterol
5. Family history² of myocardial infarction before the age of 45 or any significant cardiovascular event³

Minor cardiac risk factors (not limited to)

1. Obesity
2. Sedentary lifestyle
3. Cocaine use
4. ≥ 50 years of age

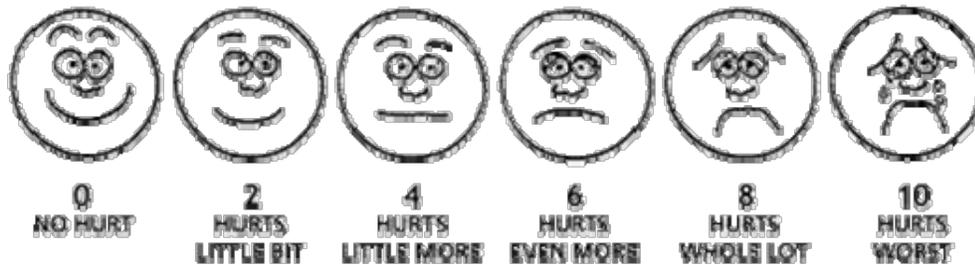
SAMPLE History

- S** signs and symptoms including pain
A allergies
M medications prescribed and medications taken prior to arrival
P past medical history
L last intake and output
E events leading to injury or illness {Mechanism of Injury, (MOI)}

Pain Assessment (OPQRST)⁴

- O** Onset when did the pain first start
P Provocation what causes the pain; what makes it better or worse
Q Quality description of pain (sharp, dull, stabbing, pressure, etc)
R Radiation is the pain localized in one area or does it spread
S Severity 1 – 10 scale
T Time pain constant or intermittent; has the pain occurred before

Wong-Baker FACES Pain Rating Scale



²Mother, father, brother, sister ONLY

³Examples: coronary artery grafting (CABG); previous MI; stenting procedures

⁴Hockenberry MJ, Wilson D, Winkelstein ML. *Wong's Essentials of Pediatric Nursing*, (7th ed), St. Louis, 2005, p. 1259. Used with permission. Copyright, Mosby.

Glasgow Coma Scale (GCS)

GCS is a component of vital signs. GCS must be repeated 5 minutes after the first score is obtained.

Eye Opening	Adult	Score
	Spontaneous	4
	To Speech	3
	To pain only	2
	No response	1
Best Verbal Response	Oriented appropriate	5
	Confused	4
	Inappropriate words	3
	Incomprehensible sounds	2
	No response	1
Best Motor Response	Follows commands	6
	Localizes pain	5
	Withdraws in response to pain	4
	Flexion in response to pain	3
	Extension in response to pain	2
	No response	1

Miami Emergency Neurological Deficit (MEND) Exam⁵

The emerging standard of care in the recognition and treatment of strokes includes the MEND exam. The initial assessment tool of the MEND exam involves the Cincinnati Pre-hospital Stroke Scale assessment, which must be done while on scene. Any one abnormal finding in the patient's level of consciousness, speech, ability to symmetrically move the face and/or inability to successfully complete the arm drift test calls for a complete MEND exam (time permitting), as the EMS unit is enroute to an ED. Hospital notification is also a priority treatment when focal neurological symptoms are noted.

MEND exam components with check off sheets are listed in the appendix. These documents must be referenced and copied as needed.

If any one of these 3 signs is abnormal the probability of a stroke is 72 %. Time permitting a complete MEND exam must be completed in transit to the ED.

Speech- (have patients say "you can't teach an old dogs new tricks")
Normal: patient uses correct words with no slurring

-
- *Abnormal:* patient slurs words, uses the wrong words, or is unable to speak

Facial Droop- (have patients show their teeth or smile)
Normal: both sides of face move equally

-
- *Abnormal:* one side of the face does not move at all

Arm Drift- (have patients close their eyes and holds both arms out straight for 10 sec)
Normal: both arms move equally or both do not move at all

Abnormal: one arm does not move or one arm drifts down compared with the other

12 Lead EKG Anatomy

*ST elevation measured from the “J point.”

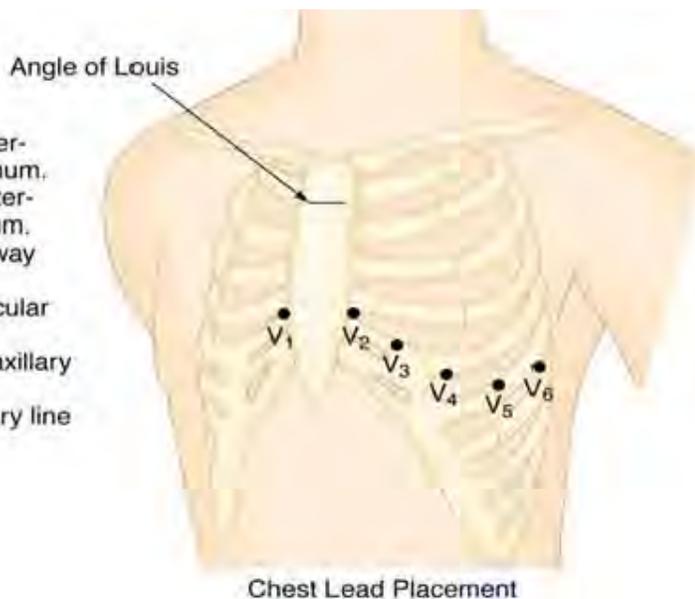
*ST elevation indicates injury (cardiac muscle death); ≥ 1 mm in a pattern consistent with an acute infarct.

*ST or T wave depression indicates ischemia (inadequate oxygenation of cardiac muscle and/or old injury).

* 12-lead EKG's are now a standard of care. They must be done on a multitude of patients with varying medical complaints well beyond the classic chest pain complaint. Specific protocols call for 12-lead EKG testing; in addition clinical presentation and/or assessment findings may warrant 12-lead EKG testing as a diagnostic tool.

WALL AFFECTED	LEADS	ARTERY'S INVOLVED	RECIPROCAL CHANGES
ANTERIOR	V2-V4	LEFT CORONARY ARTERY LEFT ANTERIOR DESCENDING (LAD)	II, III, aVF
ANTEROLATERAL	I, aVL, V3-V6	LAD AND DIAGONAL BRANCHES CIRCUMFLEX AND MARGINAL BRANCHES	II, III, aVF
ANTEROSEPTAL	V1-V4	LAD	
INFERIOR	II, III, aVF	RIGHT CORONARY ARTERY (RCA)	I, aVL, V2 – V6
LATERAL	I, aVL, V3-V6	CIRCUMFLEX BRANCH OR LEFT CORONARY ARTERY	II, III, aVF
POSTERIOR	V8, V9	RCA OR CIRCUMFLEX ARTERY	V ₁ -V ₄ (R>S in V ₁ &V ₂ , ST-Segment depression, elevated T wave)
RIGHT VENTRICULAR	V4R-V6R	RCA	

- Lead V₁** The electrode is at the fourth intercostal space just to the right of the sternum.
- Lead V₂** The electrode is at the fourth intercostal space just to the left of the sternum.
- Lead V₃** The electrode is at the line midway between leads V₂ and V₄.
- Lead V₄** The electrode is at the midclavicular line in the fifth interspace.
- Lead V₅** The electrode is at the anterior axillary line at the same level as lead V₄.
- Lead V₆** The electrode is at the midaxillary line at the same level as lead V₄.



Bledsoe B, Porter R, Cherry R. *Essentials of Paramedic Care* 2nd ed. 2007. Upper Saddle River

Advanced Airway & Capnography

- ETT verification (*documentation must also include the following*)
 - a. bilateral lungs sounds
 - b. condensation in tube (not always accurate)
 - c. equal chest rise
 - d. no epigastric sounds heard
 - e. Quantitative ET_{CO}₂ device(s) (listed below)
 - f. visualization of ETT passing through vocal cords
- An attempt at endotracheal intubation is made once the tip of the ETT passes the teeth.
- **Capnography:**
 1. Quantitative capnography – Exhaled CO₂ continuous measuring device facilitates initial documentation of endotracheal tube placement and allows for continuous end-tidal CO₂ monitoring. The continuous ET_{CO}₂ monitoring provides documentation of ETT placement throughout treatment and transport. This modality is to be used as a diagnostic tool allowing paramedics to deliver ventilations more effectively.

Difficult Airway Adjuncts

There are many commercially available adjuncts to assist with securing difficult airways. EMS Professionals will be trained to proficiently utilize all equipment within their Scope of Practice and approved by their Medical Director. Refer to the "Airway Management Protocols" for additional guidelines

Pulseless Rhythms (2015 AHA's ACLS updates)

Upon arriving on scene of a cardiac arrest: **Verify absence of**; pulses, adequate spontaneous respirations, or signs of life.

Priorities consists of; Effective Chest Compressions¹, early defibrillation², IV/IO access (as resources allow with administration of Epi)⁴, securing an Airway (OPA, NPA, LMA, ETI, etc. and administering O₂ @ 15 LPM.

The need for early ventilations is dependent on the possible nature of Cardiac Arrest (CPR vs CCR).¹

Other ALS procedures without compromising chest compressions, can be initiated as resources allow.

EFFECTIVE Chest Compressions are the NEW FOCUS in the 2015 updates.

****For every interruption in Continuous Chest Compressions (CCC) (even one second), coronary & cerebral perfusion stop completely. Acquiring adequate reperfusion is dependent on the length of CCC interruptions****

1. Effective Manual Chest Compressions at a rate of 100-120/min and a depth of 5-6 mm should be performed in 2 minute cycles, pausing briefly between cycles to evaluate rhythm & pulses. If performing **Coronary-Cerebral Resuscitation (CCR)**, 3-4 cycles (approximately 8 minutes) are completed before ventilations begin. This approach has been shown to improve patient outcomes UNLESS earlier ventilations are indicated by events leading to nature of arrest (choking, pediatrics, lung disease, etc.) requiring **Coronary-Pulmonary Resuscitations (CPR)**. Mechanical Chest Compression devices can be utilized according to manufacturer's recommendations. Statistically, pediatrics are more inclined to experience respiratory arrest prior to cardiac arrest, therefore, the need for ventilation support in conjunction with chest compressions is usually indicated early.
2. Initial and continued defibrillations for Ventricular Fibrillation / Pulseless V-Tach will follow this pattern:
1 shock @ Maximum Joules (J) biphasic. Immediately after defibrillations, resume effective Chest Compressions for 2 minutes (refer to Cardiac Arrest and other pulseless protocols)
3. The compression to ventilation ratio for CPR is 30:2. After placement of an advanced airway, asynchronous ventilation 1 q 6 seconds with continuous chest compressions pausing briefly (< 5 seconds) to evaluate rhythm changes & pulse
4. Early administration of 1mg Epinephrine 1:10,000 IV/IO (within the 1st 3 min of cardiac arrest) has shown to improve patient outcomes
5. Endotracheal Intubation **WITHOUT VENTILATIONS** can be utilized to secure an airway if performing CCR during the 1st 3-4 cycles without compromising effective Chest Compressions
6. Medications are most beneficial when delivered and circulated for > 1 minute prior to defibrillation attempts. Epinephrine 1:10,000 IV / IO q 3-5 minutes is the 1st line medication for cardiac arrest
7. Amiodarone is the first-line antiarrhythmic used in V-Fibrillation / Pulseless V-Tach.
8. Atropine, Transcutaneous Pacing (TCP), Procainamide & Magnesium Sulfate (except for torsade de pointes) are no longer used in pulseless rhythms.
9. IF APPROVED BY AGENCY'S MEDICAL DIRECTOR, DOUBLE SEQUENTIAL DEFIBRILLATION MAY BE ATTEMPTED FOR SEVERE REFRACTORY V-FIB

Revised 6/2016

Special Resuscitation Guidelines

1. **Electric Shock and Lightning Strikes**⁹

Once the scene is declared safe and smoldering clothing has been removed early aggressive CPR, defibrillation, and airway control is the focus of treatment. Because of the increased risk of tracheal edema, endotracheal intubation must be considered early even if spontaneous breathing has resumed. Defibrillation must be initiated without delay. If there is any doubt in distinguishing asystole vs. "fine V-Fib" the paramedic must consider defibrillation.

An attempt at resuscitation will be made unless an extended downtime can be validated and/or injuries incompatible with life are present.

2. **Hypothermic Cardiac Arrests**¹⁰

New ACLS guidelines recommend resuscitative efforts on all pulseless and apneic hypothermic patients. In the pre-hospital setting it is difficult to determine core body temperature. Therefore, we must consider patients who are hypothermic to be classified as "severely hypothermic," with a core body temp of less than 30°C (86°F).

ACLS recommends taking 30 – 45 seconds when evaluating for a pulse and respiratory effort in hypothermic patients. If unable to determine the adequacy of respiratory and cardiac function, CPR must be started. Endotracheal intubation is important in hypothermic patients as it provides a route for warm humidified oxygen to enter the central circulation.

The hypothermic patient who presents in V-Fib or pulseless V-Tach must be defibrillated according to AHA 2010 guidelines. If there is no change in the rhythm after the first defibrillation all further defibrillations must be withheld pending determination of a core body temperature above 30°C (86°F). Hypothermic patients who do not respond to initial pharmacological therapy typically do not benefit from subsequent pharmacological therapy. This is due to a decrease in drug metabolism within the body. Repeated administrations of medications to a hypothermic patient could accumulate to toxic levels in the peripheral circulation decreasing their chance of survival.

3. **Cardiac Arrest of the Pregnant Patient**¹¹

An attempt at resuscitation must be made on all pregnant patients in cardiac arrest for the sake of the mother and fetus. In situations where the medic can verify a prolonged down time or injuries incompatible with life, the medic must follow the DNAR protocol. Cardiac arrest management is altered in these patients due to the physiological changes associated with pregnancy. Standard ACLS algorithms apply to pregnant women. However, some modifications in ABC's are needed.

Pregnant patients with a gestational age of > 20 weeks shall be promptly transported to the closest emergency department for evaluation of a perimortem cesarean section. Continuous compressions, defibrillation, and airway management should take treatment precedence. Do not delay transport to the ED.

⁹ Electric Shock and Lightning Strikes, *Circulation* 2005; 112;154 – 155

¹⁰ Hypothermia, *Circulation* 2005; 112;136-138

¹¹ Cardiac Arrest Associated With Pregnancy, *Circulation* 2005; 112;150-153

Airway – must be secured early with ETT to decrease the risk of aspiration (for late second and third trimester pregnant patients only). This risk is increased because of an insufficient lower esophageal sphincter. Therefore, continuous cricoid pressure must be used before and after intubation attempt(s). The size of the ETT is commonly decreased by 0.5 – 1.0 mm compared to a non-pregnant female.

Breathing - Because of the diaphragm's position, the patient's functional lung capacity has decreased while the body's demand for oxygen has increased. This is the reason for the rapid onset of hypoxia in pregnant patients. Techniques used to confirm ETT placement do not change. ETCO₂ quantitative / waveform capnography improves placement confirmation. Ventilation volumes must also be reduced.

Circulation – Medications given IV / IO in the lower extremities may not reach the maternal heart unless, or until the fetus is delivered. Therefore, venous (including intraosseous) access in the lower extremities is strongly discouraged. Alternative sites such as the humeral head for the IO are recommended with appropriate training.

- Support (sprint) Vehicle Response to Cardiac Arrests

When supervisor units or any other single paramedic response vehicle arrives on the scene of a cardiac arrest, their single responsibility is **BLS/CPR & Early Defibrillation** per AHA guidelines as indicated. This course of treatment shall continue until such time that ALS measures can begin without compromising BLS measures. (See "Cardiac Arrest" Protocol)