

# SEMS General Guidelines

## Universal Patient Assessment Protocol (G-1)

This path should be followed on all patient encounters

1. Assure safety for crew, patient and by-standers
2. First in bag, O2 and cardiac monitor should be carried in on all calls
3. Crews should demonstrate professionalism and be courteous at all times
4. Crews should follow appropriate PPE utilizing the PPE protocol
5. Assess the patient using an appropriate focused or generalized exam
  - a. A complete set of vital signs should be assessed on every patient and if not possible documentation should reflect why
  - b. History should include SAMPLE and OPQRST
6. Find the appropriate algorithm to fit patient and follow it
7. If a patient does not fit an algorithm contact medical control for guidance

## South Carolina DHEC Definition of Pediatric Patient (G-2)

The Pediatric patient will be defined as a patient less than 12 or 12-16 not over 40kgs. If no one is available to confirm look for signs of maturation such as pubic hair or breast formation for females.

## Code Sepsis (G-3)

- 1) SIRS: Does your patient meet at least two of the following criteria?
  - a) Is patient **temperature** >38 Celsius (100.4 F) or <36 Celsius (96.8 F)
  - b) Is patient **heart rate** >90 beats/min
  - c) Is patient **respiratory rate** >20 breaths/min
- 2) Acute organ dysfunction: Does patient meet at least one of the following:
  - a) Patient **B/P** is <90 systolic or MAP <70 despite volume and vasopressor resuscitation.
    - i) **{MAP=1/3 pulse pressure + diastolic pressure}**
  - b) Does patient require BVM assistance?
  - c) Does patient have an altered LOC or decreased GCS
- 3) Does the patient have history of recent infection or signs and symptoms of severe infection?

**Code sepsis is not an emergent return unless patient condition otherwise warrants.**

If your patient meets the criteria in all three categories above they fall into the severe sepsis classification. The EMS crew is to notify the EC communication tech they are transporting a CODE SEPSIS patient. The EC staff in turn can be ready to complete the sepsis screen on arrival at the EC.

## **Code STEMI (G-4)**

- 1) Two or more consecutive leads that have 0.5mm or greater elevation.
  - a) Notify ER that this is a CODE STEMI
  - b) Limit scene time to less than 15 minutes.
  - c) Do the Fibrinolytic Therapy check sheet.
  - d) Complete 12 lead and transmit to hospital
  - e) Deliver hard copy of 12 lead with two identifiers to EC staff (name, DOB, SS or other identifier)
  - f) Limit IV sticks to good sites only as missed attempts may leak with Thrombolytic Therapy
- 2) A code STEMI is an emergent return to SRMC ER
  - a) Patients need to be informed of the code STEMI process established with SRMC and encouraged to be transported there to save time and therefore heart muscle
  - b) Patients once informed may choose the hospital they wish to be transported to as long as the hospital accepts that patient type.

## **Code Stroke (G-5)**

- 1) Patients that meet the code stroke protocol are as follows;
  - i) 18 years old or older
  - ii) Onset is less than 2.5 hours
  - a) If the patient meets the CODE STROKE criteria limit scene time to less than 15 minutes as TIME IS BRAIN
  - b) 3 hour window exists for reperfusion therapy
  - c) CODE STROKE is an emergent return
  - d) Patients need to be encouraged strongly to go to the stroke center at SRMC with sound rationale.
- 2) Complete the Miami Pre-hospital Stroke Exam and fill out questionnaire to give to EC staff
- 3) Transport a reliable witness along with patient and bring them into ER with patient

## **Code Trauma (G-6)**

### **(Category 1)**

**Based on Physiological indicators of Injury**

**This is an Emergent return**

GCS less or equal to 13

Systolic B/P of less than 90

Respiratory rate of less than 10 or greater than 28

Revised Trauma Score of less than 11

Penetrating injury to chest, abdomen, head, neck, groin, proximal to elbow or knee

Two or more proximal long bone fractures

Unstable pelvic fracture

Flail chest

Paralysis

Amputation proximal to wrist or ankle

Major Burns

Open or depressed skull fracture

Age greater than 70 with 1 or more category 2 criteria

Experienced EMT with a high index of suspicion of abdominal or thoracic injury

## **Trauma Alert (G-7)**

### **(Category 2)**

**Based on mechanism of Injury without category 1 signs or symptoms**

**This is an emergent/non-emergent return based on paramedic judgment**

Ejection from vehicle

Falls greater than 20 feet

Death in same passenger compartment

Extrication time of greater than 20 minutes

Rollover MVC

High speed MVC

Initial speed greater than 40 mph

Major auto deformity

Intrusion into passenger compartment of 12 inches or greater

Auto pedestrian/auto bicycle injury with greater than 5 mph impact

Pedestrian thrown or run over

ATV/Motorcycle crash greater than 20 mph or with separation of rider

## **SEMS Transport Policy (G-8)**

1. **Code Freeze** is a process that is in combination with SRMC and affects post arrest patients only. Any patient that has ROSC (return of spontaneous circulation) should be encouraged to be a part of this process. We should use solid rationale and encourage family members of the benefit of induced hypothermia. This process should not be initiated in the field unless the patient is transported to SRMC.
2. **Code Sepsis** is a recognition of signs and symptoms that would indicate a more rapid response of nursing and physician staff. Only SRMC is participating in the process. Patients that fit these criteria are not required but are encouraged strongly to be evaluated at SRMC EC.
3. **Code STEMI** patients should be strongly encouraged to be evaluated at SRMC EC as they are a part of our process to reduce door to drug or PCI times. These patients may also be seen at GMH as they too have a STEMI process. Either hospital should be advised of the impending arrival. When transporting to SRMC telemetry should be transmitted.
4. **Code Stroke** patients should be encouraged to be evaluated and treated at SRMC as it is currently the only certified Stroke Center in our area. Patients can choose to be transported to any facility within our jurisdiction however should be advised of the care that SRMC offers.
5. **Code Trauma** must be transported to SRMC or GMH as they are designated as the Level One Trauma Centers in our area.
6. **Trauma Alert** is a courtesy that is provided for SRMC staff. Patients that meet this criteria may choose to go elsewhere however when transported to SRMC a Trauma Alert should be requested.

**The patients listed below are patients that ABMH does not want to receive from EMS. Please contact your coordinator if question arises as whether or not to transport a patient that may fall into a gray area.**

### **Allen Bennett Emergency Department**

1. Severe head trauma or head trauma with loss of consciousness, altered mental status or abnormal neurological exam.
2. C-spine trauma with abnormal neurological examination.
3. Multi-system trauma with a RTS<12 or patients who have a significant mechanism of injury (i.e. fall from > 10 feet or ejected from a vehicle as the result of an MVA, especially pediatric or elderly patients.) Patients with a systolic blood pressure of <90 in the field or during transport.
4. Patients who are uncooperative or potentially violent with psychiatric illness.

5. Patients currently receiving dialysis with the chief complaint of chest pain, shortness of breath, nausea & vomiting or increasing edema.
6. New onset CVA within window for thrombolytic.
7. Acute MI with ST elevation or acute coronary syndrome.
8. Abdominal pain with significant hypotension.
9. Significantly ill pediatric patients that will probably be admitted.
10. Recent hospital and post-op discharges within seven days from another facility should return to original facility if possible.

### **Mary Black Memorial Hospital**

MBMH does not receive major trauma or cardiac. They also do not have psychiatric facilities to handle potentially violent patients. They do however agree that they will take anything we bring and make arrangement to transfer if necessary.

### **SRMC**

SEMS is an extension of SRMC emergency services. They accept all patient types and cannot divert Spartanburg EMS units. We will however accept requests to encourage patients to be treated elsewhere when census warrants.

### **Hospital Diversion Policy**

We will attempt to accommodate request to divert to another facility. We will however apply common sense and if situation warrants we will arrive at the closest facility and possibly help arrange for transfer when appropriate, i.e. Cardiac Arrest, Status seizure regardless of age, etc.

## **EKG - 12 LEAD (G-9)**

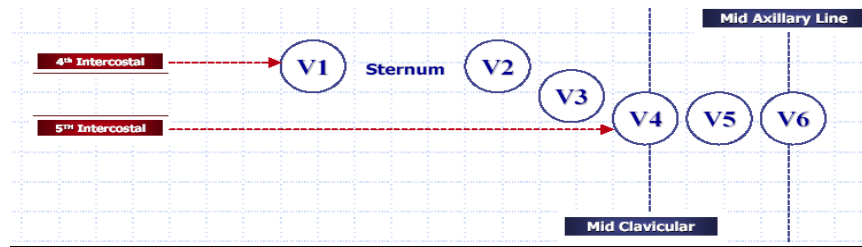
- 1) Introduction: 12-lead electrocardiograms (EKGs) are used with a variety of patients. Our goal is to incorporate the 12-lead EKG into our hospitals' decision making about the ST-elevation MI (STEMI) patient. The transmission or reporting of the ST-elevation MI should decrease "door-to-intervention" times in our communities' hospitals.

***Only ALS personnel who are employed by an agency with an approved 12-lead EKG program and who have received the required training may perform a 12-lead EKG.***

- 2) 12-lead EKGs can and should be used with a number of patient care policies; chest pain/MI CHF/pulmonary edema. Treatment under these policies should proceed in conjunction with the application of the 12-lead EKG.
- 3) Indications: Any patient with known or suspected Acute Coronary Syndrome (ACS). – examples: substernal pain , dyspnea, anxiety, discomfort or tightness radiating to the jaw, left shoulder or arm, syncope/dizziness, nausea, other "suspicious symptoms," diaphoresis, known treatment for ACS & stroke symptoms . 12 leads should also be performed on any symptomatic tachycardia or bradycardia. Keep in mind that AMI may present as back pain, painless unexplained shortness of breath, or any number of symptoms, be sure to apply sound paramedic judgment.
- 4) EKG criteria for STEMI: convex, "tombstone," or flat ST segment elevation in two or more contiguous leads.
  - a) Attach EKG leads to the patient (limb leads to the upper arms and ankles, and six chest leads).
- 5) Perform an EKG as indicated in #3 above.
  - V1: right 4th intercostal space
  - V2: left 4th intercostal space
  - V3: halfway between V2 and V4
  - V4: left 5th intercostal space, mid-clavicular line
  - V5: horizontal to V4, anterior axillary line
  - V6: horizontal to V5, mid-axillary line
  - V4R: right 5th intercostal space, mid-clavicular line (use in all suspected inferior MIs)
- 6) If the EKG shows, or is suspicious of, an ST elevation MI immediately notify the receiving hospital where you are transporting the patient (see C). Include the following information in your report:
  - a) Age and sex
  - b) Interpretation of the 12-lead EKG (leads, amount of ST elevation in millimeters, "confidence" in your 12-lead assessment)
  - c) Location of reciprocal changes (if applicable)
  - d) Symptoms (including presence or absence of chest pain)
  - e) Presence of new left bundle branch block, presence of imposters (early repolarization, left bundle branch block, left ventricular hypertrophy, pericarditis or paced rhythms), significant vital signs and physical findings

Transport patients with ST elevation in two or more contiguous leads to the closest PCI (angioplasty) facility – Spartanburg Regional Medical Center. All others, transport to the closest most appropriate receiving hospital. Attach a copy of the EKG to the hospital copy and the file copy of the PCR. Serial 12-lead EKGs, enroute, is encouraged.

**ONLY TRANSMIT 12-LEADS as follow  
ST elevation or depression, Brady/tachycardia with symptoms  
and irregular rhythms with symptoms**



## Rosetta Information

**\*\*\*\*The 12 lead has to have identifiers included to identify the telemetry in the EC\*\*\*\***

- 1) Assure the Rosetta is connected to the LIFE-PAK 12 at the beginning of the shift.
  - a) Rosetta should be connected at all times.
  - b) Be sure the grey Rosetta cable is plugged in to the monitor port on Rosetta. (Do not use the phone cable)
  - c) Check the 9V battery in the Rosetta by turning the unit on. The display light needs to be green. If it is yellow or orange when you first turn it on the battery should be replaced.
- 2) Obtaining a 12 lead.
  - a) Confirm proper lead placement and that you have a good baseline on your EKG
  - b) You can either send directly to the unit or pull from archived information.(see below)
  - c) The obtained 12 lead will automatically be sent to the Rosetta. This will remain stored if the 12 lead was obtained in the house for transmission from the EMS unit. If the base line is not good simply redo the 12 lead and it will replace the first one in the Rosetta unit.
  - d) Be sure some type identifier is attached prior to sending. (i.e. patient name & age)
  - e) ONLY TRANSMIT 12-LEADS with ST elevation or depression, brady/tachycardia with symptoms and irregular rhythms with symptoms
- 3) When ready to transmit, connect cable from rear of EMS unit (Action Area) to the Rosetta on the radio and phone port.
  - a) Be sure that the Rosetta has a solid green light prior to pushing the start button
  - b) The radio needs to be set to transmit from the back of the ambulance on channel EMSTEL.
  - c) Make sure the radio is not set to scan.
  - d) All that is required is to push start on the Rosetta.
- 4) You should hear the radio dial out and send a series of signals to the ED.
  - a) You should not hear a constant tone but instead an up and down series of tones.
- 5) Call to confirm SRMC has received this.
- 6) Note: Pulling from archived patients;
  - i) Turn LP12 on and press the options button
  - ii) Select achieves
  - iii) Select send data
  - iv) Select patient and then scroll to the appropriate patient
  - v) Select report and scroll to the report you wish to send (i.e. 12 lead 1)
  - vi) Once you have done this you should select send again and see the messages connecting and then shortly thereafter transmitting.
- 7) This is a very big deal for our hospital so we need to become immediately aware of any problems.

## STROKE ALERT/MEND EXAM PREHOSPITAL CHECKLIST

DATE & TIMES					
Date:	Dispatch Time:	EMS Arrival Time:	EMS Departure Time:	ED Arrival Time:	
BASIC DATA					
Patient Name	Age	Gender			
Witness Name	Witness Phone				
Chief Complaint	BP	L /	R /		
Last Time w/o Sxs	Glucose	Pulse	Resp		
HISTORY				YES	NO
Severe Headache					
Head Trauma at Onset					
EXAMINATION—PERFORM ON SCENE				✓ IF ABNORMAL	
Subarachnoid Hemorrhage?	Level of Consciousness (AVPU)				
	Neck Stiffness (cannot touch chin to chest)				
Cincinnati Prehospital Stroke Scale	Speech (repeat "You can't teach an old dog new tricks")				
	Facial Droop (show teeth or smile)				
	Arm Drift (close eyes and hold out both arms)				
STROKE ALERT CRITERIA				YES	NO
Time of onset < 5 hours?					
Any abnormal finding on examination?					
Deficit <u>not</u> likely due to head trauma?					
Blood glucose > 50? (if fingerstick possible)					
★★★ TRANSPORT ALL PATIENTS TO NEAREST APPROPRIATE "HOSPITAL" ★★★ IF YES TO ALL STROKE ALERT CRITERIA, CALL STROKE ALERT, TRANSPORT PATIENT URGENTLY					
DESTINATION HOSPITAL			HOSPITAL CONTACT		

PAST HISTORY / MEDICATIONS / ALLERGIES					
Past History	Recent → Surgery <input type="checkbox"/> Trauma <input type="checkbox"/> MI <input type="checkbox"/>		Medications		
Other:			Allergies		
MEND EXAM—PERFORM EN ROUTE IF TIME ALLOWS				✓ IF ABNORMAL	
MENTAL STATUS	Level of Consciousness (AVPU)				
	Speech (repeat "You can't teach an old dog new tricks")				
	Questions (age, month)				
	Commands (close, open eyes)				
CRANIAL NERVES	Facial Droop (show teeth or smile)			R	L
	Visual Fields (four quadrants)			R	L
	Horizontal Gaze (side to side)			R	L
LIMBS	Motor—Arm Drift (close eyes and hold out both arms)			R	L
	Motor—Leg Drift (open eyes and lift each leg separately)			R	L
	Sensory—Arm and Leg (close eyes and touch, pinch)			R	L
	Coordination—Arm and Leg (finger to nose, heel to shin)			R	L
MANAGEMENT REMINDERS					
Do <b>NOT</b> treat hypertension		Do <b>NOT</b> allow aspiration → keep NPO, head up, O <sub>2</sub> 2-4L		Do <b>NOT</b> give glucose → unless glucose < 50	
STROKE-SPECIFIC REPORT TO EMERGENCY DEPARTMENT					
BASIC DATA	SYMPTOM ONSET	SUPPLEMENTAL INFO	NEUROLOGIC EXAM		
<ul style="list-style-type: none"> <li>• Age</li> <li>• Gender</li> <li>• Chief Complaint</li> </ul>	<ul style="list-style-type: none"> <li>• Last time w/o Sxs</li> <li>• Head trauma</li> <li>• Severe headache</li> <li>• Seizure—staring or shaking</li> </ul>	<ul style="list-style-type: none"> <li>• Recent surgery, trauma, MI</li> <li>• Medications, Allergies</li> <li>• BP, Glucose</li> <li>• Witness name, contact info</li> </ul>	<ul style="list-style-type: none"> <li>• Consciousness</li> <li>• Speech / language</li> <li>• Visual fields</li> <li>• Motor strength</li> </ul>		

# STROKE/ACS SCREENING FORM

## FIBRINOLYTIC THERAPY ELIGIBILITY FORM

Please obtain the following from patients with signs/symptoms of a stroke/ACS

Name: \_\_\_\_\_ M/R Number: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Screening Criteria: Inclusion                  Exclusion  
 Response

		Yes	No
1. Last seen normal within <b>2</b> hours and <b>30</b> min	<b>Stroke</b>	Yes	No
2. Pain of probable cardiac origin lasting >20 min and < 12 hour	<b>ACS</b>	Yes	No
3. Oriented, can cooperate		Yes	No
4. 12-lead EKG performed and transmitted to ED		No	Yes
5. Measurable neurological deficit noted		No	Yes
6. Uncontrolled hypertension (BP>180/110)		No	Yes
6. Age > 18 years		No	Yes
7. Active internal bleeding		No	Yes
8. Bleeding/clotting problems, or on blood thinners (Coumadin, etc)		No	Yes
9. Seizure at the onset of stroke		No	Yes
10. Previous stroke, serious head trauma, or intracranial surgery in the past 3 months		No	Yes
11. Pregnant/Terminal illness		No	Yes
12. Blood glucose < 50 or > 400 mg/Dl		No	Yes

BP left arm \_\_\_\_/\_\_\_\_

BP right arm \_\_\_\_/\_\_\_\_

***Please advise OLMC of any answers that fall within possible exclusion for TPA as soon as possible***

Paramedic Signature \_\_\_\_\_



# Spartanburg EMS Dysphagia Screen

No PO medications will be administered to any patient who has not passed the Dysphagia Screen

Circle appropriate response for each category

<b>Hx of Aspiration</b>	No/Unknown	Yes
<b>Controls Secretions</b>	Normal	Abnormal/Suction
<b>Consciousness</b>	Alert	Lethargic/Obtunded
<b>Voice Quality</b>	Normal	Impaired wet/gurgle Slurred speech
<b>Swallow Commands</b>	Normal	Impaired
<b>Spontaneous Cough</b>	Strong	Weak/Absent
<b>Facial Weakness</b>	Normal	Flattened Nasolabial fold facial weakness/droop
<b>Foreign Body in airway Vomit, food. Tobacco</b>	Absent	Present
	If all criteria above is meet PO meds OK	If any criteria above is meet do not give PO meds

# Hospital Radio Report

Receiving facilities should receive a radio report from the patient care attendant for all patients who are transported or flown out by SEMS. Use the report format shown below. Primary communication should be via 800MHz, followed by 340 VHF and finally a land line. The preceding are recorded and monitored for your protection. Be brief and concise. **Provide vital signs on all patients.**

Include the following information:

If physician order anticipated request one to radio

Pt age and gender

Pt chief complaint pertinent signs and symptoms

If meets CODE parameters state which one and why

Vital signs

ETA to receiving hospital

Interventions performed thus far and how the patient has responded

Requested orders should be as specific as possible about what you are requesting

## Documenting Calls

All patients that we come in contact with that have a chief complaint or allow us to assess them will need patient care documentation. The most important call to be documented is the call where the patient does not wish to be transported. We should include all information obtained if it is nothing other than a visual assessment of LOC.

Airway calls must be documented thoroughly to include ETT verification method and by which personnel. The name and rank of the EC staff member that verifies ETT on arrival needs to be included in the comments section of the run report.

If we arrive on scene it is not a cancelled call. We can either document it as no treat no transport or a false call. Cancelled calls are those calls cancelled en route to the scene.

## South Carolina DNR Regulations

### Definitions

1. Cardiac Arrest means the cessation of a functional heartbeat.
2. Cardiopulmonary Resuscitation or CPR means the use of artificial respirations to support restoration of functional breathing combined with closed chest massage to support restoration of a functional heart beat following cardiac arrest.
3. Respiratory Arrest (Pulmonary Arrest) means cessation of functional breathing.
4. Do Not Resuscitate Order for Emergency Medical Services marker is a bracelet or necklace that is engraved with the patient's name, the health care provider's name and telephone number and the words "Do Not Resuscitate" or the letters DNR.

The EMS DNR Form. The document which is to be a "Do Not Resuscitate Order" for EMS purposes must be in substantially the following form:

1. Distribution of the EMS DNR Form. The EMS DNR form, along with instructions for execution and a patient information sheet shall be distributed by the Department to health care providers. Informational pamphlets shall be prepared by the department and made available to other interested parties upon request.
2. Location of the Executed EMS DNR Form. The executed EMS DNR Form shall be placed in a location where the document is easily observed and recognized by EMS personnel. The form shall be displayed in such a manner that it will be visible and protected at all times.
3. EMS DNR Marker. The DNR marker shall be a bracelet or necklace as approved by the department. The marker may be worn upon the execution of the EMS DNR Document. Wearing of the marker shall not be mandatory but is encouraged. The marker will alert EMS personnel of the probable existence of the EMS DNR document. The marker shall be of metallic construction and shall be unique and easily recognizable. The marker shall contain the patient's name, the health care provider's name and telephone number and the words "Do Not Resuscitate" or the letters DNR.

### Revocation of EMS DNR Order

The EMS DNR Order may be revoked at anytime by the oral expression of the patient to EMS personnel or by the mutilation, obliteration or destruction of the document in any manner. If the order is revoked, EMS personnel shall perform full resuscitation and treatment of the patient.

### Patient's Assessment and Intervention

When EMS Personnel report to a scene, they will perform a patient assessment. If an EMS DNR bracelet or necklace is found during the assessment, EMS personnel shall make a reasonable effort to determine that an EMS DNR form exists and to assure that the EMS DNR form applies to the person on which the assessment is being made. If no DNR form is found, resuscitative measure will be initiated. If after starting resuscitative measures an EMS DNR form is later found, resuscitative measures must be stopped.

### **Resuscitative Measures to be Withheld or Withdrawn**

In the event that the patient has a valid EMS DNR order, the following procedures shall be withheld or withdrawn:

- a. CPR
- b. Endotracheal intubation and other advanced airway management
- c. Artificial ventilation
- d. Defibrillation
- e. Cardiac resuscitation medication
- f. Cardiac diagnostic monitoring

### **Procedures to Provide Palliative Treatment**

The following treatment may be provided as appropriate to patients who have executed a valid EMS DNR order.

- a. Suction
- b. Oxygen
- c. Pain medication
- d. Non-cardiac resuscitation medication
- e. Assistance in the maintenance of an open airway as long as such assistance does not include intubation or advanced airway management
- f. Control of bleeding
- g. Comfort care
- h. Support to patient and family

### **Responsibilities of EMS Personnel:**

1. Will confirm the presence of the EMS DNR Form and the identity of the patient.
2. Upon finding an unaltered EMS DNR Form, will withhold or withdraw resuscitative measures such as CPR, endotracheal intubation or other advanced airway management, artificial ventilation, defibrillation, cardiac resuscitation medication and related procedures.
3. Will provide palliative and supportive treatment such as suctioning the airway, administration of oxygen, control of bleeding, provision of pain and non-cardiac medications, provide comfort care and provide emotional support for the patient and the patient's family.
4. Must have in his possession either the original or a copy of the DNR Order during transport of the patient.

# SEMS Death Policy

- 1) Natural deaths, i.e.: any death that is apparently from natural causes and does not require resuscitation.
  - a) Contact patient's private physician to ask if they will pronounce the patient and if they will sign the death certificate? If the patient's private physician agrees to the above, EMS will arrange for transport of the patient to the hospital desired by the physician or if the physician agrees, notify the funeral home that the family chooses for transport.
  - b) If the patient has no private physician, if the private physician cannot be contacted, or if the private physician is unwilling to pronounce and sign the death certificate, the coroner's office is to be contacted prior to the deceased being moved or transported.
- 2) Unnatural deaths, i.e.: any death by unnatural means or any death that is suspicious in cause.
  - i) Notify Coroner's office on all unnatural or suspicious deaths prior to moving the patient's body. Remain on scene until Coroner's Office representative arrives or contact can be made by phone however understanding that the unit is subject to call if needed.
- 3) EMS is to request transport for stand-by or to respond to the scene. If transport is asked to respond during normal business hours 8-1800 Monday through Friday transport communication will contact 911 communications with an ETA. On weekends or after hours transport crews themselves will call 911 communications with an ETA. If the ETA is over one hour the 911 dispatcher should contact Medic 7 for guidance.
- 4) SRHS transport crews do not enter vehicles or dangerous environments to extricate bodies. It is the responsibility of the EMS crew to facilitate this with fire service or other agencies.
- 5) The coroner's office does not assist with lifting patients or removing them from the scene.
- 6) Any DOA that is leaking excessive body fluid should be placed into a body bag.
- 7) We don't routinely use body bags to protect evidence etc unless provided by law enforcement.
- 8) Fill out the unattended death form on all DOAs.

# **EMT and Intermediate Standing Order Application**

EMT and Intermediate EMT personnel may apply the standing orders in the following manner.

EMT approved skills are as follows:

- 1) Patient assisted medications to include
  - a) NTG tabs one time with paramedic enroute
  - b) HHN or patient inhalers with paramedic enroute
  - c) AED usage when appropriate if trained with paramedic enroute
  - d) Epi auto injectors when appropriate for anaphylaxis
  - e) ASA is NOT an approved medication for EMTs
  
- 2) EMT administered medications to include
  - a) Oxygen
  - b) Activated Charcoal with online medical direction
  - c) Syrup of Ipecac with online medical direction
  - d) Instant oral glucose as trained
  
- 3) EMTs are allowed to perform the following advanced skills
  - a) IV maintenance to include adjusting flow rates as appropriate
  - b) Assessment of BGL using chem.-strip analysis

Intermediate EMT as follows;

- 1) All skills in the preceding section
- 2) Endotracheal Intubation with paramedic enroute
- 3) IV initiation and maintenance with paramedic enroute
  - a) IV initiation is allowed only with code trauma or impending medication administration.

IV insertion is not to be utilized prophylactic by intermediates

Intervention	EMT Basic	Intermediate	Paramedic
Airway Management			
Intubation	No	* Yes*	Yes
LMA	No	Yes	Yes
Sterile suctioning	No	Yes	Yes
RSI	No	No	Yes
Nasal Intubation	No	No	Yes
Medications			
All ALS Meds	No	No	Yes
Patient assisted Med	Yes	Yes	Yes
Morphine	No	No	Med Control
Oral Glucose	Yes	Yes	Yes
ASA Assisted	No	No	Yes
Assessment			
BGL assessment	Yes	Yes	Yes
Cardiac monitor	No	No	Yes
Interventions			
AED	Yes	Yes	Yes
Defib	No	No	Yes
Sync Cardio version	No	No	Yes
IV Access	No	*Yes*	Yes
IV maintenance	Yes	Yes	Yes
Alternate sites	No	No	Yes
I/O	No	No	Yes
Pleural decompress	No	No	Yes

**\* Intermediates can attempt intubation only once and the Paramedic must control airway.**

**\*\*If an advanced assessment or procedure is required by EMS the paramedic must ride and document the call. (IV, Pharmacological therapy, advanced monitoring equipment etc.)**

# **SEMS Flight Policy**

## **INITIATING EMS AIRCRAFT RESPONSE**

When considering air transportation, consider the following criteria;

1. Is patient transport time 25 minutes or greater by ground ambulance?
2. Can immediate transport be initiated by ground crew instead of waiting on the helicopter?
3. Is there enough manpower to handle patient care or is the helicopter faster?
4. Is the patient condition serious enough to warrant admission to the hospital?
5. Inaccessibility to the scene by ground personnel or equipment with a critical patient.
6. A multi-casualty incident exists with a need for increased resources.

## **COMMUNICATION**

- 1) Spartanburg Communications should be given the following information on all requests for an EMS Aircraft:
  - a) Number of Patients.
  - b) Type and extent of injuries.
  - c) Location of Landing Site (use Map coordinates or Longitude and Latitude, if possible).
  - d) Nearest landmarks (e.g., highways, railroad tracks, water towers).
  - e) Weather conditions, especially high winds, fog or visibility problems.
- 2) Spartanburg 911 shall keep responding/on scene ground personnel updated as to aircraft status (cancellation, delays, inability to respond, etc.).
- 3) The EMS crew should contact the receiving hospital as soon as possible with patient report.

**SAFETY/LANDING** - Safety rules at the scene include:

- (1) Landing Zone (L-Z):
  1. Minimum of 75' x 75' during daylight, 125' x 125' during night hours
  2. Clear of cross wires, debris, or other obstacles,
  3. Relatively flat.
- (2) Ground EMS personnel should coordinate with law enforcement or public safety agencies for road closures, if necessary.
- (3) The on-scene fire department and the EMS crew should determine the landing zone and assure scene safety during landing.
- (4) Before clearing EMS aircraft to land, the EMS crew should ensure that the helicopter will not block the transport of patients out of the scene by ground. If ground transport will be blocked EMS should make sure that ground units with critical patients have departed before clearing aircraft to land.
- (5) Ground personnel shall not approach the aircraft unless directed to do so and accompanied by the aircraft crew.

## **CANCELING EMS/AIRCRAFT RESPONSE**

- 1) EMS should only cancel an EMS aircraft response if we are on scene and aware of the patient's condition.
- 2) If the EMS aircraft arrive on scene prior to the ground ambulance, the responding ground ambulance shall not be canceled until the EMS aircraft has left the scene with the patient aboard.

## **PATIENT CARE RESPONSIBILITIES**

Our goal as EMS is for best patient care outcome. It is our responsibility to provide that care as long as we are at the patient's side. We are not to stop caring for the patient until he/she is loaded into the helicopter. RSI and other appropriate procedure should be continued by EMS until the patient is no longer on the ground. Keep in mind, the goal of aero-transport is to save time enroute to the hospital. In the pre-hospital setting the only advantage of aero transport is the time saved.

## **DOCUMENTATION/CHARGE**

Appropriate documentation must be completed on all patients transported by the EMS aircraft crew. Document interventions performed by assessment and treatment performed by our crews. If we load a patient into the unit and move to a separate landing zone there is a charge. If we do not move the patient we do not charge.

## Forced Entry Policy

If upon arrival at the scene, the crew cannot gain entry into the residence, and they are sure that they are at the correct location, the following steps should be taken:

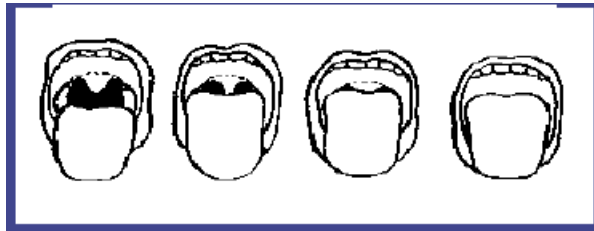
1. Immediately notify the on-duty EMS supervisor and inform them that you are unable to gain entry and may be forcing entry.
2. If the EMS crew can either see or hear the patient inside the residence, they should immediately force entry and attend to the patient.
3. If the EMS crew cannot see or hear a patient inside the residence, but the 9-1-1 dispatcher confirms that a patient was on the line and now the line is dead (the line is open, but the patient is not talking to the dispatcher or the patient has dropped the telephone), they should immediately force entry and attend to the patient.
4. If the crew cannot see or hear a patient inside the residence, and the call is confirmed with the 9-1-1 dispatcher as a third party call (Mobile Meals, family member, friend, etc.), the crew should not force entry. The crew should notify their on-duty supervisor and request further instructions. In addition, the crew should check with neighbors or others to try and determine if the patient is actually inside the residence.

In any case, it is not necessary for the EMS crew to routinely request law enforcement assistance, especially in situations #1 and #2. If the crew determines that the patient may have wandered off from the incident location (mental problems, etc.), they may want to request the appropriate law enforcement agency to respond. Make sure that the request through 9-1-1 is clearly worded as to what type of assistance is needed and what the dispatch priority should be.

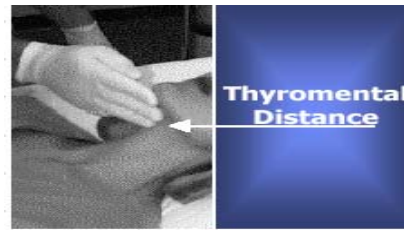
In any case where an EMS crew needs to force entry into a residence, the following procedures should be followed in addition to the steps above.

1. Always use the minimum force necessary to gain entry into the residence. Most of the time, this can be accomplished by breaking a pane of glass on a door and unlocking the door from the inside.
2. If the door is solid, then it is permissible to break a pane of glass on a window in order to gain entry to the residence.
3. Be sure to wear protective eyewear and protective gloves when breaking and removing glass.
4. Try to use a hand tool to break and remove glass. Do not use your hand.

5. Once the patient is treated and loaded, try to secure the residence as best as possible. Notify 9-1-1 Communications to make a note on the CAD system about the residence and if applicable, notify law enforcement. You may want to alert neighbors and/or family members to help secure the residence after EMS departure.
6. Explain to the patient and/or neighbors and family, why we had to force entry and exactly what was done (damage) to the residence.
7. A detailed Unusual Occurrence Report should be immediately prepared and given to the on-duty supervisor.
8. The on-duty supervisor may elect to go to the call location and make an additional report and photographs if there are any problems with the forced entry. Examples of this would be: Severe damage done to the residence, patient and/or family members are upset over the forced entry, or any other unusual circumstances.
9. The on-duty supervisor should prepare an additional supplemental report and forward a copy to the EMS Manager.
10. This procedure is designed to allow EMS crews to better understand the circumstances about forcing entry into residences while on calls. These procedures will also help to reduce liability for the EMS Department on forced entry calls.



I II III IV



## Pharmacologically Assisted Intubation

If the patient doesn't require paralysis then the following regimen may be used;

1. Administer **Versed 2-5 mg IV**; **1 mg** if systolic BP is less than 90 systolic
2. May also consider **Valium 5-10mg IV** or **Lorazepam 2-4mg IV**

Remember that this is for patients that do not require paralysis. This should not take the place of or supersede RSI.

## RAPID SEQUENCE INTUBATION

### Assessment

- 1) Perform patient assessment to determine need for RSI
- 2) All RSI patients must be an adult as defined by SC DHEC
- 3) The patient must present with one of the following:
  - a) Patients with acute or potential airway compromise due to altered sensorium
  - b) Patients whose combativeness or agitation threatens the airway, spinal cord stability and patient safety.
  - c) Patients who demonstrate a high probability of airway compromise for any reason.
  - d) Patients requiring ventilator assistance or airway protection.

## Interventions

### Only Paramedics who meet requirements may perform RSI

**Qualified paramedics must have been with SEMS for one year and a practicing paramedic for two years as well as having attended the SEMS RSI education presentation**

- 1) **Preoxygenate patient for 5 minutes** with 100% oxygen with nonrebreather mask or with 3 full deep breaths on 100% oxygen in an emergent situation. Prepare for suctioning.
- 2) **Three minutes prior to intubation:**
  - a) Administer **Etomidate 0.3mg/kg** IV or **option b**
  - b) Administer **Versed 2-5mg** IV administer; 1 mg if systolic BP is less than 90 systolic
  - c) Administer **Lidocaine 1.5 mg/kg** IV to head injury or stroke patients (No more than 50mg/min slow IV push)
- 3) **Two minutes prior to intubation:**
  - a) Administer **Atropine 0.02 mg/kg** IV (minimum dose of 0.15 mg and maximum of 1mg) to bradycardic patients. Note that any patient who receives a repeat dose of Succinylcholine must be administered **Atropine 0.01 mg/kg** IV (minimum dose of 0.15 mg and maximum of 1mg).
- 4) **One minute prior to intubation:**
  - a) Administer **Succinylcholine 1.5 mg/kg** IV to a max dose of 150mg. May repeat once if paralysis is not adequate for tube placement (Apply cricoid pressure upon administration of Succinylcholine and maintain until patient is intubated and tube secured and confirmed.) Avoid positive pressure ventilation unless SpO<sub>2</sub> < 90%.
- 5) Intubate: discontinue laryngoscopy and begin positive pressure ventilation with 100% oxygen if intubation not accomplished within 30 seconds, or SpO<sub>2</sub> drops below 91% and/or heart rate <60.
- 6) Confirm tube placement by visualizing the tube passing through the cords, auscultating breath sounds, chest wall rise with ventilation, absence of epigastric sounds, continuous end-tidal CO<sub>2</sub> detection and SpO<sub>2</sub> readings.
- 7) If intubation is unsuccessful, maintain cricoid pressure and provide positive pressure ventilation until paralytic wears off (3 to 12 minutes).
- 8) Common complications are as follows;
  - a) Unable to successfully intubate. Utilize an alternative airway such as the LMA and assist ventilations to maintain a good O<sub>2</sub> sat.
  - b) **Masseter muscle rigidity** is rare but if it occurs, administer **Norcuron 0.1mg/kg** and the **muscle spasm** should relax.

**Post Intubation Care**

- 1) Every patient that is intubated requires continuous EtCO2 monitoring.
- 2) If the intubated patient becomes combative prior to transport, or during long transport, follow guidelines below. This is for RSI or non RSI intubations.
- 3) Post intubation sedation will be primarily handled with **Versed**. Administer **2-5mg** IV push as long as B/P is above 90 systolic.
- 4) May also consider **Valium 5-10mg** IV or **Lorazepam 2-4mg** IV
- 5) For RSI patients only **request** Norcuron when there will be extended patient contact time. Neuro exam is not possible for prolonged period post Norcuron. The dose will be 0.1mg/kg

RSI Guide															
Pounds	80	90	100	120	140	160	180	200	220	240	260	280	300	350	400
Kg	35	40	45	55	65	75	80	90	100	110	120	130	135	160	180
<b>5 minutes Preoxygenate BVM or 100% oxygen</b>															
<b>Pre-sedation</b>															
<b>T 3 administer Etomidate 0.3mg/kg</b>															
mg	10.5	12	13.5	16.5	19.5	22.5	24	27	30	33	36	39	40.5	48	54
cc	5.25	6	6.75	8.25	9.75	11.3	12	13.5	15	16.5	18	19.5	20.3	24	27
<b>or Versed 2-5mg</b>															
<b>Situational Medications</b>															
<b>Lidocaine 1.5mg/kg for patients with increased ICP</b>															
mg	52.5	60	67.5	82.5	97.5	113	120	135	150	165	180	195	203	240	270
cc	2.63	3	3.38	4.13	4.88	5.63	6	6.75	7.5	8.25	9.0	9.75	10.15	12.0	13.5
<b>T2 Atropine 0.02mg/kg for bradycardia or Succinylcholine repeat (0.01mg/kg) max 1mg</b>															
mg	0.7	0.8	0.9	1	1	1	1	1	1	1	1	1	1	1	1
cc	7	8	9	10	10	10	10	10	10	10	10	10	10	10	10
<b>T 1 Initial Paralysis Succinylcholine 1.5mg/kg</b>															
mg	52.5	60	67.5	82.5	97.5	113	120	135	150	150	150	150	150	150	150
cc	2.63	3	3.38	4.13	4.88	5.63	6	6.75	7.5	7.5	7.5	7.5	7.5	7.5	7.5
<b>Long Acting Paralysis (if needed)***Contact Medical Control****</b>															
<b>Vecuronium (Norcuron) 0.1mg/kg</b>															
mg	3.5	4	4.5	5.5	6.5	7.5	8	9	10	11	12	13	13.5	16	18
cc	3.5	4	4.5	5.5	6.5	7.5	8	9	10	11	12	13	13.5	16	18

# CPAP

## Indications:

Hypoxia with severe respiratory distress secondary to:

- CHF and Acute Cardiogenic Pulmonary Edema
- Pneumonia
- Chronic Obstructive Pulmonary Disease
- Asthma, Bronchitis, Emphysema

## Contraindications:

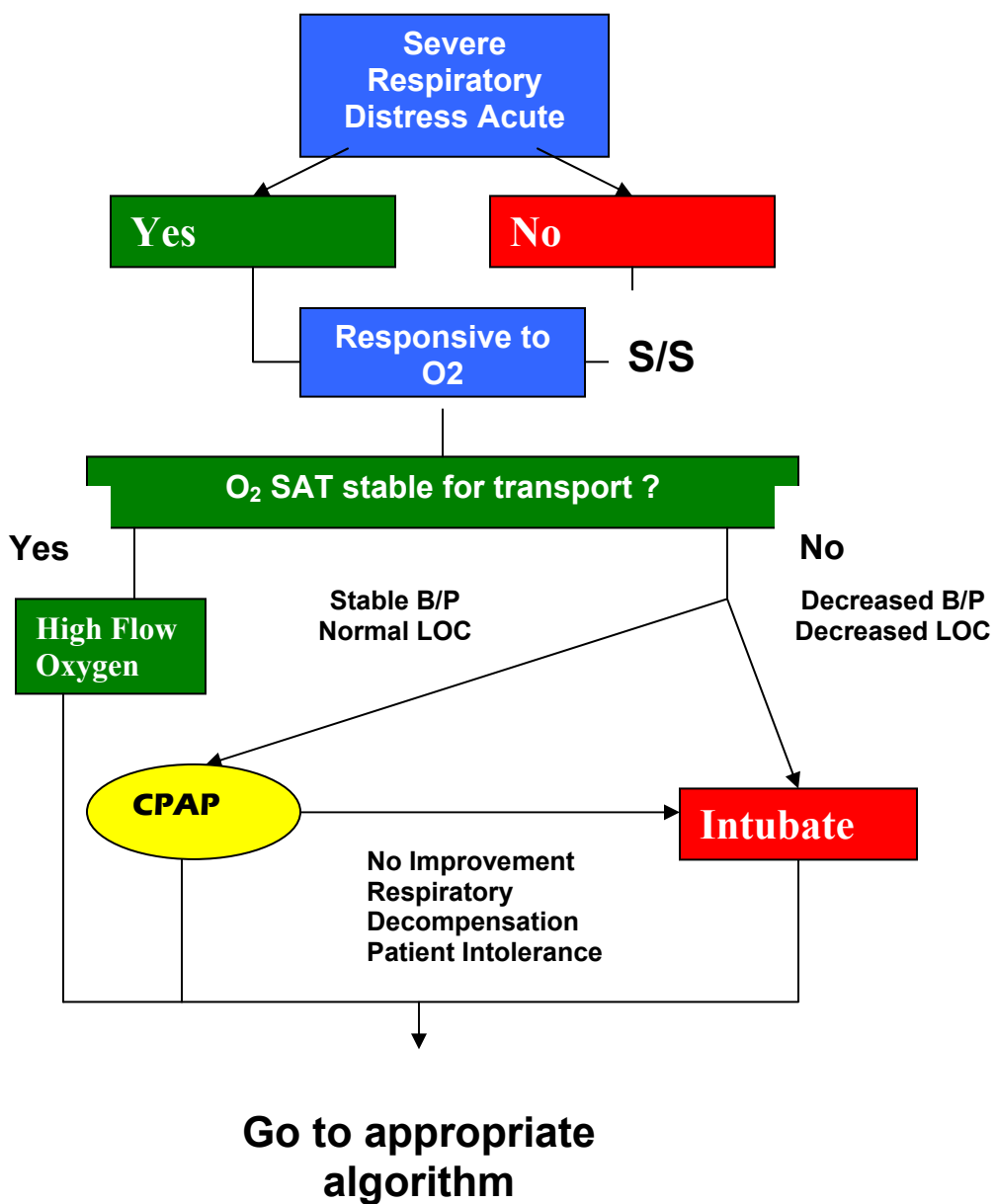
- Respiratory Arrest
- Agonal Respirations
- Unconscious
- Shock associated with cardiac insufficiency
- Pneumothorax
- Penetrating chest trauma
- Persistent nausea/vomiting
- Anything that prevents obtaining a good mask seal (i.e., facial morphologies)

## Inclusion Criteria

- Adult as defined by SC DHEC
- Severe respiratory distress
- O<sub>2</sub> sat < 92% despite 15L/min via NRB mask
- Patient is hemodynamically stable
- Patient is alert and cooperative
- Patient is able to maintain their own airway

## Procedure:

1. Assess Vital Signs
2. O<sub>2</sub>, IV and cardiac monitor
3. If BP >100 systolic consider CPAP
4. Verbally instruct patient.
  - i. Inform patient about CPAP and how they can help
  - ii. Start CPAP at ambient pressure ('0' cmH<sub>2</sub>O).
  - iii. Instruct patient to breath in through their nose slowly and exhale through their mouth as long as possible (count slowly and aloud to four, then instruct to inhale slowly).
  - iv. Explain to the patient that you will begin to slowly increase the pressure and to continue exhaling out against the pressure as long as possible before inhaling.
  - v. Titrate the pressure to patient slowly (5-10cmH<sub>2</sub>O)
    - a. Minimum of 5 cmH<sub>2</sub>O
    - b. Maximum of 10 cmH<sub>2</sub>O
5. Treatment should be given continuously throughout transport to ED.
6. Notify the EC that we are requesting respiratory be awaiting our arrival
7. Reevaluate frequently.
8. In the event of life-threatening complications:
  - i. Stop treatment
  - ii. Default to appropriate algorithm



# Spartanburg EMS Patient Restraint Policy

If a patient is deemed to be incapable of making sound decisions and is either a liability to themselves or others the options are as follows;

- 1) Contact medical control to explain the situation and request the authority to medically override the patient and take them into protective custody of SRHS. This decision does not need to be taken lightly. The patient either needs to have expressed intention of harming themselves or others and/or is incapable of making an informed decision about patient care. Understand that a competent person has the ability to refuse care even though we may not agree with their decision. If law enforcement places a person in protective custody it becomes their responsibility to maintain control of the patient and we will assist as necessary. If handcuffs are in place an officer will be required to accompany EMS physically in the unit.
- 2) Once the decision has been made to restrain a patient we have two methods we can utilize. Physical restraint will almost always be involved and be first. Understanding that once we receive the order to restrain the patient it is our responsibility to do so and not law enforcement. We should request assistance from dispatch including law enforcement to ensure our safety and for the intimidation factor. However, other EMS crews or first response agency will be responsible for patient take down. Follow these guidelines:
  - a) The crew should explain the situation one last time to give the patient an opportunity to comply
  - b) Use only the amount of force necessary to subdue patient
  - c) Ideally restrain patients using the Reeve Sleeve or some similar method. Allowing access to patient as required
  - d) Be sure the method utilized does not inhibit respiration/ventilation or circulation to any part of the body
  - e) Once physical restraints are applied they should not be removed until the patient is safely delivered to the hospital
- 3) Once the patient is physically restrained consider chemical restraint as follows;
  - a) Perform medical assessment to be sure the problem is not reversible (diabetic, etc.)
  - b) Establish base set of vital signs
  - c) Establish IV access if safe to do so.
  - d) Administer **Versed 2.5mg** IV push
    - i) Patient B/P must be greater than 90 systolic
  - e) If no IV access obtainable consider giving **Versed 2-5mg** IM or **Lorazepam 2-4mg IM**
    - i) Patient B/P must be greater than 90 systolic
    - ii) IV is preferable in case fluid bolus is needed to support B/P
  - f) Can consider **Lorazepam 2-4mg** IV over 2 minutes (2mg/min)
    - i) Can repeat the initial dose up to 4mg cumulative dose
    - ii) Patient B/P must be greater than 90 systolic

## START Triage Procedure

1. Ask all who can **WALK** to move to a designated and supervised area. These victims will be initially triaged **MINOR (GREEN)**. Crew may use ambulance PA system to give instructions to patients.
2. Begin triage where you stand and move orderly through the remaining victims, quickly assessing and marking the victims with surveyor tape. Simply wrap tape around extremity (wrist or ankle) and tie a knot.

### START Triage Procedure

a) **Respiratory Compromise**

- |                               |   |
|-------------------------------|---|
| i) 1) Not Breathing           | <b>Deceased (Black)</b>                               |
| ii) 2) > 30 Breaths / Minute  | <b>Immediate (Red)</b>                                |
| iii) 3) < 30 Breaths / Minute | <b>Not Triaged or Taped - Move to next Assessment</b> |

b) **Perfusion Compromise**

c) Check Patient's Radial Pulse or Capillary Refill

- |  |   |
|--|---|
| i) Absent Radial Pulse Or Capillary Refill > 2 Seconds   | <b>Immediate (Red)</b>                              |
| ii) Present Radial Pulse Or Capillary Refill < 2 Seconds | <b>Not Triaged or Taped Move To Next Assessment</b> |

d) **Mentation / Central Nervous System Compromise**

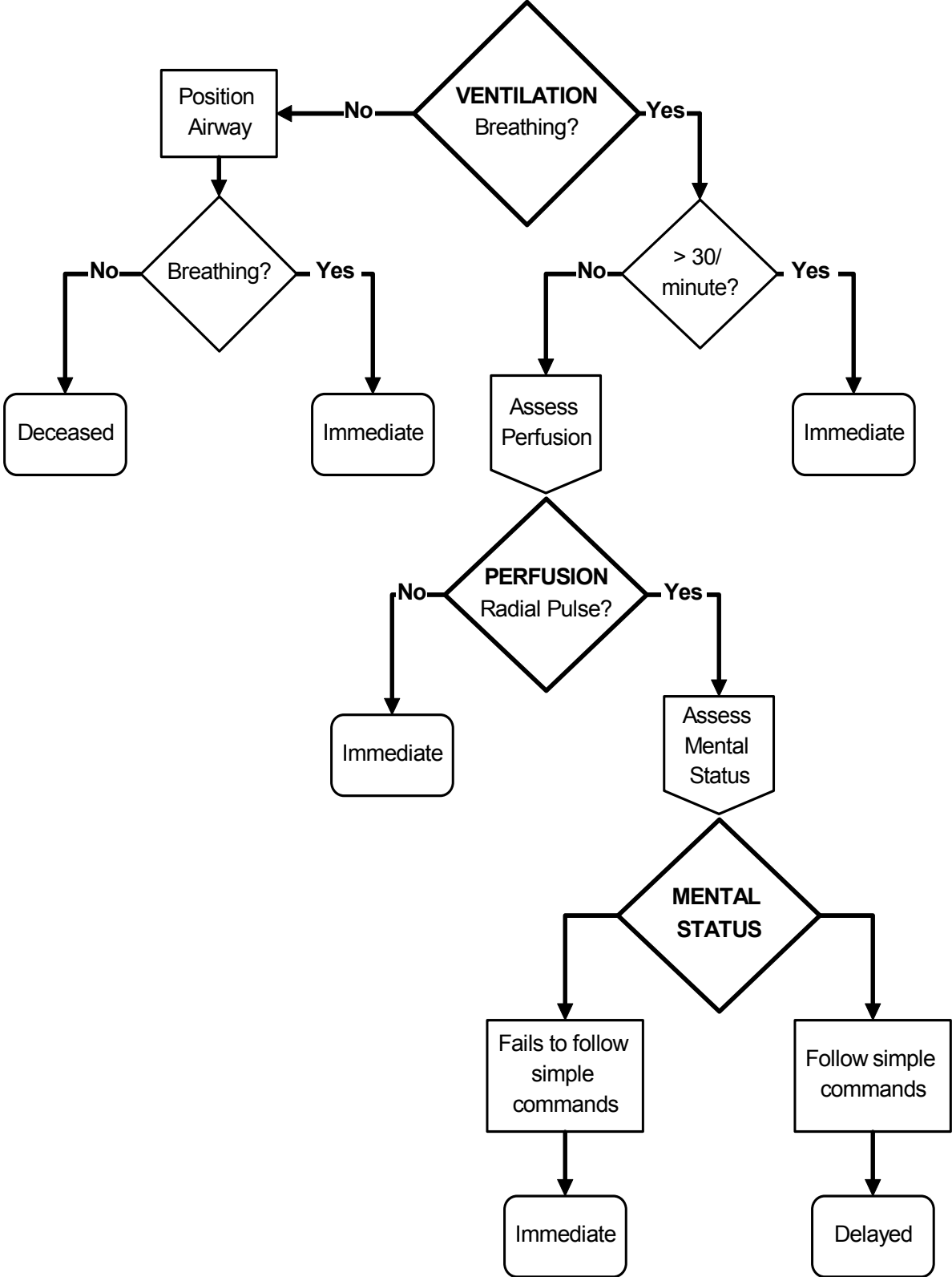
- |                                   |                         |
|-----------------------------------|-------------------------|
| i) Altered Level of Consciousness | <b>Immediate (Red)</b>  |
| ii) Does Not Follow Commands      | <b>Immediate (Red)</b>  |
| iii) Follows Commands             | <b>Delayed (Yellow)</b> |

e) **Acceptable Rapid Treatments during START Triage**

- i) Open Airway
- ii) Control Severe External Bleeding



# START TRIAGE CATEGORIES



## INTRAOSSSEOUS PROTOCOL

**Paramedics may utilize whichever devices that we as a service employ as long as they have had documented training on the specific device in question.**

The patient should meet the following criteria;

1. Be unstable requiring immediate vascular access
2. The paramedic has briefly searched for venous access
3. IO should not be established for TKO lines. We should anticipate using it for medication administration.
4. Our current site for all devices that we utilize is the medial aspect of the superior tibia.
5. For EZ IO the patient
  - a. Pink needle for pediatric 3-39kg
  - b. Blue needle is above 40kg

Contraindications to IO placement;

1. Fracture of the tibia or femur (use other leg)
2. Preexisting orthopedic injury or IO in the same site in last 24 hours.
3. Tumor near site or peripheral vascular disease
4. Infection at insertion site
5. Inability to locate landmarks; edema, or excessive tissue at site

Special considerations:

Drill should be checked each day. It is not necessary to remove battery cap if drill is operating properly

If inserting the needle into patient and the drill seems to drag or not spin don't push so hard on drill and allow the rotation to do the work. It is often believed the batteries are dead when actually too much pressure is being applied to advance the drill.



**Allow the driver to do the work!**  
**DO NOT PUSH – instead - Gently Guide!**  
**Carefully feel for the “give” indicating penetration into the medullary space!**  
**STOP - WHEN YOU FEEL THE “POP”**

# SEMS PPE

- 1) EMS employees and students in our care should at all times apply good sound judgment with proper training to adhere to the following policy.
  - a) Gloves should be worn to prevent contact with patient body fluid
    - i) Remember that gloves should be placed on once at patient side ideally. Each time the glove comes into contact with a rough surface it degrades the material and creates pin holes.
  - b) Mask and eye protection should be worn when there is a possibility of droplet generation, i.e. ETT, OB delivery etc.
  - c) Gowns should be worn when there is a potential to generate a lot of body fluid such as an impending delivery.
  - d) All sharps should be disposed of in the appropriate container as soon as possible.
  - e) Proper cleaning and disposal of solid equipment and supplies should occur as soon as possible following the call to get the unit into a high state of readiness.
  - f) Crews should wash hands often before and after patient contact