EMS FOR SPECIAL EVENTS

PURPOSE

To establish minimum standards for emergency medical services at special events.

AUTHORITY

California Health and Safety Code, Sections 1797.202, 1797.204, 1797.220, 1798
California Code of Regulation, Title 22, Sections 100063, 100144, 100167(a), 100169

DEFINITIONS

1. "Special Event" is a planned gathering of performers, vendors, participants, or spectators requiring on-site emergency medical resources (see Appendix A).
2. "Special Event Medical Plan" is a document and supporting materials submitted in advance to the EMS Agency for review and approval.
3. "Special Event Communications Plan" is a written document submitted with the Medical Plan that documents methods and types of routine and emergency communications.

POLICY

A. The following shall be submitted for review by the EMS Agency no later than 30 days in advance of the event. Plans shall meet the minimum standards for the size and type of event, as defined in Appendix A.

B. Special Event Medical Plan is required for all special events and shall include, but not be limited to, the following:
   1. Event description, including event name, location and expected attendance.
   2. Participant safety (the safety plan for event participants and spectators)
   3. Non-participant safety (the safety plan for individuals not participating in, but affected by the event such as neighboring local residents and on-lookers)
   4. Descriptions of the following medical resources:
      a. Personnel certified in cardio-pulmonary resuscitation
      b. Rapid access to automatic external defibrillator(s), and 911 access;
      c. First aid station/s if indicated; see Appendix A;
      d. Standby ambulance/s if indicated; see Appendix A;
      e. Mobile medical resource/s if indicated; see Appendix A.
      f. Standby MCI trailer ?
      g. Medical transportation plan with 911 Paramedic Service Area Provider.

C. Special Event Communications Plan is required for all special events subject to this policy and shall include: name(s) and contact information for the event leader and a point of contact on the day of the event, a description of direct routine communications, and a description of disaster communications if cell phones are not available (e.g. two-way radios). A description of communications between the following shall be included:

1. Venue staff and/or security personnel, event coordinator, and event medical personnel;
2. Event medical personnel located at a first aid station and mobile resources and/or satellite stations;
3. Event medical personnel and the Sheriff's 911 Dispatch Center;
4. Event medical personnel and standby ambulances as applicable.

D. Medical Disaster Plan describing the ability to care for a minimum of 50 event attendees and staff as casualties. The plan must include training of all event medical personnel in the disaster plan, the START disaster triage system, and all appropriate necessary equipment. This may be done at any time prior to the start of the event.

EMT SERVICES AT SPECIAL EVENTS

A. On-site medical personnel shall be minimally certified as an EMT-1 in California and equipped to provide the complete EMT-1 Scope of Practice as defined in California Code of Regulations, Title 22, Section 100163. They shall follow Marin County EMS Agency Policies and Protocols.

B. Paramedics equipped and used to provide Basic Life Support need only be licensed by the State of California

PARAMEDIC SERVICES AT SPECIAL EVENTS

A. Paramedics deployed as part of a Special Event Medical Plan shall be:
   1. Licensed in the State of California;
   2. Accredited in Marin;
   3. On-duty with an approved Paramedic Service Provider for the duration of the event for which they are deployed; and
   4. Equipped to provide Advanced Life Support care.

B. Paramedics shall follow Marin County EMS Agency Policies and Protocols. An on-scene physician may provide medical direction only as allowed in EMS Agency Policy #xxxx *Physician on Scene*.

AMBULANCE SERVICES AT SPECIAL EVENTS

Ambulances deployed as part of the approved Special Event Medical Plan shall be permitted for operation in Marin by the EMS Agency. Transport of patients from the event may only be done with prior permission of the authorized Paramedic Service Area provider, otherwise any patients requiring transport shall be the responsibility of the Service Area provider.

AUTOMATIC EXTERNAL DEFIBRILLATORS

Automatic External Defibrillators (AEDs) should be made accessible to medical personnel and non-medical personnel trained in its use and located throughout the venue in location(s) that will enable the first shock to a person in cardiac arrest within 5 minutes of notification of qualified personnel.

PROCEDURES FOR SUBMITTING SPECIAL EVENT MEDICAL PLANS

A. Special Event Medical Plans shall be submitted following guidelines posted on the Marin County EMS Agency website.

B. The EMS Agency Medical Director or designee shall review the Special Event Medical Plan within 15 days and respond to both the event sponsor or coordinator as follows:
   1. Approved without modification.
   2. Approval pending submission of additional information specified by the reviewer.
   3. Not Approved.

C. The EMS Agency has the final authority in determining the applicability of any standard and what shall be considered an adequate Special Event Medical Plan.

D. Plans not approved will be returned to the event sponsor or coordinator with an explanation of the decision.

E. The event sponsor may appeal the decision by resubmitting the plan to the EMS Agency Administrator. A review will occur within 5 days of receipt. The EMS Agency Administrator's decision shall be delivered to the event sponsor or coordinator within 5 business days of the review.

PROCEDURES FOR SUBMITTING POST-EVENT MEDICAL TREATMENT REPORTS

The event sponsor will submit an Event Medical Treatment Report, within two weeks of the conclusion of the event, to the EMS Agency. The report will provide a summary of the medical incidents during the event that involved the EMS plan medical resources. This summary will include at a minimum the number of patients seen at the first aid station(s) or other facilities, their age, gender, chief complaint, and disposition.

APPENDIX A

Guidelines for Minimum Medical Resources at Special Events

Event Type	Estimated Size	AED	First Aid Station w/ EMT-1 [1]	First Aid Station w/ EMT-P	Water-based ALS	ALS Ambulance [3]	Mobile Resources [3]
Concert/ Music/Art Festival	500-2500	Required	Recommended				
	2500-15,000	Required	Required	Recommended			
	15,000-50,000	Required		Required		ALS Required	Required
Athletic/Sporting Event [2]	500-2500	Required	Recommended	Recommended			
	2500-15,000	Required		Required		ALS Required	ALS Required
	15,000-50,000	Required				ALS Required	Required
Parade [2]/Block Party/Street Fair	500-2500	Required	Recommended				
	2500-15,000	Required	Required	Required		ALS Required	Required
	15,000-50,000	Required		Required		ALS Required	Required
Conference or Convention	500-2500	Required	Recommended	Recommended			
	2500-15,000	Required	Required	Recommended		ALS Required	Recommended
	15,000-50,000	Required		Required		ALS Required	Required
Water-based Event	50-100	Recommended	Required		Required	Required	Required
	100-300	Recommended		Recommended	Required	Required	Required
	300-1000	Required		Recommended	Required	Required	Required
	>1000	Required			Required	Required	Required

NOTES:

[1] AED required for all events with estimated size >500.
[2] More than one first aid station recommended for parades/sporting events taking place over 1 mile or more.
[3] Multiple standby ambulances may be required depending on event history and size. Recommend 1 unit per 10,000 participants or spectators.

DRUG SECURITY POLICY

PURPOSE

To establish guidelines for controlled substances carried on ALS and CCT units.

POLICY

A. Medications carried on ALS and CCT units must comply with the County approved drug list (See Policy # 5002, Appendix B).

B. Controlled substance inventory checks must be done daily and permanent record of this count kept on file by the provider.

   1. Two signatures are required to confirm accuracy of inventory.
   2. Any discrepancy must be reported to the Provider Medical Director for further investigation and an EMS Event form shall be completed and forwarded to the EMS Agency.

C. Controlled substances must be kept secure by the following means:

   1. Must be kept in a double-locked system when not in use.
   2. When stored in the ALS or CCT unit, must be kept in a locked cabinet/compartment.
   3. Shall be attended at all times by an authorized crew member when in use.

D. If the unit is out of service, all controlled substances must be removed and secured.

E. Security of and access to controlled medications must be consistent with current applicable laws and regulations.

ALS NONTRANSPORT SUPPLY/EQUIPMENT REQUIREMENTS

PURPOSE

To establish minimum requirements for supplies and equipment to be maintained by ALS staffed non-transport vehicles.

DEFINITION

A. For the purposes of this policy, “ALS staffed non-transport vehicle” shall be defined as follows:

1. Vehicle must be owned and maintained by an approved provider agency
2. Vehicle must have the capability to respond Code 3
3. Vehicle must be staffed by an on-duty paramedic employed by an approved provider agency.
4. Vehicle must be responding to an incident in conjunction with an ALS transport vehicle.

POLICY

A. Vehicle must carry equipment to enable communication with the County Communications Center, the appropriate receiving hospital, and the transport unit reasonably expected to arrive on-scene.

B. ALS non-transport vehicles must reasonably expect to

1. Carry or have immediate access to supplies and equipment as listed in Policy 5010.
2. Have access to an ALS transport vehicle within 20 minutes.

C. If an ALS vehicle cannot reasonably expect to meet the criteria listed, they must carry a full complement of ALS equipment and supplies as listed in Policy 5010.

ALS FIRST RESPONDER

PURPOSE

To define the role and function of the ALS First Responder within the Marin County EMS system.

DEFINITION

A. The ALS First Responder is a licensed paramedic, accredited in Marin County and working for an ALS provider. This policy is applicable only when the paramedic is not staffing an ALS transport unit and is assigned to a first response vehicle.

B. First Response vehicle refers to a fire department vehicle dispatched by an official dispatching agency in response to a request for medical assistance.

ROLE

To augment the currently operating ALS system by initiating defined ALS skills prior to the arrival of the ALS transport unit.

POLICY

A. The ALS First Responder will carry the ALS equipment as listed in Policy 5010 (ALS First Responder level).

B. The ALS First Responder will comply with all Marin County ALS Treatment Guidelines and all pertinent EMS policies and procedures. If ALS skills are initiated prior to arrival of the ALS transport unit, the name of the ALS First Responder will be documented on the PCR as defined in the Prehospital Patient Care Record policy #7006.

CRITICAL CARE TRANSPORT DRUG, SOLUTION, AND EQUIPMENT LIST

IN ADDITION TO ITEMS LISTED IN POLICY 5010 (ALS TRANSPORT), UNITS STAFFED TO PERFORM CRITICAL CARE TRANSPORTS MUST INCLUDE THE FOLLOWING:

A. A minimum of two personnel, appropriate to individual patient care needs (refer to Interfacility Transfer policy # 8107) must be available to attend the patient.

B. All transports must occur in accordance with federal and local laws, including the Consolidated Omnibus Budget Reconciliation Act (COBRA) and its amendments (OBRA).

C. Communication equipment must be present that will allow contact between the transporting vehicle and the transferring and receiving hospitals.

D. The equipment and medications listed in #5011a recommended by the Guidelines Committee of the American College of Critical Care Medicine; the Society of Critical Care Medicine and American Association of Critical Care Nurses Transfer Guidelines Task Force and is recommended for use in Marin County.

E. Upon written request from a provider medical director, exceptions to the recommended equipment and medications may be made by the EMS Agency Medical Director.

   Equipment and medications shall be additionally tailored to meet all anticipated needs of the individual patient being transported.

CRITICAL CARE TRANSPORT DRUG, SOLUTION AND EQUIPMENT LIST

The following items are required in addition to the BLS/ALS equipment. On a case by case basis, upon written request from a provider medical director, an exception may be made to a requirement by the EMS Agency Medical Director.

Description of Item	On Unit
Airway equipment :	
50 ml flex tube with patient adapter	
Infant med. Concentration mask with tubing	
Booted hemostat	
Heimlich valve	
Scalpel with blade for cricothyrotomy	
Positive end-expiratory pressure valve (PEEP)	
Pressure gauge with airway adapter tubing and test lung	
IV Administration sets:	
3-way stopcocks with extensions	
Pedi-drip sets	
Blood tubing	
IV catheters up to 24 gauge	
Butterfly needles or IV Catheters, pediatric sizes	
Irrigating syringes	
Infusion pumps	
Arterial line tubing and monitoring equipment	
IV Solutions:	
1000 Lactated Ringers solution	
250 cc D5/W	
Equipment:	
Arm boards	
Pulse Oximiter	
Salem sump nasogastric tubes, assorted sizes	
External pacing	
Infant, pediatric electrodes	
Transport ventilator	
Neonatal isolette	
Medications:	
Dexamethasone	
Diazepam	
Digoxin	
Heparin	
Lopressor	
Mannitol	
Magnesium	
Nitroglycerin for IV use	
Nitroprusside	
Phenytoin	
Procainamide	
Solumedrol	
Verapamil	

EMS AIRCRAFT

PURPOSE

To provide policy for integrating dispatch and utilization of aircraft into the Marin County EMS system as a specialized resource for prehospital response, transport, and care of patients. Aircraft utilization provides a valuable adjunct to the Marin County EMS System by minimizing the time to definitive care in prescribed circumstances.

RELATED POLICIES

Emergency Medical Dispatch Policy, #4200; Trauma Triage and Destination Guideline Policy, #4613; Prehospital/Hospital Contact Policy, # 7001

AUTHORITY

California Administrative Code, Title 22, Divisions 2.5 and 9.

APPLICABILITY

All aircraft providing prehospital patient transport within the Marin County EMS System must be authorized by the EMS agency in their county of origin, or by the EMS Authority, or by a United States Government agency.

POLICY

A. The patient's condition, available ground resources, incident location in relation to receiving facility and call circumstances will be evaluated by caregivers in the field to determine if air transport is appropriate.

B. The type of aircraft to be requested will be determined by the Incident Commander and/or the County Communications Center based on provider availability, response time criteria and nature of the service needed. See Appendix A.

PROCEDURE FOR AIRCRAFT DISPATCH

A. Aircraft will be dispatched simultaneously with ground units for specific circumstances as follows:

   1. Area of the call is inaccessible to ground unit(s) or ground access is compromised;
   2. Air assistance may be needed with rescue activities; or
   3. Ground transport time to the hospital is > 30 minutes and the applicable Emergency Medical Dispatch Protocol (policy #4200, Appendix A) recommends simultaneous dispatch.
   4. Reported traumatic injury and Level III Trauma Center is on trauma diversion.

B. Aircraft Dispatch may also occur in the following manner:

   1. Upon request of the responding unit while en route to the scene.
   2. Upon request of onscene personnel following patient assessment.

PROCEDURE FOR AIRCRAFT USE

A. Consider use of an EMS aircraft where:

   1. A patient meets Trauma Triage Tool anatomic or physiologic criteria and the time closest facility is a Level II Trauma Center.
   2. Ground transport time is greater than 30 minutes.

B. Procedural Considerations

1. EMS aircraft should not transport patients in cardiac arrest. Aircraft crew shall have discretion to transport patients receiving CPR in certain situations (refractory VF, unsafe scene conditions, hypothermia, etc.).
2. Marin County Communications Center will notify law enforcement and fire agencies with jurisdiction over the landing zone.
3. The EMS aircraft may be canceled by the on-scene Incident Commander.

C. Medical control

1. Treatment decisions will be made according to medical control policies and procedures governing the provider agency having responsibility for care.

GENERAL AND RELATED PROCEDURES

A. Marin County personnel may accompany a patient in an EMS aircraft during transport if all of the following conditions are met:

1. Personnel have been providing care for the patient prior to arrival of the aircraft;
2. Aircraft pilot and crew request that personnel accompany the patient during transport to assist with care.

B. Patient care records will be kept as follows:

1. Marin County personnel will complete a Marin County Patient Care Record as per policy/procedure, and when known, forward it to the receiving hospital.
2. EMS aircraft crew will complete a patient care record as required by policy/procedure within their county of origin, and forward a copy to Marin County EMS Agency.

C. The following times, when available, will be relayed to and recorded by Marin County Communications Center:

1. ETA at time of original dispatch request
2. When airborne, en route to scene
3. Arrival at scene
4. Departure from scene
5. Destination hospital
6. Arrival at receiving hospital

D. As part of the Quality Improvement Program, the EMS Agency will review all aircraft dispatches.

E. Aircraft may be utilized by acute care hospitals for interfacility transfers.

1. Hospitals will contact EMS aircraft providers directly.
2. The hospital requesting an EMS aircraft will notify the Marin County Communications Center of aircraft activity so fire and law enforcement agencies can be notified of the probable aircraft landing site.
3. Hospitals shall notify the Marin County EMS Agency of interfacility transfers by EMS aircraft on an annual basis.

APPENDIX A

PROVIDER LIST AND CLASSIFICATION DEFINITIONS

Provider Name	Classification	Function	Staffing	Location
Stanford University Hospital Helicopter **(LIFEFLIGHT)**	Air Ambulance	Medical	Pilot Flight Nurses (2)	Palo Alto
California Shock/Trauma Air Rescue **(CALSTAR)**	Air Ambulance	Medical	Pilot Critical Care Nurses (2)	Concord
Redwood Empire Air care Helicopter **(REACH)**	Air Ambulance	Medical	Pilot Critical Care Nurse/EMT-P	Santa Rosa and Concord
Sonoma County Sheriff's Department helicopter **(Henry 1)**	ALS Rescue	Law, Medical, Long-line rescue	Pilot Paramedic EMT-I	Santa Rosa
California Highway Patrol Helicopter **(H-30)**	ALS Rescue	Law, Medical	Pilot Paramedic	Napa
U.S. Coast Guard Helicopter	Auxiliary	Water rescue, Long-line rescue	2 Pilots Crew includes 1 EMT-I rescue swimmer	San Francisco Airport

CLASSIFICATION DEFINITIONS

A. “Air Ambulance” means any aircraft specifically constructed, modified, or equipped and used for the primary purpose of responding to emergency calls and transporting critically ill or injured patients whose medical flight crew has at a minimum two attendants certified or licensed in advanced life support.

B. “Rescue Craft” means an aircraft whose usual function is not prehospital emergency medical transport but which may be utilized for prehospital emergency patient transport when use of an air or ground ambulance is inappropriate or unavailable.

C. “ALS Rescue Aircraft” means a rescue aircraft that is equipped to provide ALS service, staffed with a minimum of one ALS medical flight crew member.

D. “Air Rescue Service” means an air service used for emergencies including search and rescue.

E. “BLS Rescue Service” means a rescue aircraft whose medical crew has, at a minimum, one attendant certified as an EMT-1.

F. “Auxiliary Aircraft” is a rescue aircraft which does not have a medical flight crew or whose flight crew does not meet the minimum requirements of a BLS Rescue Aircraft.

PATIENT CARE RECORD (PCR)

I. PURPOSE

To establish requirements for completion, reporting, and submission of Marin County approved Patient Care Records.

II. RELATED POLICIES

ALS to BLS Transfer of Care, ATG 4
Against Medical Advise (AMA), GPC 2
Release at Scene (RAS), GPC 3

III. DEFINITIONS

A. Patient – someone who meets any one of the following criteria:
   1. Has a chief complaint or has made a request for medical assistance
   2. Has obvious symptoms or signs of injury or illness
   3. Has been involved in an event when mechanism of injury would cause the responder to reasonably believe that an injury may be present
   4. Appears to be disoriented or to have impaired psychiatric function
   5. Has evidence of suicidal intent
   6. Is dead

B. Emergency Medical (EM)/Authorization Order (AO) – a number assigned by a Marin County Communication's Center to identify each 9-1-1 call dispatched for medical assistance.

C. Electronic Patient Care Record (ePCR) - the permanent record of prehospital patient evaluation, care, and treatment.

D. Field Transfer Form (FTF) – a temporary, paper record of patient care

E. Triage Tag – a paper record for multi-casualty incidents involving 6 or more patients

IV. POLICY

A. An ePCR shall be completed for every call for which an EM/AO is issued.

B. For all transported patients:

~~B.~~ 1. ~~,~~ a ~~completely filled out~~ completed and legible ~~signed~~ FTF or ePCR must be given to the patient's nurse or doctor within 15 minutes of transferring care. ~~The ePCR must be presented prior to leaving the hospital for all critical Notification patients (i.e. Cardiac arrest, STEMI, CVA, Trauma, Sepsis).~~ 2. If a~~n~~ FTF was utilized at the time of transfer, an ePCR must be completed and received by the facility as soon as possible and no later than 3 hours after the transfer of care. 3. The ePCR must be presented prior to leaving the hospital for all ~~critical~~ Notification patients (i.e. Cardiac arrest, STEMI, CVA, Trauma, Sepsis). .

C. For all patients transported, the ePCR will be completed by the personnel assigned to the transport unit.

D. For non-transported patients (e.g. AMA, RAS, Dead on Scene), the ePCR will be completed by the paramedic or EMT most involved in patient care and responsible for the patient's disposition.

E. For calls where there is no medical merit, the ePCR will be completed according to provider agency's policy.

F. The ePCR is the permanent PCR and will be filled out in a clear, concise, accurate, and complete manner and will include all care provided in the prehospital setting. When possible, it shall include all 12 lead ECGs and any ECG other than normal sinus rhythm.

G. The completed PCR includes all care rendered by the transporting providers as well as any care given prior to arrival of the transporting unit by bystanders and/or first responders. Documentation of care provided by first responders (of a different agency than the transport unit) may be required by their department policy.

~~H.~~

~~I.~~H. For ground transportations to an out-of-county facility, a FTF will be given to the receiving provider and a completed ePCR shall be produced and sent to that facility within 3 hours of transfer of care.

~~J.~~I. For air ambulance transportations, a FTF will be given to the air ambulance personnel, and an ePCR will be created within 3 hours of transfer of care and sent to the receiving facility via ePCR program or FAX.

~~K.~~J. Personnel assigned outside of the county to provide medical-mutual aid (e.g. fire-line EMT/Paramedic), shall complete a FTF for each patient contact. The FTF will be created on site and a copy submitted to the provider agency as soon as possible after returning to the county.

~~L.~~K. Willful omission, misuse, tampering, or falsification of documentation of patient care records is cause for formal investigative action under Section 1978.200 of the California Health and Safety Code.

V. GENERAL INSTRUCTIONS

A. The patient care record is part of the patient's permanent medical record and is used for, but not limited to, the following purposes:
   1. Transfer of information to other healthcare providers
   2. Medical legal documentation
   3. Billing for services
   4. Development of aggregate data reports for Continuous Quality Improvement (CQI), including specific quality indicators and identification of educational needs
   5. EMS Agency case investigation

B. Reference to a Marin County EMS Notification Form or similar record should not be included on the patient care record.

C. If ALS to BLS transfer of care is determined to be appropriate, documentation of assessments and all care rendered must be completed by both the ALS and the BLS units according to policy ATG 4.

D. Provider agencies are responsible for training their employees in the initiation, completion, distribution of patient care records, HIPAA and any accompanying forms based on the EMS Agency's currently approved training curriculum.

Marin County EMS

Pre-Hospital Field Transfer Form (FTF)

Last Name _____ First Name _____ Age _____ DOB _____ M F

Date _____/_____/_____ Pt. Transferred Time_____ Unit #_____ Incident # _____

Pt. Address _____Phone (____)_____ PMD_____ Ins. ID #_____

Incident Address _____❑PT's HOME ❑SNF ❑ASSISTED LIVING ❑OTHER _____

Facility - Name _____ Contact Person_____ Phone _____

(V) Time	Position	BP	Pulse	RR	SpO_2	BGL	Temp	Pain (# / 10)	GCS	ECG
		/								
		/								
		/								

E	Spon 4	Voice 3	Pain 2	None 1		
V	Orient 5	Con 4	Innap 3	Incomp 2	None 1	
M	Obey 6	Local 5	Withdrl 4	Flex 3	Exten 2	None 1

Lead Medic

Draft April 2018

Code Status Information: ❑Full ❑POLST Form ❑DNR Form ❑Hospice - Agency _____ Phone_____
Person best able to provide history about current illness: ❑Patient ❑Facility ❑Other: Name _____ Phone_____

Signature

USE MIVT format for Trauma Reports

(M) Chief Complaint

_____

_____

_____

Signs & Symptoms _____

_____

_____

Medical History_____

_____

_____

_____

Medications _____

_____

_____

_____

_____

_____

Allergies_____

_____

✓ = WNL (I) PHYSICAL EXAM

❑ Head_____

❑ Pupils_____

❑ Neck _____

❑ Chest_____

❑ Abdomen _____

❑ Back _____

❑ Pelvis _____

❑ Extremities _____

Time	(T) Treatment	Response

Notes

July 2016

ROUTINE MEDICAL CARE (RMC)
BLS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- To define Routine Medical Care (RMC) in the pre-hospital setting

TREATMENT

- Assess Airway, Breathing and Circulation (ABC)
- Apneic and/ or pulseless:
  - Begin CPR in accordance with the standards established by the American Heart Association, including Early Defibrillation
- Patient breathing with pulse present:
  - Administer oxygen per the Airway/Oxygen protocol; using airway adjuncts indicated for signs and symptoms
- Control significant external bleeding using direct pressure. If bleeding remains uncontrolled, apply gauze or hemostatic dressing and/or tourniquet.
  - Limb with the tourniquet must remain exposed
  - Hemostatic dressing must be approved by California EMS Authority
- Check vital signs – repeat q 5 min. for emergent patients and q 15 min. for non-emergent patients.
- ~~Obtain pulse oximetry, if available~~
- For ALOC, assess blood glucose and treat per protocol
- Obtain:
  - Chief complaint
  - History of current event
  - Past medical history
  - Medications
  - Allergies
- Perform full secondary patient exam
- If indicated, apply spinal motion restriction
- Place patient in position of comfort or in other positions as needed to maintain adequate breathing and/ or circulation

CHEST PAIN/ ACUTE CORONARY SYNDROME BLS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Chest discomfort or pain, suggestive of cardiac origin or other symptoms of ACS (Acute Coronary Syndrome) which may include weakness, nausea, vomiting, diaphoresis, dyspnea, dizziness, palpitations, “indigestion”

TREATMENT

- BLS RMC
- Limit patient’s physical activity
- Administer **ASA** 162-325 mg (chewable) if no known aspirin allergy, even if patient has taken daily ASA dose.
- Allow patient to self-administer own **Nitroglycerin (NTG)** as directed by their own physician only if SBP > 100

SPECIAL CONSIDERTIONS

- Discomfort or pain: OPQRST, Previous episodes, 0-10 scale
- Suspicion of ACS is based upon patient history. Be alert to patients likely to present with atypical symptoms or “silent MI’s” (women, elderly and diabetics).
- If patient is having an MI, **NTG** may cause significant hypotension.
- If the patient has taken erectile dysfunction (ED) medication within the last 24 hrs (Viagra**/**Levitra) or 36 hrs (Cialis**)** instruct patient not to take **NTG.**

DOCUMENTATION- ESSENTIAL ELEMENTS

- Medical history (cardiac history; other medical problems including hypertension, diabetes or stroke)
- OPQRST information
- Vital signs before/after **NTG** administration
- Erectile dysfunction medications taken
- Level of pain

ADMINISTRATION OF ORAL GLUCOSE BLS PROCEDURE

ALWAYS USE STANDARD PRECAUTIONS

INDICATIONS

- Patients with blood glucose measurement of < 60

EQUIPMENT

- Oral glucose and/ or juices that contain sugar (no diet drinks)
- **Glucose Paste**

PROCEDURE

- Responsive patients with a gag reflex:
  - Give sweetened fluids (orange/ fruit juice) to drink
  - Do not use “diet” preparations as they do not contain sugar
- Lethargic patients unable to drink fluids:
  - Place patient in left or right lateral position
  - Place **Glucose paste** 30 gm PO between the dependent cheek and gum
  - Monitor airway, being prepared to suction if necessary
- Transfer patient to higher level of care as soon as possible

MEDICAL EMERGENCIES
BLS PROCEDURES

ALWAYS USE STANDARD PRECAUTIONS

INDICATIONS

- For the following emergencies:
  - Syncope/ Near Syncope/ Fainting
  - Abdominal pain (non-traumatic)
  - Allergic Reaction
  - ALOC
  - Unconscious/ Unresponsive
  - Cardiac Arrest
  - SOB
  - Seizure (active)
  - Post- Seizure (post-ictal)
  - Chest Pain

PROCEDURES

- BLS RMC
- Reassure patient
- Transfer care to ALS unit as patient condition warrants
- **Syncope/ near syncope/ fainting**:
- Consider C-spine immobilization
- **Abdominal pain (**non-traumatic):
  - Nothing by mouth
  - Prepare for vomiting
  - Check bilateral BP, pedal pulses
- **Allergic reaction**:
  - Loosen clothing
  - Advise patient to self-administer **EpiPen** (or equivalent) or administer epinephrine per policy
- **ALOC/Unconscious/ Unresponsive**:
  - If altered, place patient in recovery position
  - Assess blood glucose (BG)
  - If BG < 60 or immeasurable and patient can swallow, give sweetened drink or administer **Glucose paste** per policy
  - Ventilate with positive pressure devices
  - If opioid overdose is suspected, provide rescue breaths and administer **Narcan Nasal Spray**
    - Record time of administration and place patient in recovery position
    - May repeat every 2-3 minutes until patient responds. Multiple doses may be required.
    - If no pulse, follow Cardiac Arrest algorhythm (below)
- **Cardiac Arrest**:
  - Place patient supine on firm surface and remove patient shirt
  - CPR

  - Attach A.E.D.
  - Suction as needed
  - If ALS arrival time is longer than time to transport to the closest facility, begin transport and consider rendezvous with ALS unit enroute if appropriate.
  - Consider field determination of death

- **SOB/Airway Obstruction**:
  - Position of comfort, usually upright
  - Allow patient to self-administer any inhaled medications
  - Consider different causes of SOB with pediatric patients
- **Seizure** (active):
  - Protect patient from injury (move furniture, etc.)
  - Consider possible treatment of diabetic patient (see ALOC)
  - If febrile seizure, initiate cooling measures
- **Post- Seizure** (post-ictal):
  - Follow above treatment on seizures
  - Frequently evaluate patient's level of consciousness and anticipate recurring seizures
  - Suction as needed
- **Chest Pain**:
  - Limit patient's physical activity
  - Administer **ASA** 162-325 mg (chewable) if no known allergy, even if patient has taken daily ASA dose.
  - Allow patient to self-administer own **Nitroglycerin (NTG)** as directed by their own physician only if SBP > 100
- **Psychiatric Patient**:
  - Protect self, others from combative or violent behavior
  - Prepare for rapid changes in behavior due to possible ingestion of poisons, alcohol and drugs. If possible, bring ingested substances to hospital for analysis.

RELATED POLICIES/ PROCEDURES

- Administration of Oral Glucose BLS PR 3
- Administration of EpiPen Procedure BLS PR 4
- Administration of Narcan Nasal Spray BLS PR 11
- Chest Pain / Acute Coronary Syndrome BLS 2
- Determination of Death First Responder BLS, BLS 5

ENVIRONMENTAL EMERGENCIES
BLS PROCEDURES

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- For the following environmental emergencies:
  - Near Drowning
  - Bites/ Stings (animal/ snake)
  - Heat Injuries
  - Cold Injuries
  - Localized cold injuries

EQUIPMENT

- Airway management per patient condition
- BP monitor
- Suction
- Dressings
- Cold packs
- Hot packs

PROCEDURE

- BLS RMC
- **Near Drowning**
  - Consider spinal motion restriction ~~C-spine precautions~~
  - Keep patient warm
  - Prepare to log-roll if vomiting occurs
  - Frequent evaluation of lung sounds
- **Bites/ Stings**
  - Restrict patient physical activity
  - Immobilize extremity
  - Apply cold pack to site
  - Advise patient to self-administer **EpiPen** (or equivalent) or administer epinephrine per policy
  - Watch for allergic reactions and refer to Medical Emergencies Procedures BLS PR 6
- **Animal Bites**
  - Apply appropriate dressing
  - Re-evaluate size of swelling every 5-10 minutes
- **Snake Bites**
  - Identify or provide description of snake if seen
  - Do not use ice or apply constricting bands
  - Remove rings, bracelets, or other constricting items from all extremities
  - Limit patient's movement as much as possible
  - Mark extent of affected area, noting time on skin
  - Immobilize extremity in a position of comfort and monitor distal pulses

- **Heat Injuries**
  - Move to a cool environment and remove clothing
  - Rapid cooling measures:
    - Apply wet towels and promote cooling by fanning
    - Apply cold packs to axilla and groin
  - BLS RMC; treat hypoglycemia per policy
  - Replenish electrolytes by mouth if able to swallow
  - Recheck vital signs frequently
  - Transport all patients rapidly, even if in cardiac arrest
- **Cold Injuries**
  - Remove wet clothing and patient from cold environment
  - Apply warming measures with blankets, heaters, etc. If patient is no longer shivering be less aggressive with re-warming efforts and minimize stimulation of patient.
- **Localized Cold Injuries**
  - Gently remove clothing from injured area
  - Cover area with sterile dressing
  - Avoid direct contact with affected area

BLOOD GLUCOSE MONITORING
BLS PROCEDURE

ALWAYS USE STANDARD PRECAUTIONS

INDICATIONS

- Patients with ALOC and / or suspected hypoglycemia as indicated by the following symptoms:
  - Diabetic history
  - Abnormal or combative behavior
  - Pale, moist skin

EQUIPMENT

- Glucometer
- Lancet
- Test strip
- Alcohol pad
- Gauze pad/bandage

PROCEDURE

- Turn glucometer on and insert test strip
- Clean fingertip with alcohol pad. Gently squeeze fingertip to promote blood flow
- Pierce fingertip with lancet
- Apply blood sample to test strip
- Record results
- If blood glucose is < 60 or immeasurable, treat patient according to Administration of Oral Glucose Policy, BLS PR 3.

ADMINISTRATION OF NARCAN NASAL SPRAY BLS PROCEDURE

ALWAYS USE STANDARD PRECAUTIONS

INDICATIOINS

- Patients with ALOC and suspicion of overdose as indicated by the following symptoms:
  - Overdose history or drug paraphernalia at scene
  - Pale, moist skin
  - Unable to respond
  - Respirations and/or pulse is slow, erratic, or absent
  - Pinpoint pupils

EQUIPMENT

- **Narcan Nasal Spray**
- BVM

PROCEDURE

- Establish unresponsiveness; if pulseless and apneic start CPR
- Place in supine position and tilt head back
- Administer **Narcan Nasal Spray**
  - Insert tip of nozzle into one nostril until fingers are flush with skin/nose
  - Press firmly to fully depress the plunger
- Place patient in recovery position
- Record time of administration
- ~~Place patient in left or right lateral position~~
- **Narcan Nasal Spray** may be repeated every 2-3 minutes (alternate nostrils) if patient remains unresponsive
- Monitor airway, suction as needed
- If no response to Narcan, begin CPR
- Transfer patient to higher level of care as soon as possible

ADULT PAIN MANAGEMENT

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Patient exhibits or is determined to have measurable or anticipated pain or discomfort

Assess/document initial pain score and reassess/document after each pain management intervention. Utilize non-pharmacological pain management as appropriate (ice, splinting, repositioning, distraction).

ALS RMC

Severe Pain?

NO → **Acetaminophen** 1000 mg IV Infuse over 20 min.

YES ↓

Morphine Sulfate
- IV/IO: 5 mg slowly; MR q 5 minutes, max. dose 20 mg.
- IM: 5-10 mg; MR in 20 minutes, max. dose 20 mg

OR

Fentanyl
- IV/IO: 50 mcg slowly; MR q 5 minutes, max. dose 200 mcg.
- IN: 1 mcg/kg (administer ½ dose in each nare; max single dose = 100 mcg)
- IM: 1 mcg/kg; max single dose = 100 mcg. MR in 30 min. at ½ initial dose.

If Morphine/Fentanyl unavailable or patient unable to tolerate Morphine/Fentanyl, consider Acetaminophen IV or:

Midazolam
- IV/IO: 1 mg slowly; MR q 3 minutes to maximum dose 0.05 mg/kg
- IN: 5 mg/1ml (2.5 mg in each nostril)
- IM: 0.1 mg/kg; MR x 1 in 10 minutes

If nausea/vomiting, consider **Ondansetron** (Zofran ©) 4mg ODT/IM or slow IV/IO over 30 seconds; MR x1 in 10 minutes

☎ PHYSICIAN CONSULT
- Patients with SBP < 100
- Patients with head trauma; multi-system trauma that includes abdominal/thoracic trauma; decreased respirations; ALOC (GCS < 15); or women in labor
- > 20 mg **Morphine Sulfate** or > 200mcg of **Fentanyl** s needed for pain management
- Concomitant administration of **Morphine Sulfate/Fentanyl** and **Midazolam**

CRITICAL INFORMATION
- DO NOT administer Tylenol for:
  - Isolated head injury
  - Acute onset severe headache
  - Drug/ETOH intoxication
  - Multiple trauma with GCS < 15
  - Suspected active labor
- Origin of pain (examples: isolated extremity trauma, chronic medical condition, burns, abdominal pain, multi-system trauma)
- Mechanism of injury
- Approximate time of onset
- Complaints or obvious signs of discomfort
- Use Visual Analog Scale (0-10) or Wong/Baker Faces Pain Rating Scale if non-English speaking adult. Express results as a fraction (i.e. 2/10 or 7/10)
- Vital signs
- Presence of special infusion apparatus for narcotic or oncology agents may help to determine dosing

Pain Management Notes/Requirements
- Continuous cardiac and SpO2 monitoring required for all patients receiving pain medication.
- Titrate medication to a tolerable pain level.
- Each medication dose and patient response (including pain score) must be documented on the PCR.

ADULT INTRAOSSEOUS PROCEDURE

ALWAYS USE STANDARD PRECAUTIONS

INDICATIONS

- Patient in extremis, cardiac arrest, profound hypovolemia, or septic and in need of immediate delivery of medications / fluids and immediate IV access is not possible

CONTRAINDICATIONS

- Absolute contraindications:
  - Recent fracture of involved bone (less than 6 weeks)
  - Vascular disruption proximal to insertion site
  - Inability to locate landmarks
- Relative contraindications:
  - Infection or burn overlying the site
  - Congenital deformities of the bone
  - Metabolic bone disease

EQUIPMENT

- Intraosseous infusion needle and/ or mechanical device
- Commercially prepared chlorhexidine with alcohol swab or ampule. If patient has allergy to chlorhexidine, use alcohol swab only.
- Sterile gauze pads
- 10-12 ml syringe filled with 10 ml saline
- IV NS solution and tubing with 3-way stopcock
- Supplies to secure infusion
- Pressure bag
- **Lidocaine 2%** (Preservative Free)

PROCEDURE

- Aseptic technique must be followed at all times
- Position and stabilize chosen site
- ~~Locate primary site, 1-2 cm medial to tibial tuberosity~~
- ~~Locate secondary site according to manufacturer's specification and agency training~~
- Prepare insertion site using aseptic technique
- Air or gauze dry
- Insert IO needle according to manufacturer's directions
- Confirm placement
- Attach primed extension set and flush with 10 ml of saline
- ~~Rapid bolus with 10 ml saline~~If patient awake and/or responsive to pain, infuse 2% **Lidocaine** 20-40 mg over 30-60 seconds ~~prior to 10 ml saline bolus~~. Wait 30-60 seconds before fluid infusion. May repeat Lidocaine in 15 minutes if needed.
- If resistance is met, remove needle, apply pressure to site and attempt at secondary site
- ~~Disconnect syringe~~
- Attach pre-flooded IV tubing
- Stabilize as recommended by manufacturer
- Fluid administration requires pressure bag
- Monitor insertion site and patient condition

EXTERNAL CARDIAC PACING PROCEDURE

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Symptomatic bradycardia which may include: HR < 50 with decreasing perfusion, chest pain, shortness of breath, decreased LOC, pulmonary congestion or congestive heart failure

☎ PHYSICIAN CONSULT

- Concomitant administration of **Morphine Sulfate** and **Midazolam**
- Push-dose Epinephrine

CRITICAL INFORMATION

- If patient is unstable, do not delay pacing for IV access

EQUIPMENT

- Cardiac monitor/ defibrillator/ external pacemaker
- Pacing capable electrode pads

PROCEDURE

- ALS RMC
- ~~Administer **NS** 250 ml bolus IV/IO~~
- If patient is conscious, administer **Midazolam** 1 mg slow IV/IO. May repeat 1 mg every 3 minutes to desired degree of sedation. Maximum dose = 0.05 mg/kg.
- If tolerated, position patient supine, applying pacing electrodes to bare chest according to manufacturers recommendations (anterior/ posterior or sternal/ apex).
- Confirm and record ECG.
- Set pacing rate at ~~80~~ 60, turn on pacing module, and confirm pacer activity on monitor. May increase rate to 80.
- Increase mA until capture occurs or maximum output is reached. ~~Output control until capture occurs or maximum output is reached.~~
- Once capture is confirmed, increase output by 10%
- Confirm pulses with paced rhythm.
- Monitor vital signs and need for further sedatives or pain control.
- If SBP < 90, consider NS 250 ml bolus IV/IO
- ☎ **Morphine Sulfate** IV/IO/IM for pain management as needed; maximum dose of 5 mg
- ☎ Physician consult for Push-dose Epinephrine for SBP < 80

DOCUMENTATION

- mA needed for capture
- Time pacing started/ discontinued

RELATED POLICIES/ PROCEDURES

- Bradydysrhythmia C 4
- Adult Sedation ATG 3

ADULT SEDATION

ALWAYS USE BODY SUBSTANCE ISOLATION PRECAUTIONS

INDICATION

- Cardioversion / Cardiac Pacing
- Agitation / combativeness interfering with critical ALS interventions and airway control or that endangers patient or caregiver
- Patients unable to tolerate Morphine Sulfate or Fentanyl for pain management

☎ PHYSICIAN CONSULT

- Head injury (airway is stable)
- Multiple system trauma (airway is stable)
- Concomitant administration of ~~**Morphine Sulfate**~~ opioids and **Midazolam**

CRITICAL INFORMATION

- Relative contraindications:
  - Nausea / vomiting
  - ALOC
  - Hypotension (SBP < 100)
  - Suspected drug / alcohol intoxication

TREATMENT

- ALS RMC, including ETCO2
- Cardioversion / cardiac pacing
  - If patient is conscious, administer **Midazolam** 1 mg slow IV/IO. May repeat 1 mg every 3 minutes to desired degree of sedation. Maximum dose = 0.05 mg/kg.
  - ☎**Morphine Sulfate** IV/IO/IM for pain management as needed; maximum dose of 5 mg.
- Agitation, combativeness or for patients unable to tolerate Morphine Sulfate- administer **Midazolam**
  - IV/IO: 1 mg slowly; MR q 3 minutes to maximum dose 0.05 mg/kg.
  - IN: 5 mg (2.5 mg in each nostril)
  - IM: 0.1 mg/kg; MR x 1 in 10 minutes
- Patients receiving sedation for airway management who have long transport times may receive sedation maintenance doses of **Midazolam** 1 mg IV/IO every 15 minutes

Midazolam for Sedation Weight Based Chart - MAXIMUM DOSE for IV/IO only

Kg	Lb	Dose (0.05 mg/kg)
40	88	2 mg
45	99	2.25 mg
50	110	2.5 mg
55	121	2.75 mg
60	132	3 mg
65	143	3.25 mg
70	154	3.5 mg
75	165	3.75 mg
80	176	4 mg
85	187	4.25 mg
90	198	4.5 mg
95	209	4.75 mg
>100	>220	5 mg

SPECIAL CONSIDERATION

- Sedation for airway management does not mandate intubation, but may require airway/ventilation support
- Patients receiving **Midazolam** may experience hypotension
- Prior to arrival, prehospital personnel must notify the receiving facility of any patient with a known history of violence, or behavior which may pose a risk to staff (disruptive, uncooperative, aggressive, unpredictable).

RELATED POLICIES

- Patient Restraint GPC11
- Continuous Positive Airway Pressure (CPAP) Procedure ALS PR 13
- External Cardiac Pacing Procedure ALS PR 11

ADULT MEDICATIONS AUTHORIZED/ STANDARD DOSE

DRUG	CONCENTRATION	STANDARD DOSE
~~Activated Charcoal~~	~~25 gm/ bottle or 50 gm/ bottle~~	~~1 gm/ kg PO (not to exceed 50 gm)~~
Adenosine (Adenocard)	6 mg/ 2 ml	6 mg 1st dose, 12 mg 2nd dose (rapid IV/IO push) followed by 20 ml saline flush after each dose
Albuterol	2.5 mg/ 3ml NS	5 mg/ 6 ml NS; (MDI: Fireline only)
Amiodarone	150 mg/ 3ml	*VFib or Pulseless VTach:* 300 mg IV/ IO push followed by one 150MG push in 3-5 min. *Perfusing/Recurrent VTach*–150 mg IV/ IO over 10 min. (15 mg/ min); MR q 10 min. as needed
Aspirin (chewable)	Variable	162-325 mg PO
Atropine	1 mg/ 10 ml	*Bradycardia:* 0.5 mg IV/ IO, MR q 3-5 min. to max of 3 mg. *Organophosphate Poisoning:* 2.0 mg slowly IV/ IO; MR 2-5 min. until drying of secretions
Calcium chloride 10%	1 GM/ 10 ml	*Crush syndrome:* 1gm IV/ IO slowly over 5 min. for suspected hyperkalemia (flush line with NS before & after administration)
Dextrose 10%	25 GM/250 ml	125 ml bolus IV/IO over 10 minutes; recheck BG and repeat as needed
Diphenhydramine (Benadryl)	50 mg/ 1ml	*Allergic reaction:* 50 mg IV/ IO/ IM; max 50 mg *Phenothiazine reaction*: 1 mg/ kg slowly IV/ IO; max 50 mg. *Motion sickness:* 1 mg/kg IM/IV to maximum dose of 50 mg; maximum IV rate is 25 mg/minute
~~Dopamine~~	~~400 mg/ 250 ml Pre-mix~~	~~See specific policy dosing chart~~
Epinephrine 1:1000	1 mg/ 1ml EpiPen® (0.3mg) auto-injector (or equivalent)	*Allergic Reaction/ Anaphylaxis:* 0.01 mg/ kg IM (max initial 0.5 mg) or EpiPen®; MR x 1 in 5 minutes *Bronchospasm/ Asthma/ COPD:* 0.01 mg/kg IM; max. dose 0.5 mg. MR once in 5 minutes or EpiPen®

Epinephrine 1: 10,000	1 mg/ 10 ml	~~*Anaphylaxis:* If unresponsive, no palpable BP, no palpable pulse - give 0.01 mg/kg to max of 0.5 mg/ 0.5 ml IV/ IO~~ *Cardiac Arrest:* 1mg (10 ml) IV/ IO followed by 20 ml NS flush q 3-5 min. ~~during resuscitation~~ ☎*SBP<80:* Mix 1mL Epinephrine 0.1mg/mL (~~IV formulation~~1:10,000) with 9mL Normal Saline in a 10mL syringe. Administer Push-dose Epinephrine 1mL IV/IO every 3-5 minutes, titrate to maintain a SBP >80mmHg
Fentanyl	100 mcg/ 2 ml	*Pain Management:* IV/IO: 50 mcg slowly; MR q 5 minutes, max. dose 200 mcg. IN: 1 mcg/kg (administer ½ dose in each nare; max. single dose = 100 mcg). IM: 1 mcg/kg; max. single dose = 100 mcg; MR in 30 minutes at ½ initial dose.
Glucose Paste	15 GM / tube	30 GM PO
Glucagon		1 mg IM
Ipratropium (Atrovent)	500 mcg per unit dose (2.5 ml)	500 mcg
Lidocaine 2% (preservative free)	20 mg / 1 ml	IO insertion: infuse 20-40 mg IO over 30-60 seconds
Nerve gas Auto-Injector Kit contains: Atropine Pralidoxime Chloride (2 PAM)	2 mg (0.7 ml) 600 mg (2 ml)	*Small Exposure to vapors/ liquids:* 1 dose of both medications (Atropine & 2-PAM), MR X1 in 10 minutes. *Larger exposure to liquids/ vapors:* 3 doses initially (both medications)
Midazolam (Versed)	2 mg/2 ml (IV/IO/IM) 5 mg/1 ml (IN)	*Cardioversion/ Pacing/Seizure:* 1 mg slow IV/ IO; MR 1 mg q 3 min.; Max dose = 0.05 mg/kg For IN: 5 mg (2.5 mg in each nostril). For IM: 0.1 mg/kg; MR x 1 in 10 minutes. *Sedation:* see specific policy
Morphine Sulfate	10 mg/ 1ml	*Chest Pain:* 2-5 mg slow IV/IO; MR q 2-3 min. to max of 10 mg *Pain Management/ Trauma Patient:* 5 mg slow IV/ IO, MR q 5 min if SBP >100; max dose 20 mg *Pulmonary Edema:* 2-5 mg slow IV/ IO. Physician Consult required
Naloxone (Narcan)	2 mg/ 2 ml	0.4- 2.0mg IV/IO/IM/IN; MR in 5 min;
Nitroglycerine	0.4 mg/ tablet or spray	1 SL; MR q 5 min. if SBP > 100
Ondansetron (Zofran)	4 mg	4 mg ODT/IM or slow IV over 30 seconds; MR x 1 in 10 minutes

Sodium Bicarbonate	**50 mEq/ 50 ml**	**1 mEq/ kg IV/ IO**

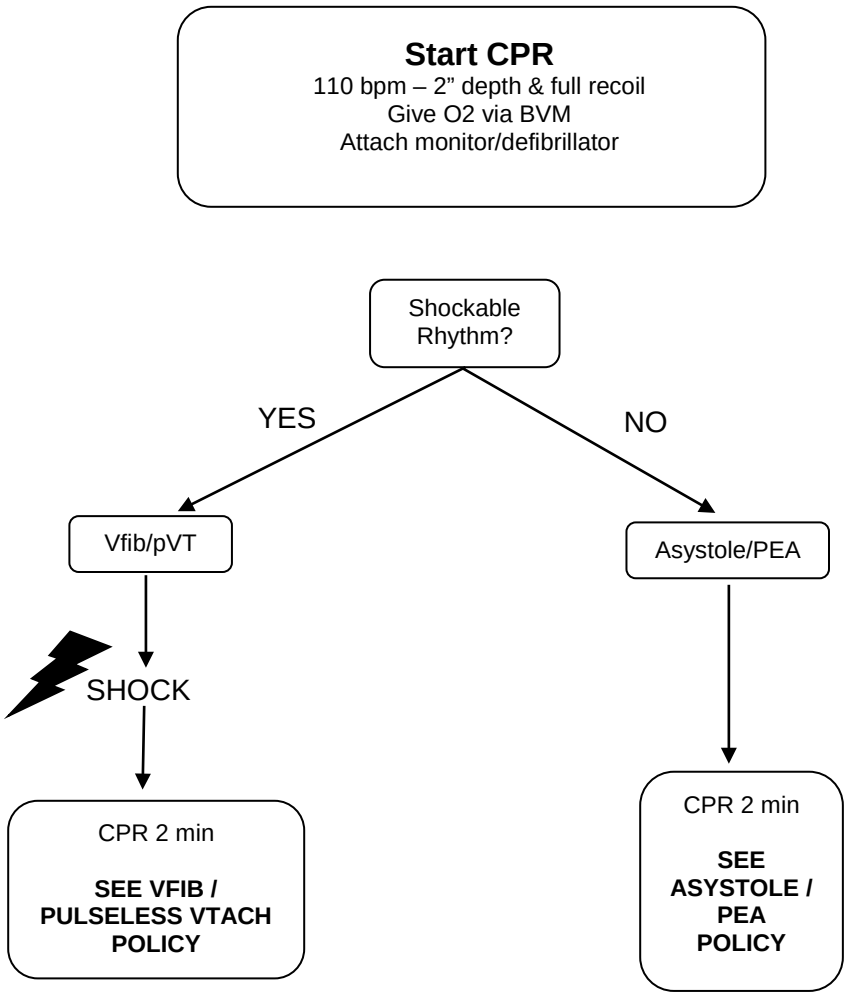
NOTE: If the above concentrations become unavailable, providers may use alternate available concentrations or packaging.

ADULT CARDIAC ARREST

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Unresponsive; no breathing or has agonal respirations; no pulse



Critical Information:

- Witnessed vs Unwitnessed
- Consider pre-cordial thump if witnessed and defibrillator not immediately available
- Compress at 110 bpm. Use metronome or similar device
- Manual CPR is preferred; mechanical CPR is an acceptable alternative
- Change compressors every 2 minutes
- Minimize interruptions
- If hypothermic < 95F, delay compressions for 3 minutes; focus on ventilations and active rewarming
- Defibrillate per manufacturer's recommendations.
- Do not stop compressions while defibrillator is charging
- Resume compressions immediately after shock

BLS Airway Management

- *BLS airway is preferred during the first 5 min*
- Use two-person BLS airway management whenever possible
- Avoid excessive ventilation
- 30:2 compression/ventilation ratio

ALS Airway Management

- King Airway/Video laryngoscopy (VL) preferred
- Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
- Use continuous ETCO2 to monitor CPR effectiveness and advanced airway placement.
- Maintain O2 sat 94-99%
- 1 breath every 6 seconds

~~Treatment on scene~~ Special Considerations

- Movement of patient during CPR may be detrimental to outcome
- Provide resuscitation on scene until ROSC or when patient meets Determination of Death criteria
- Regardless of the above, transportation is warranted in the following situations: refractory VF, unsafe scene conditions, unstable airway, hypothermia/hyperthermia as a primary cause of arrest, any patient pulled from a fire in cardiac arrest
- To assure ROSC continues, remain on scene for 5-10 minutes and then transport to a STEMI Receiving Center

AGAINST MEDICAL ADVICE (AMA)

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- For patients or Designated Decision Maker (DDM) refusing medical care against the advice of the medical personnel on scene or of the receiving hospital

☎ **PHYSICIAN CONSULT - required**

- Patient requests transport to a facility that is not the recommended destination, and that decision would create a life-threatening or high-risk situation
- Patient requests an out of county transport when informed of the recommended destination within Marin County
- Pediatric Brief Resolved Unexplained Event (BRUE)

☎ **PHYSICIAN CONSULT – strongly recommended, but not required**

- Patients ≥ 65 years requesting AMA with the following complaints:
  - Chest pain
  - SOB/ Dyspnea
  - Syncope
- New onset of headache
- New onset of seizure
- TIA/ resolving stroke symptoms
- Traumatic injuries
- Pediatric complaints
- Pregnancy related issues

CRITICAL INFORMATION

- Patients who may legally give consent or refuse medical treatment are as follows:
  - At least 18 years of age
  - A minor (<18 years) who is lawfully married/ divorced, or on active duty with the armed forces
  - A minor who seeks prevention or treatment of pregnancy or sexual assault
  - A minor ≥12 years of age seeking treatment of rape, contagious diseases, alcohol or drug abuse
  - A self-sufficient minor, ≥ 15 years of age, caring for themselves
  - A legally emancipated minor
- DDM is an individual to whom the patient or a court has given legal authority to make medical decisions concerning the patient's healthcare (a parent or Durable Power of Attorney)
- An AMA may be obtained by telephone consent from patients who do not have a DDM physically present

TREATMENT/ PROCEDURE

- All patients requesting medical attention will be offered treatment and/ or transportation after a complete assessment.
- Mentally competent patients/ DDMs have the right to accept or refuse any or all pre-hospital care and transportation as long as medical personnel have explained the care and the patient /DDM understands by restating the nature and implications of such decisions.
- The following information must be provided to the patient or DDM by the EMS personnel:
  - The recommended treatment and benefits for receiving care

    - The risks and possible complications involved
    - Reasonable consequences for not seeking care and treatment for the condition
- EMS personnel should advise the patient of alternative care and transport options which may include:
    - Private transport to a clinic, a physician's office or an Emergency Department
    - Telephone consultation with a physician
- Have patient/ DDM sign the AMA form

SPECIAL CONSIDERATION

- Consider early involvement of law enforcement if there is any threat to self, others or grave disability
- Treat as necessary to prevent death or serious disability
- If the patient cannot legally refuse care or is mentally incapable of refusing care, document on the PCR that the patient required immediate treatment and /or transport, and lacked the mental capacity to understand the risks / consequences of the refusal (implied consent)
- Do not request a 5150 hold unless the patient presents a danger to self or others as an apparent result of a psychiatric problem.
- At no time are field personnel to put themselves in danger by attempting to transport or treat a patient who refuses. At all times, good judgment should be used, appropriate assistance obtained, and supporting documentations completed.

DOCUMENTATION- ESSENTIAL ELEMENTS

- Who activated 911 and the reason for the call
- Any medical care provided
- The apparent competency of the patient/ DDM to sign out AMA
- The ability of the patient/ DDM to verbalize understanding of his/her illness or injury, as well as any risks involved and potential outcomes for not receiving treatment or transport
- Reasons given by the patient/DDM for refusing care/ transport and alternate plan for patient follow up if one has been stated
- The presence or absence of any impairment such as drugs or alcohol
- The patient/ DDM understanding that they may re-access 911 if needed
- Signature of the patient/ DDM on the AMA form, or reason why signature was not obtained

RELATED POLICIES/ PROCEDURES

- Pediatric Brief Resolved Unexplained Event (BRUE) P14

DESTINATION GUIDELINES

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- To identify destination choices and appropriate facilities for patients in Marin County

☎ PHYSICIAN CONSULT

- Patient requests transport to a facility not capable of providing specific care for their needs

CRITICAL INFORMATION

- Destination choices:
  - The destination for patients shall be based upon several factors including, but not limited to the clinical capabilities of the receiving hospital, the patient's condition, and paramedic discretion.
  - When the patient's condition is unstable or life threatening, the patient should be transported to the time closest receiving facility:
    - Patients with unmanageable airway
    - Uncontrolled external hemorrhage
    - CPR in progress
    - Patients requiring ALS but having no paramedic in attendance
  - The following factors will be considered in determining patient destination:
    - Patient condition
    - Clinical capabilities of the receiving hospital
    - Paramedic discretion
    - Patient/family request
    - Patient's physician request or preference
  - Patients with return of spontaneous circulation post cardiac arrest will be transported to the <u>nearest STEMI Receiving Center.</u>
  - Burn patients, without other trauma mechanism, shall be transported by ground ambulance to the time closest emergency department.
  - Ventricular Assist Device patients: If patient is stable and complaint not related to VAD, transport per above guidelines. If VAD related: The patient may need to bypass local facilities and go to VAD center. If concerned about patient stability, refer to guidelines and request physician consult.
  - Prior to arrival, prehospital personnel must notify the receiving facility of any patient with a known history of violence, or behavior which may pose a risk to staff (disruptive, uncooperative, aggressive, unpredictable).
  - Marin County receiving facilities:
    - **Marin General Hospital**- Level III Trauma Center- Greenbrae
      - Neurological Emergencies- sudden, witnessed onset of coma or rapidly deteriorating GCS with high likelihood of intracranial bleed
      - Pregnant patients - 20 weeks or > with a complaint related to pregnancy
      - STEMI Receiving Center (SRC)
      - Primary Stroke Center
    - **Kaiser Permanente San Rafael** – Emergency Department Approved for Trauma (EDAT) - Terra Linda
      - STEMI Receiving Center (SRC)
      - Primary Stroke Center
    - **Novato Community Hospital-** Basic level receiving facility – Novato
      - Primary Stroke Center

RELATED POLICIES/ PROCEDURES

- Trauma Triage & Destination Guidelines Policy 4613
- STEMI Policy C 9
- Ambulance Diversion Policy 5400
- Adult and Pediatric Sexual Assault GPC 10 and P16

- Cerebrovascular Accident (Stroke) N 4
- Burns E4 and P12
- Ventricular Assist Device ATG 8

BRADYDYSRHYTHMIAS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- HR < 50 with adequate or inadequate perfusion

☎ PHYSICIAN CONSULT

- If SBP < 80, obtain physician consult for Push-dose Epinephrine

TREATMENT

- Adequate perfusion
  - ALS RMC
- Inadequate perfusion (acute altered mental status, ongoing chest pain, hypotension or other signs of shock)
  - ALS RMC
  - **Atropine** 0.5 mg IV/IO Repeat q 3-5 min. to total of 3 mg. (Atropine should not delay pacing for patients with inadequate perfusion).
  - Transcutaneous pacing for high-degree blocks (type II second-degree or third-degree)
  - Fluid bolus of 250-500 ml NS if hypotensive and lungs clear. Repeat as needed. If inadequate response
- ☎ If SBP < 80 obtain physician consult for Push-dose Epinephrine:
  - Mix 1mL Epinephrine 0.1mg/mL ~~(IV formulation~~1:10,000) with 9mL Normal Saline in a 10mL syringe
    - Administer Push-dose Epinephrine 1mL IV/IO every 3-5 minutes
    - Titrate to maintain a SBP >80mmHg
    - Monitor blood pressure every five minutes

SPECIAL CONSIDERATIONS

- Consider and treat possible contributing factors:

▪ Hypovolemia ▪ Hypoxemia ▪ Hydrogen ion (acidosis) ▪ Hypo/Hyperkalemia ▪ Hypoglycemia ▪ Hypothermia	▪ Toxins (overdoses) ▪ Tamponade, cardiac ▪ Tension pneumothorax ▪ Thrombosis (coronary / pulmonary) ▪ Trauma

DOCUMENTATION / ESSENTIAL ELEMENTS

- Time pacing started/ stopped

RELATED POLICIES/ PROCEDURES

- Adult Sedation Policy ATG 3
- External Cardiac Pacing Procedure ALS PR 11

CHEST PAIN/ ACUTE CORONARY SYNDROME ALS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Chest discomfort or pain, suggestive of cardiac origin.
- Other symptoms of Acute Coronary Syndrome (ACS) which may include weakness, nausea, vomiting, diaphoresis, dyspnea, dizziness, palpitations, "indigestion"
- Atypical symptoms or "silent MIs" (women, elderly, and diabetics)

☎ PHYSICIAN CONSULT

- Additional treatment for ongoing pain when BP<100

TREATMENT

- ALS RMC
- **ASA** 162-325 mg (chewable), even if patient has taken daily ASA dose.
- 12-lead ECG; if elevation in leads II, III, and AVF, suspect RVI and perform right-sided ECG.
- For chest discomfort or pain, **NTG** 0.4 mg SL/ spray, MR q 5 min. if systolic BP > 100
  - Withhold the NTG if the patient has RVI or has taken erectile dysfunction (ED) medication within the last 24 hrs (Viagra/Levitra) or 36 hrs (Cialis).
- If pain persists, treat per Adult Pain Management Policy, ATG 2 ~~give **Morphine Sulfate** 2-5 mg slowly IV; MR q 2-3 minutes to a total of 10 mg.~~
- Consider NS 250cc IV fluid bolus if BP < 100.
- For recurrent episodes of ventricular tachycardia with persistent chest pain, administer **Amiodarone** 150 mg in 100 ml NS, IV/IO; infuse over 10 minutes. May repeat q 10 minutes as needed.

SPECIAL CONSIDERATION

- IV access before NTG if any one of the following applies:
  - SBP <120
  - Patient does not routinely take NTG
- Consider other potential causes of chest pain: pulmonary embolus, pneumonia, aortic aneurysm and pneumothorax.
- Infarctions may be present with normal 12-leads.
- Routine administration of oxygen is not indicated if saturation is >93%

DOCUMENTATION- ESSENTIAL ELEMENTS

- OPQRST information
- Vital signs before/after **NTG** administration
- Cardiac rhythm documentation
- ECG findings
- Erectile dysfunction medications taken
- Level of pain

RELATED POLICIES/ PROCEDURES

- 12-lead Electrocardiogram ALS PR 12
- Destination Guidelines GPC 4
- STEMI C 9

ST ELEVATION MYOCARDIAL INFARCTION (STEMI)

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Patients with acute ST Elevation Myocardial Infarction (STEMI) as identified by machine read

☎ PHYSICIAN CONSULT

- If patient is symptomatic for STEMI, but computer interpretation is not in agreement, **transmit ECG** and consult the STEMI Receiving Center (SRC) receiving physician.
- If above findings occur, but transmission is not available, activate SRC with Early STEMI Notification.

TREATMENT/ PROCEDURE

- ALS RMC
- Treat patient under appropriate protocol
- Routine administration of oxygen is not indicated if saturation is >93%
- Determine if patient is stable or unstable, and transport to appropriate facility
- Provide Early STEMI Notification and identifying patient information
  - If elevation in leads II, III, and AVF, suspect RVI and perform right-sided ECG.
- Transmit all STEMI ECGs to SRC if possible
  - To determine if patient is stable or unstable:

Stable	Unstable
▪ Stable VS and no indication of shock	▪ SBP< 90 (prior to **NTG** and ~~**Morphine Sulfate**~~ opioid administration) ▪ Signs of acute pulmonary edema ▪ Ventricular tachyarrhythmia requiring defibrillation or antiarrhythmic therapy ▪ Patient's condition, based on paramedic judgment, requires immediate hospital intervention

- Stable patient:
  - May go to preferred SRC if the estimated transport time is not more than 15 minutes longer than the nearest SRC
  - Preferred SRC defined:
    - Patient preference
    - SRC used by treating cardiologist.
- Unstable patient:
  - Transport to the closest SRC

SPECIAL CONSIDERATION

- Early notification report to include: age, gender, patient identifying information, symptoms (including presence or absence of chest pain), and 12-lead findings

DOCUMENTATION- ESSENTIAL ELEMENTS

- 12-lead findings
- How preferred SRC is determined

RELATED POLICIES/ PROCEDURES

- Destination Guidelines GPC 4
- 12-lead ECG Procedure ALS PR 12

- Chest Pain / ACS C8

HEAT ILLNESS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Exposure to unusually high temperatures, humidity, or vigorous exercise resulting in heat cramps, heat exhaustion, or heat stroke

CRITICAL INFORMATION

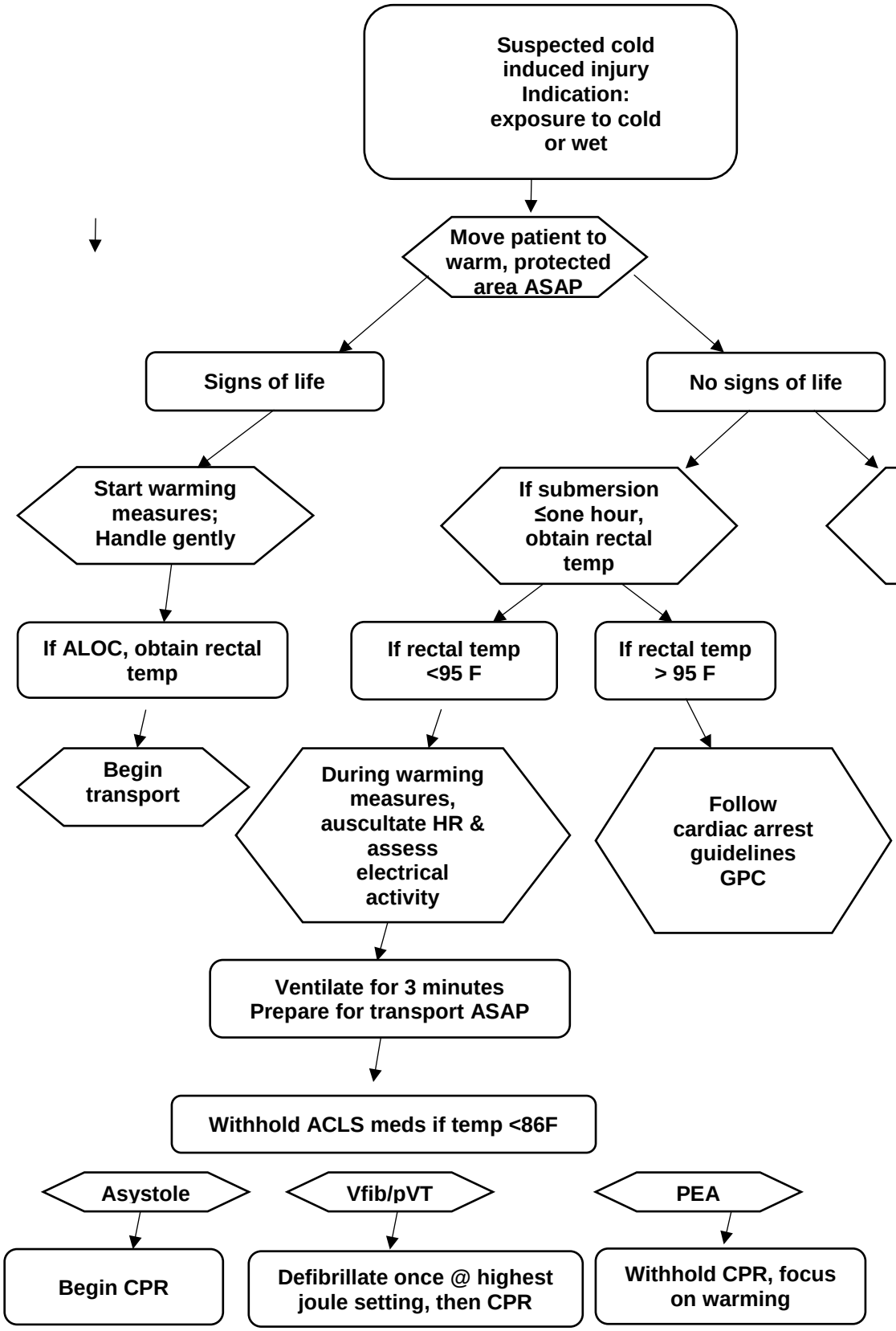
- Heat Cramps:
  - Severe painful cramping of fatigued muscles in the setting of heat stress, often following fluid replacement with hypotonic fluids
- Heat Exhaustion:
  - Systemic symptoms, often vague and nonspecific, precipitated by significant hypovolemia under conditions of heat stress, and characterized by any of the following: weakness, fatigue, nausea, vomiting, headache, impaired judgment, vertigo, syncope, tachycardia, hypotension and dizziness, often orthostatic. Mental status is normal.
- Heat Stroke:
  - Catastrophic life-threatening failure of homeostatic thermoregulatory mechanisms, manifested by extreme elevation of body temperature & severe CNS dysfunction, which may present as disorientation, delirium, seizure or coma.

TREATMENT

- Move to a cool environment and remove clothing
- Rapid cooling measures:
  - Apply wet towels and promote cooling by fanning
  - Apply cold packs to axilla and groin
- ALS RMC; ~~treat hypoglycemia per protocol~~
- Replenish electrolytes by mouth or IV NS 1-liter bolus
- Transport all patients rapidly, even if in cardiac arrest
  - Treat ALOC, seizures or shock per appropriate policy

COLD INDUCED INJURY

ALWAYS USE STANDARD PRECAUTIONS



Warming measures include:

- Remove all wet clothes
- Cover entire body with warm blankets
- Hot packs
- Warm IV fluids
- Snuggle with patient

Symptoms can include:

- **Mild-** shivering, increased RR & HR
- **Moderate/ Severe-** ALOC, slurred speech, unsteady gait, slow HR & RR, low BP, (ventricular) dysrhythmias

Special Considerations:

- Subtler presentations exist in elderly, newborns, chronically ill and alcoholics

ENVENOMATION

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Unidentified and/or identified poisonous snake bite (physical evidence: puncture wound or symptoms of envenomation: local pain, swelling or numbness)

CRITICAL INFORMATION

- Identify or provide description of snake if seen

TREATMENT

- ALS RMC
- Remove rings, bracelets, or other constricting items from all extremities
- Limit patient's movement as much as possible
- Mark extent of affected area, noting time on skin
- Immobilize extremity in a position of comfort and monitor distal pulses
- Consider pain management.
- If exhibiting signs of allergic reaction or shock, refer to Allergic Reaction Policy
- Expedite transport

SPECIAL CONSIDERATION

- Contact hospital early to allow preparation for treatment
- Do not apply tourniquets, incise skin, apply ice, or suction

DOCUMENTATION- ESSENTIAL ELEMENTS

- Estimated time of snake bite

RELATED POLICIES/ PROCEDURES

- Allergic Reactions/ Anaphylaxis M 3
- Adult Pain Management ATG 2

NON-TRAUMATIC SHOCK

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- SBP < 90 and signs of shock, i.e., ALOC, ~~suggestive of cardiac origin or after~~ severe vomiting, diarrhea, dark tarry stools, or vaginal bleeding ~~or signs of infection~~

☎ PHYSICIAN CONSULT

- If SBP < 80, obtain physician consult for Push-dose Epinephrine

CRITICAL INFORMATION

- ~~Presence of rales.~~ If rales present, see Acute Pulmonary Edema R 5

TREATMENT

- ALS RMC; initiate two large bore IVs
- ~~Treat dysrhythmia per protocol~~
- ~~12-lead ECG if patient has medical history and/or presenting complaints consistent with acute coronary syndrome. If positive for STEMI, see STEMI Policy.~~
- Give 250 ml bolus. Repeat as needed up to two liters. ~~Recheck vital signs every 250 ml. May give up to two liters fluid.~~
- ~~If lungs remain clear after fluid challenge and SBP remains < 80 then:~~
- ☎ If SBP < 80 obtain physician consult for Push-dose Epinephrine:
  - Mix 1mL Epinephrine 0.1mg/mL (IV formulation) with 9mL Normal Saline in a 10mL syringe
  - Administer Push-dose Epinephrine 1mL IV/IO every 3-5 minutes
  - Titrate to maintain a SBP >80mmHg
- Monitor blood pressure every five minutes
  - ~~IV / IO infusion of **Dopamine** 400 mg/250 ml D5W (pre-mixed). Begin at 10ug/kg/min~~.
- ~~Monitor blood pressure every five minutes. Aim for SBP≥ 100.~~
- ~~Consider placing multifunction Defib/ Pacer Pads~~

~~SPECIAL CONSIDERATION~~

- ~~Consider other causes of shock and treat as per specific protocols for the following:~~
  - ~~GI Bleeding~~
  - ~~Anaphylaxis~~
  - ~~Tension pneumothorax~~
  - ~~Vaginal hemorrhage~~
  - ~~Pulmonary edema~~

DOCUMENTATION- ESSENTIAL ELEMENTS

- 12-lead ECG finding
- Vital signs pre/post fluid boluses
- History of progression of illness

RELATED POLICIES/ PROCEDURES

- ~~12-lead Electrocardiogram Procedure ALS PR 12~~
- ~~Destination Guideline GPC 4~~
- Severe Nausea/Vomiting M 5

~~GASTROINTESTINAL BLEEDING~~
HYPOTENSION

ALWAYS USE STANDARD PRECAUTIONS

ENTIRE POLICY TO BE DELETED. USE NON-TRAUMATIC SHOCK POLICY.

INDICATION
- SBP < 90
- May present with altered mental status, history of dark, tarry stools, frank bleeding, or vomiting blood, ~~with or~~ without abdominal pain

CRITICAL INFORMATION
- History of previous episodes of gastrointestinal bleeding
- Use of anticoagulant drugs
- History of syncope or falls/trauma

TREATMENT
- ALS RMC
- If hypotensive, fluid challenge, 250-500 ml recheck vital signs q 250 ml
- If in shock, start second large bore IV; fluid challenge 500-1000 ml, recheck vital signs q 250 ml
- Shock position if tolerated, keep patient warm

DOCUMENTATION- ESSENTIAL ELEMENTS
- Estimated blood loss

RELATED POLICIES/ PROCEDURES
- Non-Traumatic Shock M 1
- Severe Nausea/Vomiting M 5

ALLERGIC REACTION & ANAPHYLAXIS
ALS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Urticaria, wheezing or signs and/ or shock after exposure to common allergens (stings, drugs, nuts, seafood, medications)

CRITICAL INFORMATION

- Respiratory: wheezing, stridor, respiratory distress
- Skin: itching, hives, rash
- Symptoms indicating early shock such as nausea, weakness, anxiety
- Past history of severe allergic reactions and hospitalizations

TREATMENT

- Mild: hives, rash
  - ALS RMC
  - **Benadryl** 50 mg IM/IV
- Moderate: hives, rash, mild bronchospasm/ wheezes, normotensive
  - ALS RMC
  - **Benadryl** 50 mg IM/IV
  - **Epinephrine** 1:1,000 IM 0.01mg/kg (max 0.5 mg); MR x 1 in 5 minutes
  - **Albuterol** 5 mg/6 ml NS via HHN, if indicated for respiratory symptoms
- Severe (Anaphylaxis)
  - ALS RMC
  - Treat dysrhythmias per appropriate protocol
  - High flow O_2; advanced airway as needed
  - **Epinephrine** 1:1,000 IM 0.01mg/kg (max. 0.5 mg); MR x 1 in 5 minutes
  - Large bore IV and fluid challenge 250-500 ml; MR
  - If unresponsive/ no palpable BP /no palpable pulse: go to Cardiac Arrest Policy, GPC ~~**Epinephrine (1:10,000)** 0.01 mg/kg IV/IO (max 0.5 mg)~~
  - **Albuterol** 5 mg/ 6ml NS via HHN, repeat if indicated
  - **Benadryl** 50 mg IV/IO/IM
  - If hypotension persists after two fluid challenges, ~~begin **Dopamine** infusion at 10 mcg/ kg/ min.~~ Monitor BP every five (5) minutes.

~~DOPAMINE~~			
~~400 mg in 250 cc D5W (pre-mixed) 60 drops/min = 60 cc/hr~~			
~~Weight (kg)~~	~~gtts/min to = 10 ug/kg/min~~	~~Weight (kg)~~	~~gtts/min to = 10 ug/kg/min~~
~~35-44~~	~~15 gtts/min~~	~~85-94~~	~~35 gtts/min~~
~~45-59~~	~~20 gtts/min~~	~~95-109~~	~~40 gtts/min~~
~~60-74~~	~~25 gtts/min~~	~~110 & up~~	~~45 gtts/min~~
~~75-84~~	~~30 gtts/min~~		

SPECIAL CONSIDERATION

- **Epinephrine** may cause anxiety, tremors, palpitations, tachycardia, and headache in the elderly (> 50yrs), and may precipitate AMI, hypertensive crisis and dysrhythmias.
- Confirm proper dilution and dose of **Epinephrine** prior to administration
- Edema of any of the soft structures of the upper airway may be lethal. Frequently assess and prepare for early intubation.

DOCUMENTATION- ESSENTIAL ELEMENTS

- Pulse oximetry
- Level of distress (mild, moderate, severe) & associated respiratory distress findings

POISONS/DRUGS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- ~~Ingestion and/or~~ Exposure to one or more toxic substances (ingestion, inhalation, or skin contact)

CRITICAL INFORMATION

- Avoid contamination of prehospital personnel
- Identify substance/drug if possible and amount ingested
- Time of ingestion and length of exposure
- Risk of exposure to field providers; additional respiratory protection may be needed
- Alert receiving facility of possible HAZMAT exposure

TREATMENT

- ALS RMC
- Consider contacting Poison Control Center at 1(800) 404-4646 for additional information. If information from Poison Control is outside of scope of practice, contact the intended receiving facility for consult.
- If level of consciousness diminishes, protect airway~~, suggest lateral position with head down.~~
- If skin or eye exposure, decontaminate patient, remove clothing, wash skin, continuous irrigation of eyes
- **Hydrocarbons or Petroleum distillates** (kerosene, gasoline, lighter fluid, furniture polish):
  - Do not induce vomiting.
  - Transport immediately.
- **Caustic/ Corrosives** (Ingestion of substances causing intra-oral burns, painful swallowing or inability to handle secretions):
  - Do not induce vomiting.
  - Consider dilution with no more than 1-2 glasses of water or milk if no respiratory compromise or change in mental status.
- **Insecticides** (organophosphates, carbonates; cause cholinergic crisis characterized by bradycardia, increased salivation, lacramation, sweating, muscle fasciculation, abdominal cramping, pinpoint pupils, incoherence or coma:
  - **Atropine** 2 mg IV slowly. Repeat 2-5 minutes until drying of secretions, reversal of bronchospasm and reversal of bradycardia. Maximum dose 10 mg.
  - If seizures, **Midazolam (Versed)** 1 mg IV slowly; MR in 3 minutes to maximum dose 0.05 mg/kg
    - For IN: 5 mg (2.5mg in each nostril)
    - For IM: 0.1mg/kg; MR x 1 in 10 minutes
- **Cyclic Antidepressants** (frequently associated with respiratory depression, almost always tachycardic, widened QRS and ventricular arrhythmias generally indicate life-threatening ingestions):
  - In the presence of life-threatening dysrhythmias (hemodynamically significant supraventricular rhythms, ventricular dysrhythmias or QRS > 0.10):
    - Hyperventilate if assisting ventilations or if intubated.
    - **Sodium bicarbonate** 1 mEq/kg IVP
  - If seizures, **Midazolam (Versed)** 1 mg IV slowly; MR in 3 minutes to maximum dose 0.05 mg/kg

- For IN: 5 mg (2.5 mg in each nostril)
- For IM: 0.1mg/kg; MR x 1 in 10 minutes

- **Phenothiazine reactions** (restlessness, muscle spasms of the neck, jaw, and back; oculogyric crisis, history of ingestion of phenothiazine, or unknown medication):
  - **Benadryl** 1mg/ kg slow IVP to max of 50 mg
- ~~**Other non-caustic drugs** (patient awake and alert):~~
  - ~~If within 1 hour of ingestion, consider **Activated charcoal** 1 GM/kg PO, not to exceed 50 GM~~
  - ~~If level of consciousness diminishes, protect airway, suggest lateral position with head down.~~

DOCUMENTATION- ESSENTIAL ELEMENTS

- Obtain history of ingestion, substance, amount and time of ingestion, bring sample to hospital if possible
- Vomiting prior to ED arrival

RELATED POLICIES/ PROCEDURES

- Seizures N2

SEPSIS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

Documented or suspected ~~source of~~ infection with at least TWO of the following:

- HR > 90
- RR > 20
- SBP < 90
- Temperature >100.4 or <96
- **AND**
  - ETCO2 ≤ 25 mmHG

☎ **PHYSICIAN CONSULT**

- If SBP < 80, obtain physician consult for Push-dose Epinephrine

CRITICAL INFORMATION

If rales present, see Acute Pulmonary Edema R5

TREATMENT

- ALS RMC
- ETCO2
- If patient meets above criteria, provide Sepsis Notification
  - Two large bore IVs or IOs (only one may be in antecubital fossa)
  - Administer 20cc/kg fluid bolus. May give up to two liters fluid.
- ☎ If SBP < 80 obtain physician consult for Push-dose Epinephrine:
  - Mix 1mL Epinephrine 0.1mg/mL ~~(IV formulation~~1:10,000) with 9mL Normal Saline in a 10mL syringe
  - Administer Push-dose Epinephrine 1mL IV/IO every 3-5 minutes
  - Titrate to maintain a SBP >80mmHg
  - Monitor blood pressure every five minutes

SPECIAL CONSIDERATION

- Consider other causes of shock and treat as per specific protocols

DOCUMENTATION- ESSENTIAL ELEMENTS

- Suspected infection
- History of progression of illness
- Full set of VS including temperature and ETCO2

COMA/ ALTERED LEVEL OF CONSCIOUSNESS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

GCS < 15, etiology unclear (consider AEIOU TIPS); sudden onset of weakness, paralysis, confusion, speech disturbances, headache

TREATMENT

- ALS RMC
- Position patient with head elevated 30 degrees or left lateral recumbent if vomiting
- If BS < 60 or immeasurable:
  - **Dextrose 10% 25GM/250ml**:
    - 125 ml bolus IV/IO over 10 minutes; recheck BG and repeat as needed
- If BS < 60 or immeasurable and unable to start IV:
  - **Glucagon 1 mg** IM
- Narcotic overdose:
  - ~~**Narcan 0.4 mg-2 mg** IV/ IM/ IN / IO; q 2-3 minutes until patient responds. May need multiple doses.~~
  - ~~Administer~~ **Narcan** 0.4-2.0 mg/kg, IV/IO/IM/~~SL~~/IN
    - **For IN administration:** 2 mg (1 mg per nostril)**.** ~~Pinch nostrils for approx. 2-3 minutes after administration to allow absorption of medication~~
    - If respiratory depression persists, repeat above doses ~~in 5 minutes~~ q 2-3 minutes until patient responds. May need multiple doses.

SPECIAL CONSIDERATION

- Consider indication for C-spine precautions; consider diabetes-related complications
- If CVA suspected, see CVA/Stroke Policy N 4

DOCUMENTATION- ESSENTIAL ELEMENTS

- Past medical history (i.e., seizures, diabetes)
- Blood glucose level
- Dosage of medications, times administered
- Narcan administration by first responder, if known

RELATED POLICIES/ PROCEDURES

- Intranasal Medications Midazolam(Versed) and Narcan Procedure ALS PR 7
- CVA / Stroke Policy N4

CEREBROVASCULAR ACCIDENT (STROKE)

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

Sudden onset of weakness/paralysis, speech or gait disturbance

TREATMENT

- ALS RMC
  - Secure IV access (antecubital preferred) if patient meets Early Stroke Notification criteria
  - Elevate head of bed 20-30% elevation or place in left lateral decubitus
- Provide **Early Stroke Notification** if all of the following are true:
  - Abnormal Cincinnati Prehospital Stroke Scale (CPSS) score
  - Last known well < 4.5 hours
  - Symptoms are most likely due to stroke and not a stroke mimic
  - Blood glucose level >~~70~~ 60
- If the patient meets criteria for early notification
  - During radio report, provide patient identifying information – hospital medical record number if known and/or last name and DOB of patient
  - Rapidly transport to patient's preferred Primary Stroke Center (PSC), as long as the estimated transport time is not > 15 minutes longer than the closest PSC.
    - Preferred PSC: patient's preference or PSC with patient's medical records
    - No preferred PSC: transport to the closest PSC
  - Notify family members/medical decision maker that their immediate presence at the hospital is critical for optimal care
  - Bring names and best phone numbers for the patient's medical decision maker and whoever last saw the patient normal whenever possible
- If high suspicion of rapidly progressive intracranial bleed (sudden, witnessed onset of coma or rapidly deteriorating GCS especially in setting of severe headache) transport to Marin General Hospital

DOCUMENTATION- ESSENTIAL ELEMENTS

- Criteria for Early Stroke Notification
- Choose CVA as Primary Impression
- **Name and contact information for patient family member/decision maker and/or those who had last seen the patient normal (e.g., skilled nursing personnel)**
- Documentation of CPSS and hospital notification
- Time last known well (document in military time). If time last known to be well is unknown or indeterminate, document and report
- Blood glucose level
- GCS
- History of intracranial hemorrhage
- Serious head injury within 2 months
- Taking anticoagulant medications (e.g. Warfarin/ Coumadin, Pradaxa/Dabigatran, Xarelto/Rivaroxaban, Eliquis/Apixaban, Lovenox/Enoxaparin)
- Improving neurological deficit

RELATED POLICIES/ PROCEDURES

- Destination Guidelines GPC 4
- Prehospital / Hospital Contact Policy 7001
- Ambulance Diversion Policy 5400
- Coma/ALOC N1

Cincinnati Pre-Hospital Stroke Scale (CPSS)

Facial Droop (the patient shows teeth or smiles)
___Normal: both sides of the face move equally
___Abnormal: Right side of the face does not move as well as the left
___Abnormal: Left side of the face does not move as well as the right

Arm Drift (the patient closes their eyes and extends both arms straight out for 10 seconds)
___Normal: both arms move the same, or both arms do not move at all
___Abnormal: Right arm either does not move, or drifts down compared to the left
___Abnormal: Left arm either does not move, or drifts down compared to the right

Speech (the patient repeats “The sky is blue in Cincinnati.” or another sentence)
___Normal: the patient says the correct words with no slurring of words
___Abnormal: the patient slurs words, says the wrong words, or is unable to speak

RESPIRATORY ARREST

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Absence of spontaneous ventilations; pulse present

TREATMENT

- ALS RMC
  - If suspected narcotic overdose:
    - Assist breathing with BVM (do not insert advanced airway before **Narcan**)
  - Administer **Narcan** 0.4-2.0 mg/kg, IV/IO/IM/~~SL~~/IN
    - **For IN administration:** 2 mg (1 mg per nostril)**.** ~~Pinch nostrils for approx. 2-3 minutes after administration to allow absorption of medication~~
    - If respiratory depression persists, repeat above doses ~~in 5 minutes~~ q 2-3 minutes until patient responds. May need multiple doses.

RELATED POLICIES/ PROCEDURES

- Intranasal Medication Midazolam (Versed) & Narcan Procedure ALS PR 16

ACUTE RESPIRATORY DISTRESS

ALWAYS USE STANDARD PRECAUTIONS

INDICATIONS

- Increased respiratory rate or sensation of difficulty breathing that is not clearly due to the clinical entities specified in other guidelines. Symptoms may be due to pneumonia, inhalation of toxic substances, pulmonary embolus.

TREATMENT

- ALS RMC
- Position of comfort
- If absent or diminished breath sounds due to severe bronchospasm, refer to Bronchospasm/Asthma/COPD, R4
- Consider CPAP with decreased oxygen saturation

DOCUMENTATION- ESSENTIAL ELEMENTS

- Pulse oximetry

RELATED POLICIES/ PROCEDURES

- CPAP Procedure ALS PR 13
- Bronchospasm/Asthma/COPD R4

ACUTE PULMONARY EDEMA

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Acute onset of respiratory difficulty; associated with the following signs or symptoms:
  - Rales
  - Hypertension
  - Tachypnea
  - Diaphoresis
  - Chest discomfort
  - History of cardiac disease
  - Occasional wheezes
  - Near drowning

☎ **PHYSICIAN CONSULT**

- **Morphine Sulfate**
- If SBP < 80, obtain physician consult for Push-dose Epinephrine

TREATMENT

- ALS RMC
- If tolerated, position patient in a sitting position, with legs dependent.
- 12-lead ECG if available
- If SBP > 100:
  - Apply CPAP
  - **Nitroglycerin** 0.4 mg SL; MR q 5 if SBP > 100
  - ☎ If no response, consider physician consult for **Morphine Sulfate** 2-5 mg IV
- If SBP < 100, consider **NS** 250-500 ml IV fluid challenge
- ☎ If SBP < 80 obtain physician consult for Push-dose Epinephrine:
  - Mix 1mL Epinephrine 0.1mg/mL (1:10,000) with 9mL Normal Saline in a 10mL syringe
    - Administer Push-dose Epinephrine 1mL IV/IO every 3-5 minutes
    - Titrate to maintain a SBP >80mmHg
- Monitor blood pressure every five minutes
  - ~~Consider **Dopamine** 400 mg/250 NS (premix), begin infusion at 5 mcg/kg/min and increase to 10 mcg/kg/min, if BP <100. Monitor BP q 3-5 min~~

~~**DOPAMINE**~~			
~~**400 mg in 250 ml D5W (pre-mixed) 60 drops/min = 60 ml/hr**~~			
~~**Weight (kg)**~~	~~**gtts/min to = 10 ug/kg/min**~~	~~**Weight (kg)**~~	~~**gtts/min to = 10 ug/kg/min**~~
~~35-44~~	~~3-15 gtts/min~~	~~85-94~~	~~7-35 gtts/min~~
~~45-59~~	~~4-20 gtts/min~~	~~95-109~~	~~8-40 gtts/min~~

~~60-74~~	~~5-25 gtts/min~~	~~110 & up~~	~~9-45 gtts/min~~
~~75-84~~	~~6-30 gtts/min~~		

SPECIAL CONSIDERATION

- Do not give **NTG** if patient has taken erectile dysfunction medication (ED) within the previous 24 hours for Levitra/Viagra or 36 hours for Cialis.

DOCUMENTATION- ESSENTIAL ELEMENTS

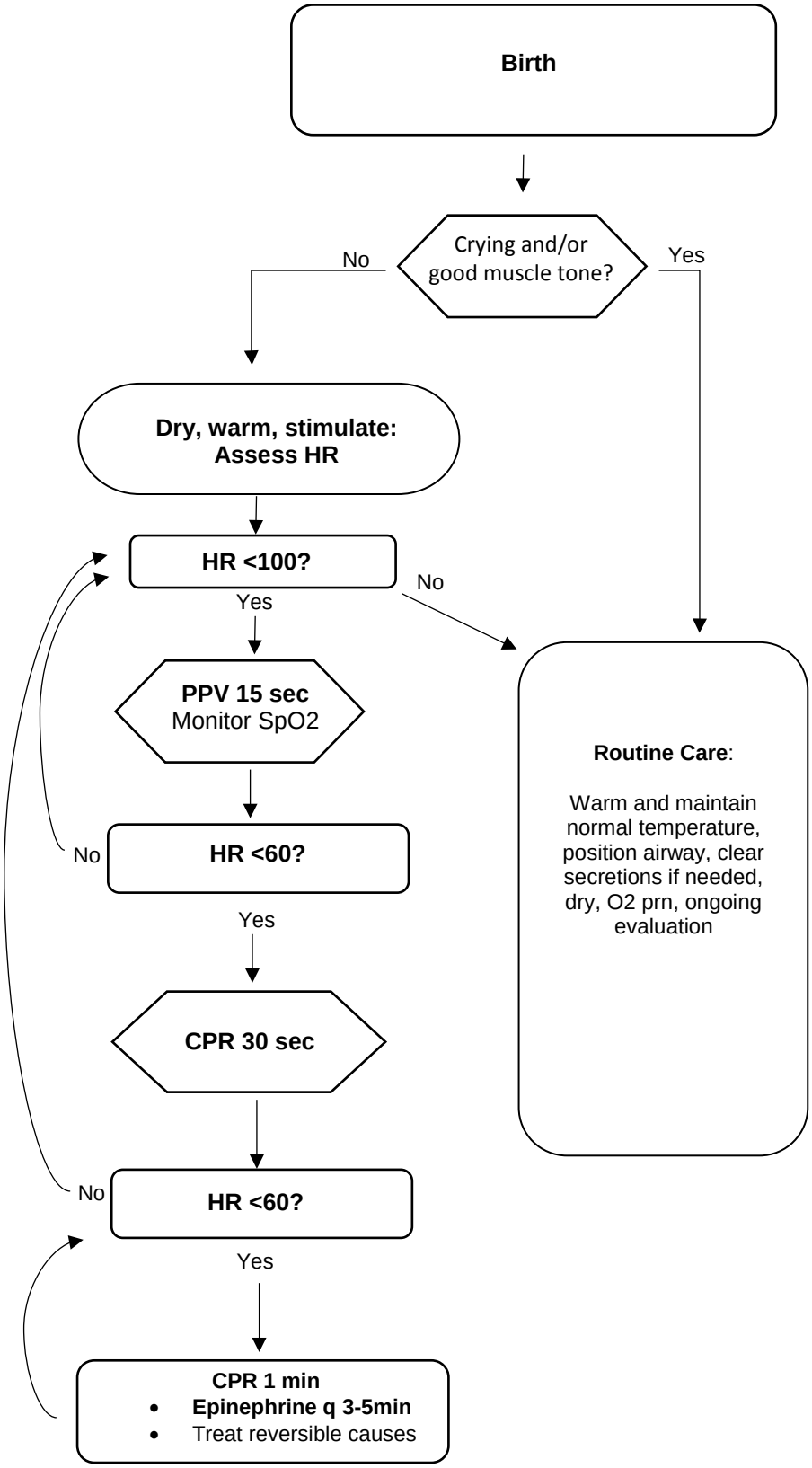
- SpO2

RELATED POLICIES/ PROCEDURES

- CPAP Procedure PR 13

Newborn Resuscitation

ALWAYS USE STANDARD PRECAUTIONS



Critical Information:

- Measure with color-coded resuscitation tape
- Compress at rate of 90 bpm. Use metronome or similar device
- 3:1 compression/ventilation ratio w/2 two-person CPR
- Change compressors every 2 minutes
- For routine care, if mother stable then place infant on mother's chest for skin-to-skin care
- Peripheral cyanosis is considered a normal finding
- Note if meconium present

Airway Management:

- Ventilate at a rate of 60 breaths/min
- Use two-person BLS airway management whenever possible
- Avoid excessive ventilation
- If HR>100 but SpO2 not in target range or central cyanosis present, administer blow-by O2 at 10LPM
- Ventilation corrective actions
  - **M**-mask adjustment
  - **R-**reposition head
  - **S**-suction mouth THEN nose
  - **O**-open the mouth
  - **P**-pressure increase
  - **A**-alternative airway

Drug Therapy:

- **Epinephrine** 0.01mg/kg 1:10,000 IV/IO q 3-5 minutes
- **Fluid bolus** 10ml/kg NS

Reversible Causes:

- Hypovolemia
- Hypoxia
- Hypothermia
- Pneumothorax
- Toxins (maternal drug exposure)

SpO2 Normal Values After Birth (In Min)	
1 min	60-65%
2 min	65-70%
3 min	70-75%
4 min	75-80%
5 min	80-85%
10 min	85-95%

PEDIATRIC RESPIRATORY DISTRESS

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Patient exhibits any of the following:
  - Wheezing
  - Stridor
  - Grunting
  - Nasal flaring
  - Apnea

CRITICAL INFORMATION

- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years**;** adolescent = >14 years

TREATMENT

- ALS RMC
- Position of comfort to maintain airway
- Allow parent to administer oxygen if possible
- Upper Airway/ Stridor:
  - Mild to moderate respiratory distress: 3ml NS via HHN
  - Moderate to severe respiratory distress: **Epinephrine** 1:1,000 5 mg in 5 ml via nebulizer
- Lower Airway Obstruction/ Wheezing:
  - **Albuterol** 2.5 mg in 3 ml NS via HHN, mask, or bag-valve-mask; MR x 1 and
  - **Ipratropium** 500 mcg in 2.5 ml NS via HHN or bag-valve-mask
  - If response inadequate, ~~**Epinephrine** 1:1,000 (0.01 mg/kg) IM, maximum single dose 0.3 mg; MR x 1 in 15 minutes.~~ **Epinephrine** IM (1:1000) 0.01mg/kg (MR in 5 minutes); max. total dose 0.6 mg
- Foreign Body Obstruction:
  - Attempt to clear airway:
  - < 1 year: 5 back blows and 5 chest thrusts
  - > 1 year: 5 abdominal thrusts
  - For foreign body airway obstruction refractory to above attempts, utilize laryngoscopy to visualize ~~larynx~~ and remove foreign body with Magill forceps
- Respiratory failure/ apnea/ complete obstruction.
  - Attempt positive pressure ventilation via bag-valve-mask, ~~if unable to ventilate, attempt intubation~~
  - ET tube placement approved for patients who are 12yrs of age or older **<u>or</u>** height greater than the length of the color-coded resuscitation tape.
  - King Airway approved as a rescue airway for patients who are 12yrs of age or older **<u>and</u>** 4 feet tall

SPECIAL CONSIDERATIONS

- Assess key history factors: recent hospitalizations, asthma, allergies, croup, and medication usage

PEDIATRIC ALLERGIC REACTION

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Exposure to allergens causing airway, breathing and/or circulatory impairment

CRITICAL INFORMATION

- Treat according to length based color-coded resuscitation tape and in conjunction with the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years**;** adolescent = >14 years
- Exposure to common allergens (stings, drugs, nuts, seafood, meds), prior allergic reactions
- Presence of respiratory symptoms (wheezing, stridor)

TREATMENT

- ALS RMC
- Mild (hives, rash)
  - **Benadryl** 1mg/kg IM (MR in 10 minutes; max. dose 50 mg)
- Moderate / Severe
  - **Epinephrine** IM (1:1000) 0.01mg/kg (MR in 5 minutes); max. total dose 0.6 mg
  - **Benadryl** 1mg/kg IM/IV/IO (MR in 10 minutes; max. dose 50 mg)
  - **Albuterol** 2.5 mg/3 ml NS HHN if bronchospasms present; MR X1 if no improvement
  - If hypotensive, fluid challenge **NS** 20 ml/kg IV/IO, MR
  - ~~If no palpable pulse or BP~~; If unresponsive/ no palpable BP /no palpable pulse: go to Pediatric Cardiac Arrest Policy, P1 ~~**Epinephrine** IV/IO (1:10,000) 0.01mg/kg; MR q 3-5 minutes~~

DOCUMENTATION- ESSENTIAL ELEMENTS

- Allergen if known

PEDIATRIC TOXIC EXPOSURES

ALWAYS USE STANDARD PRECAUTIONS

INDICATION

- Probable ingestion and/or exposure to one or more toxic substances, including alcohol and medications

☎ PHYSICIAN CONSULT

- **Calcium Channel Blocker, Beta-Blockers, and Tricyclic overdoses**

CRITICAL INFORMATION

- Treat according to length based color-coded resuscitation tape. Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years**;** adolescent = >14 years
- Avoid contamination of prehospital personnel
- Identify substance/drug if possible and amount ingested; bring to hospital if appropriate
- Time of ingestion and length of exposure
- Risk of exposure to field providers – additional respiratory protection may be needed
- Alert receiving facility of possible HAZMAT exposure
- ~~Bring identifying substance containers to hospital when possible / appropriate~~

TREATMENT

- ALS RMC
- Fluid bolus **NS** 20 ml/kg IV/IO as indicated
- If suspected opiate overdose in patient > four weeks, administer **Narcan** 0.1 mg/kg IV/IO/IM/IN prior to advanced airway
  - **Hydrocarbons or Petroleum Distillates**
    - Do not induce vomiting
    - Transport immediately
  - **Calcium Channel Blockers / Tricyclics / Beta-Blockers**
    - Transport immediately
    - ☎ Physician consultation for additional treatments (i.e., Calcium Chloride, Sodium Bicarb)
  - **Caustics/Corrosives**
    - Do not induce vomiting
    - Consider dilution with no more than 1-2 glasses of water or milk if NO respiratory compromise or change in mental status
  - **Insecticides** (organophosphates, carbonates; cause cholinergic crisis characterized by bradycardia, increased salivation, lacramation, sweating, muscle fasciculation, abdominal cramping, pinpoint pupils, incoherence or coma):
    - Decontaminate patient and alert hospital of possible HAZMAT exposure
    - **Atropine** 0.05 mg/kg IV/IO slowly every 5-10 minutes until symptoms resolve.
    - If seizures, **Midazolam (Versed):**
      - IV / IO: 0.05 mg/kg (maximum 1 mg per dose). May repeat every 3 minutes until seizure stops and/or total dose of 5 mg is reached.
      - IM: 0.1 mg/kg; May repeat x 1 in 10 minutes if still seizing.
      - IN: 0.2 mg/kg (split dose in half for each nostril). Maximum dose = 5 mg
  - **Phenothiazine Reactions**
    - **Benadryl** 1 mg/kg IM/IV/IO to max. of 50 mg

SPECIAL CONSIDERATION

- Early contact with Poison Control Center

DOCUMENTATION- ESSENTIAL ELEMENTS

- Toxic substance identification
- Approximate time of exposure / ingestion

RELATED POLICIES/ PROCEDURES

- Intranasal Medications Midazolam(Versed) and Narcan ALS PR 7
- Pediatric Seizures P 9
- Pediatric Dosing Guide P18A

PEDIATRIC MEDICATIONS AUTHORIZED/ STANDARD INITIAL DOSE

DRUG	CONCENTRATION	STANDARD DOSE
Adenosine (Adenocard)	6 mg/ 2 ml	*Tachycardia Poor Perfusion:* 0.1mg/kg; max. first dose 6mg. MR x 1 (double the dose); max. dose 12mg. (Rapid IV/IO push, each dose followed by 5 ml NS flush).
Albuterol	2.5 mg/ 3 ml NS	2.5 mg/ 3ml NS
Amiodarone	150 mg/ 3 ml	*Pulseless Arrest:* 5 mg/ kg IV/ IO followed by or diluted in 20-30 ml NS. Maximum single dose 300 mg. ☎ *Tachycardia with poor perfusion:* 5mg/kg IV/IO over 20-60 min.
Atropine	1 mg/ 10 ml	*Bradycardia:* 0.02 mg/kg IV/ IO (minimum dose 0.1 mg.; single max. dose 0.5mg). MR X 1. *Organophosphate Poisoning:* 0.05 mg/kg IV/IO; MR q 5-10 min. max. dose 4mg or until relief of symptoms
Dextrose 10%	D10%	*ALOC (Neonate)*: 2 ml/ kg IV/IO *ALOC (>Neonate):* 5 ml/ kg IV/IO
Diphenhydramine (Benadryl)	50 mg/ 1 ml "or" 50 mg/ 10 ml	1 mg/ kg IV/IO/IM IV/ IO max. dose 25 mg/ min. IM max. dose, 50 mg.
Epinephrine 1:1000	1 mg/ 1ml EpiPen Jr.® 0.15mg (or equivalent)	*Allergic Reaction moderate/ severe/ anaphylaxis:* 0.01 mg/ kg IM (0.01ml/ kg). Max. dose of 0.6 mg (0.6 ml). EpiPen Jr®.; repeat as needed in 5 min. *Upper Airway/ Stridor:* 5mg in 5ml via nebulizer
Epinephrine 1:10,000	1 mg/ 10 ml	*Anaphylaxis:* If no response to Epi 1:1000, give 0.01mg/ kg (0.1ml/kg) of 1:10,000 IV/ IO. *Bradycardia:* 0.01mg/ kg (0.1ml/kg) IV/ IO. *Cardiac Arrest:* 0.01 mg/kg (0.1ml/kg) IV/ IO

Fentanyl	100 mcg/2 ml	*Pain Management:* 0.1 mcg/kg slow IV/IO/IN; MR q 5 minutes; max dose 3 mcg/kg; for IN divide dose evenly between nares
Glucagon	1 mg/ 1 ml	*Hypoglycemia/Beta Blocker OD:* 0.03 mg/kg IM (max. dose 1 mg)
Ipratropium (Atrovent)	500 mcg per unit dose (2.5 ml)	Unit dose
Lidocaine 2% (preservative free)	20 mg/1 ml	*IO insertion for pts >3kg:* Infuse 0.5mg/kg slowly (up to a maximum dose of 40mg). May repeat as needed x 1 using ½ of initial bolus.
Midazolam (Versed)	2 mg/ 2ml IN: 5 mg/1 ml	*Cardioversion:* 0.05 mg/kg slow IV/IO. Max. initial dose 1 mg *Seizure (see policy for specifics):* IV/IO=0.05 mg/kg; MR q 3' (Max=5mg) IM=0.1mg/kg; MR in 10 minutes x1 IN= 0.2mg/kg; Max.= 5 mg.
Morphine Sulfate	10 mg/ 10 ml 10 mg/ 1 ml	*Pain Management*: 0.1mg/ kg (0.1ml/ kg) slow IV/ IO/ IM. MR X 1 in 15 min. if IV/ IO or 30 min if IM. *Burns:* 0.1 mg/kg IV/IO/IM in incremental doses up to 0.3mg/kg
Naloxone (Narcan)	2mg/2ml	*Suspected OD in non-neonate:* 0.1 mg/ kg (0.25 ml/ kg) IV/ IO/ IM
Ondansetron (Zofran)	4 mg	*Patients ≥ 4 yrs*: 4 mg ODT or slow IV over 30 seconds *Patients 2-4yrs*: 2mg ODT or slow IV over 30 seconds.
Sodium Bicarbonate	50 mEq/ 50 ml	*Tricyclic Antidepressant OD with significant dysrhythmias:* 1mEq/ kg IV/ IO

NOTE: If the above concentrations become unavailable, providers may use alternate available concentrations or packaging.

Anticoagulant List (11/8/17)

Coumadin/Warfarin
Lovenox/ Enoxaparin
Eliquis/ Apixaban
Xarelto/ Rivaroxaban
Pradaxa/ Dabigatran Etexilate
Brilinta / Ticagrelor

Antiplatelet List (4/4/18)

Aspirin
Clopidogrel/Plavix
Prasugrel/Effient
Ticagrelor/Brilinta
Ticlopidine/Ticlid