UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Ventilate patient with BVM and supplemental oxygen

- Do not delay initiation of CPR
- Follow current CPR guidelines
- Apply AED if indicated
- Obtain medical history and gather medications if possible
- Obtain event history
  - Down time prior to CPR initiation
  - Total down time including CPR

Special Considerations

- Cold water drowning and hypothermia patients should have resuscitation performed even with extended down times
- Refer to Policy 116 for consideration of withholding/terminating resuscitation efforts
TRAUMA CARDIAC ARREST

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Ventilate patient with BVM and supplemental oxygen

- Do not delay initiation of CPR
- Follow current CPR guidelines
- Place patient in full spinal precautions
- Avoid hyperextension of the neck
- Control obvious hemorrhage
- Initiate rapid transport

Special Considerations
- AED is not to be applied unless there are indications that the cardiac arrest preceded the traumatic event
- Refer to Policy 116 for consideration of withholding/terminating resuscitation efforts
AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Ventilate patient with BVM and supplemental oxygen

- Do not delay initiation of CPR
- Follow current CPR/manufacturer guidelines for AED use
- AED is not to be used on traumatic patient unless trauma is suspected secondary to cardiac arrest
ABDOMINAL PAIN

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Reassure/calm patient
- Give nothing by mouth
- Obtain vital signs
- Obtain medical history or information on traumatic event

- Treat for shock as necessary
- Beware of vomiting – be prepared to protect airway
- Patients with abdominal pain should be evaluated in the emergency department
Airway Obstruction

Universal Algorithm
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

Complete Obstruction
- Follow current guidelines of the American Heart Association, American Red Cross or other approved programs
- Reassure/calm patient
- Position of comfort
- Obtain vital signs
- Obtain medical history
- Gather medications or list
- Do not delay transport

Partial Obstruction
- Encourage patient to cough
- Remove visualized foreign body if possible
- Monitor patient’s airway
- Do not give fluids
ALTED MENTAL STATUS

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

Known Diabetic
- If patient able to swallow water and gag reflex intact, administer glucose paste, juice, non diet soda, milk, candy, or other type of glucose
- Patient not cleared to refuse transport unless A&O X4 and blood glucose reading is above 60 mg/dl

Trauma Related
- Full Spinal Precautions
- Assess for other injuries
- Consider medical cause for patient’s altered mental status

Possible Causes
Consider AEIOUTIPS:
- Alcohol
- Epilepsy
- Insulin
- Overdose
- Uremia
- Infection
- Psychiatric
- Stroke or Cardiovascular

Other Considerations: Hypoxia, Carbon Monoxide or other toxic exposures
# Adult Cardiac Chest Pain/Acute Coronary Syndrome

## STABLE
(BP >100 Systolic with signs of adequate perfusion)

### BLS PROCEDURES
- **UNIVERSAL ALGORITHM**
  - Scene Safety / PPE
  - ABCs
  - Administer Oxygen Per Policy 580
- **Procedures**
  - Reassure/calm patient
  - Position of comfort
  - Obtain vital signs
  - Obtain medical history
  - Gather medications or list
  - If requested by patient, assist with administration of patient’s Nitroglycerin as long as patient’s systolic blood pressure remains above 100

## UNSTABLE
(BP <100 systolic with signs of poor perfusion)

### BLS PROCEDURES
- **UNIVERSAL ALGORITHM**
  - Scene Safety / PPE
  - ABCs
  - Administer Oxygen Per Policy 580
- **Procedures**
  - Reassure/calm patient
  - Position of comfort
  - Obtain vital signs
  - Obtain medical history
  - Gather medications or list

### BLS Optional Scope
- Pulse Oximetry
- Administer Aspirin **162 mg** (non-enteric coated) tablets chewed and swallowed
- Aspirin administration should be considered for any complaint of suspected cardiac origin regardless of chest pain

### ALS Standing Orders
- **Universal Algorithm**
  - Identify and treat reversible causes
  - Establish vascular access
  - Obtain **12-lead ECG** early
- **Procedures**
  - Nitroglycerin (Nitro) – 0.4mg SL tablets or spray for cardiac chest pain. Administer every 5 minutes until pain is relieved
  - Stop Nitro administration if BP trending towards or drops < 100 mmHg systolic or in the presence of other signs/symptoms of hemodynamic instability.
  - If pain persists and not relieved with Nitro: **Morphine 2-10 mg slow IVP titrated to pain improvement** (Maintain systolic BP > 100 mmHg)
### Base Hospital Orders Only

- Fluid Bolus **500 ml NS**
- Additional administration of Morphine
- Administration of **topical Nitroglycerin** may be considered after initial dose(s) of SL Nitroglycerin
- **Dopamine 5-20 mcg/kg/min** for persistent hypotension

### Additional Information

- Early notification of the SRC with “STEMI Alert” with a 12-lead ECG reading of ***Acute MI Suspected*** or current equivalent based on monitor type.
- For “STEMI Alerts” consider establishing second IV access with NS lock. The addition of a Luer-Lock is recommended to assist the Cath Lab in tubing changes.
- Consider Base Physician consult for A-fib with RVR prior to administration of NTG

Effective Date: January 1, 2014

Review: 2016

Thomas Ronay, MD, EMS Medical Director
INGESTION/POISONING

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

Contact with dry substance
- Brush off substance prior to flushing with large quantities of water
- Remove all contaminated clothing
- Decontaminate patient at scene

Contact with liquid
- Remove all contaminated clothing
- Flush with large quantities of water
- Decontaminate patient at scene

- Reassure/calm patient
- Position of comfort
- Obtain vital signs
- Obtain medical history
- Gather medications or list

Special Considerations
- Consider nerve agent, carbon monoxide, or organophosphate exposure if multiple victims
- Protect rescuers from poison agent due to contact with substance or secondary exposure from patient
- If eyes involved, flush for 15 minutes (use normal saline when available)

San Luis Obispo County EMS Agency BLS Treatment Protocols 2009
Policy Reference No. 514
RESPIRATORY DISTRESS

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

Possible Medical Causes

- Asthma/Emphysema
- Bronchitis/Pneumonia
- Congestive Heart Failure
- Myocardial Infarction
- Metabolic imbalance
- Spontaneous Pneumothorax
- Pulmonary Embolus

Possible Traumatic Causes

- Blunt Thoracic Trauma
- Penetrating Thoracic Trauma
- Tension Pneumothorax
- Hemothorax
- Hypovolemic shock

Reassure/calm patient
- Position of comfort
- Obtain vital signs
- Obtain medical history
- Gather medications or list

Special Information

- Monitor respiratory status closely
- Transport patient rapidly
- Consider reversible causes
- May assist in use of inhaler if one is prescribed to the patient
## Seizures

### BLS Procedures

**Adult**

- Do not place anything in patient’s mouth while actively seizing
- Prevent patient from injuring themselves
- Do not restrain patient
- Obtain medical history and gather medications

**Pediatric**

- Do not restrain patient

### Considerations

- Insert oropharyngeal airway when seizing has stopped to protect airway if the patient is unconscious and has no gag reflex
- Utilize spinal precautions if trauma suspected
- Place non-traumatic patients on their side
- Patients in status seizure should have high flow O2 and rapid transportation
- Consider hypoglycemia

### BLS Optional Scope

- Pulse Oximetry – place as possible

### ALS Prior to Base Hospital Contact

**Adult**

- **Midazolam 1-2 mg** slow IVP
- **Midazolam 0.1 mg/kg** IM (Max 5 mg)
- **Midazolam 5 mg** IN (intranasal) (Split dose: 2.5 mg in each nostril)
- May repeat once after 10 minutes

**Pediatric**

- **Midazolam 0.1 mg/kg** IM/IN (Split dose: ½ dose in each nostril)
- **Midazolam 0.1 mg/kg** slow IVP (may repeat once after 10 minutes)
- Max 5 mg all routes
- May repeat once after 10 minutes

EKG, Pulse oximetry, and ETCO2 (when equipment is available) monitoring will be used at all times.

### Base Hospital Orders Only

- Contact base if additional benzodiazepine needed

Effective Date: January 1, 2014
Review: 2016
Thrombotic Stroke

- Characterized by sudden onset
- Usually painless

Hemorrhagic Stroke

- Patient’s condition may continue to deteriorate rapidly
- Patient may complain of head pain and have nausea and vomiting

STROKE (CVA)

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

Reassure/calm patient
Position of comfort
Obtain vital signs
Obtain medical history
Gather medications or list

Obtain accurate time of onset and description of event to relay to the emergency department
Remember that aphasic CVA patients often understand – always communicate with your patient
SHOCK – NON TRAUMATIC

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Place patient supine with legs elevated*
- Keep patient warm
- Do not delay transport
- Obtain vital signs
- Obtain medical history
- Gather medications or list

* Patients in cardiogenic shock or with respiratory compromise may need to be placed in a semi-fowlers position.

Consider possible causes

- Respiratory
- Hemorrhagic
- Anaphylactic
- Cardiogenic
- Septic
- Metabolic
- Neurological
ABDOMINAL TRAUMA

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

Blunt Trauma
- Repeat abdominal exam frequently for changes
- Do not delay transport

Penetrating Trauma
- Stop bleeding / apply dressing
- Stabilize impaled objects with bulky dressing
- Eviscerations - cover area with large moist dressing. Do not replace intestines.
- Do not delay transport

- Reassure/calm patient
- Give nothing by mouth
- Obtain vital signs frequently
- Obtain medical history or information on traumatic event

- Treat for shock as necessary
- Spinal precautions as indicated
- Monitor for vomiting – be prepared to protect airway
Small Burns < 15% TBSA
Cover with moist sterile dressings using normal saline or a commercial water gel burn dressing

Large Burns > 15% TBSA
Cover with moist sterile dressings using normal saline or a commercial water gel burn dressing and then cover with dry dressings to prevent hypothermia

- Reassure/calm patient
- Position of comfort
- Obtain vital signs
- Assess/treat other injuries (radiation/electrical)
- Treat for shock
- Monitor airway closely for swelling

Special Considerations
- Chemical Burns
  - Remove patient’s clothing
  - Remove contaminants with large quantities of water except for lime, metallic sodium, or lithium exposure
- Consider carbon monoxide or other toxic exposures

San Luis Obispo County EMS Agency BLS Treatment Protocols 2009
Policy Reference No. 531
**CHEST TRAUMA**

**UNIVERSAL ALGORITHM**
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

**Penetrating Trauma**

**Open Chest Wound**
- Cover wound with chest seal device or Vaseline impregnated gauze and tape loosely on three sides
- Monitor patient closely for development of tension pneumothorax. If this occurs, remove dressing to allow the air to escape
- Impaled objects - stabilize with bulky dressings – do not remove object
- Position of comfort if not contraindicated
- Consider spinal precautions
- Obtain vital signs
- Provide respiratory support as indicated
- Do not delay transport

**Flail Chest**
- Support flail section with pillow or other supportive device to provide patient comfort
- Monitor patient closely for respiratory or cardiac deterioration
- Reassure/calm patient
- Position of comfort if not contraindicated
- Consider spinal precautions
- Obtain vital signs
- Provide respiratory support as indicated
- Do not delay transport

**Blunt Trauma**
EYE INJURIES

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs

Chemical Contamination

- Avoid contamination of unaffected eye
- Flush continuously with water or normal saline for at least 15 min or until patient arrives at hospital

Trauma/Foreign Body

- Bandage both eyes to prevent eye movement
- Do not remove foreign body or impaled objects – stabilize with bulky dressings
- Consider need for spinal immobilization

- Reassure/calm patient
- Position semi-fowlers if possible
- Obtain vital signs
- Obtain medical history
- Gather medications or list
HEAD TRAUMA

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Spinal precautions as indicated
- Monitor airway closely
- Assess Level of Consciousness and obtain initial Glasgow Coma Scale Score
- Assess for secondary injuries
- Obtain vital signs
- Obtain medical history
- Gather medications or list
- Monitor patient’s mental status for changes and document sequential Glasgow Coma Scale scores
ORTHOPEDIC INJURIES

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- If indicated, Administer Oxygen per Policy 580

Closed Fractures
- Confirm and mark distal pulses
- Immobilize joints above and below fracture with well padded splint
- Apply traction splint to femur fractures only
- Apply cooling packs to reduce swelling and relieve pain

Open Fractures
- Confirm and mark distal pulses
- Immobilize joints above and below fracture with well padded splint
- Apply moist dressings and bandages to stop bleeding and reduce contamination
- Do not apply traction splint to open femur fractures
- Do not attempt to “reduce” an open fracture

Reassure/calm patient
Position of comfort
Obtain vital signs
Consider spinal precautions
Do not delay transport if neurovascular compromise noted

San Luis Obispo County EMS Agency BLS Treatment Protocols 2009
Policy Reference No. 535
SOFT TISSUE INJURIES

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- If indicated, Administer Oxygen per Policy 580

- Stop bleeding
  - Direct pressure
  - Elevation
  - Pressure Points
  - Tourniquet if bleeding not controlled
- Apply moist sterile dressings
- Check distal neurovascular status

Special Considerations

Amputations
- Wrap amputated part in a dry dressing and place in a waterproof container or plastic bag
- Place the container or plastic bag on ice/cooling pack to keep cool, but not frozen
- Transport the amputated part with the patient to the hospital, if possible – but do not delay patient transport to locate part
- Avulsed tissue should be returned to a normal position and secured with a moist sterile dressing
UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Place patient in full spinal precautions
- Administer oxygen per Policy 580

Full Spinal Precautions

- Establish manual spinal stabilization
- Apply properly-sized cervical collar maintaining manual c-spine stabilization
- Secure Patient to long spine board
  - Ensure adequate strapping to prevent patient movement
  - Secure head last, maintaining manual c-spine stabilization until patient’s head is secured
- Monitor airway closely, be prepared to log roll patient in the event of vomiting

- Reassure/calm patient
- Assess for secondary injuries
- Obtain vital signs
- Monitor for changes in neurological status
SHOCK - TRAUMATIC

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer oxygen per Policy 580

- Control hemorrhaging with
  - Continuous direct pressure
  - Elevate
  - Pressure point
  - Tourniquet
- Evaluate need for spinal precautions
- Consider trendelenburg position
- Keep patient warm
- Do not delay transport
- Obtain vital signs and reassess frequently
- Monitor for changes in mental status
- Assess and treat secondary injuries
ALLERGIC REACTIONS

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer oxygen per Policy 580

Respiratory Distress
- Administer oxygen 15 liters/minute by non-rebreather mask
- Do not delay transport

No Respiratory Distress
- Administer oxygen 4-6 liters/minute by cannula

Reassure/calm patient
- Position of comfort
- Obtain vital signs
- Monitor respiratory status
- Obtain medical history
- Gather medications or list

May assist with administration of patient’s own medication
- Epi Auto-injector - Only to be used if prescribed to patient
Insect Stings

- Remove stinger if visible by scraping. Do not “pinch” using tweezers or other instruments
- Apply ice to the sting site
- Monitor patient for signs of allergic reaction. If present, refer to Policy 550

Animal Bites

- Administer oxygen 4-6 liters/minute by cannula.
- Treat wounds as appropriate

Reassure/calm patient
- Position of comfort
- Obtain vital signs
- Obtain medical history
- Gather medications or list

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer oxygen per Policy 580
COLD - RELATED EMERGENCIES

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Remove patient from cold environment
- Prevent further heat loss or injury
- Check vital signs, especially pulse, for at least 30-45 seconds – a hypothermic patient may have a slow, weak pulse
- Remove wet clothing and jewelry as appropriate
- Rewarm hypothermic patient with blankets, warm environment. Avoid rough handling of patient which may precipitate arrhythmias
- Rewarming of Frostbitten extremities – consider only if evacuation not possible for 6-12 hours
  - If patient is not hypothermic, sufficient supply of warm water is available, and there is no risk of refreezing: Use 102-104 degree water, immerse until limb is soft, pink, pliable and painful
  - After re-warming, place gauze between digits and dress extremity, splint as needed
- Transport as soon as possible
HAZARDOUS MATERIALS

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Do not approach patient
- Isolate and deny entry to hazardous area
- Request immediate Fire Department response
- Treatment Area should be established uphill and upwind from hazardous area
- All patients should be decontaminated by rescue personnel prior to medical treatment
- After decontamination, treat patient based on their chief complaint
- Early notification of receiving facility
- Transport to appropriate facility
- Consider need for unit decontamination
- Refer to Weapons of Mass Destruction Guidelines in SLOEMSA Policies and Procedures
HEAT-RELATED EMERGENCIES

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Remove patient from environment and place in a cool area
- Patients with environmental heat exposure and ALOC that feel hot and are not sweating should be treated for hyperthermia/heat stroke
- Initiate transport/cool enroute (remove clothing/cool with water and use fans/air conditioning)

Considerations

- Alert patients may receive up to 1 Liter of water or sport drink (50/50 mix with water) in small sips. Discontinue if patient experiences nausea or vomiting
- Seizures may occur with heat stroke.
- Adjunctive Measures - Ice packs to neck, armpits and groin
NEAR DROWNING

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Initiate water rescue only if trained to do so
- Consider need for spinal precautions
- Consider possibility of hypothermia
- Consider possible preceding medical event (Seizure, hypoglycemia, CVA)
- Treat injuries appropriately
- All patients should be evaluated at a medical facility
SNAKEBITE

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Calm/Reassure patient
- Do not delay transport
- Remove constricting items around area of bite or swelling
- Mark area of swelling and record time
- Irrigate and treat wound site
  - Splint injured extremity and keep below level of heart
  - Do not apply ice
  - Do not incise wound or attempt suction of venom
- Transport patient to hospital

Some of the following may occur with envenomation:

- Pain/Edema/bleeding at wound site
- Numbness/tingling
- Involuntary twitching
- Metallic taste in mouth
- *Exotic snakes/Mojave Rattlesnakes* may cause neurologic and respiratory depression

San Luis Obispo County EMS Agency BLS Treatment Protocols 2009
Policy Reference No. 556
Normal Delivery

- Patient assessment with visual exam of perineum
- Control head and speed of delivery
- Suction mouth first, then nose
- Check for cord around neck
- Deliver upper, then lower shoulder
- Dry, stimulate, and wrap baby
- Cut and clamp cord 6” from newborn’s umbilicus
- Healthy infant to mother’s breast
- Prepare for delivery of placenta

Complications

- Hypertension B/P> 180/110
- Seizures-follow seizure protocol
- Placenta abruptio/previa = vaginal bleeding in last trimester not associated with labor
- Breech/Limb presentation
- Prolapsed cord - Place mother in Trendelenberg or knee-chest position. Feel cord for pulse. With gloved hand, push baby into vagina slightly to take pressure off cord. Maintain this position. Do not attempt to push cord back
- **Initiate Rapid Transport ASAP!**

**Postpartum Hemorrhage**
- Perform visual exam to determine site of bleeding
- For perineal tear, apply direct pressure
- Firmly massage fundus
NEWBORN CARE

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

- Assess vital signs then dry thoroughly and cover head and body to maintain body heat
- Position infant on back and suction mouth then nose with bulb syringe
- Stimulate infant by rubbing the back or flicking the soles of the feet
- Consider BVM assist if indicated. Or blow by O2 at 100%
- HR < 60BPM = chest compressions X 1 Minute
- HR=60-100, BVM @ 40/min with 100% O2
- **Initiate Rapid Transport**

- Asphyxiation/respiratory distress is most common cause of neonatal arrest
- Prompt warming, suctioning and O2 are the key to a successful resuscitation
- Make sure to use proper sized equipment
- Heat loss is critical and all measures to minimize heat loss should be taken
- Determine APGAR at delivery and after 5 minutes, and after interventions
### BEHAVIORAL EMERGENCIES

<table>
<thead>
<tr>
<th>ADULT</th>
<th>PEDIATRIC</th>
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<tbody>
<tr>
<td><strong>BLS PROCEDURES</strong></td>
<td><strong>SAME AS ADULT</strong></td>
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<tr>
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<td>o Scene Safety – Consider need to retreat or for Law Enforcement (LE) if patient is violent or threatening. A weapons search by LE may be warranted.</td>
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<tr>
<td>o Administer Oxygen Per Policy 580 as possible / safe</td>
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</tr>
<tr>
<td><strong>Assessment</strong></td>
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<tr>
<td>o A behavioral emergency is defined as combative or irrational behavior <strong>not</strong> caused by medical illnesses such as hypoxia, shock, hypoglycemia, head trauma, drug withdrawal, intoxicated states or other medical conditions.</td>
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</tr>
<tr>
<td>o Assess patient and obtain history for evidence of above.</td>
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</tr>
<tr>
<td>o Past history of psychiatric illness/condition does not eliminate the need to assess for other illnesses/conditions.</td>
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</tr>
<tr>
<td>o Restrain patient as necessary per policy No. 118</td>
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</tr>
<tr>
<td>o Obtain vital signs as possible / safe</td>
<td>o Obtain vital signs as possible / safe</td>
</tr>
<tr>
<td>o Treat injuries as appropriate</td>
<td>o Treat injuries as appropriate</td>
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</tbody>
</table>

**BLS Optional Scope**

<table>
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<tr>
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<tbody>
<tr>
<td>o Pulse Oximetry – place as possible / safe</td>
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**ALS Standing orders**

<table>
<thead>
<tr>
<th>ADULT</th>
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</thead>
<tbody>
<tr>
<td>o Obtain blood glucose measurement as possible / safe</td>
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</tr>
<tr>
<td>o For extremely agitated patient</td>
<td>o For extremely agitated patient</td>
</tr>
<tr>
<td>o Midazolam 1-2 mg slow IVP</td>
<td>o Midazolam 0.1 mg/kg IM/IN/slow IVP (may repeat once after 10 minutes).</td>
</tr>
<tr>
<td>o 5 mg IM or IN (intranasal, 2.5 mg in each nostril)</td>
<td>o Max 5 mg all routes</td>
</tr>
<tr>
<td>o May repeat once after 10 minutes</td>
<td><strong>EKG, Pulse oximetry, and ETCO2 (when equipment is available) monitoring will be used at all times.</strong></td>
</tr>
</tbody>
</table>

***EKG, Pulse oximetry, and ETCO2 (when equipment is available) monitoring will be used at all times.***
### Base Hospital Orders Only

- Contact base if additional chemical restraint needed

### DOCUMENTATION

- Document circulation, sensation, and motor function assessment every 15 minutes for the manually restrained patient and thoroughly document the need for both manual and/or chemical restraint.
- Document who (law enforcement, fire, EMS) placed manual restraints in accordance with EMS Policy No. 209.
- Document cardiac pulse oximetry, and ETCO2 (if available) monitoring of the chemically restrained patient.

**SAME AS ADULT**
OXYGEN ADMINISTRATION

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs

Patients requiring Oxygen Administration
- Altered mental status or acute neurological symptoms (to include syncope, seizure, stroke, numbness, cardiac, medical, or trauma related problems)
- Shortness of breath, cyanosis, or an elevated respiratory rate
- Chest pain
- Irregular pulse rate, or pulse rate over 120/minute
- Shock of any cause
- Other conditions where Oxygen is called for in the Basic Life Support Protocols
- Use BVM with supplemental oxygen (10-15 liters/min) when:
  - Patient is not breathing
  - Patient is breathing too slowly or too shallowly to provide adequate ventilations
SPINAL IMMOBILIZATION

UNIVERSAL ALGORITHM

- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy 580

Indications

- Patients with a history of significant trauma or mechanism of injury resulting in blunt trauma, head trauma or axial spine trauma
- Trauma patients with ALOC
- Trauma patients with distracting injuries
- Trauma patients with a history of alcohol/drug impairment
- Trauma patients complaining of neck or spine pain

Considerations

- Children injured in MVA may be immobilized and transported in their car seats provided assessment and treatment can be rendered
- If in doubt, transport patient with spinal immobilization
- Paramedic may release patient from spinal immobilization per Policy # 615
The Emergency Medical Technician may monitor peripheral IV lines delivering intravenous fluids under the following conditions:

- A stable patient undergoing Interfacility transport who is deemed stable by transferring physician
- No medication or electrolyte additives have been added to the IV fluids
- The patient has no other ALS procedures in progress
- There are no IV pumps attached
- The EMT may only monitor and turn off the flow of IV fluid
- Patients that have IV therapy initiated in field by a Paramedic, must be accompanied to the hospital by a Paramedic. The patient may not be turned over to an EMT except in the case of a Multi-Casualty Incident. (Policy #126)
SAN LUIS OBISPO COUNTY EMERGENCY MEDICAL SERVICES AGENCY
PREHOSPITAL POLICY

Policy Reference No: 583 & 623
Effective Date: 09/01/2013
Supersedes: N/A
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SUBJECT: PREHOSPITAL TOURNIQUET USE

PURPOSE
To establish an operating policy for the indication, procedure and documentation of tourniquet use by Basic Life Support (BLS) and Advanced Life Support (ALS) personnel.

AUTHORITY
A. California Health and Safety Code, Division 2.5, Ch. 4 Art. 1, Ch. 5 Sections 1797.220 and 1798.
B. California Code of Regulations, Title 22, Division 9 Ch. 2 Art. 2, Sections 100063, Ch. 4, Art. 2, Section 100169.

POLICY
BLS and ALS personnel may utilize tourniquets in accordance to the policy.

PROCEDURES
A. Indications
   1. Life threatening extremity hemorrhage that cannot be controlled by other means.
   2. Serious or life threatening extremity hemorrhage and tactical considerations in the use of standard hemorrhage control techniques.

B. Contraindications
   1. Non-extremity hemorrhage.
   2. Proximal extremity locations where tourniquet application is not practical.

C. Tourniquet Placement
   1. Visually inspect injured extremity and avoid placement of tourniquet over joint, angulation or open fracture, stab or gunshot wound sites.
3. Apply tourniquet proximal to wound (usually 2-4 inches) per manufacturer recommendations
4. Tighten tourniquet rapidly to least amount of pressure required to stop bleeding and/or distal pulses are affected.
5. Cover wound with appropriate clean/sterile dressing/bandage.
6. DO NOT cover tourniquet – keep visible.
7. Re-assess and document absence of bleeding distal to tourniquet.
8. Remove any improvised tourniquets that may have been applied.
10. Inform receiving facility and personnel of tourniquet placement and time of placement.

D. Tourniquet Removal (ALS Personnel only)
1. Indication – contact with the base hospital physician should be considered:
   a. When the ALS personnel on scene determine the tourniquet was inappropriately or improperly placed
   b. Absence of bleeding distal to the tourniquet should be confirmed.
2. Procedure
   a. Obtain IV access.
   b. Monitor ECG.
   c. Maintain firm pressure over wound for minimum of 5 minutes before releasing.
   d. Slowly release tourniquet and monitor for reoccurrence of bleeding
   e. Document time of release.
   f. Bandage, reassess and document circulation, motor and sensation distal to the wound site.

E. DOCUMENTATION
1. Document all uses of tourniquet application.
2. Documentation shall include: location tourniquet applied, time of application, assessment prior and post application.
3. Documentation shall include name of person to whom transfer of care and tourniquet use was reported.
Tourniquet Use
Appendix A

EMSA approved tourniquets:

- Combat Application Tourniquet (C-A-T)
- SOF Tactical Tourniquet (SOFT)
- Mechanical Advantage Tourniquet (MAT)
- Tourni-Kwik 4 (TK4) Tourniquet
TOURNIQUET USE

UNIVERSAL ALGORITHM
- Scene Safety
- PPE
- ABCs
- Administer Oxygen per Policy # 580

Indications
- Life threatening extremity hemorrhage that cannot be controlled by other means
- Serious or life threatening extremity and tactical considerations in the use of standard hemorrhage control techniques

Tourniquet Application
- Per San Luis Obispo County Policy and Procedure # 583 & # 623
- Removal is an ALS intervention per Policy and Procedure # 583 & # 623

Contraindications
- Non extremity hemorrhage
- Proximal extremity locations where tourniquet application is not practical