

San Joaquin County
Emergency Medical Services Agency

Basic Life Support Treatment Protocols
EMS Policy No. 5500 Series



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**San Joaquin County
Emergency Medical Services Agency**



BLS Treatment Protocols - Introduction

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INTRODUCTION

- I. The Basic Life Support (BLS) Treatment Protocols apply to all levels of certification and licensure and all prehospital care personnel in San Joaquin County. The protocols contain language, instructions and treatments designed for holders of an Emergency Medical Technician (EMT) certificate. All prehospital personnel are required to operate within their respective scope of practice and must ensure that a specific procedure, such as AED, administration of naloxone, traction splinting or assisting patients with taking their own medications is within their respective scope of practice and level of training before proceeding.
- II. The BLS Treatment Protocols are not intended as a substitute for sound medical judgment. Unusual patient presentations make it impossible to develop a protocol for every possible patient situation. When treating patients more than one treatment protocol may apply.
- III. All prehospital personnel are held to the following patient care standards:
 - A. San Joaquin County EMS Agency Policies and Procedures.
 - B. American Heart Association CPR, AED, and BLS airway obstruction and ventilation techniques.
 - C. State of California EMT Course Curriculum.
 - D. Simple Triage and Rapid Treatment (START).
 - E. OSHA and CAL-OSHA standards for infection control.
- IV. Pediatric Considerations:
 - A. The San Joaquin County EMS Agency has not developed separate pediatric BLS treatment protocols except Neonatal Resuscitation. BLS treatment for pediatric and adult patients is the same under most conditions. However, several special considerations need to be addressed regarding pediatric patients:
 1. The defined age of a pediatric patient is twelve (12) years of age and under; infants are defined as being less than 1 year of age; and neonates are defined as less than 1 month in age.
 2. The Primary Survey and Secondary Survey is the same for all patients. However, the younger the patient the more EMS personnel will need to

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Supersedes: July 1, 2007

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rely on family, care givers, teachers, bystanders, etc. for obtaining a patient's history.

- B. Establish level of consciousness using AVPU: Alert, Verbal, Pain, Unresponsive.
- C. Always carefully and thoroughly check a pediatric patient's airway. A majority of pediatric emergencies involve respiratory distress or airway difficulty.
- D. Always check the scene for evidence of poisons or chemicals in pediatric patients with an altered level of consciousness and obtain a thorough history from parents including the child's possible access to medications (including vitamins) and other chemicals.

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BLS Routine Medical Care

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

PROCEDURE:

Routine Medical Care is provided to all patients regardless of presenting complaint.

- I. Standard precautions:
 - A. Application of body substance isolation precautions including the use of appropriate personal protective equipment (PPE) shall apply to all patients receiving care, regardless of their diagnosis or presumed infectious status.
 - B. Body substance isolation precautions apply to:
 1. Blood;
 2. All bodily fluids, secretions, and excretions except sweat, regardless of whether or not they contain visible blood;
 3. Non intact skin; and
 4. Mucous membranes. Standard precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in the prehospital setting.
- II. Patient Assessment:
 - A. Primary Survey.
 - B. Secondary Survey.
- III. Initiation of appropriate basic life support (BLS) treatment including, when appropriate:
 - A. Monitoring of vital signs:
 1. Initial set.
 2. Repeated every 5 minutes for unstable patients and every 15 minutes for stable patients.
 - B. Initiation of spinal motion restrictions as indicated.
 - C. Administration of oxygen as indicated.
 - D. Hemorrhage control as indicated.
 - E. Ensuring ALS transport response.
 - F. Initiation of specific treatments in accordance with San Joaquin County EMS Agency Policies and Procedures.

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Supersedes: July 1, 2007

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BLS Patient Assessment – Primary Survey

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

PROCEDURE:

The purpose of the primary survey is to identify and immediately correct life-threatening problems.

- I. Scene Size Up:
 - A. Recognize hazards, ensure safety of scene and secure a safe area for treatment.
 - B. Apply universal body/substance isolation precautions.
 - C. Recognize hazards to patient and protect patient from further injury.
 - D. Identify the number of patients and initiate ICS/MCI operations if warranted:
 1. Ensure an ALS response and order additional resources.
 2. Consider/confirm air ambulance response.
 3. Initiate START triage, if more than one patient.
 - E. Observe position of patient(s).
 - F. Determine mechanism of injury.
 - G. Plan strategy to protect evidence at potential crime scene.

- II. General Impressions:
 - A. Check for life threatening conditions.
 - B. Introduce self to patient.
 - C. Determine chief complaint or mechanism of injury.

- III. Airway:
 - A. Ensure open airway (Refer to EMS Policy No. 5520 – BLS Respiratory Distress, as needed).
 - B. Protect spine from unnecessary movement in patients at risk for spinal injury.
 - C. Ensuring an adequate airway supersedes spinal motion restriction.
 - D. Look and listen for evidence of upper airway problems and potential obstructions:
 1. Vomit.
 2. Bleeding.
 3. Loose or missing teeth.

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- 4. Dentures.
- 5. Facial Trauma.
- E. Utilize any appropriate adjuncts (OPA or NPA) as indicated to maintain airway.

IV. Breathing:

- A. Look, listen, and feel in order to assess ventilation and oxygenation.
- B. Expose chest, if necessary, and observe for chest wall movement.
- C. Determine approximate rate and depth and assess character and quality.
- D. Reassess mental status.
- E. Intervene for inadequate ventilation with:
 - 1. Pocket mask or BVM device.
 - 2. Supplemental oxygen.
- F. Assess for other life threatening respiratory problems and treat as needed.

V. Circulation:

- A. Check for pulse and begin CPR and apply AED if necessary.
- B. Control life-threatening hemorrhage with direct pressure or tourniquet.
- C. Palpate radial pulse.
 - 1. Determine absence or presence.
 - 2. Assess general quality (strong/weak).
 - 3. Identify rate (slow, normal, or fast).
 - 4. Assess regularity (regular/irregular).
- D. Assess skin for signs of hypo-perfusion/SHOCK or hypoxia (capillary refill, cyanosis, etc.).
- E. Reassess mental status for signs of hypo-perfusion/SHOCK.

VI. Level of consciousness:

- A. Determine need for spinal motion restrictions.
- B. Determine level of consciousness using AVPU
 - 1. Alert (alert, awake, aware of time, place, date, person, etc).
 - 2. Verbal (responds to verbal stimuli, i.e. answers questions and responds to commands).
 - 3. Pain (responds to painful stimuli, i.e. attempts to withdraw from pain).
 - 4. Unresponsive (patient unconscious or fails to respond to verbal and painful stimuli).

VII. Expose, Examine & Evaluate:

- A. In situations with suspected life-threatening mechanism of injury, complete a Rapid Trauma Assessment.
- B. Expose head, trunk and extremities.
- C. Head to Toe for DCAP-BTLS:
 - 1. Deformity.
 - 2. Contusion/Crepitus.

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3. Abrasion.
 4. Puncture.
 5. Bruising/Bleeding.
 6. Tenderness.
 7. Laceration.
 8. Swelling.
- D. Treat any newly discovered life-threatening wounds as appropriate.

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BLS Patient Assessment - Secondary Survey

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PROCEDURE:

- I. The secondary survey is the systematic assessment and complaint focused, relevant physical examination of the patient. The secondary survey may be done concurrently with the patient history and should be performed after the Primary Survey and with the initiation of Routine Medical Care. The purpose of the secondary survey is to identify problems which, though not immediately life or limb threatening, could increase patient morbidity and mortality. Exposure of the patient for examination may be reduced or modified as indicated due to environmental factors (cutting off and removing someone's clothes while in the middle of snow storm is usually a bad thing).

- II. As stated in the Primary Survey DCAP-BTLS is a mnemonic that stands for:
 - A. Deformity;
 - B. Contusion/Crepitus;
 - C. Abrasion;
 - D. Puncture;
 - E. Bruising/Bleeding;
 - F. Tenderness;
 - G. Laceration;
 - H. Swelling.

- III. History:
 - A. A patient's history should optimally be obtained from the patient directly. If language, culture, age, disability barriers or patient condition interferes with obtaining the history, consult with family members, significant others or scene bystanders. Check for advanced directives such as a POLST form, DNR order, or medallion. Be aware of the patient's environment and issues such as domestic violence, child or elder abuse or neglect and report concerns. The following information should be obtained during the history:
 1. Allergies;
 2. Current medications;
 3. Past medical history relevant to the chief complaint. Examples include previous episodes of myocardial infarcts, hypertension, diabetes,

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substance abuse, tuberculosis status, seizure disorder and underlying disease such as kidney disease, heart disease, cancer or HIV;

4. Have patient prioritize his or her chief complaint if complaining of multiple problems;
5. Mechanism of injury or onset of current symptoms;
6. In addition obtain history relevant to specific patient complaints.

IV. Head and Face:

- A. Observe and palpate skull (anterior and posterior) and face for DCAP-BTLS;
- B. Check eyes for equality, responsiveness of pupils, movement and size of pupils, foreign bodies, discoloration, contact lenses or prosthetic eyes;
- C. Check nose and ears for foreign bodies, fluid or blood;
- D. Recheck mouth for potential airway obstructions (swelling, dentures, bleeding, loose or avulsed teeth, vomit, absent or present gag reflex) and odors, altered voice or speech patterns and evidence of dehydration.

V. Neck:

- A. Observe and palpate for DCAP-BTLS, jugular vein distension, use of neck muscles for breathing, tracheal tugging, tracheal shift, stoma and medical information medallions.

VI. Chest:

- A. Observe and palpate for DCAP-BTLS, scars, implanted devices such as pacemakers and indwelling IV/arterial catheters, medication patches, chest wall movement, asymmetry and accessory muscle use in breathing;
- B. Have patient take a deep breath if possible and observe and palpate for signs of discomfort, asymmetry and air leak from any wound.

VII. Abdomen:

- A. Observe and palpate for DCAP-BTLS, scars and distention;
- B. Palpation should occur in all four quadrants taking special note of tenderness, masses and rigidity.

VIII. Pelvis/Genital-Urinary:

- A. Generally, a patient's genital area should not be exposed and examined unless the assessment of this body region is required due to the patient's condition, such as trauma to the region, active labor or suspected/known bleeding. When possible have an EMT of the same gender as the patient perform evaluations of the pelvis/genital area.
- B. Observe and palpate for DCAP-BTLS, asymmetry, sacral edema and as indicated for other abnormalities;
- C. Palpate and gently compress lateral pelvic rims and symphysis pubis for tenderness, crepitus or instability;

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- D. Palpate for bilateral femoral masses, if warranted.
- IX. Shoulder and Upper Extremities:
- A. Observe and palpate for DCAP-BTLS, asymmetry, skin color, capillary refill, edema, medical information bracelet, and equality of distal pulses;
 - B. Assess sensory and motor function as indicated.
- X. Lower Extremities:
- A. Observe and palpate for DCAP-BTLS, asymmetry, skin color, capillary refill, edema and equality of distal pulses;
 - B. Assess sensory and motor function as indicated.
- XI. Back:
- A. Observe and palpate for DCAP-BTLS, asymmetry and sacral edema.
- XII. A complete set of vital signs and patient metrics include the following:
- A. Blood pressure;
 - B. Pulse rate;
 - C. Respiratory rate;
 - D. Pupil size and reaction;
 - E. Level of consciousness;
 - F. Body temperature;
 - G. Pulse oximetry (SpO₂), if a patient is exhibiting, signs and symptoms of shortness of breath (SOB), altered level of consciousness (ALOC) or where SpO₂ is noted in a specific policy.
 - H. **Enhanced Skills EMT:** Blood Glucose Determination, if patient has an altered level of consciousness (ALOC) or has a history of diabetes.
- XIII. Precautions and Comments:
- A. Observation and palpation can be done while gathering a patient's history.
 - B. A systematic approach will enable the rescuer to be rapid and thorough and not miss subtle findings that may become life-threatening.
 - C. Minimize scene times, especially with trauma patients and pediatrics, by preparing the patient for immediate transport.
 - D. Complete the examination before treating other identified non-life threatening problems.
 - E. Reassessment of vital signs and other observations are necessary, particularly in critical or rapidly changing patients. Vital signs (BP, pulse, respirations) should be taken and recorded approximately every 5 minutes in unstable patients and every 15 minutes in stable patients. Changes and trends observed in the field are essential data to be documented and communicated to the transport personnel and/or receiving facility.

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BLS Interfacility Patient Transports

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

- I. Apply universal body substance isolation precautions.
- II. Prior to transport perform primary and secondary patient assessments. Initiate Routine Medical Care.
- III. Continuously monitor SpO2 during transport.
- IV. Reassessment of vital signs and other observations should be taken and recorded approximately every 5 minutes in unstable patients and every 15 minutes in stable patients. Changes and trends observed should be documented and communicated to the receiving physician/nurse.
- V. If at any time a patient's condition deteriorates the attending EMT shall contact the transferring physician or base hospital physician for direction. If contact cannot be made or the patient's condition is life threatening the patient should be transported to the closest receiving hospital.

Enhanced Skills EMT:

- VI. During inter-facility transport, a trained Enhanced Skills EMT who is on duty with an authorized enhanced skills EMT ambulance service provider may transport patients deemed as non-critical by the transferring physician with pre-existing: peripheral intravenous (IV) lines delivering IV fluids, Foley catheters, heparin and saline locks, nasogastric tubes, gastrostomy tubes, tracheostomy tubes and indwelling vascular access lines excluding arterial lines.
- VII. During inter-facility transport the following conditions apply:
 - A. Intravenous fluids have the following restrictions:
 1. No medications have been added to the intravenous fluid.
 2. Intravenous fluids are isotonic based including glucose solutions, Normal Saline, Ringer's Lactate, Isolyte or Isolyte M.
 - B. Approved IV Interventions:
 1. Monitor and maintain the IV at a preset rate.

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Supersedes: January 1, 2012

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2. Check and clear tubing for kinks and reposition if necessary when loss of flow occurs.
 3. Control bleeding at the IV site.
 4. Turn off the flow of IV fluid if infiltration or alteration of flow occurs.
- C. Foley catheters:
1. The catheter must be able to drain freely to gravity.
 2. No action may be taken to impede flow or disrupt contents of drainage collection bags.
- D. Nasogastric tube or gastrostomy tube:
1. Nasogastric and gastrostomy tubes are clamped off prior to transport.
 2. All patients who have received fluids by NG or gastric tubes prior to transport are transferred in a semi-fowlers position to prevent aspiration, unless contraindicated.
- E. Tracheostomy tubes shall be managed as ordered by the transferring physician consistent with the EMT scope of practice.

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BLS Chest Pain of Suspected Cardiac Origin

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Discomfort or pain: (OPQRST) Onset, Provocation, Quality, Radiation, Severity, Timing.

Associated symptoms: Nausea, vomiting, diaphoresis, dyspnea, dizziness, palpitations, indigestion.

Medical history: Other medical problems, including hypertension, diabetes or stroke.

History of aspirin use: Has the patient taken an aspirin today? Does the patient usually take aspirin? Has the patient been advised by their private medical doctor to take one (1) aspirin a day?

OBJECTIVE FINDINGS:

General Appearance: Level of distress, apprehension, skin color, diaphoresis.

Signs of CHF: Dependent edema, respiratory distress, distended neck veins.

Chest auscultation: Muffled heart sounds; lung sounds: stridor, wheezes, rales.

Assess abdominal tenderness.

Assess pain on a scale of 1-10.

TREATMENT:

1. Primary Survey - ensure ABC's.
2. Reassure patient and place in position of comfort, or supine if patient is hypotensive.
3. Ensure ALS Response.
4. Monitor SpO₂.
5. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10 - 15 L/min via non-rebreathing mask, start at 2 L by cannula if patient has a history of COPD. Be prepared to support ventilations with appropriate airway adjuncts.
6. Re-assess patient.
7. EMT: Assist patient with taking their **OWN** sublingual nitroglycerin: Administer 1 tablet or metered spray dose sublingual, if systolic blood pressure is greater than 90. May be repeated every 5 minutes to a maximum of 3 doses, if systolic blood pressure remains greater than 90. Note: Nitroglycerin is contraindicated and should **NOT** be

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Revised: January 1, 2012

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administered to patients of either gender who have taken Viagra, (sildenafil citrate) or Levitra (vardenafil HCL) within 24 hours or Cialis (tadalafil) within 36 hours.

8. Enhanced Skills EMT: Administer Aspirin 324mg tablet by mouth, if patient has not already taken aspirin.
9. Secondary Survey and Routine Medical Care.

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Revised: January 1, 2012

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BLS Cardiac Arrest

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

PURPOSE: The purpose of this policy is to provide direction for BLS providers for resuscitation of patients in cardiopulmonary arrest.

DEFINITIONS:

- A. "Adult" means patients 13 years of age and older.
- B. "Pediatric" means patients 12 years of age and younger.
- C. "Traumatic Cardiac Arrest" means a patient in cardiac arrest after receiving a blunt force or penetrating mechanism of injury or after drowning.
- D. "Medical Cardiac Arrest" means cardiac arrest not caused by trauma excluding drowning.
- E. "MICR" means minimally interrupted cardiac resuscitation that focuses upon maintaining high quality chest compressions with both depth and rate.
- F. "Passive Oxygen Insufflation" (POI) is the method of providing oxygen to a patient during the first eight (8) minutes of resuscitation with an oral pharyngeal airway (OPA), high flow oxygen via non-rebreather mask, and no ventilations.

POLICY:

- I. Adult Medical Cardiac Arrest.
 - A. Primary Survey.
 - B. Information Needed
 - 1. Estimated down time.
 - 2. Circumstances surrounding arrest.
 - 3. Onset (witnessed or un-witnessed).
 - 4. Preceding symptoms.
 - 5. Bystander CPR.
 - 6. Duration of CPR.
 - 7. Medications.
 - 8. Environmental factors (hypothermia, inhalation, asphyxiation).
 - C. Contraindications for use of MICR include:
 - 1. Traumatic arrest.
 - 2. Pediatric arrest.
 - 3. Drowning.

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- D. Treatment:
1. Conduct resuscitation using MICR for eight (8) minutes with the goal of preserving cerebral function through meticulous attention to procedure in the following rank order:
 - a. Provide high quality chest compressions at a rate of 100-120 compressions per minute with minimal interruptions.
 - b. Apply ECG or AED for analysis and defibrillation.
 - c. Follow AED prompts
 - d. Initiate POI.
 - i. Insert OPA or NPA followed by 100% Oxygen via non-rebreather mask.
 - e. Alternate provision of compressions between team members every 2 minutes.
 2. If no return of spontaneous circulation (ROSC) following eight (8) minutes of MICR, transition resuscitative efforts to provide ventilations. If an ALS airway is provided, give ventilations at 8-10 per minute. **DO NOT HYPERVENTILATE.** If an ALS airway is not available give compressions in a ratio to ventilations at 30:2.
 3. For return of spontaneous circulation continue to monitor patient and assist respirations only as needed, and prepare for transport.

II. Adult Traumatic Cardiac Arrest:

- A. Primary Survey.
- B. Information Needed:
1. Patient down time.
 2. Prior treatments.
 3. Whether blunt or penetrating mechanism of injury.
- C. Findings:
1. Unconscious with ineffective or absent respirations.
 2. Absence of pulse.
 3. Signs of trauma or blood loss.
 4. Air and skin temperature.
 5. If signs of obvious death refer to EMS Policy No. 5103 Determination of Death in the field.
- D. Treatment:
1. Initiate chest compressions at a rate of 100-120/min.
 2. Insert OPA or NPA followed by 100% Oxygen via bag valve mask and give compressions to ventilations in a ratio of 30:2 at a rate of 100-120 compressions per minute. Do not hyperventilate.
 3. Apply AED and defibrillate patient following AED prompts between cycles every two minutes.
 4. Alternate provision of compressions between team members every 2 minutes.

III. Pediatric medical or traumatic cardiac arrest.

- A. Primary Survey.

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- B. Information Needed:
 - 1. Patient down time.
 - 2. Prior treatments.
 - 3. Whether blunt or penetrating mechanism of injury.
- C. Findings:
 - 1. Unconscious with ineffective or absent respirations.
 - 2. Absence of pulse.
 - 3. Signs of trauma or blood loss.
 - 4. Air and skin temperature.
- D. Treatment:
 - 1. Initiate chest compressions at a rate of 100-120/min.
 - 2. Insert OPA or NPA followed by 100% Oxygen via bag valve mask and give compressions to ventilations in a ratio to at 15:2 at a rate of 100-120 compressions per minute. If single rescuer compression to ventilation ratio is 30:2. Do not hyperventilate.
 - 3. Apply AED and defibrillate patient following AED prompts between cycles every two minutes.
 - 4. Alternate provision of compressions between team members every 2 minutes.

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BLS Respiratory Distress

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DEFINITIONS:

A. "Pediatric" means patients 12 years of age and younger

INFORMATION NEEDED:

Patient History: Fever, sputum production, medications, asthma, COPD, exposures (allergens, toxins, fire/smoke), trauma (blunt/penetrating).
Symptoms: Chest pain, shortness of breath, cough, inability to speak in full sentences.

OBJECTIVE FINDINGS:

Respiratory rate (less than 10 or greater than 30), rhythm (abnormal pattern, shallow) effort (labored), lung sounds (wheezing, stridor), cough, fever, spitting/coughing blood or pink froth, barking.
Rash, urticaria, heart rate, blood pressure, skin signs, mental status, evidence of trauma, anxiety and restlessness.

TREATMENT:

1. Reassure patient and place in position of comfort or supine if hypotensive.
2. Primary Survey – ensure ABC's.
3. Ensure ALS Response.
4. Monitor SpO₂.
5. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
6. Suction as needed.
7. **EMT:** Assist patient in using their own prescribed respiratory inhaler medications.
8. Following specific treatment: Secondary Survey and Routine Medical Care.

Specific treatments:

9. Upper airway obstruction: Relieve obstruction by positioning, suction, abdominal thrusts; infants use back blows and chest thrusts instead of abdominal thrusts.
10. Chest wound: Cover open chest wound with occlusive dressing taped on three sides.

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11. **For pediatric patient** with signs and symptoms of epiglottitis (recent infection, fever, stridor, quiet crying, excessive drooling, use of accessory muscles):
- A) Allow parent to hold child.
 - B) Have the parent administer high flow/blow by humidified oxygen to child.
 - C) Immediate transport to closest facility. Refrain from siren use if possible.
 - D) **DO NOT** place anything in the mouth or attempt visualization of airway.
12. **For pediatric patient** with signs and symptoms of croup (mild fever, hoarseness, seal bark coughing, respiratory distress, restlessness, pale and cyanotic): A) Place child in position of comfort (generally sitting); B) Cool night air may help reduce edema in the airway tissues.

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Supersedes: July 1, 2007

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BLS Altered Mental Status

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Surroundings: syringes, blood glucose monitoring supplies, insulin.

Change in mental status: baseline status, onset and progression of altered state, symptoms prior to altered state such as headache, seizures, confusion, and trauma.

Medical History: diabetes, epilepsy, substance abuse, mental health, medications, and allergies.

Consider Stroke.

Consider Overdose/Intoxication.

OBJECTIVE FINDINGS:

Level of consciousness (AVPU) and neurological assessment.

Signs of trauma.

Breath odor.

Pupil size and reactivity.

Needle tracks.

Medical information tags, bracelets or medallions.

TREATMENT:

1. Reassure patient and place in position of comfort or supine if hypotensive.
2. Primary Survey – ensure ABC's.
3. Ensure ALS Response.
4. Monitor SpO₂.
5. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
6. Suction as needed.
7. Secondary Survey and Routine Medical Care.
8. Enhanced Skills EMT: Obtain blood glucose determination.
9. For patients with signs and symptoms of hypoglycemia or a blood glucose value of less than 70 mg/dl: administer 1 tube of **Oral Glucose Gel**.

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- A. For obtunded patients:
 - i. Place patient in semi-prone position.
 - ii. Apply small amount of glucose gel onto the end of a tongue depressor. Repeat as needed.
 - iii. Spread glucose gel on the inside of the lower cheek (buccal area).
 - iv. Promote maximal absorption of glucose product by massaging the outer lower cheek.
 - v. Suction as necessary.
- 10. For patients experiencing a behavioral emergency: treat patient in a calm and reassuring manner using padded or soft leather restraints as necessary only to prevent patient from harming self or others, refer to EMS Policy No. 5107, Use of Patient Restraints.

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Supersedes: July 1, 2007

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BLS Seizures

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Patient History: recent infection, fever, trauma, environment (heat/cold), epilepsy.
 Current Seizure History: onset, duration, frequency, description of seizure.
 Change in mental status: baseline status, onset and progression of altered state, symptoms prior to altered state such as headache, seizures, confusion, and trauma.

OBJECTIVE FINDINGS:

Level of consciousness (AVPU) and neurological assessment.
 Evidence of trauma.
 High temperature (febrile state).
 Current seizure activity.
 Medical information tags, bracelets or medallions.

TREATMENT:

1. Protect patient from further injury – move furniture and ensure safe area for treatment.
2. Primary Survey – ensures ABC's.
3. Spinal motion restrictions as indicated.
4. Ensure ALS Response.
5. Monitor SpO₂.
6. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
7. Institute appropriate cooling measures if environmental hypothermia is suspected by history and findings.
8. Secondary Survey and Routine Medical Care.
9. Continually assess neurological status.
10. Enhanced Skills EMT: obtain blood glucose determination.
11. If blood glucose is less than 70 mg/dl, administer oral glucose according to EMS Policy No. 5530, BLS Altered Mental Status.

Note: Be prepared for recurrent seizures and do not forcibly restrain patient during seizure.

Effective: April 1, 2020
 Supersedes: July 1, 2007

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BLS Shock Non-Traumatic

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Patient History: onset of symptoms and duration, fluid loss (nausea, emesis, diarrhea, diuretics), fever, infection, trauma, medication or substance ingestion, allergic reaction, past history of cardiac disease, abnormal EKG or internal bleeding disorder.

OBJECTIVE FINDINGS:

Compensating patients: anxiety, agitation, restlessness, tachycardia, normal blood pressure, normal or delayed capillary refill, signs and symptoms of mild or moderate anaphylaxis.

De-compensating patients – decreased level of consciousness, bradycardia or decreasing heart rate, hypotension, cyanosis, delayed capillary refill, inequality of central and distal pulses.

TREATMENT:

1. Primary Survey – ensure ABC's.
2. Place patient in shock position face up with legs elevated 12 – 18 inches. Modify position if necessary due to respiratory distress.
3. Monitor SpO₂.
4. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
5. Give patient nothing by mouth.
6. Maintain patient warmth.
7. Enhanced Skills EMT: obtain blood glucose determination if patient as altered mental status or history of diabetes.
8. If blood glucose is less than 70 mg/dl, administer oral glucose according to EMS Policy No. 5530, BLS Altered Mental Status.
9. Secondary Survey and Routine Medical Care.
10. If allergen exposure is suspected refer to EMS Policy No. 5551, BLS Allergic Reaction – Anaphylaxis.

Effective: April 1, 2020
Supersedes: July 1, 2007

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BLS Abdominal Emergencies

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Discomfort: location, quality, severity, onset of symptoms, duration, aggravation, alleviation.
Associated symptoms – nausea, emesis, diarrhea, fever, diaphoresis, vertigo, “heart burn”.
Gastro-intestinal – time and description of last meal, time of last bowel movement, signs of blood in stool.

Gynecological: date of last menstrual period, possible pregnancy, history of vaginal bleeding.
Medical history: surgery, related diagnosis (infection, hepatitis, stones, etc.), medication (OTC and prescribed), self administered remedies (baking soda, Epsom salts, enemas).

OBJECTIVE FINDINGS:

General appearance – level of distress, skin color, diaphoresis.
Abdominal tenderness – guarding, rigidity, distention, rebound.
Pulsating masses (aneurysm).
Quality of femoral pulses.

TREATMENT:

1. Primary Survey – ensure ABC’s.
2. Place patient in position of comfort or supine with legs elevated if patient is hypotensive.
3. Monitor SpO₂.
4. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
5. Give patient nothing by mouth.
6. Confirm ambulance transport is responding.
7. Secondary Survey and Routine Medical Care.

Note: Completion of a thorough secondary exam and patient history are essential to identify potential cardiac involvement or early signs of shock.

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Supersedes: July 1, 2007

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BLS Poisoning and Overdose

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Surroundings and safety check: syringes, containers, flammables, gas cylinders, weapons, unusual odors.

For drug ingestion note: drug(s) taken, dosage, number of pills remaining in bottle, date prescription filled.

For toxic ingestion or exposure note: identifying information, warning labels, placards, MSDS. Check for commercial antidote kits (e.g. cyanide) in occupational settings.

Duration of illness: onset and progression of present state, symptoms, prior to exposure such as headache, seizures, confusion, difficulty breathing.

History of event: ingested substance, drugs, alcohol, toxic exposure, work environment, possible suicide.

Past medical history – behavioral emergencies, psychiatric care, allergic reactions, neurological disorders; confirm information with family member or bystander if possible.

OBJECTIVE FINDINGS:

Breath odor, track marks, drug paraphernalia, prescription opioid pain medication, vital signs, pupil assessment, skin signs, lung sounds and airway secretions.

TREATMENT:

1. Primary Survey – ensure ABC's.
2. Remove patient from contact with hazardous material or environment.
3. Confirm ALS transport is responding.
4. Monitor SpO₂.
5. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM, airway adjuncts, and suction.
6. Give patient nothing by mouth.
7. Secondary Survey and Routine Medical Care.
8. Suspected opioid overdose with respiratory depression:
 - A. Remove any transdermal opioid patches.

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Supersedes: February 1, 2019

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B. Enhanced Skills EMT*: Administer naloxone intranasal with mucosal atomization device: Adult dose (weight greater than 44lbs) 2mg intranasal. May repeat once in 2-3 minutes for a total dose of 4mg. Pediatric dose 0.1mg/kg intranasal.

Pediatric Weight / Dose Chart	Pediatric patient is twelve (12) years or younger
Weight in kilograms / pounds	Dose
5 kg / 11 pounds	0.5mg
10 kg / 22 pounds	1.0mg
15 kg / 33 pounds	1.5mg
20 kg / 44 pounds	2.0mg - Do Not Exceed 2.0mg – Max Dose

9. Enhanced Skills EMT: Obtain blood glucose determination, if patient has an altered mental status or history of diabetes.
10. If blood glucose is less than 70 mg/dl, administer oral glucose according to EMS Policy No. 5530, BLS Altered Mental Status.

*Procedure may be performed by a trained law enforcement officer.

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Supersedes: February 1, 2019

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BLS Allergic Reaction - Anaphylaxis

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

History of exposure to allergen, such as, but not limited to: bee/wasp stings, drugs or medication, nuts, seafood, new food consumed (especially infants), prior allergic reactions.

Respiratory wheezing, respiratory distress.

OBJECTIVE FINDINGS:

Mild: Hives, rash, itching, anxiety.

Moderate: Hives, rash, bronchospasm, wheezing, nausea.

Severe: Respiratory distress, chest tightness, difficulty swallowing, altered mental status, signs of shock.

TREATMENT:

1. Primary Survey – ensure ABC's.
2. Remove patient from contact with allergen and environment if warranted.
3. Confirm ALS transport is responding.
4. For moderate to severe reactions:
 - a. EMT: Assist patient with taking their own prescribed anaphylaxis medications such as bee sting kit (epinephrine, diphenhydramine, antihistamine) or beta-2 inhaler.
 - b. Enhanced Skills EMT: Administer Epinephrine Auto-Injector:
 - Adult dose (greater than 66 lbs) EpiPen Auto-Injector 0.3mg.
 - Pediatric dose (less than 66 lbs) EpiPen Jr. Auto-Injector 0.15mg.
5. Monitor SpO₂.
6. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. A patient with ineffective respirations: support ventilations with BVM and appropriate airway adjunct.
7. Secondary Survey and Routine Medical Care.
8. Treat for shock as appropriate.

Effective: April 1, 2020
Supersedes: January 1, 2016

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BLS Bites and Stings

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Type of animal or insect; time of exposure.

History of previous exposures, allergic reactions, any known specific allergen.

Wound site: puncture marks, teeth marks, stinger.

For snake bites refer to EMS Policy No. 5553, BLS Snake Bites.

OBJECTIVE FINDINGS:

Local Reaction: rash, hives; localized redness and swelling; skin at wound area hot to touch; decreased pain or sense of touch.

Systemic Reaction: Any or all localized findings; respiratory distress, wheezing, stridor; diaphoresis; decreased blood pressure; tachycardia; rapid respirations.

TREATMENT:

1. Ensure personal safety.
2. Primary Survey – ensure ABC's.
3. Remove insect stinger using a scraping motion, do not squeeze venom sac
4. For moderate to severe reactions:
 - a. EMT: Assist patient with taking their own prescribed Allergic Reaction medications such as bee sting kit (epinephrine, diphenhydramine, antihistamine) or beta-2 inhaler.
 - b. Enhanced Skill EMT: Administer Epinephrine Auto-Injector:
 - Adult dose (greater than 66 lbs) EpiPen Auto-Injector 0.3mg.
 - Pediatric dose (less than 66 lbs) EpiPen Jr. Auto-Injector 0.15mg.
5. Monitor SpO₂.
6. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
7. Cold packs may be applied for pain (avoid placing ice directly on skin).
8. Dress wounds with gauze as needed.

Effective: April 1, 2020
Supersedes: July 1, 2007

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9. Secondary Survey and Routine Medical Care.

Note:

- 1) Notify animal control and law enforcement of all animal bites.
- 2) If safe, package the insect or spider for transport and positive identification.
- 3) All bites (dog, cat, human, etc) need to be transported for further evaluation at a hospital for proper cleansing and potential antibiotic therapy.
- 4) The time since envenomation is important as anaphylaxis rarely occurs more than 60 minutes after envenomation.

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Supersedes: July 1, 2007

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BLS Snake Bite

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Type of snake or snake’s appearance (shape of pupil, color, stripes or rattle).
Time of bite and type of bite (fang punctures or row of teeth marks).
Prior first-aid by patient or bystanders.

OBJECTIVE FINDINGS:

Mild or Non-Envenomation: No discoloration around puncture marks; minor pain or no pain after a few minutes.

Serious Envenomation: Dark discoloration around punctures; swelling at and around puncture site; severe pain; altered mental status; abnormal motor movements; low blood pressure; tachycardia; “metallic” taste; active bleeding from site, possible blistering

TREATMENT:

1. Ensure personal safety - ensure ALS response.
2. Primary Survey – ensure ABC’s.
3. Remove rings, watches, and other jewelry which might constrict circulation.
4. DO NOT APPLY ICE.
5. Secondary Survey and Routine Medical Care.

Serious Envenomation

6. Avoid movement of extremity (splint) and keep at or below level of heart.
7. Monitor SpO2.
8. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
9. Circle swelling around puncture site with pen and note time.
10. Monitor distal pulses.

Notes:

1. Do not incise snake bites.
2. Do not apply constricting bands or tourniquets unless there is uncontrolled bleeding.

Effective: April 1, 2020
Supersedes: July 1, 2007

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3. All patients need to be transported to a hospital for evaluation and possible antibiotic or antivenin therapy.
4. If dead or captured, have animal control transport snake for identification.

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Supersedes: July 1, 2007

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BLS Hypothermia – Frostbite

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Length and history of exposure.

Air temperature, water temperature, wind velocity, was patient wet or dry.

History and time of mental status changes.

Medical history: trauma, alcohol consumption, medications, pre-existing medical problems.

OBJECTIVE FINDINGS:

Altered mental status.

Patient's body temperature.

Exposure to cold environment.

Evidence of local cold injury: blanching, red or wax looking skin especially ears, nose and fingers, burning or numbness in effected areas.

TREATMENT:

1. Primary Survey – ensure ABC's.
2. Consider the need for spinal motion restrictions.
3. Gently move patient to warm environment.
4. Remove wet clothing and cover with warm blankets.
5. Heat packs with less than 110° F may be applied to patient's groin/axillary for warmth (Do Not apply chemical heat packs directly to skin, wrap in towel or clean dry cloth).
6. Monitor SpO2.
7. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
8. Secondary Survey and Routine Medical Care.
9. Do Not Attempt to thaw out frost bitten areas or apply heat packs to frostbite sites.
10. Notes: Move patients gently, excessive movement has been known to cause patients with severe hypothermia to suffer sudden cardiac arrest.

Effective: April 1, 2020

Supersedes: July 1, 2007

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BLS Hyperthermia

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Patient age, activity level.

Medications.

Associated symptoms: headache, chest pain, cramps, nausea, weakness, temperature.

Air temperature and humidity; presence or absence of clothing.

OBJECTIVE FINDINGS:

Heat Cramps and Heat Exhaustion: Temperature normal to slightly elevated; mental status alert to slightly confused; skin signs diaphoresis, warm or hot to touch; muscle cramps and weakness.

Heat Stroke: High core temperature usually above 104°F; altered mental status; skin hot to touch and flushed; possible seizure activity; low blood pressure; tachycardia.

TREATMENT:

1. Primary Survey – ensure ABC's.
2. Note patient's temperature if possible.
3. Move patient to cool environment.
4. Remove excess clothing.
5. Spray with cold water and use fanning to evaporate.
6. For heat stroke: Apply ice packs to hands, soles of feet, and face. If available place patient in ice bath to rapidly lower body temperature while monitoring continuously; remove patient from ice bath as soon as temperature reaches normal or near normal.
7. Monitor SpO2.
8. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and airway.
9. For heat cramps-heat exhaustion may give patient cool/cold liquids by mouth.
10. May massage and stretch cramped muscles to relieve pain.
11. Secondary Survey and Routine Medical Care.

Effective: April 1, 2020

Supersedes: July 1, 2007

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BLS Gynecological Emergencies

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Last menstrual period and possibility of pregnancy.

Duration and amount of any bleeding.

If pregnant: month of pregnancy, any anticipated problems (e.g. pre-eclampsia, lack of prenatal care, expected multiple births).

Presence of contractions, cramps, or discomfort.

Pertinent past medical history.

OBJECTIVE FINDINGS:

Estimated blood loss.

Low blood pressure or high blood pressure.

Spontaneous abortion – passage of products of conception, fetus less than 20 weeks of gestation.

Headaches, blurred vision.

Severe abdominal cramps or sharp abdominal pain.

TREATMENT:

1. Primary Survey – Ensure ABC's.
2. Place patient in shock position, if warranted. If pregnant, place in left lateral position.
3. Monitor SpO₂.
4. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. A patient with ineffective respirations: support ventilations with BVM and appropriate airway adjunct.
5. Do not visualize genital region except for known or suspected active bleeding, severe trauma to region, or active labor.
6. For active bleeding, place bulky dressing externally to absorb blood flow.
7. Confirm ambulance transport is responding.
8. Secondary Survey and Routine Medical Care.

Note:

- 1) Do not pack vagina with any material, use external dressings only.
- 2) When possible have an EMT of same gender as the patient perform evaluations of the pelvis/genital area.
- 3) Consider neonatal resuscitation in all deliveries.

Effective: April 1, 2020
Supersedes: January 1, 2012

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BLS Childbirth

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Estimated due date, month of pregnancy, any anticipated problems e.g. pre-eclampsia, lack of prenatal care, expected multiple births.

Onset of regular contractions, current frequency of contractions, rupture of membranes.

Urge to bear down, number of previous pregnancies and live births.

OBJECTIVE FINDINGS:

Observe perineal area for fluid, bleeding, crowning (during contraction), and abnormal presentation (breech, extremity, cord).

TREATMENT:**All Patients:**

1. Primary Survey – ensure ABC's.
2. Open OB Kit.
3. Monitor SpO₂.
4. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 6 L/min via nasal cannula or 10-15 L/min via NRB mask for respiratory distress.
5. If birth not imminent, place patient in left lateral recumbent position during transport.

Normal Delivery:

1. Assist mother with delivery, clean, preferably sterile technique.
2. Control and guide delivery of neonate's head and body.
3. Check for cord around neck, gently slide over head if possible, if tight clamp and cut to unwind and deliver neonate as quickly as possible.
4. Once delivered, wipe face with clean dry cloth, suction only, if needed, using a bulb syringe.
5. Clamp and cut umbilical cord.
6. Dry and wrap neonate for warmth (especially the head); if possible allow infant to breast feed or place on mother's chest.
7. Note time of delivery and assess respirations, pulse rate and strength of crying.

Effective: April 1, 2020
Supersedes: January 1, 2012

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8. Perform neonatal resuscitation if needed.
9. Evaluate mother after delivery for evidence of shock due to excessive bleeding.
10. Deliver placenta, and place in a bio-hazard bag and transport to hospital.
11. Perform fundal massage to help stop postpartum bleeding.
12. Secondary Survey and Routine Medical Care.

Breech Delivery:

1. Assist with and continue delivery if possible.
2. Provide airway for neonate with gloved hand if unable to continue delivery.
3. If unable to deliver, place mother in shock position.
4. Minimize scene time ensure transport.
5. Secondary Survey and Routine Medical Care

Prolapsed Cord:

1. Place mother in shock position, elevate hips with pillows, if possible place mother in knee chest position.
2. If cord is present, assess cord for palpable pulse.
3. If strong regular pulse is absent, gently insert gloved hand into vagina to relieve pressure on cord.
4. Cover exposed cord with saline soaked dressing.
5. Minimize scene time ensure transport.
6. Secondary Survey and Routine Medical Care.

Notes:

1. First priority in childbirth is assisting mother with delivery of child.
2. The primary enemy of the newborn is hypothermia which can occur in minutes.
3. Ensure newborn is warm and dry.
4. Ensure newborn has a clear airway, suction with bulb syringe as needed.
5. Keep baby at or below the level of the mother's heart until cord is clamped.
6. Do not pull on the umbilical cord.

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BLS Neonatal Resuscitation

AUTHORITY: Division 2.5, Health and Safety Code, Sections 1797.220 & 1798 et al.

OBJECTIVE FINDINGS:

Patients less than 24 hours of age.
Heart Rate.

TREATMENT:

1. Position airway and suction mouth and nose with bulb syringe.
2. Warm – Dry neonate and keep warm with thermal blankets or dry towel.
3. Stimulate neonate by drying vigorously including head and back.
4. Assess/evaluate breathing and heart rate (APGAR).
5. Ensure ALS transport.

Heart Rate > 100 beats per minute

1. Assess skin color – if peripheral cyanosis (blue skin) is present administer 100% oxygen via blow by.
2. Reassess heart rate and respiratory rate every 30-60 seconds.

Heart Rate 80 – 100 beats per minute

1. Oxygen 100% via mask.
2. Stimulate neonate.
3. Reassess – if heart rate < 100 after 30 seconds of oxygen and stimulation, begin assisted ventilation with 100% oxygen via neonatal BVM at 40-60 breaths per minute.
4. Reassess heart rate and respirations every 15-30 seconds.

Heart Rate 60 – 80 beats per minute

1. Assist ventilations with 100% oxygen via neonatal BVM at 40-60 breaths per minute.
2. Start CPR 120 compressions per minute, if no increase in heart rate following initiation of ventilations. If heart rate is increasing, continue ventilation without compressions for 15-30 seconds. **Note:** Preferred compression technique – encircling neonate with both hands and compressing sternum with thumbs.
3. Reassess heart rate and respirations every 15-30 seconds.

Heart Rate < 60 beats per minute

1. Assist ventilations with 100% oxygen via neonatal BVM at 40-60 breaths per minute.
2. Start CPR 120 compressions per minute.
3. Reassess heart rate and respirations every 15-30 seconds.

Effective: September 18, 2020
Supersedes: July 1, 2007

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BLS Burns

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Type and source of burn: chemical, electrical, steam, smoke, open flame.
Complicating factors: exposure in enclosed space, total time exposed, drugs, alcohol.
Medical history: cardiac disease, respiratory disease, medications.
Associated mechanism of injury: fall through roof, explosion, motor vehicle collision.

OBJECTIVE FINDINGS:

Evidence of inhalation injury: smoky sputum, singed nasal hair, hoarseness.
Depth of burn: full thickness, partial thickness, surface burn.
Size of burn: calculate total body surface area (TBSA) using rule of nines.
Entrance and exits wounds from electrical circuit.
Associated trauma from explosion, fall, etc.

TREATMENT:**All Patients:**

1. Stop the burning process.
2. Primary Survey – ensure ABC's.
3. Monitor SpO₂.
4. Patients with respiratory distress: Humidified oxygen 10-15 L/min via non-rebreathing mask or oxygen with nebulized saline via mask.
5. Patients with ineffective respirations: support ventilations with oxygen, BVM and BLS airway.
6. Following specific treatments: Secondary Survey and Routine Medical Care.

Thermal or Electrical Burns:

1. Cool with water for up to 5 minutes to stop the burning process. Avoid prolonged cool water usage due to risks of hypothermia and local cold injury.
2. Remove jewelry and non-adhered clothing. Do not break blisters.
3. Dress burn:
 - a. If <20% TBSA cover with sterile dressing soaked with sterile water.
 - b. If >20% TBSA cover with dry sterile burn sheet or cleanest dry sheet.
4. Prior to movement cover stretcher with dry sterile burn sheet or cleanest dry sheet.

Effective: April 1, 2020
Supersedes: July 1, 2007

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Chemical Burns:

1. Follow appropriate decontamination or hazmat procedures.
2. Brush off dry powders, remove contaminated clothing and irrigate with copious amounts of water.
3. Do not attempt to remove tar or other adhered material.

Effective: April 1, 2020
Supersedes: July 1, 2007

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BLS Head – Neck- Facial Trauma

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Mechanism of injury.

Medical history: cardiovascular problems, diabetes, or seizure disorder.

OBJECTIVE FINDINGS:

Check for DCAP-BTLS (Deformity, Contusion/Crepitus, Abrasion, Puncture, Bleeding, Tenderness, Laceration, Swelling).

Signs or airway obstruction: stridor, abnormal voice, difficulty breathing.

Glasgow Coma Score.

Neurological impairment or focal deficit (paralysis, weakness).

Eyes/vision: pupil equality and reactivity, eye tracking, impaired vision (double vision, stars).

TREATMENT:

1. Primary Survey - ABC's.
2. Monitor SpO2.
3. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and appropriate airway adjunct.
4. Provide spinal motion restriction if indicated by mechanism of injury and patient assessment.
5. Control external bleeding with direct pressure and hemostatic dressings as necessary.
6. Stabilize impaled objects with bulky dressings.
7. Apply cold packs to reduce pain and decrease soft tissue swelling.
8. Following specific treatment: Secondary Survey and Routine Medical Care.

Specific treatment:

9. Eye injury – Apply dressing as appropriate, loosely cover affected and unaffected eye.
10. Tooth injury – keep avulsed teeth in saline soaked gauze (or commercial tooth saver kit) and transport with patient.
11. Mandible fracture – splint with cravat or bandage.

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Notes:

- 1) All patients with a period of unconsciousness should be transported to an emergency department for evaluation.
- 2) Continually monitor Glasgow Coma Score and observe for fluid drainage from ear or nose.

Effective: April 1, 2020
Supersedes: January 1, 2012

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**San Joaquin County
Emergency Medical Services Agency**



BLS Chest – Abdominal Trauma

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Mechanism of injury.

Complaint: chest pain, respiratory distress, neck discomfort, abdominal pain.

Medical history: cardiovascular or respiratory problems, medications, or pregnancy.

OBJECTIVE FINDINGS:

Check for DCAP-BTLS (Deformity, Contusion/Crepitus, Abrasion, Puncture, Bleeding, Tenderness, Laceration, Swelling).

Paradoxical chest wall movement (flail chest), rib cage/sternal and pelvic instability, abdominal rigidity and guarding.

Neck vein distention, tracheal position or deviation, air leaks, lung sounds, heart sounds, pulse pressure, oxygenation, skin signs, blood pressure in both arms.

TREATMENT:

1. Primary Survey – ensure ABC's.
2. Monitor SpO₂.
3. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and appropriate airway adjunct.
4. Provide spinal motion restriction if indicated by mechanism of injury and patient assessment.
5. Control external bleeding with direct pressure, or hemostatic dressing as necessary.
6. Stabilize impaled objects with bulky dressings.
7. Transport patient in position of comfort if not in spinal precautions. Place pregnant patients in left lateral recumbent position.
8. Following specific treatment: Secondary Survey and Routine Medical Care.

Specific Treatments:

9. Chest wounds with air leak – Apply occlusive dressing taped on 3 sides, continually assess for tension pneumothorax.

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10. Abdominal evisceration – cover with moist saline dressings.

Note:

- 1) Continually assess for signs of shock.
- 2) Significant internal thoracic and abdominal trauma may occur without any external signs of injury, particularly in children.

Effective: April 1, 2020
Supersedes: January 1, 2012

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BLS Extremity Trauma

AUTHORITY: Health and Safety Code, Division 2.5, Sections 1797.60, 1797.80, 1797.197, 1797.197a, 1797.204, 1797.220, 1798; California Code of Regulations, Title 22, Chapter 2, Sections 100062, 100063, 100064

INFORMATION NEEDED:

Mechanism of injury.

Medical history: cardiovascular, respiratory problems, and medications.

OBJECTIVE FINDINGS:

Check for DCAP-BTLS (Deformity, Contusion/Creptus, Abrasion, Puncture, Bleeding, Tenderness, Laceration, Swelling).

Range of motion, distal pulses, sensation, and skin color.

Associated injuries.

TREATMENT:

1. Primary Survey – ensure ABC's.
2. Monitor SpO2.
3. Administer oxygen for shortness of breath or signs of hypoxia: Oxygen 10-15 L/min via non-rebreathing mask. Patients with ineffective respirations: support ventilations with BVM and appropriate airway adjunct.
4. Control external bleeding with direct pressure, hemostatic dressings or SOF or CAT tourniquet as necessary.
5. Stabilize impaled objects with bulky dressings.
6. Elevate extremity and apply cold packs to reduce pain and decrease soft tissue swelling.
7. Following specific treatment: Secondary Survey and Routine Medical Care.

Specific treatments:

8. Splint injured extremity in position found unless precluded by extrication consideration, no palpable pulses or patient discomfort.
9. Amputation – place/cover amputated part in/with dry sterile dressing, place in sealed plastic bag or wrap with plastic, place dressed and wrapped part on top of ice or cold pack.
10. Cover open wounds with sterile dressings.

Note:

- 1) Pad all splinted extremities and recheck distal pulses and neurological function every 5 minutes.
- 2) Do not apply traction or attempt to reduce an open extremity fracture.

Effective: April 1, 2020
Supersedes: January 1, 2012

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