

SAN JOAQUIN COUNTY EMERGENCY MEDICAL SERVICES

Basic Life Support Policies



**San Joaquin County
Emergency Medical Services Agency**



BLS Treatment Protocols - Introduction

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

INTRODUCTION

- I. The Basic Life Support (BLS) Treatment Protocols apply to all levels of certification and licensure and all prehospital personnel in San Joaquin County. The protocols contain language, instructions and treatments designed for holders of an Emergency Medical Technician-I (EMT) certificate. All prehospital personnel are required to operate within their respective scope of practice and must ensure that a specific procedure (i.e., AED or assisting patients with taking their own medications) is within their scope of practice 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.
- 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 and National Standard First Responder Course Curriculum.
 - D. OES Region IV Multi-casualty Incident Plan, Field Operations Manual 1.
 - E. S.T.A.R.T. Triage.
 - F. 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 14 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

Effective: **07-01-07**
Revised:
Supersedes: 510.02, 510.04, SJ-B100 through SJ-B999

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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.

Effective: **07-01-07**
Revised:
Supersedes: 510.02, 510.04, SJ-B100 through SJ-B999

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BLS Scope of Practice Summary

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

Procedures	Special Considerations	FR	FR AED	EMT
Patient assessment		Yes	Yes	Yes
Obtain vital signs	BP, pulse, resp, etc.	Yes	Yes	Yes
Perform CPR and external airway maneuvers	Chest compressions, abdominal thrusts, back blows	Yes	Yes	Yes
Oropharyngeal airway		Yes	Yes	Yes
Nasopharyngeal airway		Yes	Yes	Yes
Bag valve mask device		Yes	Yes	Yes
Oxygen devices	Cannula, mask, tubing	Yes	Yes	Yes
Suction devices	Manual and mechanical	Yes	Yes	Yes
Splints	Soft, rigid	Yes	Yes	Yes
Traction splints		No	No	Yes
Spinal immobilization	Backboard, KED, etc.	Yes	Yes	Yes
AED		No	Yes	Yes
Assist with childbirth		Yes	Yes	Yes
Assist with ALS procedures	Under paramedic direction	No	No	Yes
Monitor IV infusions	Isotonic solutions (NS, LR) and D5W (inter-facility transfers)	No	No	Yes
Monitor indwelling IV lines	Excluding arterial lines	No	No	Yes

FR = First Responder

FR AED = First Responder with Automatic External Defibrillator

EMT = Emergency Medical Technician -I

Effective: **7-1-07**

Revised:

Supersedes: 510.01, 510.07, 510.08, 510.10

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Procedures, cont.	Special Considerations	FR	FR AED	EMT
Monitor gastrostomy tubes		No	No	Yes
Monitor foley catheters		No	No	Yes
Monitor tracheostomy tubes		No	No	Yes
Monitor nasogastric tubes		No	No	Yes
Monitor Heparin locks		No	No	Yes
Medications	Special Considerations	FR	FR AED	EMT
Oxygen	BLS personnel are not authorized to use pulse oximetry to determine oxygen saturation levels	Yes	Yes	Yes
Oral Glucose	BLS personnel are not authorized to use glucometers to determine blood glucose levels	No	No	Yes
EMT Only Medications	Special Considerations	FR	FR AED	EMT
Mark I Kits	Nerve agent exposure only and only trained personnel	No	No	Yes
Assisting patients with administering their own prescribed medications:	<ul style="list-style-type: none"> • Inhalers • Allergic reaction kits (epinephrine and diphenhydramine) • Sublingual Nitroglycerine 	No	No	Yes

FR = First Responder

FR AED = First Responder with Automatic External Defibrillator

EMT = Emergency Medical Technician -I

Effective: **7-1-07**

Revised:

Supersedes: 510.01, 510.07, 510.08, 510.10

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BLS Routine Medical Care

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

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 – 10 minutes.
 - B. Initiation of spinal precautions.
 - C. Administration of oxygen.
 - D. Hemorrhage control.
 - 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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BLS Patient Assessment – Primary Survey

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

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 S.T.A.R.T. 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 Respiratory Distress Protocol as needed).
- B. Protect spine from unnecessary movement in patients at risk for spinal injury.
- C. Ensuring an adequate airway supersedes spinal immobilization.
- D. Look and listen for evidence of upper airway problems and potential obstructions:
 1. Vomit.
 2. Bleeding.
 3. Loose or missing teeth.
 4. Dentures.
 5. Facial Trauma.

Effective: **07-01-07**

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Revised:

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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 AED if necessary.
- B. Control life-threatening hemorrhage with direct pressure.
- 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 immobilization (refer to Spinal Immobilization Protocol).
- 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

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

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 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 cloths while in the middle of snow storm is usually a bad thing).

- II. 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 DNR order, Medic-Alert bracelet and prescription bottles as appropriate. 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. Medications;
 3. Past medical history relevant to the chief complaint. Examples include previous episodes of myocardial infarcts, hypertension, diabetes, 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. Ascertain recent medical history such as hospital admissions, surgeries, etc;
 6. Mechanism of injury if appropriate;
 7. In addition obtain history relevant to specific patient complaints.

Effective: **07-01-07**

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Revised:

Supersedes: 510.05

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- III. 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.
- IV. 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.
- V. 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.
- VI. 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.
- VII. 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;
 - D. Palpate for bilateral femoral masses, if warranted.
- VIII. 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.

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Supersedes: 510.05

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IX. 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.

X. Back:

- A. Observe and palpate for DCAP-BTLS, asymmetry and sacral edema.

XI. 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 packaging/preparing the patient for immediate transport upon ambulance or air ambulance arrival (spinal immobilization, miller board, pediatric immobilization device, ensuring rapid ingress/egress for BLS personnel and equipment.)
- D. The Secondary Survey should ONLY be interrupted if the patient experiences airway, breathing or circulation deterioration requiring immediate intervention. Complete the examination before treating the 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 should be taken approximately every 5 minutes. Changes and trends observed in the field are essential data to be documented and communicated to the transport personnel or receiving facility.
- F. As stated in the Primary Survey DCAP-BTLS is a mnemonic that stand for:
 - 1. Deformity;
 - 2. Contusion/Crepitus;
 - 3. Abrasion;
 - 4. Puncture;
 - 5. Bruising/Bleeding;
 - 6. Tenderness;
 - 7. Laceration;
 - 8. Swelling.

Effective: **07-01-07**

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Revised:

Supersedes: 510.05

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BLS Spinal immobilization

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

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

- I. Spinal Immobilization should be considered for all trauma patients involved in a significant mechanism of injury (i.e. diving accidents, high speed motor vehicles accidents, roll-overs, pedestrian vs car, etc).
- II. First Responders and EMT's should perform full spinal immobilization for any trauma patient or suspected trauma patient who exhibit one or more of the following conditions:
 - A. Cervical or upper 1/3 thoracic spinal tenderness or pain, pain with neck motion, distal numbness, tingling, weakness or paralysis;
 - B. Altered mental status;
 - C. Psychosis;
 - D. Being under the influence of intoxicating medications, alcohol or other drugs (even if the patient is alert and oriented);
 - E. Having a distracting (painful or emotional) condition which can mask cervical/spinal pain perception; and
 - F. Any other condition that in the First Responder or EMT's judgment is reducing the patient's pain perception.
- III. The following statements apply to all C-spine cases:
 - A. The application of a cervical collar, by itself, does not constitute adequate immobilization for the conditions requiring spinal immobilization.
 - B. Immobilization of the head without concurrent immobilization of the trunk is insufficient. Neck motion can occur when a patient's trunk is allowed to slide on the backboard while the head is restrained.
 - C. Non-rigid cervical collars only create a false sense of security and are not acceptable for the immobilization of prehospital patients.
- IV. Additionally, paramedics may discontinue or clear spinal immobilization initiated by BLS personnel, if in the opinion of the paramedic spinal immobilization is not warranted or may compromise patient care. Paramedics are required to document on the patient care record each instance of discontinuing spinal immobilization and the findings of their exam clearing the patient.

Effective: **07-01-07**

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Revised:

Supersedes: 510.09

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BLS Inter-facility Patient Transports

AUTHORITY:

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

- I. Apply universal body substance isolation precautions.

- II. During inter-facility transport, an EMT-I who has received appropriate training may monitor peripheral lines delivering intravenous fluids, Foley catheters, Heparin and Saline Locks, nasogastric tubes and gastrostomy tubes, provided the patient is deemed as non-critical by the transferring physician and the physician approves the transport by an EMT-I. In addition, the following conditions must be met:
 - A. An EMT-I may monitor peripheral lines delivering intravenous fluids during interfacility transport and in the prehospital setting with the following restrictions:
 1. No medications have been added to the intravenous fluid.
 2. No advanced life support procedures are required during transport e.g. cardiac monitoring.
 3. Fluid is isotonic based including D5W, Normal Saline, Ringer's Lactate, Isolyte or Isolyte M.
 - B. Approved EMT-I IV Interventions:
 1. Monitor and maintain the IV at a preset rate.
 2. Check tubing for kinks and reposition the arm 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. An EMT-I may transport a patient with a Heparin or Saline Lock.
 - D. An EMT-I may transport a patient with a Foley catheter, provided:
 1. The catheter is able to drain freely to gravity, and
 2. No action is taken to impede flow or disrupt contents of drainage collection bags.
 - E. An EMT-I may transport a patient with a nasogastric tube or gastrostomy tube, provided:
 1. Nasogastric and gastrostomy tubes are clamped off.
 2. All patients who have received fluids prior to transport are transferred semi-fowlers to prevent aspiration, unless contraindicated.
 - F. If at any time the patient's condition deteriorates, the patient should be transported to the closest receiving hospital.

Effective: **07-01-07**

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BLS Chest Pain of Suspected Cardiac Origin

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

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,
Abdominal tenderness
Assess pain on a scale of 1-10

TREATMENT:

1. Reassure patient and place in position of comfort, or supine if patient is hypotensive.
2. Ensure ALS Response.
3. 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.
4. Assess patient: primary, secondary, history.
5. Assist patient with taking their **OWN** sublingual nitroglycerin - **EMT ONLY** (1 tablet or metered spray dose sublingual) if systolic blood pressure is > 100. May be repeated every 5 minutes to a maximum of 3 doses, if systolic blood pressure remains > 90.
Note: Nitroglycerin is contraindicated for patients who have taken erectile dysfunction medication with the last 24 hours.
6. Routine Medical Care.

Effective: **07-01-07**

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Revised:

Supersedes: SJ-B100, et seq.

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BLS Cardiac Arrest

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

INFORMATION NEEDED:

Witnessed collapse:	Time down, preceding symptoms.
Un-witnessed arrest:	Time down, preceding symptoms if known.
Actions:	Bystander CPR and treatments prior to arrival.
Past medical history:	Pre-existing conditions, medications.
Scene:	Evidence of drug ingestion, hypothermia, trauma, DNR form or medallion.

OBJECTIVE FINDINGS:

Unconscious with ineffective or absent respirations
 Absence of pulse
 Signs of trauma or blood loss, if yes refer to Traumatic Arrest Protocol
 Rigor mortis, fixed dependent lividity, if yes refer to Determination of Death Policy
 Air and skin temperature

TREATMENT:

1. ABC's.
2. CPR, perform and complete initial CPR sequence (5 cycles/2 minutes).
3. Insert OPA or NPA followed by 100% Oxygen via bag valve mask.
4. Attached AED.
5. Ensure ALS Response.
6. Routine Medical Care.
7. Defibrillate patient following AED prompts using size appropriate electrode pads. CPR should be administered for complete sequences of 5 cycles/2 minutes, **between each shock**. A complete cycle is 30 compressions to 2 breaths at a rate of 100 compressions per minute. AED energy levels: Biphasic 200 joules; Monophasic 360 joules.
8. For return of spontaneous circulation continue to monitor patient and assist respirations.
9. If there is no return of spontaneous circulation, continue CPR and follow AED prompts.

Effective: **07-01-07**

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BLS Respiratory Distress

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

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. ABC's
3. Ensure ALS Response
4. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
5. Suction as needed
6. Assist patient in using their own prescribed respiratory inhaler medications (**EMT ONLY**)
7. Routine Medical Care
8. Upper airway obstruction: Relieve obstruction by positioning, suction, abdominal thrusts; infants use back blows and chest thrusts instead of abdominal thrusts.
9. Chest wound: Cover open chest wound with occlusive dressing taped on three sides.
10. **For children** 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.
- 11: **For children** 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) Administer high flow humidified oxygen; C) Cool night air may help reduce edema in the airway tissues.

Effective: **07-01-07**

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BLS Altered Mental Status

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

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. ABC's
3. Ensure ALS Response
4. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
5. Suction as needed
6. Routine Medical Care
7. For patients with signs and symptoms of hypoglycemia with the ability to maintain their airway and swallow without difficulty administer 1 tube of **Oral Glucose Paste**. For patients with their own glucose testing equipment a blood sugar value of less than 70 mg/dl should receive oral glucose.
8. For patients experiencing a behavioral emergency treat patient in a calm and reassuring manner using padded or soft leather restraints only to prevent patient from harming self or others, refer to EMS Policy on use of restraints.

Effective: **07-01-07**
Revised:
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BLS Seizures

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

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. ABC's
3. Spinal immobilization as indicated
4. Ensure ALS Response
5. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
6. Institute appropriate cooling measures if indicated by history and findings (rectal temperature 104°)
7. Routine Medical Care
8. Continually assess neurological status

Notes: Be prepared for recurrent seizure activity. Do not forcibly restrain patient during seizure activity.

Effective: **7-01-07**

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BLS Shock Non-Traumatic

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

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. 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. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
4. Give patient nothing by mouth
5. Maintain patient warmth
6. Routine Medical Care

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BLS Abdominal Emergencies

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

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. ABC's
2. Place patient in position of comfort or supine with legs elevated if patient is hypotensive.
3. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
4. Give patient nothing by mouth
5. 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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BLS Poisoning and Overdose

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

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

Vital signs, pupil assessment, skin signs

Lung sounds and airway secretions

TREATMENT:

1. ABC's
2. Ensure ALS and law enforcement response if suspected intentional overdose
3. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
4. Give patient nothing by mouth
5. Routine Medical Care

Note: Be prepared to manage airway with suction and assist ventilations. Oxygen and ventilation are treatment of choice for all inhalation emergencies e.g. carbon monoxide, paint fumes, etc.

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BLS Allergic Reaction - Anaphylaxis

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

INFORMATION NEEDED:

History of exposure to allergen - bee/wasp stings, drugs or medication, nuts, seafood, new food consumed (especially infants), prior allergic reactions
Respiratory wheezing, distress
Signs of itching, rash, hives, nausea, weakness, anxiety

OBJECTIVE FINDINGS:

Mild – Hives, rash
Moderate – Hives, rash, bronchospasm, wheezing
Severe – Altered mental status, signs of shock, respiratory distress, chest tightness

TREATMENT:

1. ABC's
2. Remove patient from contact with allergen and environment if warranted
3. Ensure ALS Response
4. For moderate to severe reactions – assist patient with taking their own prescribed Allergic Reaction medications (EPI-Pen, inhaler, bee sting kit)
4. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
5. Routine Medical Care
7. Treat for shock as appropriate

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BLS Bites and Stings

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

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

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. ABC's
3. Remove insect stinger using a scraping motion, do not squeeze venom sac
4. **EMT ONLY** – Assist patient with taking their own Allergic Reaction medications such as bee sting kit (epinephrine, diphenhydramine, antihistamine) or beta-2 inhaler
5. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
6. Cold packs may be applied for pain (avoid placing ice directly on skin)
7. Dress wounds with gauze as needed
8. Routine Medical Care

Notes:

- 1) Notify animal control and law enforcement for 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) Time since envenomation is important as anaphylaxis rarely occurs more than 60 minutes after inoculation.

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BLS Snake Bite

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

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 by-standers

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. ABC's
3. Remove rings, watches, and other jewelry which might constrict circulation
4. DO NOT APPLY ICE
5. Routine Medical Care

Serious Envenomation

6. Avoid movement of extremity (splint) and keep at or below level of heart
7. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
8. Circle swelling around puncture site with pen and note time
9. Monitor distal pulses
10. Apply loose constricting band (not a tourniquet) on extremity above swelling

Notes: 1) Do not incise snake bites. 2) All patients need to be transported to a hospital for evaluation and possible antibiotic or antivenin therapy. 3) If dead or captured have animal control transport snake for identification. 4) If patient does not exhibit signs and symptoms of envenomation within 30 minutes of being bitten the probability of having received venom through snake bite decreases.

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BLS Hypothermia – Frostbite

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

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. ABC's
2. Consider the need for cervical spine precautions
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
6. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
7. Routine Medical Care
8. Do Not Attempt to thaw out frost bitten areas or apply heat packs to frostbite sites

Notes: Move patients gently, excessive movement has been known to cause patients with severe hypothermia to suffer sudden cardiac arrest.

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BLS Hyperthermia

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

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. ABC's
2. Note patient's temperature if possible
3. Move patient to cool environment
4. Remove excess clothing
5. Spray or sprinkle with cool (not cold) water and use fan to evaporate
6. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
7. For heat cramps-heat exhaustion may give patient cool/cold liquids by mouth
8. May stretch cramped muscles to relieve pain
9. Routine Medical Care

Note: Persons at greatest risk of hyperthermia are the elderly, athletes, and persons on medications which impair the body's ability to regulate heat.

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BLS Gynecological Emergencies

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

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 gestation
Headaches, blurred vision
Severe abdominal cramps or sharp abdominal pain

TREATMENT:

1. ABC's
2. Place patient in shock position, if warranted
3. Oxygen 2-6 L/min via nasal cannula, or 10-15 L/min via non-rebreathing mask for patients with signs of respiratory distress. Patient's with ineffective respirations: support ventilations with BVM and airway.
4. Do not visualize genital region except for known or suspected active bleeding, severe trauma to region, or active labor
5. For active bleeding, place bulky dressing or vaginal pad externally to absorb blood flow
6. 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.

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BLS Childbirth

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

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), abnormal presentation (breech, extremity, cord)

TREATMENT:

All Patients:

1. ABC's
2. Open OB Kit!
3. Oxygen 6 L/min via nasal cannula or 10-15 L/min via NRB mask for respiratory distress.
4. 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. Suction neonates mouth and nose with bulb syringe
5. Clamp and cut umbilical cord
6. Dry and wrap neonate for warmth (especially the head); if possible place with mother
7. Note time of delivery and assess respirations, pulse rate and strength of crying
8. Perform neonatal resuscitation if needed.
9. Evaluate mother post delivery for evidence of shock due to excessive bleeding
10. Deliver placenta
11. Perform fundal massage to help stop postpartum bleeding

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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. Ensure ALS transport

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. Ensure ALS transport

- 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 has a clear airway, suction with bulb syringe as needed.
4) Keep baby at or below the level of the mother's heart until cord is clamped.
5) 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 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.

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BLS Burns

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

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. Patients with respiratory distress - Oxygen 10-15 L/min via non-rebreathing mask.
Patient's with ineffective respirations: support ventilations with BVM and airway.

Thermal or Electrical Burns:

3. 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.
4. Remove jewelry and non-adhered clothing, do not break blisters.
5. Cover 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.
6. If placing patient in cervical spine precautions cover backboard with dry sterile burn sheet

Chemical Burns:

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

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BLS Traumatic Cardiac Arrest

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

INFORMATION NEEDED:

Witnessed arrest: Patient down time.
Actions: Bystander CPR and treatments prior to arrival.
Mechanism of injury: Blunt or penetrating.

OBJECTIVE FINDINGS:

Unconscious with ineffective or absent respirations
Absence of pulse
Signs of trauma or blood loss
Signs of obvious death refer to EMS Policy No. 5103, Determination of Death in the Field.
Air and skin temperature

TREATMENT:

1. ABC's – initiate or begin CPR, perform and complete initial CPR sequence (5 cycles/2 minutes).
2. Insert OPA or NPA followed by 100% Oxygen via bag valve mask.
3. Ensure ALS Response.
4. Spinal immobilization if indicated by mechanism of injury.
5. Control external bleeding.
6. Apply AED and defibrillate patient following AED prompts. CPR should be administered for complete sequences of 5 cycles/2 minutes, **between each shock**. A complete cycle is 30 compressions to 2 breaths at a rate of 100 compressions per minute. AED energy levels: Biphasic 200 joules; Monophasic 360 joules.
7. For return of spontaneous circulation continue to monitor patient and assist respirations.
8. If there is no return of spontaneous circulation, continue CPR and follow AED prompts.
9. Routine Medical Care.

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BLS Head – Neck- Facial Trauma

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

INFORMATION NEEDED:

Mechanism of injury

Medical history: cardiovascular problems, diabetes, seizure disorder

OBJECTIVE FINDINGS:

Check for DCAP-BTLS (Deformity, Contusion/Creptus, 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. ABC's.
2. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
3. Spinal immobilization if indicated by mechanism of injury.
4. Control external bleeding and stabilize impaled objects with bulky dressings.
5. Apply cold packs to reduce pain and decrease soft tissue swelling.
6. Routine Medical Care.
7. Eye injury – Apply dressing as appropriate, loosely cover affected and unaffected eye.
8. Tooth injury – keep avulsed teeth in saline soaked gauze (or commercial tooth saver kit) and transport with patient.
9. Mandible fracture – splint with cravat or bandage.

Note:

- 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 ear or nose drainage.

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BLS Chest – Abdominal Trauma

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

Mechanism of injury

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

Medical history: cardiovascular and respiratory problems, medications, pregnancy

OBJECTIVE FINDINGS:

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

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

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

TREATMENT:

1. ABC's.
2. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
3. Spinal immobilization if indicated by mechanism of injury.
4. Control external bleeding and stabilize impaled objects with bulky dressings.
5. Transport patient in position of comfort if not in spinal precautions. Place pregnant patients in left lateral recumbent position.
6. Routine Medical Care.
7. Chest wounds with air leak – Apply occlusive dressing taped on 3 sides, continually assess for tension pneumothorax.
8. 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.

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BLS Extremity Trauma

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

INFORMATION NEEDED:

Mechanism of injury

Medical history: cardiovascular and respiratory problems, medications

OBJECTIVE FINDINGS:

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

Range of motion, distal pulses, sensation, skin color

Associated injuries

TREATMENT:

1. ABC's.
2. Oxygen 10-15 L/min via non-rebreathing mask. Patient's with ineffective respirations: support ventilations with BVM and airway.
3. Control external bleeding and stabilize impaled objects with bulky dressings.
4. Elevate extremity and apply cold packs to reduce pain and decrease soft tissue swelling.
5. Routine Medical Care.
6. Splint injured extremity in position found unless precluded by extrication consideration or patient discomfort.
7. 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.
8. Cover open wounds with sterile dressings.

Note: Pad all splinted extremities and recheck distal pulses and neurological function every 5 minutes.

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