

Southern Stone Fire Protection District Emergency Medical Services Procedures

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Automatic External Defibrillation (AED)

INDICATIONS

Patient in Cardiopulmonary Arrest

PRECAUTIONS

Do Not apply to patients in water or wet environment.

Do not apply directly over an internal Pacemaker
Remove transdermal medication patch.

BLS Procedure

Pediatric Consideration

An AED equipped with a pediatric dose attenuator is preferred.

If neither is available, you may use an AED without a pediatric dose attenuator.

PROCEDURE

- 1) Confirm Unresponsiveness
- 2) Confirm breathlessness
- 3) Confirm Pulselessness
- 4) Begin CPR
- 5) Power on AED
- 6) Place AED Pads and connect to AED
- 7) Press Analyze ("Clear Patient")
- 8) While charging CPR should continue, Compressor is last to clear before SHOCK
- 9) If shock is indicated ("Clear Patient")
- 10) Deliver Shock if indicated
- 11) CPR begins immediately following shock, perform CPR for 2 minutes, and then reanalyze.

*If "no shock indicated"

Check for return of Pulse and Breathing

If pulses return; supportive care

If no pulses return; secure airway and continue

Repeat steps #6 thru #11 as necessary until return of pulses or care relinquished.

King LT(S)-D Airway

Indications

Airway management in the adult (>5 feet tall) cardiac arrest, Respiratory arrest, or unresponsive patient. Considered alternate airway to endotracheal tube.

BLS
Procedure

Contraindications

Responsive patients with an intact gag reflex
Patients with known esophageal disease
Patients who have ingested caustic substances

Procedure:

1. Choose size
 - a. #2 35-45 inches tall or 12-25 Kg in weight.
 - b. #2.5 41-51 inches tall or 25-35 Kg in weight.
 - c. #3 4-5 feet tall
 - d. #4 5-6 feet tall
 - e. #5 Over 6 feet tall
2. Test cuff inflation system by injecting the maximum recommended volume of air into the cuffs. Remove all air from cuffs prior to insertion.
3. Apply a water-based lubricant to the beveled distal tip and posterior aspect of the tube, taking care to avoid introduction of lubricant in or near the ventilatory openings.
4. Pre-oxygenate.
5. Position the head. The ideal head position for insertion of the King LT(S)-D is the “sniffing position”. However, the angle and shortness of the tube also allows it to be inserted with the head in a neutral position.
6. Hold the King LT(S)-D at the connector with the dominant hand. With non-dominant hand, hold mouth open and apply chin lift unless contraindicated by C-spine precautions or patient position.
7. With the King LT(S)-D rotated laterally 45-90° such that the blue orientation line is touching the corner of the mouth, introduce tip into mouth and advance behind base of tongue. Never force the tube into position.
8. As tube tip passes under tongue, rotate tube back to midline (blue orientation line faces chin).
9. Without exerting excessive force, advance the King LT(S)-D until base of connector aligns with teeth or gums.
10. Inflate cuffs with the minimum volume necessary to seal the airway at the peak ventilatory pressure employed (just seal volume).
11. Attach a resuscitation bag to the 15mm connector of the King. While gently bagging the patient to assess ventilation, simultaneously withdraw the airway until ventilation is easy and free flowing (large tidal volume with minimal airway pressure).
12. Confirm proper position by auscultation, chest movement and verification of ETCO₂ by capnography.
13. Secure King LT(S)-D to patient using tape or other device. Do not cover the proximal opening of the gastric access lumen.

ALS

The gastric access lumen allows the insertion of up to an 18 Fr diameter gastric tube into the esophagus and stomach. Lubricate gastric tube prior to insertion. This should be accomplished as soon as possible.

Oropharyngeal Airway

Indications:

Unconscious, unresponsive patients

EMR / BLS
Procedure

Contraindications:

Gag reflex present

Procedure:

Universal precautions
Pre-oxygenate patient if possible
Measure airway from corner of mouth to earlobe
Grasp the tongue and jaw, lifting anterior
Insert airway inverted and rotate 180 into place
A tongue depressor may also be used
Ventilate patient and listen for lungs sounds

Nasopharyngeal Airway

Indications:

Conscious or semiconscious patients unable to control their airway.
Clinched jaws.
Altered LOC with a gag reflex.

EMR / BLS
Procedure

Contraindications:

Fluid or blood from the ears or nose, basilar skull fx.

1. Procedure:
2. Universal precautions
3. Pre-oxygenate the patient if possible
4. Measure the tube from the tip of the nose to the earlobe
5. Lube the airway with water soluble jelly (KY, surgilube, or lidocaine.)
6. Insert tube (right nare first) with bevel of tube towards the septum, angling towards the base floor of the nasopharynx, reassess the airway
7. If patient needs ventilatory support, a 7.5 mm ET adapter can be inserted into the airway and used with a BVM.

Nasotracheal Intubation

Indications:

Need for definitive airway.
Awake patients or those not tolerating oral attempts.
Need to assist ventilations.
Nasal intubation is performed on breathing patients.

ALS **Procedure**

Contraindications:

Basal skull fracture,
Bleeding or fluids from the nose or ears.

Precautions:

High risk of nosebleeds could cause aspiration.
Risk of sinus infection with diabetic patients.

Procedure:

1. Take universal precautions. Have suction unit ready.
2. Hyper-oxygenate patient with BVM for 2 minutes.
3. Assemble, check and prepare all equipment
4. Lube a nasopharyngeal airway with **2% Lidocaine jelly** and insert per NPA procedure. Wait about 1 - 2 minutes for effect. (time permitting)
5. Remove the NPA and insert lubed ET tube with the bevel towards the nasal septum.
6. Advance tube aiming the tip down along the nasal floor.
7. Stand to the patient's side with one hand on the tube while the thumb and the index fingers of the other hand palpate the larynx.
8. Gently advance the tube along the airway while rotating it medially slightly until the best airflow is heard through the tube. Use of the BAAM device or other method to aid hearing airflow is recommended.
9. Gently and swiftly advance the tube during early inspiration. Patient will cough as tube passes through the cords.
10. Inflate the cuff with 5 - 10 ml of air. Ventilate the patient. Observe for chest rise; auscultate lung sounds and epigastric sounds. If available, utilize ETCO2 monitors. Secure the tube.
12. Complete Intubation Procedure Report.

Orotracheal Intubation

Indications:

Cardiopulmonary Arrest,
Need for definitive airway,
Possible positive pressure ventilation,
Aid for assisting ventilations.

ALS
Procedure

Precautions:

Can induce hypertension and increase ICP in head injured patients.
Can induce vagal response and bradycardia.
Can also induce hypoxia related arrhythmias.

Procedure:

1. Take universal precautions
2. Hyperventilate the patient with a BVM and basic adjunct
3. Assemble, check, and prepare all equipment
4. Place head in sniffing position (elevate head 2 - 4"). Maintain C-Spine stabilization on Trauma Patients.
5. Hyperextend the neck slightly.
6. Insert laryngoscope blade, avoid pinching the bottom lip
7. Sweep tongue to the left. place blade in proper position
8. Lift the laryngoscope forward to displace the jaw
9. Advance tube past the vocal cords until the cuff disappears
10. Inflate the cuff with 7-10cc of air
11. Ventilate patient. Observe for chest rise, auscultate lung sounds and over the epigastrium.
12. Confirm ET placement with ET_{CO}2 and record reading.
13. Secure the tube, noting the marking on the tube.
14. Insert an OPA as a bite block.
15. Continue ventilation with 100% O₂.
16. Reassess tube placement often.
17. Complete Intubation Procedure Report

Capnography (ETCO2)

INDICATIONS

All intubated patients
Patients with respiratory problems or complaints
Sedated patients
Patients receiving narcotics

BLS Procedure

Procedure:

2. Turn on the Monitor
3. On the intubated patient, disconnect the BVM or ParaPac from the ET tube.
4. Place the ET tube sensor on the top of the ET tube and reconnect BVM or HARV to the top of the adapter.
5. Resume ventilation and record Capnography reading
6. Normal ETCO2 range is 35 - 45 mm/hg
7. In cases of cardiac arrest or other poor perfusion states, the ETCO2 reading could be very low. In these cases, the presence of ETCO2 changing with each ventilation confirms ETCO2.
8. For non-Intubated patients utilize Nasal Cannula Device or place the ET Tube sensor between BVD and Mask

Cardiac Monitoring

Indications:

Activation of any ALS protocol
Respiratory Distress
Chest Pathology of any type

ALS
Procedure

Contraindications:

None

Procedure

Connect electrodes to the patient as follows
RA (white electrode) attach to right arm
LA (black electrode) attach to left arm
LL (red electrode) attach to left leg
RL (green electrode) attach to right leg
Have patient remain still and record baseline rhythm strips.
If desired, precordial leads can be placed and the patient monitored in Lead V₁.
Give strip to responding EMS agency.

Multi-Lead ECG Acquisition (1 of 2)

Indications:

Patients with suspected myocardial infarction
Patients with unexplained dyspnea
Elderly or diabetic patients with non-specific complaints
Syncope in all patients > 40 years old
Serial 12-leads are indicated in patients with continuing chest discomfort or a change in discomfort (better or worse), a change in heart rhythm.

BLS
Procedure

Procedure:

Limb leads are placed on the limbs (RA - Right Arm, LA - Left Arm, LL - Left Leg, RL - Right Leg)
Precordial lead placement should be as indicated on page 2.
After 12 -lead has been acquired; leave electrode pads attached to the patient in case serial ECG's are needed.

Note: Acquiring a 12 lead is a BLS procedure however an ALS provider must do the interpretation.

15-lead ECG's should be performed on a patient with:

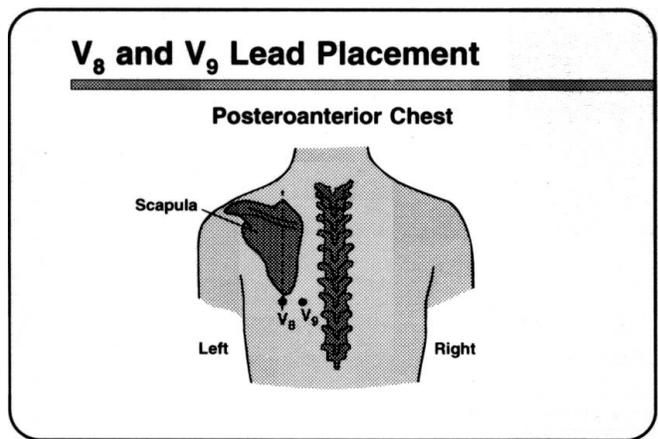
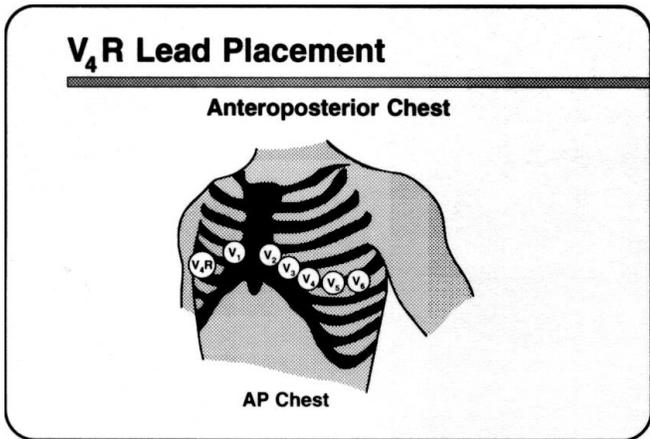
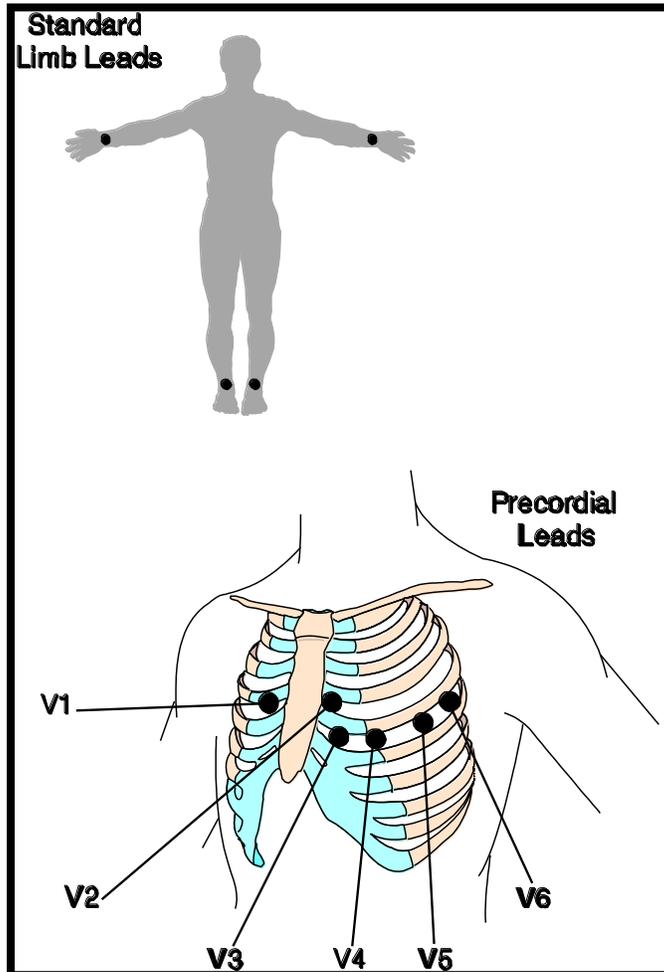
- A non-diagnostic 12-lead
- Evidence of acute inferior wall injury.

If a 12-lead is acquired; ASA 324 mg should be given unless contraindicated.

ALS
Procedure

Multi-Lead ECG Acquisition (2 of 2)

Lead Placement Diagrams:



Transcutaneous Pacing (TCP)

ALS Procedure

Indications:

Symptomatic Bradydysrhythmias
Symptomatic Heart blocks

Contraindications:

None in the emergency setting

Precautions:

Do not place the pacer electrodes directly over an implanted pacemaker generator or AICD device.



LifePak 12 or 15 AND Zoll X Series Procedure:

Explain procedure to the patient.

Connect 3 basic leads in proper position. Record a rhythm strip prior to pacing.

Adjust ECG size if necessary or select the lead with the tallest R wave.

Apply pacing pads or **Quick Combo™** electrodes in the anterior/posterior position as directed by the manufacturer. Turn pacer unit on.* Do not activate pacer until pacer pads have been applied.

Set rate at 80 bpm.

*In Bradycardia, gradually increase energy (milliamps) until electrical capture is observed. (Generally a wide bizarre QRS complex)

Check the pulse on the right arm for mechanical capture. If pulse is present, assess blood pressure. Record rhythm strip.

If mechanical capture is not achieved, continue to increase energy (milliamps) to maximum in an effort to achieve capture.

Continue to pace while CPR (if necessary) is in progress, even if capture is not obtained.

Consider treatment for pain and/or procedural tolerance per protocol.

Synchronized Cardioversion

Indications:

Unstable tachy dysrhythmias

ALS

Procedure

Contraindications:

None in an unstable patient

Precautions:

Exercise safety precautions at all times
Cardiovert with extreme caution in patient's on digitalis preparations, beta-blockers and calcium channel blockers.



Physio-Control LifePak 12 or 15 Procedure

If conscious, explain procedure to the patient.

If time permits, treat for anxiety and pain control per protocol.

Attach ECG electrodes and record baseline rhythm strip(s)

Select lead that displays the tallest R wave.

Apply conductive gel or attach multi-function pads.

Select appropriate energy setting. **100J** for adults (**100, 150, 200, 300, 360**)

0.5-1J/Kg for Pediatric

Activate synchronized mode. Observe synchronize markers on screen.

Charge defibrillator and clear the patient.

Call CLEAR and look up and down the patient to assure patient is clear.

Simultaneously press discharge buttons and hold until discharge is observed.

Reassess the patient and rhythm and repeat procedure if indicated.

Defibrillation

ALS Procedure

Indications:

Pulseless Ventricular Tachycardia
Pulseless Ventricular Fibrillation

Contraindications:

None in cardiac arrest

Precautions:

Exercise safety precautions at all times



Physio-Control LifePak 12 or 15 Procedure

Verify patient is in cardio-pulmonary arrest.

Identify and record pre-shock rhythm by leads or with quick look paddles or multifunction electrodes.

Apply Defib pads on patient.

Quick Combo™ electrodes are placed in the anterior posterior position.

Clear the patient and charge defibrillator to desired energy setting.

200J in adults (**200,300,360**)

2J / Kg in children (2nd charge **4J/Kg**) up to **10 J/kg**

Call CLEAR and look up and down the patient to assure the patient is clear.

Simultaneously press both discharge buttons until discharge is observed.

Emergency Childbirth (1 of 2)

Indications:

Crowning Patient in Labor (Imminent Delivery)

Procedure: (preparation)

PPE including gloves, gown, mask and goggles
Pull the ambulance over or prepare on scene.
General Medical Protocol, Apply oxygen
General Assessment per Antepartum Emergency Protocols.
Place mother supine; drape if time allows
Prepare OB and Neonate equipment.
Don Sterile gloves just prior to delivery

Delivery Procedure:

As the head crowns, control it with gentle pressure.
If amniotic sac is intact, carefully puncture it before head delivers.

Slip umbilical cord from around baby's neck if necessary. If cord is too tight, clamp twice and cut between the clamps.

After baby's head delivers, suction mouth and nose with bulb syringe.

With the next contraction, guide the baby's head downward to allow the top shoulder to deliver.

Guide the head upward to deliver the lower shoulder.
Keep the baby level with the vagina to prevent over or under transfusion.

Place an umbilical clamp about 6" from the baby and another about 2" towards the mother. Cut between the clamps with the sterile scalpel provided in the OB kit.
Dry, warm, suction, and stimulate the infant to breathe.
In the event of neonatal problems, refer to pediatric protocol on neonatal resuscitation.

Wrap the baby in a blanket making sure to cover the head. Allow the mother to hold the infant. This will facilitate warming.

Note Time of Delivery.

1 and 5 minute APGAR scores.

If placenta delivers before arrival, save it in the bag provided.

APGAR

Appearance

- Body and extremities blue = 0
- Body pink extremities blue = 1
- Completely pink = 2

Pulse Rate

- Absent = 0
- <100 = 1
- >100 = 2

Grimace

- No Response = 0
- Grimace = 1
- Cough Sneeze Cry = 2

Activity

- Limp = 0
- Some flexion of extremities = 1
- Active motion = 2

Respiratory effort

- Absent = 0
- Slow or irregular = 1
- Strong Cry = 2

Emergency Childbirth (2 of 2)

Postpartum Hemorrhage

Greater than 500cc
Massage the fundus
Put the baby to breast
Rapidly infuse IV fluids, treat for shock

EMR / BLS
Procedure

Breech Presentation

Apply O2 to mother
If baby's body delivers, place two fingers into the vagina in a "V" shape on each side of the baby's nose to create an airway
Continue throughout transport
Notify the incoming unit

Prolapsed Cord

Rapid transport is indicated
If cord presents first in vagina, insert two fingers in the vagina to raise the presenting part off of the umbilical cord.
Check for pulsations in the cord.
Place mother in Trendelenburg position with knees drawn to the chest
Do not attempt to push the cord back into the vagina
Contact Medical Control and advice.

Gastric (Naso- or Oro-) Tube Insertion

Indications:

Evacuation of air or fluids in the stomach.
Dilution of ingested poisons.
Intubated patients.
Administration of glucose solution/gel when IV failed or not possible
If administering glucose solution, irrigate with 20-30 N.S. to flush Salem tube

ALS **Procedure**

Contraindications NG:

Facial trauma
Basilar skull fracture
Epiglottitis or croup

Contraindications OG:

Epiglottitis or croup

Procedure:

Universal precautions
Assemble equipment
Explain the procedure to the patient
If possible, have the patient sitting up.
Use a pad or towel to protect the patient's clothing.
Measure the tube from the nose, around the ear and down to the Xiphoid process.
Mark the point at the Xiphoid process with a piece of adhesive tape.
Lubricate the distal end of the tube 6 to 8 inches with water-soluble lubricant.
Insert the tube in the nostril and gently advance it towards the posterior nasopharynx along the nasal floor.
When you feel the tube at the nasopharyngeal junction, rotate it inward towards the other nostril.
As the tube enters the oropharynx, instruct the patient to swallow.
Pass the tube to the pre-measured point. (If resistance is met back the tube up, and try again. Do not force it.)
Check placement of the tube by aspirating gastric contents, or by auscultation air over the epigastric region while injecting 20-30 ml of air.
Tape the tube in place.
Document procedure on the MARF including the time placed, size of tube used, and contents if any, aspirated.

Glucometry (Glucocard Glucose Monitoring System)

Indications:

Any patient that presents with an altered level of consciousness
Any Diabetic Patient with signs and symptoms of hypoglycemia.

BLS
Procedure

Contraindications:

None

Precautions:

As our glucometers are maintained and tested monthly, and since a pt. glucose check is performed for definitive care, we must use our own glucometer reading and not rely on the readings of other entities, or the patient's own reading.

IV Catheter Insertion/Saline Lock

Indications:

Per protocol criteria

ALS
Procedure

Precautions:

Avoid venipuncture in arms with dialysis shunts, or injuries proximal to the insertion site.

Site Selection:

Paramedics should choose a site that is appropriate to the therapy needed.

IV's near joints should be avoided if possible. Site selection is limited to peripheral veins. Recommended sites:

- Dorsum of the hand
- Forearm
- Antecubital fossa
- External Jugular

Equipment:

Paramedics should choose the appropriate sized catheter and equipment for the situation.

Complications:

Infiltration, hematoma, arterial puncture, infection

Procedure:

Inform the patient of the procedure.

Universal precautions.

Apply tourniquet.

Select and clean site with hospital approved antiseptic (Chlorhexadine prep or equivalent)

Stabilize the vein with distal traction the vein and skin.

Pass the needle into the vein with bevel up, noting blood return.

Advance the needle 2mm more into vein.

Slide catheter over the needle and into the vein.

Remove needle and draw blood if needed with luer adapter or syringe.

Attach tubing to catheter and release tourniquet.

Infuse about 10-20cc to assure patency. Watch for signs of infiltration.

Secure IV with appropriate device per hospital policy.

Begin infusion at prescribed rate.

For Saline Lock

Attach lock device (Clave connector etc...) Flush with **5-10 ml Normal Saline**. Watch for signs of infiltrate. Secure with appropriate device.

Blood Draw, Venous (1 of 2)

Indication:

Cardiac Patients, suspected stroke patients, ALS Trauma patients.

ALS
Procedure

Precautions:

Avoid venipuncture in arms with dialysis shunts, or injuries proximal to the insertion site.

Site Selection:

Paramedics should choose a site that is appropriate to the therapy needed.

Equipment:

Paramedics should choose the appropriate sized catheter (at least 20g in adults: 18g or larger recommended) equipment for the situation.

Complications:

Hematoma, arterial puncture, infection.

Procedure:

Inform the patient of the procedure
Universal precautions
Apply tourniquet
Select and cleans site with hospital approved antiseptic (Chloraprep) or 70% isopropyl alcohol.

IV Catheter Method

Pass the needed into the vein with bevel up, nothing blood returned.
Advance the needle 2mm more into vein.
Slide catheter over the needle and into the vein.
Remove needle and attach vacutainer hub with luer adapter.
Insert vacutainer into the hub, puncturing the top.
Vacutainer will draw blood until it is full.
If vacutainer fails to draw, check positioning of the catheter or arm for obstruction due to bending. Pulling back slightly on catheter or needle may allow blood flow.
If vacutainer fails even after positioning, discard and try another tube.

Blood Draw, Venous (2 of 2)

Procedure: (continued)

Remove full blood tube and repeat with another color tube if needed.

Draw the following tubes in order:

Blue Top (Coagulation studies) (must fill).

Green Top (Chemistry).

Yellow Top (Clot tube with serum separator).

Lavender Top (CBC).

A syringe may be used to draw blood from the IV catheter. If syringe is used, draw blood slowly and smoothly to prevent hemolysis. Blood must be transferred from the syringe to the vacutainer tube.

Direct Venipuncture method

Assemble vacutainer device (attach needle to hub)

Pass the needle into the vein, bevel up.

Insert vacutainer into hub, puncturing top.

Vacutainer will draw blood until it is full.

Remove blood tube and draw another color of tube if needed.

Fill out Blood Draw Label. Apply numbered "Slave Stickers" to blood tubes.

(Place stickers over the pre-applied stickers already on the tube.)

Put "Master" Sticker in the bag with all labeled tubes. Place the final numbered "Slave Sticker" on PCR under "Treatment" area just below "Blood specimen drawn" treatment option.

Completed labeled and properly marked, filled tubes should be handed to the nurse receiving report.

ALS
Procedure

Medication Administration (1 of 3)

Indications:

Per appropriate protocol

Special Notation:

All medication administration must be carefully documented including times, route, dosage, site, and effects

ALS
Procedure

Contraindications:

Drug specific (see drug index)

Procedure A: IV Push

IV push means a rapid bolus is indicated
Slow IV push means titrated to effects or over a 2 minute time period as indicated by the specific drug.

Select correct medication.
Confirm orders, check dosage and expiration date, check drug for cloudiness or particulates.
Check patient allergies.
Clean the injection port closest to the injection site
Puncture the injection port with needle.
Pinch off tubing above injection port
Inject drug at appropriate rate
Flush medication with IV fluid, resume IV flow rate
Evaluate patient's response to medication
Document the time, dose, route, site, and response to drug, on the e-PCR.

Medication Administration (2 of 3)

Procedure C: Intramuscular Injection (IM)

Select correct medication.
Confirm orders, check dosage and expiration date, check drug for cloudiness or particulates. Check patient allergies
Assemble appropriate sized equipment
Syringe of sufficient size to hold medication (3-5cc)
Needle: 21-25g, 3/4" to 1" in length
Select appropriate site
Maximum 1ml into deltoid
Maximum 10ml into gluteus
Cleanse site with alcohol wipe.
Stretch skin taut and press down to facilitate entry into muscle
Enter skin at a 90-degree angle.
Aspirate the syringe to assure you are not in a vein. If blood return is seen, withdraw and try at another site.
Inject medication slowly. Remove syringe and dispose in sharps.
Cover injection site with an adhesive strip
Observe patient for effects.

Contraindications:

Shock or cases of decreased perfusion
Severe burns

ALS Procedure

Procedure D: Subcutaneous Injection (SC)

Select correct medication.
Confirm orders, check dosage and expiration date, check drug for cloudiness or particulates.
Check patient allergies
Assemble appropriate size equipment.
1cc tuberculin syringe
25g 5/8" needle
Choose appropriate site fold of skin at the back of upper arm anywhere a fold of skin can be drawn
Cleanse site with alcohol wipe
Pinch a fold of skin and pull up or down
Insert needle at a 45 degree angle into the fold of skin
Aspirate syringe to insure you are not in a blood vessel.
If blood is drawn, withdraw needle and try again at a different site.
Inject the medication slowly.
Withdraw needle and place in sharps
Cover injection site with an adhesive strip.
Observe effects.

Medication Administration (3 of 3)

ALS
Procedure

Procedure E: Endotracheal Administration

Indications:

Cardiac arrest or times where IV access cannot be achieved

Applicable Drugs:

Epinephrine, Atropine, Narcan,

Special Notation:

Dose should be 2 to 2.5 times the IV dose. However, counts as a single dose in terms of maximum dose calculation.

Select correct medication.

Confirm orders, check dosage and expiration date, check drug for cloudiness or particulates.

Check patient allergies.

Hyperventilate patient before administering drug.

Remove bag valve device and administer drug.

If CPR is in progress, stop compressions during drug administration.

Spray medication directly into endotracheal tube.

Insert a suction catheter down the ET tube and administer to drug via the suction catheter.

Reattach bag valve mask device and hyperventilate the patient

Document effects

Procedure F: Inhalation: Small Volume Nebulizer

Indication:

Bronchodilator therapy as indicated by protocol.

Applicable Drugs:

Albuterol, Duo-Neb,

Select correct medication.

Confirm orders, check dosage and expiration date, check drug for cloudiness or particulates.

Check patient allergies.

Add medication to reservoir of nebulizer. Add saline solution if necessary to equal 3cc total volume.

Connect oxygen tubing to nebulizer and set O2 flow rate at 6-8 lpm.

Have patient take deep breaths, holding for a second, and then exhale through the tube.

If patient is unable to hold the nebulizer, attach the nebulizer to the non-rebreather.

Medication is delivered in 5 to 10 minutes

Observe patient for effects.

For inline treatments attach the nebulizer to the ET tube with the appropriate fixtures. (This should be checked prior to the start of your shift.)

Nausea and/or Vomiting

ALS
Procedure

Adult

Consider **Zofran 4 mg** slow IV, IM, ODT
for N/V may repeat one time
Or

Consider **Benadryl 25 mg** slow IV for EPS

Pediatric

Consider **Zofran 0.15mg/kg IV/IO/IM** for patients
over 2 years of age and less than 27 kg. If pt weight
is 27 kg or higher use adult dose of **4mg**

****Avoid the use of Zofran in pregnancy****

Oxygen Administration

INDICATIONS

Any patient with Respiratory Distress
Any Patient with Chest pain
All ALS Patients
All Patients with Smoke exposure/inhalation
All other patient that may benefit from O₂.

EMR / BLS
Procedure

PRECAUTIONS

COPD patients should generally receive lower (FiO₂) concentrations unless they have serious S&S of decompensation
Attempting to warm fingers may get a more accurate reading

PROCEDURE

Inform Patient of Procedure
Connect Tubing to O₂ Port and Flush
Administer O₂
 Nasal Cannula 2-6 lpm
 NonRebreather Mask 10-15 lpm
 BVM 15 lpm –Flush
Monitor Patient for Effects

Pulse Oximetry SPO2

INDICATIONS

All ALS Patients
Extremity Fractures
Any Patient with Respiratory Distress
Any Patient with Chest Pain

EMR / BLS
Procedure

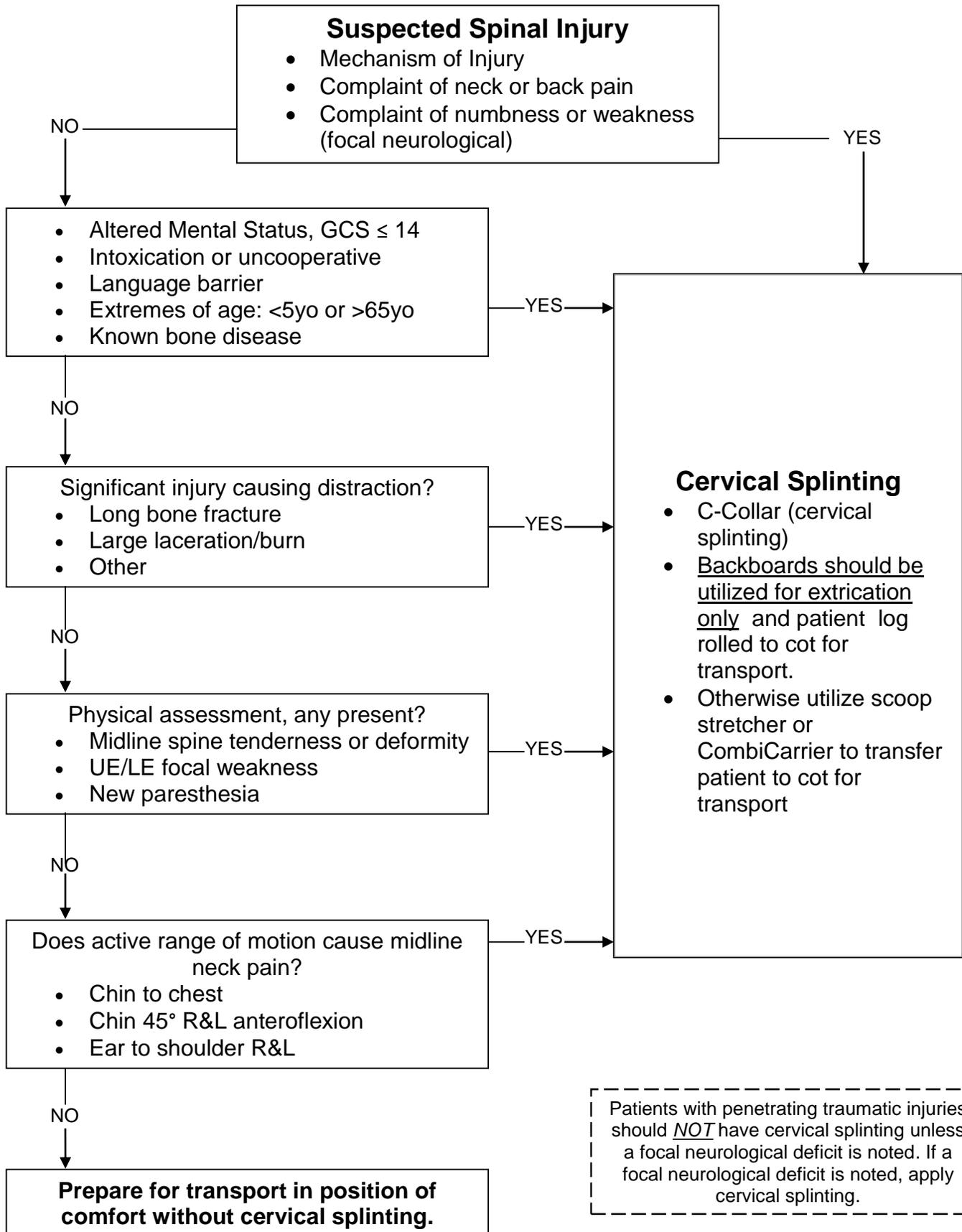
PRECAUTIONS

Accuracy is dependent upon adequate perfusion at probe site.
Can be affected by bright light, Carbon Monoxide Poisoning, Cyanide Poisoning, Nail Polish & Polycythemia.

Procedure

Find Suitable Location for Probe (Finger, Earlobe, Pediatric probe, Bridge of nose etc...)
Attach and record readings
May be used to monitor circulation distal to injuries.
If erratic reading , move probe to different site

Selective Cervical Splinting (1 of 3)



Selective Cervical Splinting (2 of 3)

Indications:

To be used with patients who meet criteria for cervical splinting only.

EMR / BLS **Procedure**

Precautions:

Properly sized C-Collar must be used.
Patients with penetrating traumatic injuries should NOT be immobilized unless a focal neurological deficit is noted.
Patients undergoing cervical splinting should be handled with extreme care, and reminded to be as still as possible when transporting in a position of comfort.
Integrity of the cervical spine *must be protected!*

Procedure A: C-Collar Sizing

Bring patients head to eyes forward inline position
Maintain in line stabilization
Measure the "key dimension" (from trapezius muscle at the base of the neck to the bottom of the chin) using your fingers as a measurement guide. (one, two, three, or four fingers)
On an assembled *Stifneck™*, Extrication Collar the distance between the black sizing post on the side of the collar and the bottom of collar (hard plastic) is used for comparison with the "key dimension" measured by your fingers.
The size that matches is the correct size C-collar

Procedure B: C-Collar Application

Pre-form the collar to the estimated shape.
On a supine patient, slide the loop fastener end under the neck just far enough that it can be reached.
On a seated patient, this step is not necessary.
Place both of your hands on the front side of the collar on either side of the tracheal opening
Slide the collar up the chest wall and under the chin, making sure the chin is flush with the end of the chin piece.
With the chin piece properly positioned, grasp the collar by the tracheal opening and the loop fastener end to tighten.
Tighten by pulling the loop fastener end parallel with the ground, then up to meet the hook fastener on the collar.
The hand at the tracheal opening will prevent any counter rotational forces and allow proper tightening.
Inspect the chin piece to ensure that the chin is properly positioned.
Adjust the collar if necessary.

Selective Cervical Splinting (3 of 3)

Procedure C: Securing to Long Spine Board for extrication only

Maintain manual In-line C-spine stabilization throughout procedure.
Apply appropriate C-collar (Procedures A, B)
If necessary, use rapid extrication procedure. If not:

Place extra rescuers to control the thorax, pelvis and legs

Place backboard beside the patient

Leave patient's arms by their side. Try to avoid rolling on injured arm.

The person holding the head makes the count, carefully roll the patient as one unit to their side.

Do a quick check of the back for injuries or deformities

Roll the patient onto the backboard.

Secure with spider straps or other straps making sure the straps are in the following locations: Lower legs, Legs (above knees), Pelvis, Thorax (over the shoulders with spider straps) (under the arms on regular straps).

Secure straps tight enough to hold but not restrict breathing.

A Kendrick Extrication Device may also be used per procedure, if appropriate.

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Rapid Extrication Technique

Indications:

Unstable patients with Immediate Life Threats
Compromised airway
Apnea or severe respiratory distress requiring assisted ventilations
Shock (no radial pulses) or uncontrollable bleeding
Altered level of consciousness
Dangerous, uncontrollable environments
Fire or immediate danger of fire
Danger of explosion
Rapidly rising water
Increasing toxic exposure

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Contraindications:

Stable patients not meeting any of the above criteria.

Procedure:

Selective Cervical Splinting as appropriate.
Do a rapid primary survey
If Patient is able, they may self-extricate from the vehicle. If not:

Slide long backboard onto seat and if possible, under the patient's buttocks
Rescuer standing outside of the open door takes control of C-spine stabilization
A rescuer positions themselves on the opposite side of the front seat ready to rotate the legs around
Another rescuer, positioned by the open door beside the patient. By holding the upper torso, works together with the rescuer holding the legs to carefully turn the patient as a unit.
The patient is turned so that their back is towards the backboard. The legs are lifted and the back is lowered to the backboard. The neck and back are not allowed to bend during this procedure.
Carefully slide the patient to the full length of the backboard and straighten legs.
Secure patient to board as necessary for patient safety and move patient away from the hazard.
Remove patient from extrication board as soon as possible.

Kendrick Extrication Device (KED)

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Procedure

Indications:

Patients who do not meet criteria for Rapid Extrication, are not able to self extricate, and need cervical splinting
May also be useful for confined space extrication
Stabilization of hip fractures/dislocation

Contraindications:

Patients with easy access requiring rapid extrication

Procedure:

Selective Cervical Splinting
Maintain in-line stabilization of C-spine
Assess distal pulses, sensation, and motor function
Apply appropriately sized C-collar
Position device behind the seated patient
Pull the device up until it fits snugly in the armpits
Apply chest straps and tighten. Avoid over tightening that restricts breathing efforts.
Apply leg straps and tighten snugly. Avoid catching the male genitals in the straps
Apply proper amount of padding between the head and back of the KED to keep head in a neutral position. (Note: the long green pad is usually too much, a folded towel, or multi trauma dressing work best)
Fold the sides of the headpiece of the KED around so that they cradle the head. For most patients, properly fitted, a KED will reach or cover the patient's ears. If the sides do not reach the ears, it is possible there is too much padding. (Note: before applying head padding, be sure to place the patient upright, inline, and with the plane of the KED)
Secure the head to the device with Kerlex, tape, or coban. (the foam straps don't work very well)
Turn the patient and device as a unit, and then lower onto cot, and release straps.
If cot not near or available place on scoop stretcher or Combi Carrier for transport to cot.

Splinting

Indications:

Isolated suspected extremity fractures
Sprains and strains, snakebite, or bleeding control

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Contraindications:

Extremity splinting can be time consuming and should not take priority over life threatening conditions.
In general, splinting a long bone fractures should immobilize the joint above and below the fracture site.
Joint injuries should immobilize the long bones above and below the fracture site.
Traction splints should NOT be applied if there is a proximal femur fracture, pelvic fracture, or a tib fib fracture.

Procedure A: Long Bone (Femur)

Universal Precautions

Stabilize the injured limb manually
Consider sedation or analgesia prior to moving extremity.
Assess distal pulses, sensation, and motor function.
If pulses are absent distal to the injury, then apply in line traction to the leg to the return of pulses
Apply traction splint to patient comfort.
In unconscious patients, apply traction to the return of distal pulses. A pulse oximetry can help with the pulse monitoring in these circumstances.
Reassess distal PMS after splinting and q 5 minutes thereafter.
It may be necessary to splint some femur fractures in the position found if angulated.
In general, if pulses and sensation are present distal to the injury, field reduction should not be attempted. Unless it is a midshaft femur fracture.
In the event that this occurs, consult with medical control to discuss options.

Procedure B: Other Splinting Techniques

The following splints are recommended for the following situations. As every situation is different, splints may have to be improvised to achieve the desired effect of immobilization.

Clavicle:	Sling and Swath
Radius /ulna:	Ladder, board, or Sam splint
Tib / Fib:	Ladder, board, or Sam splint
Ankle	Pillow splint
Joints	In position found
Pelvis	Sheet wrap or binder
Hand	In position of function
Hip	Scoop / pillow, Inverted KED

Assess distal PMS before and after splinting, then periodically during transport.

C.A.T. Tourniquet application **(Combat Application Tourniquet)**

Indications:

Life threatening extremity hemorrhage that cannot be controlled with direct pressure.

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Procedure:

For the C.A.T. tourniquet (Combat application tourniquet)

- Insert the wounded extremity through the loop of the self-adhering band.
- Pull the self-adhering band tight and securely fasten the band back upon itself.
- Adhere the band around the arm. Do not adhere the band past the windlass clip.
- Twist the windlass rod until BRIGHT RED BLEEDING or/and DISTAL PULSES have stopped.
- Lock the rod with the windlass clip.
- Adhere the self-adhering band over the windlass rod. (If there is enough band)
- Secure the rod and band with the windlass clip band.

Vital Signs

EMR / BLS Procedure

Definition:

Pulse rate and quality
Auscultated Blood Pressure
Respiratory rate and depth
Skin color, temperature, and moisture

Indications:

Any patient contact
Before and after medication administration
Every 5-10 minutes in critical patients or patients receiving vasoactive drugs.
As needed on long transports of stable patients.
Minimum of 2 sets required on all transported patients

Contraindications:

Do not attempt blood pressure on Injured extremities
Arms on the side of previous mastectomies
Arms with dialysis shunts

Procedure:

Universal precautions
Choose appropriate sized cuff for the patient
Auscultated blood pressure is required as a baseline and before and after medication administration.
Record vital signs and the times taken on the ePCR.