REGION 11
CHICAGO EMS SYSTEM

EMS PROTOCOLS - BLS
These Region 11 Chicago EMS System Protocols, Policies, and Procedures for EMTs and Paramedics are prehospital medical guidelines for patient assessment, treatment, and transportation within the system. They provide a framework for all patient encounters and Online Medical Control should be consulted in situations where there is not clear direction from the written documents.

Eddie Markul, M.D.
EMS Medical Director
Advocate Illinois Masonic Medical Center
Chicago, IL

Kenneth Pearlman, M.D.
EMS Medical Director
Northwestern Memorial Hospital
Chicago, IL

Katie Tataris, M.D., MPH
EMS Medical Director
University of Chicago Medical Center
Chicago, IL

Joseph Weber, M.D.
EMS Medical Director
John H. Stroger, Jr. Hospital of Cook County
Chicago, IL
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GENERAL

Adult Initial Assessment
Routine Medical Care (RMC)
ADULT INITIAL ASSESSMENT – BLS

I. SCENE SIZE-UP

A. Wear appropriate personal protective equipment (PPE)

B. Assess the scene safety
   1. Evaluate hazards to EMS personnel, patients and bystanders
   2. Determine number of patients
   3. Determine the mechanism of injury/nature of illness
   4. Request additional resources as needed, and weigh the benefits of waiting for additional resources against rapid transport to definitive care
   5. Consider declaration of mass casualty incident if needed

II. INITIAL ASSESSMENT OF ADULT PATIENT

A. Assess General Impression of the patient
   1. Evaluate patient responsiveness using the AVPU scale

B. Primary Survey - Should be Airway-Breathing-Circulation (A-B-C), unless specific circumstances such as cardiac arrest or major hemorrhage where Circulation-Airway-Breathing (C-A-B) is indicated
   1. Airway - Assess for patency
      a. Open the airway as needed using either head-tilt, chin-lift or jaw thrust while maintaining c-spine stabilization as appropriate
      b. Suction airway as needed
      c. Consider use of appropriate airway adjuncts including: oral airway (OPA), nasal airway (NPA), or supraglottic airway device (SGA), as per Advanced Airway Management procedure.
      d. For airway obstruction, see Airway Obstruction protocol.
2. **Breathing**
   a. Evaluate for rate, breath sounds, accessory muscle use, retractions, and patient positioning
   b. Administer oxygen as needed to maintain an oxygen saturation of >94% or at 15L by most appropriate method for any critically ill patient (respiratory distress, shock, smoke inhalation, carbon monoxide poisoning, or cardiac arrest)
   c. If apneic, see Advanced Airway Management procedure.

3. **Circulation**
   a. Control any major external hemorrhage
      i. Apply direct pressure to wound
      ii. For life-threatening bleeding that cannot be controlled by other means, proceed to Tourniquet Application procedure and/or apply hemostatic agent
   b. Assess pulse
      i. Assess rate and quality of carotid and radial pulses
      ii. If none, see Cardiac Arrest Management: Incident Command for Cardiac Arrest (ICCA) procedure.
   c. Assess perfusion status via skin color, temperature and capillary refill

4. **Disability**
   a. Calculate GCS as indicated
   b. Evaluate gross motor and sensory exam in all extremities
   c. Check blood glucose in any patient with altered mental status
   d. If acute stroke suspected, perform Cincinnati Stroke Scale and see Stroke protocol.

5. **Expose** patient as appropriate to complaint or mechanism
   a. Be considerate of patient modesty and environmental conditions
   b. Apply appropriate intervention to maintain normal body temperature

C. **Secondary Survey** - A full secondary assessment should be completed and documented on every patient unless a critical airway, breathing or circulation problem requires stabilization. It should not delay transport in critical patients. A secondary survey should include the following components:
1. Head
   a. Pupils
   b. Naso-oropharynx
   c. Skull and scalp

2. Neck
   a. Jugular venous distention
   b. Tracheal position
   c. Spinal tenderness

3. Chest
   a. Chest wall bruising or deformities
   b. Retractions
   c. Breath Sounds

4. Abdomen/Flank/Back/Pelvis
   a. Bruising
   b. Distention
   c. Tenderness

5. Extremities
   a. Bruising or deformities
   b. Pulse
   c. Edema

6. Neurologic
   a. Mental Status/Orientation
   b. Motor and sensory exam

D. Obtain Baseline Vital Signs

1. An initial full set of vital signs is required on every patient including: pulse, blood pressure, respiratory rate, pulse oximetry and neurologic status assessment

2. A repeat set of vital signs is required at least every 15 minutes on stable patients and at least every 5 minutes on unstable patients

3. For patients with a cardiac or respiratory complaint or in those where acute coronary syndrome is suspected, request ALS assistance
4. Blood sugar should be checked on any patients with altered mental status or with known or suspected diabetes

5. Continuous waveform capnography must be monitored on any patient with advanced airway management

6. Pain scale should be documented on any patient with a pain complaint

E. Obtain OPQRST History:
   1. Onset of Symptoms
   2. Provocation-location, any factors that worsen or relieve symptoms
   3. Quality of symptoms or pain
   4. Radiation of pain
   5. Severity of symptoms-pain scale
   6. Time of onset and circumstances surrounding onset

F. Obtain SAMPLE History:
   1. Symptoms
   2. Allergies
   3. Medications
   4. Past Medical/Surgical History
   5. Last oral intake
   6. Events leading up to emergency call

G. Reassessment
   1. At least every 15 minutes in a stable patient
   2. At least every 5 minutes in an unstable patient or more often if clinically appropriate
ROUTINE MEDICAL CARE (RMC) - BLS

Scene Size-Up

Initial assessment of adult patient as per protocol

Patient care per appropriate protocol and policy

Determination of BLS vs. ALS care per Initiation of Patient Care policy

Contact Online Medical Control per Field to Hospital Communication policy

Transport patient (or appropriate disposition) as per policy
CARDIOVASCULAR

Acute Coronary Syndrome / Cardiac Chest Pain
Cardiac Arrest
Stroke
ACUTE CORONARY SYNDROME / CARDIAC CHEST PAIN - BLS

- RMC
- Request ALS assistance
  - 4 chewable (81 mg non-enteric coated) aspirin po
  - SBP ≥ 100?
    - NO, < 100
      - Trendelenburg if tolerated
    - YES, ≥ 100
      - Assist patient with prescribed 0.4 mg NTG tab¹
        - Repeat VS SBP ≥ 100?
          - NO, < 100
            - Repeat NTG q 5 min for continued CP
          - YES, ≥ 100
            - Repeat NTG q 5 min for continued CP
              - Total 3 doses
              - Trendelenburg if tolerated
              - Contact Medical Control as appropriate and prepare for transport

¹ – Contact Medical Control before administration of nitroglycerin in patients with recent use of erectile dysfunction medications such as sildenafil (Viagra), tadalafil (Cialis), or vardenafil (Levitra)
CARDIAC ARREST - BLS

Confirm unresponsiveness and check CABs
Attach AED, **AND** request ALS assistance

Initiate CPR and ICCA

Machine advises shock?

**YES**

Deliver shock

CPR for 2 minutes

Reanalyze rhythm

Machine advises shock?

**YES**

Deliver shock

CPR for 2 minutes

**NO**

Pulse present?

**NO**

CPR for 2 minutes

Establish Supraglottic Airway

Reanalyze rhythm

Continue CPR

**YES**

Breathing normally?

**NO**

Assist ventilation via BVM
Consider Supraglottic Airway

Oxygen

Contact Medical Control from scene

**YES**

Contact Medical Control from scene
STROKE - BLS

RMC

Request ALS assistance

Determine time of onset of stroke symptoms
Estimate time when patient was last seen as normal

Assess for physical signs of stroke
Perform Cincinnati Stroke Scale

Check Blood Sugar

BS ≤ 60

Glucopaste
1 tube PO if intact gag reflex

BS > 60

Document time of onset and signs of stroke, include in radio report

Patients with stroke symptoms ≤ 24 hours in duration or unknown time of last known normal and an abnormality in one or more items of the Cincinnati Stroke Scale (CSS) should be transported to the closest stroke center

Patients may also be transported to the closest stroke center if directed by the Base Station

See “Transport of Patients with Suspected Acute Stroke” Policy

Prepare for transport and contact Medical Control as appropriate

Transport and contact Medical Control as appropriate

Cincinnati Stroke Scale (CSS):

1. **Facial droop** – have patient show teeth or smile
   Abnormal = one side does not move as the other

2. **Arm Drift** – have patient close eyes and hold arms out for 10 seconds with palms up
   Abnormal = one arm does not move or drifts down

3. **Abnormal speech** – have patient say, “You can’t teach an old dog new tricks”
   Abnormal = patient slurs words, uses wrong words or is unable to speak

Positive CSS = One or more of the above items are abnormal
RESPIRATORY

Airway Obstruction
Bronchospasm
BRONCHOSPASM - BLS

RMC

Secure and maintain airway

Request ALS assistance

Adequate airway/respiratory effort?

NO, RR < 10 and/or decreased LOC

Assist airway with ventilation via BVM Suction

YES, RR ≥ 10

Assess lung sounds, Wheezing?

YES

Albuterol 2.5 mg mixed with Atrovent 0.5 mg via nebulizer
Requip Albuterol as needed

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate

NO

Continue RMC
See appropriate protocol

1 – If available

NOTE: Complete lack of breath sounds may indicate severe bronchoconstriction
MEDICAL

Altered Mental Status
Anaphylaxis and Allergic Reaction
Behavioral Emergency
COVID-19
Pain Management
Seizures
Shock
ALTERED MENTAL STATUS - BLS

RMC

Assess level of consciousness (GCS) and determine time of onset of altered mental status

Request ALS assistance

Spinal Motion Restriction (SMR) as indicated (See procedure)

Check Blood Sugar

BS < 60 mg/dl

Glucopaste
1 tube PO if intact gag reflex

BS > 60 mg/dl

If stroke suspected, see stroke protocol

If signs of opioid intoxication with respiratory depression administer Naloxone 2 mg IN

Blood Pressure?

< 100

Trendelenburg if tolerated

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

≥ 100

Continue RMC

BLS Ambulance

Transport and contact Medical Control as appropriate
ANAPHYLAXIS AND ALLERGIC REACTION - BLS

RMC

Secure and maintain airway

Request ALS assistance

Severity of reaction?

SEVERE SYMPTOMS OR > 1 MILD SYMPTOM*

Administer Epinephrine 0.3 mg IM OR Assist patient with prescribed EpiPen

Contact Medical Control

If wheezing, Albuterol 2.5 mg Repeat Albuterol as needed

Closely monitor, if no improvement administer a second dose of Epinephrine after consultation with Medical Control

BLS Non-Transport BLS Ambulance

Prepare for transport and continue to monitor for any worsening of condition

Discuss disposition with Medical Control

SINGLE MILD SYMPTOM**

Closely monitor for any worsening of condition

Has condition worsened?

YES

NO

BLS Non-Transport BLS Ambulance

Prepare for transport and contact Medical Control as appropriate

Transport and contact Medical Control as appropriate

*Severe symptoms of an allergic reaction may include any combination of the following:

RESPIRATORY – Shortness of breath, wheezing, repetitive coughing
CARDIOVASCULAR – Pale, cyanotic, low blood pressure, dizzy
THROAT – Tightness, hoarse, trouble breathing/swallowing
MOUTH – Swelling of the tongue and/or lips
SKIN- Diffuse hives or redness
GI – Repetitive vomiting, severe diarrhea
NEURO – Anxiety, confusion, sense of doom

**Mild symptoms of an allergic reaction may include any combination of the following:

NOSE – Itchy/runny nose, sneezing
MOUTH – Itching
SKIN- Few hives, mild itching
GI – Mild nausea/discomfort
BEHAVIORAL EMERGENCY - BLS

RMC

Consider safety and request assistance as needed

Use verbal techniques to diffuse patient behavior

Assure sufficient resources to contain and restrain patient in supine position

Continue to monitor airway

Assess for medical emergency and/or trauma if possible
See appropriate protocol

Check Blood Sugar if possible and treat as appropriate

BLS Non-Transport  BLS Ambulance

Prepare for transport and contact Medical Control as appropriate  Transport and contact Medical Control as appropriate
COVID-19

I. PATIENT CARE GOALS

A. To identify the proper EMS assessment, treatment, and transport for patients at risk for COVID-19 infection within the Region 11 EMS System.

B. To follow current CDC, IDPH, and CDPH guidelines.

C. To minimize any possible exposure of COVID-19 to EMS providers, Emergency Department staff, or any other patients or family in the healthcare setting.

II. PATIENT MANAGEMENT

A. CASE IDENTIFICATION

1. COVID-19 identification is primarily based on fever and/or symptoms of acute respiratory illness (e.g. cough and difficulty breathing), but patients may also have other viral syndrome symptoms such as chills, myalgias (muscle aches), rhinorrhea (runny nose), sore throat, nausea, vomiting, headache, abdominal pain, and diarrhea. Atypical presentations with any of the above symptoms should be considered.

2. Higher risk patients for COVID-19 includes those with close contact with a COVID-19 positive patient, recent travel to areas with widespread COVID-19, living in close quarters, healthcare workers, chronic medical conditions or immunocompromised state.

3. Emergency Medical Dispatchers (OEMC) should screen calls for suspected COVID-19 and communicate to EMS prior to their arrival on scene to allow for use of proper PPE.

B. PPE GUIDELINES

1. EMS providers should apply proper PPE per CDC guidelines.
   a. Surgical facemasks are an acceptable alternative if N-95 or higher level respirators are in short supply.
   b. Respirators/N-95s should be prioritized for procedures that are likely to generate respiratory aerosols, which would pose the highest exposure risk to the healthcare provider.
   c. Eye protection. (i.e. goggles or disposable face shields that fully covers the front and side of face. Personal eyeglasses are not considered adequate eye protection).
d. **Gloves.** A single pair of disposable patient examination gloves that should be changed if torn or heavily contaminated.

e. **Isolation gown.** If there is a shortage of gowns it should be prioritized for aerosol generating procedures, care activities where splashes and sprays are anticipated and high contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothes of EMS providers (e.g. moving patient onto stretcher).

2. After patient handoff at the hospital, EMS providers should safely remove PPE to prevent contamination. Discard PPE in accordance with routine procedures and perform good hand hygiene.

C. **SUSPECTED COVID-19 PATIENT ASSESSMENT**

1. Initial Assessment
   
   a. EMS providers should exercise appropriate precautions when responding to a call with signs or symptoms of a respiratory infection and apply proper PPE before entering the scene.
   
   b. For patients with suspected COVID-19, EMS providers should avoid exposure of multiple personnel if possible.
   
   c. Initial assessment should begin at a distance of at least 6 feet from the patient and a facemask should be placed on the patient for source control.
   
   d. Patient contact should be minimized to the extent possible until a facemask is on the patient.

2. Patient Assessment
   
   a. Perform Adult or Pediatric Assessment
   b. Travel history
   c. COVID-19 exposure history
   d. Past medical history
   e. Vital signs
   f. Physical examination

3. Procedures
   
   a. **Aerosol-Generating Procedures should be to minimized to reduce virus transmission unless exhibiting signs of severe respiratory illness.**
   
   b. EMS providers should exercise caution when an aerosol-generating procedure is necessary, an N-95 or higher level respirator should be used by EMS providers performing aerosol-generating procedures including bag
valve mask (BVM) ventilation, oropharyngeal suctioning, nebulizer treatment, continuous positive airway pressure (CPAP) or resuscitation involving CPR.

c. If possible, Aerosol Generating Procedures should be done with the rear doors of the ambulance open and the HVAC system active or in a negative pressure room away from patient care areas.

d. At the hospital, nebulizers and CPAP should be temporarily discontinued between the ambulance and the patient room to minimize disease transmission.

e. BVMs and other ventilator equipment should be equipped with HEPA or other viral filter to filter expired air if available.

4. Treatment

a. **Oxygenation**
   
   i. Maintain SpO2 > 90%.
   
   ii. Nasal cannula with surgical mask over the cannula is the preferred method of oxygenation. May use higher than normal flow rates (up to 7 liters per minute) if needed to maintain desired oxygen saturation.

   iii. If persistently hypoxic despite nasal cannula apply non-rebreather.

b. **Nebulization Therapy**

   i. Restrict nebulizer treatments to patients who are exhibiting signs of severe respiratory distress.

   ii. Metered dose inhaler (MDI) with a spacer, if available, is the preferred route for medication administration

   1. Consider 4-6 puffs per dose of MDI with spacer, if available, may repeat every 5 minutes as needed.

   2. Use of patient’s MDI with spacer if available is preferred.

c. **Continuous Positive Airway Pressure (CPAP)** should be used with caution in suspected COVID-19 patients due to increased transmission risk.

d. **Endotracheal intubation** should be avoided in suspected COVID-19 patients due to increased transmission risk. Supraglottic airway placement should be performed for advanced airway management during
resuscitation.

e. **Epinephrine:** For patients with severe respiratory distress and wheezing, epinephrine IM can be used for rescue therapy.

5. **Transportation of Suspected COVID-19 Patients**

   a. Transport to the closest appropriate Emergency Department.

   b. Close door/window between driver and patient compartment.

   c. During transport, vehicle ventilation in both compartments should be on non-circulated mode and rear exhaust fan on.

   d. If a vehicle without an isolated patient compartment and ventilation must be used, open the outside air vents in the driver area and turn on the rear exhaust ventilation fans to create a negative patient gradient in the patient area.

   e. Online Medical Control should be consulted for any questions regarding patient care and all refusals of transport.

   f. Pre-notification to the receiving hospital is mandatory to allow for room and equipment preparation.

   g. EMS must coordinate with receiving hospital staff prior to entering the hospital to minimize exposure.

   h. Family members and contacts should not ride in the ambulance if possible, but should wear a mask if their presence is critical for patient care.

III. **DOCUMENTATION**


      1. For CFD select “Suspected Case of Corona/COVID-19” on the Special Event/Situation tag under Incident.

   B. Document all EMS and public safety providers involved in the care of a suspected COVID-19 patient, level of contact, and level of PPE worn during treatment for follow-up of testing results

   C. Positive COVID-19 tests should be reported from the hospital to local health department. The hospital should notify the EMS Agency Designated Infection Control Officer to facilitate appropriate follow-up for agency personnel.

   D. EMS Agencies should develop policies for assessing exposure risk and management...
of EMS providers that are exposed to and that become infected with COVID-19.

III. CLEANING

A. After patient transport, leave the rear doors of the ambulance open to remove potentially infectious particles. The time to complete patient transfer, cleaning, and documentation should provide sufficient air changes.

B. Routine cleaning and disinfectant procedures are appropriate. When cleaning the vehicle, EMS providers should wear a disposable gown and gloves. A facemask and eye protection should be used if splashes or sprays during cleaning are anticipated.

C. All surfaces that may have come in contact with the patient or materials contaminated during patient care should be thoroughly cleaned and disinfected (e.g. stretcher, rails, control panels, floors, walls, work surfaces).

D. EPA registered disinfectants for emerging viral pathogens should be used.

IV. RESTOCKING

A. EMS agencies should maintain a stock of PPE for their EMS providers as the primary means of replacement.

B. Hospitals should replace individual PPE after patient transport if the same level of PPE is available.
PAIN MANAGEMENT - BLS

Determine cause of patient’s pain and refer to appropriate protocol

Determine Patient’s Pain Score using either the Verbal Descriptor Scale or Wong-Baker FACES® Scale

Consider use of non-pharmacologic pain management techniques
   Attempt to place patient in a position of comfort
   Consider application of ice packs or splints as appropriate

Complete vital signs and pain scale should be assessed and documented before and after every intervention

Transport and contact Medical Control as appropriate

Universal Pain Assessment Tool

<table>
<thead>
<tr>
<th>Verbal Descriptor Scale</th>
<th>No Pain</th>
<th>Mild Pain</th>
<th>Moderate Pain</th>
<th>Severe Pain</th>
<th>Very Severe Pain</th>
<th>Excruciating Pain</th>
</tr>
</thead>
</table>

| Wong-Baker FACES® | |
|-------------------|---|---|---|---|---|---|---|
| No Pain | Mild Pain | Moderate Pain | Severe Pain | Very Severe Pain | Excruciating Pain |
SEIZURES - BLS

RMC

Request ALS assistance

Check Blood Sugar

BS ≤ 60

Glucopaste
1 tube PO if intact gag reflex

BS > 60

Assess level of consciousness (GCS) during post-ictal period

Spinal Motion Restriction (SMR) as indicated (see procedure)

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate
SHOCK - BLS

1. RMC
2. Request ALS assistance
3. Place in Trendelenburg
4. BLS Non-Transport
   - Prepare for transport and contact Medical Control as appropriate
5. BLS Ambulance
   - Transport and contact Medical Control as appropriate
TOXINS AND ENVIRONMENTAL

Biological Agents
Burns
Carbon Monoxide / Smoke Inhalation
CBRNE / Hazardous Materials
Chemical Agents / Airway Respiratory Irritants
Conducted Electrical Weapon Injury (TASER)
Electrical Injuries
Frostbite
Hyperthermia / Heat Exposure
Hypothermia / Cold Exposure
Topical Chemical Burn
BIOLOGICAL AGENTS – BLS

RMC

Field or ED personnel: Note increase in patients with “similar type symptoms”

Don PPE and place surgical mask on patient
See A&T card

Notify Resource Hospital/Field Officer

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate

* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.
BURNS - BLS

RMC

Assess singed facial hair, hoarseness, wheezing, cough or stridor

Airway compromise?

YES

Secure airway
Consider advanced airway
Request ALS assistance

NO

Remove clothing
Clothing should be cut, not pulled off
Smoldering clothing should be extinguished with water
Remove all accessories and jewelry
Do not attempt to cool patient

Estimate BSA

Cover with dry dressings or sheet

BLS Non-Transport BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Transport and contact Medical Control as appropriate
CARBON MONOXIDE / SMOKE INHALATION - BLS

RMC

Request ALS assistance

Obtain CO reading, if available

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate
CBRNE / HAZARDOUS MATERIALS - BLS

- Protect yourself, maintain a safe distance upwind of site
- Notify Fire Department Haz Mat Team of any potential biological, chemical or radiation exposure
- Do not enter area unless declared safe by Haz Mat Team
  - Contact Illinois Poison Center as indicated (800)222-1222
  - RMC
  - See appropriate protocol
  - Bring container(s) of drug or substance to the ED (provided that it is not a Haz Mat substance)

**BLS Non-Transport**
- Prepare for transport and contact Medical Control as appropriate

**BLS Ambulance**
- Transport and contact Medical Control as appropriate

* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.
CHEMICAL AGENTS / AIRWAY RESPIRATORY IRRITANTS - BLS

- Notify Haz Mat Team
  - Decontamination by Haz Mat Team

- RTC

- Request ALS assistance
  - BLS Non-Transport
    - Prepare for transport and contact Medical Control as appropriate
  - BLS Ambulance
    - Transport and contact Medical Control as appropriate

* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.
CONDUCTED ELECTRICAL WEAPON INJURY (TASER) – BLS

Note: This protocol is to be used for patients who have been subdued by the use of any conductive electrical weapon device (e.g. TASER)

RMC

- Request ALS assistance

- Secure and maintain airway

- If the patient fell, assess for head/neck/spinal injury
  - Spinal Motion Restriction as indicated

- Monitor patient for:
  - Seizure Activity
  - Chest Pain
  - Altered LOC

- Secure Taser Barb
  - DO NOT REMOVE BARB
  - Stabilize with gauze/tape
  - Identify location of probes on the patient’s body

BLS Non-Transport

- Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

- Transport\(^1\) and contact Medical Control as appropriate

1 – Patient will be transported to the closest comprehensive Emergency Department.
2 – Patients who are in police custody must be accompanied to the hospital by appropriate law enforcement personnel.
ELECTRICAL INJURIES - BLS

1. Assure scene safety
   Remove patient from source of electricity or have power service cut off

2. RMC

3. Request ALS assistance

4. Spinal Motion Restriction as indicated

5. See Burns protocol

BLS Non-Transport
- Prepare for transport and contact Medical Control as appropriate

BLS Ambulance
- Transport and contact Medical Control as appropriate
FROSTBITE - BLS

RMC

Prevent further injury/handle gently
Move patient to warm environment
Remove wet clothing

Protect injured part (blisters) with light sterile dressing
Avoid pressure to area
Handle as you would a burn

Prevent re-exposure to cold or refreezing of part

Do not rub part
Do not use artificial heat
Do not use tight dressing

BLS Non-Transport | BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Transport and contact Medical Control as appropriate
HYPERTHERMIA / HEAT EXPOSURE - BLS

1. **RMC**
   - Place in cool environment
   - Mental status?

2. **ALTERED**
   - Request ALS assistance
   - If blood sugar < 60,
     - **Glucopaste**
     - 1 tube PO if intact gag reflex

3. **NORMAL**
   - Remove all clothing and cover with wet sheets
   - Monitor for seizure activity

4. **BLS Non-Transport**
   - Prepare for transport and contact Medical Control as appropriate

5. **BLS Ambulance**
   - Transport and contact Medical Control as appropriate
HYPOTHERMIA / COLD EXPOSURE - BLS

1 - May present with altered sensorium or unconscious. Heart more susceptible to dysrhythmias. May have apnea, dusky or cyanotic appearance, fixed and dilated pupils; may appear without signs of life.

2 - An individual in a frozen state is not considered salvageable.

3 - The suspected hypothermic patient shall never be declared dead in the field.
TOPICAL CHEMICAL BURN - BLS

Assure scene safety
Remove patient from source as necessary

Notify Fire Department Haz Mat as appropriate

RMC
See Burn protocol

Burn location?

EYE
SKIN

Substance form?

SOLID
LIQUID

Flush eyes continuously with Normal Saline throughout transport

Brush off excess chemical
Remove clothing

Remove clothing
Flush with Normal Saline/water

BLS Non-Transport
BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Transport and contact Medical Control as appropriate

* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.
TRAUMA

General Trauma Management
Extremity Trauma / External Hemorrhage Management
Head Trauma
Spinal Care
Traumatic Arrest
GENERAL TRAUMA MANAGEMENT

I. PATIENT CARE GOALS

2. Safe movement of patient to prevent worsening of injury severity.
3. Rapid and safe transport to the appropriate level of trauma care.

II. PATIENT MANAGEMENT

A. Assessment and Primary Survey

1. Hemorrhage Control
   a. Assess for and stop severe hemorrhage (see Extremity Trauma/External Hemorrhage Management protocol).

2. Airway
   a. Assess airway patency by asking the patient to talk to assess stridor and ease of air movement.
   b. Look for injuries that may lead to airway obstruction including unstable facial fractures, expanding neck hematoma, blood or vomitus in the airway, facial burns/inhalation injury.
   c. Evaluate mental status for ability to protect airway (patients with a GCS less than or equal to 8 are likely to require airway support).

3. Breathing
   a. Assess respiratory rate and pattern.
   b. Assess symmetry of chest wall movement.
   c. Listen bilaterally on lateral chest wall for breath sounds.

4. Circulation
   a. Assess blood pressure and heart rate.
   b. Signs of hemorrhagic shock include: tachycardia, hypotension, pale, cool clammy skin, capillary refill greater than 2 seconds.

5. Disability
   a. Perform neurologic status assessment¹.
   b. Assess gross motor movement of extremities.
   c. Evaluate for clinical signs of traumatic brain injury with herniation including:
i. Unequal pupils
ii. Lateralizing motor signs
iii. Posturing

6. Exposure

a. Rapid evaluation of entire body to identify sites of penetrating wounds or other blunt injuries. Be sure to roll patient and examine the back.
b. Prevent hypothermia.

B. Treatment and Interventions

1. Hemorrhage Control

a. Stop severe hemorrhage (see Extremity Trauma/External Hemorrhage Management protocol).

2. Airway

a. Establish patent airway with cervical spine precautions, per the Advanced Airway Management procedure and Spinal Care protocol.
b. If respiratory efforts are inadequate, assist with bag-mask ventilation and consider airway adjuncts. If patient is unable to maintain airway, consider oral airway (nasal airway should not be used with significant facial injury or possible basilar skull fracture).
c. If impending airway obstruction or altered mental status resulting in inability to maintain airway patency, secure definitive airway.

3. Breathing

a. If absent or diminished breath sounds with chest trauma in a hypotensive patient with respiratory distress, consider tension pneumothorax and perform Needle (Pleural) Decompression as per procedure.
b. For open chest wound, place semi-occlusive dressing or chest seal.
c. Monitor oxygen saturation and, if indicated, provide supplemental oxygen.

4. Circulation

a. If pelvis is unstable and patient is hypotensive, place pelvic binder or sheet to stabilize pelvis.
b. Establish IV access.
c. Fluid resuscitation:
   i. Adults
      1. If SBP greater than 90 mmHg, no IV fluids.
      2. If SBP less than 90 mmHg or HR greater than 120, administer IV fluids and reassess.
      3. Penetrating trauma: target SBP 90mmHg (or palpable radial pulse).
4. Head injury: target SBP 110-120 mmHg. Hypotension should be avoided to maintain cerebral perfusion.

ii. Pediatrics
   1. If child demonstrates tachycardia for age with signs of poor perfusion (low BP, greater than 2-second capillary refill, altered mental status, hypoxia, weak pulses, pallor, or mottled/cool skin), give 20ml/kg crystalloid bolus and reassess.
   2. Target normal BP for age (see Pediatric Initial Assessment protocol).

5. Disability
   a. If clinical signs of traumatic brain injury, see Head Trauma protocol.

6. Exposure
   a. Avoid hypothermia:
      i. Remove wet clothing.
      ii. Cover patient to prevent further heat loss.

7. **NOTE**: Patients with major hemorrhage, hemodynamic instability, penetrating torso trauma, or signs of traumatic brain injury often require rapid surgical intervention. Minimize scene time (goal is under 10 minutes) and initiate rapid transport to a Level 1 Trauma Center.

8. Decisions regarding transport destination should be based on the Region 11 Trauma Field Triage Criteria policy.

C. Secondary Assessment, Treatment, and Interventions

1. Assessment
   a. Obtain medical history from patient or family including:
      i. Allergies
      ii. Medications
      iii. Past medical and surgical history
      iv. Events leading up to the injury

2. Secondary Survey: Head to toe physical exam
   a. Head
      i. Palpate head, scalp and face and evaluate for soft tissue injury or bony crepitus.
      ii. Assess pupils.
   b. Neck
      i. Check for:
1. Contusions
2. Abrasions
3. Hematomas
4. Jugular Vein Distension (JVD)
5. Tracheal deviation
   ii. Palpate for crepitus.
   iii. Spinal assessment per the Spinal Care protocol.

c. Chest
   i. Palpate for instability/crepitus.
   ii. Listen to breath sounds.
   iii. Inspect for penetrating or soft tissue injuries.

d. Abdomen
   i. Palpate for tenderness.
   ii. Inspect for penetrating or soft tissue injuries.

e. Pelvis
   i. Inspect for penetrating or soft tissue injuries.
   ii. Palpate once for instability by applying medial pressure on the iliac crests bilaterally.

f. Back
   i. Maintain spinal alignment. Refer to Spinal Care protocol.
   ii. Inspect for penetrating or soft tissue injuries.

g. Neurologic Status Assessment
   i. Serial assessment of mental status.
   ii. Gross exam of motor strength and sensation in all four extremities.

h. Extremities
   i. Assess for fracture/deformity.
   ii. Assess peripheral pulses/capillary refill.

D. Additional Treatment Considerations

1. Maintain spine precautions per the Spinal Care protocol.

2. Splint obvious extremity fractures per the Extremity Trauma/External Hemorrhage Management protocol.

3. Any intra-abdominal organs visible (evisceration) should be covered with saline soaked dressing and then covered with occlusive dry or plastic dressing.

4. Provide pain medication per the Pain Management protocol.
5. Pregnant patients at greater than 20 weeks of estimated gestational age should be placed with their right side elevated 15 degrees (left side down) to relieve pressure on the great vessels, preventing supine hypotension and subsequent significant loss of preload and cardiac output.

6. Traumatic cardiac arrest patients should be assessed for signs of life including respirations, pulse, and spontaneous movement. If there are no signs of life, the cardiac monitor should be applied. Asystolic patients may have resuscitation withheld. If there is cardiac activity or signs of life, resuscitation should be initiated with transport to the closest Level 1 Trauma Center (see Determination of Death/Withholding of Resuscitative Measures policy).

E. Patient Safety Considerations

1. Life-threatening injuries identified on primary survey should be managed immediately with rapid transport to a trauma center, while the secondary survey is performed enroute.

2. Monitor patient for deterioration over time with serial vital signs and repeat neurologic status assessment.
   a. Patients with compensated shock may not manifest hypotension until severe blood loss has occurred.
   b. Patients with traumatic brain injury may deteriorate as intracranial swelling and hemorrhage increase.

3. Anticipate potential for progressive airway compromise in patients with trauma to the head and neck.

III. NOTES/EDUCATIONAL PEARLS

A. Optimal trauma care requires a structured approach to the patient emphasizing ABCDE (Airway, Breathing, Circulation, Disability, Exposure).

B. Target scene time less than 10 minutes for unstable patients or those likely to need surgical intervention.

C. Frequent reassessment of the patient is important.
   1. If patient develops difficulty with ventilation, reassess breath sounds for development of tension pneumothorax.
   2. If extremity hemorrhage is controlled with pressure dressing or tourniquet, reassess for evidence of continued hemorrhage.
   3. If mental status declines, reassess ABCs and repeat neurologic status assessment.
1 - Neurologic Status Assessment

Neurological status assessment involves establishing a baseline and then trending any change in patient neurological status. Glasgow Coma Scale (GCS) or AVPU may be used for this.

### Glasgow Coma Score

<table>
<thead>
<tr>
<th>Points</th>
<th>Pediatric</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No eye opening</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye opening to pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye opening to verbal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eyes open spontaneously</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>No vocalization</td>
<td>No verbal response</td>
</tr>
<tr>
<td>2</td>
<td>Inconsolable, agitated</td>
<td>Incomprehensible sounds</td>
</tr>
<tr>
<td>3</td>
<td>Inconsistently consolable, moaning</td>
<td>Inappropriate words</td>
</tr>
<tr>
<td>4</td>
<td>Cries but consolable, inappropriate interactions</td>
<td>Confused</td>
</tr>
<tr>
<td>5</td>
<td>Smiles, oriented to sounds, follows objects, interacts</td>
<td>Oriented</td>
</tr>
<tr>
<td></td>
<td>No motor response</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Extension to pain</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Flexion to pain</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Withdraws from pain</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Localizes pain</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Obeys commands</td>
<td></td>
</tr>
</tbody>
</table>

### AVPU

A: The patients is alert
V: The patient responds to verbal stimulus
P: The patient responds to painful stimulus
U: The patient is completely unresponsive
EXTREMITY TRAUMA / EXTERNAL HEMORRHAGE MANAGEMENT

I. PATIENT CARE GOALS

1. Minimize blood loss from extremity hemorrhage.

2. Avoid hemorrhagic shock as a result of extremity hemorrhage.

3. Minimize pain and further injury as a result of potential fractures or dislocations.

II. PATIENT MANAGEMENT

A. Assessment

1. Evaluate for obvious deformity, shortening, rotation, or instability.

2. Neurologic status of extremity
   a. Sensation to light touch
   b. Distal movement of extremity

3. Vascular status of extremity
   a. Pallor
   b. Pulse
   c. Capillary refill
   d. Degree of bleeding/blood loss with assessment of the color of the blood (venous or arterial) and whether it is pulsatile or not

B. Treatment and Interventions (see Prehospital External Hemorrhage Control diagram below)

1. Manage bleeding
   a. Apply direct pressure to bleeding site followed by pressure dressing.
   b. If direct pressure/pressure dressing is ineffective or impractical:
      i. If the bleeding site is amenable to tourniquet placement, apply tourniquet to extremity (see Hemorrhage Control procedure)
         1. Tourniquet should be placed 2-3 inches proximal to wound, not over a joint, and tightened until bleeding stops and distal pulse is eliminated.
         2. If bleeding continues, place a second tourniquet proximal to the first.
      ii. If the bleeding site is not amenable to tourniquet placement (i.e. junctional injury), pack wound tightly with a hemostatic gauze and apply direct pressure.
c. Groin/axillary injury:
   i. Apply direct pressure to wound.
   ii. If still bleeding, pack wound tightly with hemostatic gauze and apply direct pressure.

2. Manage pain (see Pain Management protocol)

   a. Pain management should be strongly considered for patients with suspected fractures.
   b. If tourniquet is placed, an alert patient will likely require pain medication to manage tourniquet pain.

3. Stabilize suspected fractures/dislocations

   a. Strongly consider pain management before attempting to move a suspected fracture.
   b. If distal vascular function is compromised, gently attempt to restore normal anatomic position.
   c. Use splints as appropriate to limit movement of suspected fracture.
   d. Elevate extremity fractures above heart level whenever possible to limit swelling.
   e. Apply ice/cold packs to limit swelling in suspected fractures or soft tissue injury - do not apply ice directly to skin.
   f. Reassess distal neurovascular status after any manipulation or splinting of fractures/dislocations.

4. Amputations

   a. Amputated body parts should be transported with patient for possible re-implantation.
   b. Amputated parts should be covered with dry gauze.
   c. Place the amputated part in a plastic bag.
   d. Place the bag with the amputated part on ice in a second bag.
   e. Do not let the amputated part come into direct contact with the ice.
   f. The stump should be covered with saline moistened gauze.

C. Patient Safety Considerations

1. If tourniquet is used:

   a. Ensure that it is sufficiently tight to occlude the distal pulse.
   b. Ensure that it is well marked and visible and that all subsequent providers are aware of the presence of the tourniquet.
   c. Do not cover with clothing or dressings.

3. If pressure dressing or tourniquet is used, frequently re-check to determine if bleeding has restarted. Check for blood soaking through the dressing or continued bleeding distal to the tourniquet. Do not remove tourniquet or dressing in order to assess bleeding.

III. NOTES/EDUCATIONAL PEARLS

A. Tourniquet may be placed initially to stop obvious severe hemorrhage, then replaced later with pressure dressing after stabilization of ABCs and packaging of patient. Tourniquet should not be removed if:

1. Transport time short (less than 30 minutes)
2. Amputation or near-amputation
3. Unstable or complex multiple-trauma patient
4. Unstable clinical or tactical situation

B. If tourniquet is replaced with pressure dressing, leave loose tourniquet in place so it may be retightened if bleeding resumes.

C. Survival is markedly improved when a tourniquet is placed before shock ensues.

D. Commercial/properly tested tourniquets are preferred over improvised tourniquets.

E. If hemostatic gauze is not available, plain gauze tightly packed into a wound has been shown to be effective.

F. Arterial pressure points are not effective in controlling hemorrhage.
Prehospital External Hemorrhage Control Protocol

Apply direct pressure/pressure dressing to injury

Direct pressure effective (hemorrhage controlled)  Direct pressure ineffective or impractical (hemorrhage not controlled)

Wound amenable to tourniquet placement (e.g. extremity injury)  Wound not amenable to tourniquet placement (e.g. junctional injury)

Apply a tourniquet  Apply a topical hemostatic agent with direct pressure
HEAD TRAUMA - BLS

RTC

Assess level of consciousness (GCS)

Altered level of consciousness?

YES

Request ALS assistance

Assess respiratory effort and assist ventilation as indicated
Monitor for seizure activity

Spinal Motion Restriction

NO

Spinal Motion Restriction

Check Blood Sugar

BS ≤ 60 mg/dl

Glucopaste
1 tube PO if intact gag reflex

BS > 60 mg/dl

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate
SPINAL CARE

I. PATIENT CARE GOALS

1. Select patients for whom spinal motion restriction (SMR) is indicated.
2. Minimize secondary injury to spine in patients who have, or may have, an unstable spinal injury.
3. Minimize patient morbidity from the use of immobilization devices.
4. Spinal Motion Restriction (SMR) is defined as attempting to maintain the head, neck, and torso in anatomic alignment and independent from device use.

II. PATIENT MANAGEMENT

A. Assessment

1. Assess the scene to determine the mechanism of injury.
   a. High risk mechanisms:
      i. Motor vehicle crashes (including automobiles, all-terrain vehicles, and snowmobiles)
      ii. Axial loading injuries to the spine (large load falls vertically on the head or a patient lands on top of their head)
      iii. Falls greater than 10 feet

2. Assess the patient in the position found for findings associated with spine injury:
   a. Altered Mental Status
   b. Neurologic deficits
   c. Neck or back pain or tenderness
   d. Any evidence of intoxication
   e. Other severe injuries, particularly associated torso injuries

B. Treatment and Interventions

1. Place patient in cervical collar and initiate Spinal Motion Restriction (SMR) if there are any of the following:
   a. Patient complains of midline neck or spine pain
   b. Any midline neck or spine tenderness with palpation
   c. Any abnormal mental status (including extreme agitation)
   d. Focal or neurologic deficit
   e. Any evidence of alcohol or drug intoxication
   f. Another severe or painful distracting injury is present
g. Torticollis in children
h. A communication barrier that prevents accurate assessment
i. If none of the above apply, patient may be managed without a cervical collar and SMR

2. Patients with penetrating injury to the neck should not be placed in a cervical collar or other spinal precautions regardless of whether they are exhibiting neurologic symptoms or not. Doing so can lead to delayed identification of injury or airway compromise, and has been associated with increased mortality.

3. If extrication is required:
   a. From a vehicle: After placing a cervical collar, if indicated, children in a booster seat and adults should be allowed to self-extricate. For infants and toddlers already strapped in a car seat with a built-in harness, extricate the child while strapped in his/her car seat.
   b. Other situations requiring extrication: A padded long board may be used for extrication, using the lift and slide (rather than a logroll) technique.

4. Helmet removal
   a. If a football helmet needs to be removed, it is recommended to remove the face mask followed by manual removal (rather than the use of automated devices) of the helmet while keeping the neck manually immobilized - occipital and shoulder padding should be applied, as needed, with the patient in a supine position, in order to maintain neutral cervical spine positioning.
   b. Evidence is lacking to provide guidance about other types of helmet removal.

5. Patients requiring spinal motion restriction should be secured to and transported on ambulance stretcher with cervical collar in place. Do not transport patients on rigid long boards, unless the clinical situation warrants longboard use. An example of this may be facilitation of immobilization of multiple extremity injuries or an unstable patient where removal of a board will delay transport and/or other treatment priorities. In these situations, long boards should ideally be padded or have a vacuum mattress applied to minimize secondary injury to the patient.

6. Patients should be transported to the nearest appropriate facility, in accordance with the Region 11 Trauma Field Triage Criteria policy.

7. Patients with severe kyphosis or ankylosing spondylitis may not tolerate a cervical collar. These patients should be immobilized in a position of comfort using towel rolls.
C. Patient Safety Considerations

1. Be aware of potential airway compromise or aspiration in immobilized patients with nausea/vomiting or with facial/oral bleeding.

2. Excessively tight immobilization straps can limit chest excursion and cause hypoventilation.

3. Prolonged immobilization on spine board can lead to ischemic pressure injuries to skin.

4. Prolonged immobilization on spine board can be very uncomfortable for the patient.

5. Children are abdominal breathers, so immobilization straps should go across chest and pelvis and not across the abdomen, when possible.

6. Children have disproportionately larger heads. When securing pediatric patients to a spine board, the board should have a recess for the head, or the body should be elevated approximately 1-2 cm to accommodate the larger head size and avoid neck flexion when immobilized.

7. In an uncooperative patient, avoid interventions that may promote increased spinal movement.

8. The preferred position for all patients with spine management is flat and supine. There are three circumstances under which raising the head of the bed to 30 degrees should be considered:
   a. Respiratory distress
   b. Suspected severe head trauma
   c. Promotion of patient compliance

III. NOTES/EDUCATIONAL PEARLS

A. Evidence is lacking to support or refute the use of manual stabilization prior to spinal assessment in the setting of a possible traumatic injury when the patient is alert with spontaneous head/neck movement.

1. Providers should not manually stabilize these alert and spontaneously moving patients, since patients with pain will self-limit movement and forcing immobilization in this scenario may unnecessarily increase discomfort and anxiety.

B. Ambulatory patients may be safely immobilized on gurney with cervical collar and straps and will not generally require a spine board.
C. Reserve long spine board use for the movement of patients whose injuries limit ambulation and who meet criteria for the use of spinal precautions. Remove from the long board as soon as is practical.
TRAUMATIC ARREST - BLS

RTC

Request ALS assistance

See appropriate protocol(s) for suspect injuries

BLS Ambulance

Prepare for transport and contact Medical Control as appropriate

BLS Non-Transport

Transport and contact Medical Control as appropriate
OBSTETRICS

Childbirth and Post-Delivery Care
Neonatal Resuscitation
Obstetrical Complications / Bleeding in Pregnancy
Obstetrical Complications / Breech Birth
Obstetrical Complications / Nuchal Cord
Obstetrical Complications / Pre-Eclampsia or Eclampsia
Obstetrical Complications / Prolapsed Cord
CHILDBIRTH - BLS

Obtain patient history and document any of the following:
1. Rectal pressure
2. Contractions less than or equal to 2 minutes apart
3. Uncomfortable and unable to ambulate
4. Vaginal bleeding
5. Ruptured membranes
6. Uncontrollable urge to push

Any of the above present?

- YES
  - Request ALS assistance
  - Check for crowning
    - Crowning present?
      - YES
        - Prepare for birth
          - Control delivery of head with palm of hand so it does not emerge too quickly
          - Check for cord around the neck
            - If present, refer to Nuchal Cord protocol
          - Guide head and neck as upper shoulders are delivered
          - Support baby as body delivers
          - See Post-Delivery Care protocol on the next page
      - NO
        - Place patient on left side
        - Time contractions
        - BLS Non-Transport
          - Prepare for transport and contact Medical Control as appropriate
        - BLS Ambulance
          - Contact Medical Control and transport to ED with an approved OB facility
  - Time contractions

- NO
  - Monitor for above
  - Time contractions
POST-DELIVERY CARE - BLS

BABY

- Note time of delivery
- PRMC
- Keep newborn level with mother’s vagina until cord clamped
- Wipe face
- Dry and wrap warmly in blanket
- Clamp umbilical cord securely in two places about 6-8” from baby and cut between 2 clamps
- If non-vigorous or in respiratory distress proceed to Neonatal Resuscitation protocol
- Request ALS assistance
- Assess APGAR score at 1 and 5 minutes after birth
- Request ALS assistance if APGAR ≤ 6

MOTHER

- RMC
- Place in Trendelenburg if BP<90
- Request ALS assistance
- If placenta delivers, note time of delivery
  - Put it in a plastic bag
  - Do not delay transport waiting for placenta
  - Do NOT pull on cord to facilitate placenta delivery
- If heavy vaginal bleeding, gently massage uterus with your hand on abdomen
- If perineum is torn or bleeding, apply direct pressure with trauma dressing

BLS Non-Transport

- Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

- Contact Medical Control and transport to ED with an approved OB facility
<table>
<thead>
<tr>
<th>A=Appearance (color)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>1 Min</th>
<th>5 Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue, pale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue hands and feet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entirely pink</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P=Pulse (heart rate)</td>
<td>Absent</td>
<td>&lt;100/min</td>
<td>≥100/min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G=Grimace (reflex irritability)</td>
<td>No response</td>
<td>Grimace</td>
<td>Cough or sneeze</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A=Activity (muscle tone)</td>
<td>Limp</td>
<td>Some flexion of extremities</td>
<td>Active motion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R=Respiratory effort</td>
<td>Absent</td>
<td>Weak cry, hypoventilation</td>
<td>Good, strong cry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**APGAR SCORING**

**TOTALS =**
NEONATAL RESUSCITATION - BLS

PRMC

Request ALS assistance

Deliver head and body
Clamp/cut cord

Dry
Clear Airway
Warm
Position and stimulate

Check respirations, heart rate, and color

Apneic, HR < 100, Baby not vigorous
If indicated, gently suction mouth and nose of infant with bulb syringe
BVM at 40-60 breathes per minute with supplemental oxygen at 5-10 L
Check heart rate after 30 seconds of positive pressure ventilation
HR < 60
Chest compressions for 30 seconds (3:1 ratio compressions/ventilations)
HR ≥ 60
Support ABGs
Keep warm
Continue ventilation

Cyanotic and Breathing
Supplemental Oxygen at 5-10 L
If remaining cyanotic BVM

Pink and Breathing, HR > 100
Support ABGs
Keep warm

BLS Non-Transport
BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Contact Medical Control and transport to ED with an approved OB facility

1 – Corrective action steps to improve positive pressure ventilation:
M: Mask Adjustment
R: Reposition Airway
S: Suction Mouth & Nose
O: Open Mouth
P: Pressure Increase
A: Airway Alternative
OBSTETRICAL COMPLICATIONS / BLEEDING IN PREGNANCY - BLS

- RMC
  - Request ALS assistance
    - Place mother on left side if ≥ 20 weeks gestation
      - Note type and amount of external bleeding and/or discharge
        - BLS Non-Transport
          - Prepare for transport and contact Medical Control as appropriate
        - BLS Ambulance
          - Alert Medical Control of OB complications
            - Transport to ED with an approved OB facility if ≥ 20 weeks gestation
OBSTETRICAL COMPLICATIONS / BREECH BIRTH - BLS

1. If head has not delivered in 30 seconds with the next contraction, continue supporting the body and reach 2 sterile gloved fingers into vagina to locate infant’s mouth.
2. Press vaginal wall away from baby’s mouth to form an airway.
3. Until head delivers, keep your hand in position.
4. After shoulders are delivered, gently elevate trunk and legs to aid in delivery of head (if face down).
5. Never attempt to pull the baby from the vagina by the legs or trunk.

RMC
Request ALS assistance
Alert Medical Control of OB complications
Transport to ED with an approved OB facility
Prepare for transport and contact Medical Control as appropriate

BLS Non-Transport
BLS Ambulance

Effective: March 1, 2016

Approved: EMS Medical Directors Consortium
Section: Obstetrics
Title: Obstetrical Complications / Breech Birth - BLS
Title: Obstetrical Complications / Nuchal Cord - BLS
Section: Obstetrics
Approved: EMS Medical Directors Consortium
Effective: March 1, 2016

OBSTETRICAL COMPLICATIONS / NUCHAL CORD - BLS

RMC

Request ALS assistance

Slip two fingers under the cord and lift over baby’s head

Successful?

NO

Double clamp cord, cut cord between clamps to allow for release of cord from neck

YES

Follow normal delivery procedures

BLS Non-Transport
Prepare for transport and contact Medical Control as appropriate

BLS Ambulance
Alert Medical Control of OB complications. Transport to ED with an approved OB facility
OBSTETRICAL COMPLICATIONS / PRE-ECLAMPSIA or ECLAMPSIA - BLS

1. Request ALS assistance
2. Place mother on left side
3. Minimal central nervous system stimulation
4. Seizure precautions

BLS Non-Transport:
- Prepare for transport and contact Medical Control as appropriate

BLS Ambulance:
- Alert Medical Control of OB complications
  - Transport to ED with an approved OB facility
OBSTETRICAL COMPLICATIONS / PROLAPSED CORD - BLS

RMC

Request ALS assistance

Elevate mother’s hips, knee-chest position, or left side down, Trendelenberg position.

Palpate cord for pulsations

Protect cord from being compressed by placing a sterile gloved hand in vagina and supporting the presenting part until transfer of patient care

Keep exposed cord moist and warm (may use sterile NS)

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Alert Medical Control of OB complications
Transport to ED with an approved OB facility
PEDIATRICS

Pediatric Initial Assessment
Pediatric Routine Medical Care (PRMC)
Pediatric Routine Trauma Care (PRTC)
Pediatric Airway Obstruction
Pediatric Altered Mental Status
Pediatric Anaphylaxis and Allergic Reaction
  Pediatric Bronchospasm
    Pediatric Burns
Pediatric Cardiac Arrest
Pediatric Chemical Agents / Airway Respiratory Irritants / Nerve Agents
  Pediatric Croup or Epiglottitis
    Pediatric Drowning
Pediatric Hyperthermia / Heat Exposure
Pediatric Hypothermia / Cold Exposure
Pediatric Pain Management
  Pediatric Seizures
    Pediatric Shock
Pediatric Topical Chemical Burn
Pediatric Tracheostomy with Respiratory Distress
PEDIATRIC INITIAL ASSESSMENT

I. SCENE SIZE-UP

A. Protect from body substance through isolation (glasses, gloves, gown and mask).

B. Assess the scene for safety and take appropriate steps.

C. Determine the mechanism of injury/nature of illness.
   1. Note the number of patients.
   2. Initiate Mass Casualty Plan, if necessary.
      a. Call for additional personnel and equipment.
      b. Begin triage.
   3. Assess for any indication of abuse or neglect of the patient (see Reporting Abused and/or Neglected Patients policy).

II. INITIAL ASSESSMENT OF PEDIATRIC PATIENT

A. Assess general impression of child and environment with initial assessment of wellness and general appearance (conduct from a distance). Complete assessment while protecting the cervical spine, if necessary.
   1. Determine nature of illness or mechanism of injury.
   2. Is child in a life threatening condition? Treat immediately. Refer to Broselow tape if needed.
   3. Obtain SAMPLE history and identify any caregivers at scene.

B. Assess child's mental status.
   1. Identify yourself and your purpose using age appropriate terms.
   2. Initially approach child in non-threatening manner, on their level when appropriate. Initiate touch in a non-threatening manner before examining child, when appropriate.
3. Evaluate child's mental status utilizing Pediatric Coma Scale.

C. Assess airway

1. Responsive Child
   a. If child is talking or crying, then assess for adequacy of breathing.
   b. If child is not talking or crying, open airway using modified jaw thrust maneuver.

2. Unresponsive Child
   a. Open the airway using modified jaw thrust maneuver.
   b. Consider use of oral airway.

D. Assess Breathing

1. Non-breathing child
   a. Maintain open airway and assist breathing utilizing ventilatory adjuncts and oxygen at the appropriate rate.
   b. Suction if necessary.
   c. Pulse oximeter

2. Breathing child
   a. Look for rise and fall of chest and feel for rate and depth of breathing.
   b. Look for use of accessory muscles, nasal flaring, grunting and retractions.
   c. Determine adequacy of breathing for age (either too fast or too slow).
   d. If breathing is inadequate, assist breathing utilizing ventilatory adjuncts and oxygen at the appropriate rate.
   e. Suction if necessary.
   f. Pulse oximeter (if indicated)

### PEDIATRIC VITAL SIGNS

Weight in kg = (2 x age in years) + 10

<table>
<thead>
<tr>
<th>Age</th>
<th>Pulse</th>
<th>Systolic Blood Pressure</th>
<th>Respiratory Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonate (0-30 days)</td>
<td>100-180</td>
<td>&gt; 60</td>
<td>30-60</td>
</tr>
<tr>
<td>Infant (31 days - &lt; 1yr)</td>
<td>100-160</td>
<td>&gt; 60</td>
<td>30-60</td>
</tr>
<tr>
<td>Toddler (1 yr - &lt; 3 yrs)</td>
<td>90-150</td>
<td>&gt; 70</td>
<td>24-40</td>
</tr>
<tr>
<td>Pre-School (3 yrs - &lt; 5 yrs)</td>
<td>80-140</td>
<td>&gt; 75</td>
<td>22-34</td>
</tr>
<tr>
<td>School Age (5 yrs – 12 yrs)</td>
<td>70-120</td>
<td>&gt; 80</td>
<td>18-30</td>
</tr>
<tr>
<td>Adolescent ( &gt; 12 yrs)</td>
<td>60-100</td>
<td>&gt; 90</td>
<td>12-16</td>
</tr>
</tbody>
</table>
E. Assess Circulation

**INDICATORS OF HYPOPERFUSION IN CHILDREN**

- Cyanosis despite administration of oxygen
- Truncal pallor/cyanosis and coolness
- Hypotension (late sign)
- Bradycardia (ominous sign)
- Weak, thready, or absent peripheral pulses
- No palpable blood pressure
- Decreasing level of consciousness

1. Check brachial or femoral pulse for rate and quality.
2. If none found, check for carotid pulse. If pulseless, start CPR and see appropriate protocol.
3. Assess for central capillary refill.
5. Assess and control severe bleeding.

F. Identify priority pediatric patients for immediate transport and initiate interventions as per protocols.

G. Repeat initial assessment.

1. Every 15 minutes in a stable child.
2. Every 5 minutes in an unstable child.
3. Repeat before beginning detailed physical examination.

H. Initiate measures to prevent heat loss to keep the child from becoming hypothermic.

I. For children with special healthcare needs (CSHN), refer as needed to child’s emergency care plan. Understanding the child’s baseline will assist in determining the significance of altered physical findings.
## Pediatric Initial Assessment

**Section:** Pediatrics  
**Approved:** EMS Medical Directors Consortium  
**Effective:** March 1, 2016

### Pediatric Glasgow Coma Scale (PGCS)

<table>
<thead>
<tr>
<th></th>
<th>&gt; 1 Year</th>
<th>&lt; 1 Year</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EYE OPENING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spontaneously</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>To verbal command</td>
<td></td>
<td>To shout</td>
<td>3</td>
</tr>
<tr>
<td>To pain</td>
<td></td>
<td>To pain</td>
<td>2</td>
</tr>
<tr>
<td>No response</td>
<td></td>
<td>No response</td>
<td>1</td>
</tr>
<tr>
<td><strong>MOTOR RESPONSE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obeys</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Localizes pain</td>
<td></td>
<td>Localizes pain</td>
<td>5</td>
</tr>
<tr>
<td>Flexion-withdrawal</td>
<td></td>
<td>Flexion-withdrawal</td>
<td>4</td>
</tr>
<tr>
<td>Flexion-abnormal (decorticate rigidity)</td>
<td></td>
<td>Flexion-abnormal (decorticate rigidity)</td>
<td>3</td>
</tr>
<tr>
<td>Extension (decerebrate rigidity)</td>
<td></td>
<td>Extension (decerebrate rigidity)</td>
<td>2</td>
</tr>
<tr>
<td>No response</td>
<td></td>
<td>No response</td>
<td>1</td>
</tr>
<tr>
<td><strong>VERBAL RESPONSE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oriented</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Disoriented/confused</td>
<td></td>
<td>Cries and is consolable</td>
<td>4</td>
</tr>
<tr>
<td>Inappropriate words</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Incomprehensible sounds</td>
<td>Grunts</td>
<td>Grunts, agitated, and restless</td>
<td>2</td>
</tr>
<tr>
<td>No response</td>
<td></td>
<td>No response</td>
<td>1</td>
</tr>
</tbody>
</table>

**TOTAL PEDIATRIC GLASGOW COMA SCORE:** (3-15)
PEDIATRIC PAIN SCALE

0  No Hurt
1  Hurts Little Bit
2  Hurts Little More
3  Hurts Even More
4  Hurts Whole Lot
5  Hurts Worst
REGION 11
CHICAGO EMS SYSTEM
PROTOCOL

Title: Pediatric Routine Medical Care (PRMC) - BLS
Section: Pediatrics
Approved: EMS Medical Directors Consortium
Effective: March 1, 2016

PEDIATRIC ROUTINE MEDICAL CARE (PRMC) - BLS
(Age Newborn – 15 yrs.)

1 – See Pediatric Initial Assessment
PEDIATRIC ROUTINE TRAUMA CARE (PRTC) - BLS
(Age Newborn – 15 yrs.)

Scene Safety & Universal Precautions (BSI)

Assess level of consciousness (PGCS)¹

Secure and maintain airway
C-spine stabilization as appropriate

Administer oxygen per appropriate method
to maintain oxygen saturation ≥ 94%
For patients with respiratory distress, shock, smoke inhalation, carbon monoxide poisoning or cardiac arrest, administer high flow oxygen 15 L by most appropriate method
(See Appendix for Oxygen Delivery Methods)

Assess and control bleeding

Obtain vital signs¹

Assess for hypoperfusion¹

Prevent heat loss/decreased body temperature

Assess for pain using pain scale¹

Obtain history

See appropriate protocol

Initiate patient care per Initiation of Patient Care policy

Apply Trauma Field Triage Criteria decision scheme
to determine appropriate transport destination
(see Trauma Patient Triage and Transport policy)

BLS Non-Transport | BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Transport and contact Medical Control as appropriate

¹ – See Pediatric Initial Assessment
PEDIATRIC AIRWAY OBSTRUCTION - BLS

PRMC

Request ALS assistance

Conscious?

NO

Yes

Able to speak or make sounds?

NO

< 1 year: 5 back slaps and 5 chest thrusts

≥ 1 year: abdominal thrusts

Continue until relieved

If patient becomes unconscious begin CPR¹

YES

Allow to cough

Start CPR¹

Before ventilation, look in airway if a foreign body is seen, remove (Do not use a blind finger sweep)

Continue CPR until the obstruction is relieved or the child regains consciousness

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate

1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations
2 rescuers = 15 compressions: 2 ventilations
PEDIATRIC ALTERED MENTAL STATUS - BLS

PRMC

Request ALS assistance

Spinal Motion Restriction as indicated

Check Blood Sugar

BS < 60 mg/dl

Oral Glucose (if gag reflex is intact):
1 mo – 4 years: ¼ tube
4-8 years: ½ tube
>8 years: 1 tube

BS > 60 mg/dl

Assess for respiratory effort

If signs of opioid intoxication with respiratory depression administer Naloxone

0 – 4 years: 1 mg/IN
> 4 years: 2 mg/IN

Consider other causes of altered mental status

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate

Special Considerations:
Consider causes:

A Alcohol, abuse
E Epilepsy, electrolytes, encephalopathy
I Insulin
O Opiates, overdose
U Uremia

T Trauma, temperature
I Infection, intussusception, inborn errors
P Psychogenic
P Poison
S Shock, seizures, stroke, space-occupying lesion, subarachnoid hemorrhage, shunt
PEDIATRIC ANAPHYLAXIS and ALLERGIC REACTION - BLS

RMC

Secure and maintain airway

Request ALS assistance

Severity of reaction?

SEVERE SYMPTOMS OR > 1 MILD SYMPTOM*

Administer Epinephrine
Length < 48 inches = Epinephrine 0.15 mg IM
Length ≥ 48 inches = Epinephrine 0.3 mg IM
OR
Assist patient with prescribed EpiPen

Contact Medical Control

If wheezing, Albuterol 2.5 mg
Repeat Albuterol as needed

Closely monitor, if no improvement administer a second dose of Epinephrine after consultation with Medical Control

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

Closely monitor for any worsening of condition

Has condition worsened?

YES

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

NO

BLS Ambulance

Transport and contact Medical Control as appropriate

BLS Non-Transport

Prepare for transport and continue to monitor for any worsening of condition

BLS Ambulance

Discuss disposition with Medical Control

**Mild symptoms of an allergic reaction may include any combination of the following:

- NOSE – Itchy/runny nose, sneezing
- MOUTH – Itching
- SKIN – Few hives, mild itching
- GI – Mild nausea/discomfort

*Severe symptoms of an allergic reaction may include any combination of the following:

- RESPIRATORY – Shortness of breath, wheezing, repetitive coughing
- CARDIOVASCULAR – Pale, cyanotic, low blood pressure, dizzy
- THROAT – Tightness, hoarse, trouble breathing/swallowing
- MOUTH – Swelling of the tongue and/or lips
- SKIN – Diffuse hives or redness
- GI – Repetitive vomiting, severe diarrhea
- NEURO – Anxiety, confusion, sense of doom
PEDIATRIC BRONCHOSPASM - BLS

PRMC

Request ALS assistance

Secure and maintain airway

Adequate airway/respiratory effort?

YES

NO, and/or Decreased LOC

Assist airway with ventilation via BVM Suction

Assess lung sounds

Is wheezing present?

YES

NO

Albuterol 2.5 mg mixed with Atrovent 0.5 mg via nebulizer
Repeat Albuterol as needed

Continue PRMC

BLS Non-Transport

Prepare for transport and contact Medical Control as appropriate

BLS Ambulance

Transport and contact Medical Control as appropriate

Continue PRMC

NOTE: If patient has an established tracheostomy, see Pediatric Tracheostomy with Respiratory Distress protocol
NOTE: Complete lack of breath sounds may indicate severe bronchoconstriction

1 – If available
PEDIATRIC BURNS - BLS

1. PRMC
   - Request ALS assistance
2. Assess singed facial hair, hoarseness, wheezing, cough or stridor
3. Remove clothing
   - Remove all accessories and jewelry
   - Do not attempt to cool patient
4. Estimate extent and depth of burn
5. Cover with dry dressings or sheet

BLS Non-Transport
- Prepare for transport and contact Medical Control as appropriate

BLS Ambulance
- Transport and contact Medical Control as appropriate

1 – See next page for Pediatric Burns % Body Surface Area
% Body Surface Area

Palm of hand (including fingers) of infant or child = 1% of the total body surface

Any patient with a life threatening condition should be treated until stable at the nearest appropriate facility before being transferred to a burn center.
PEDIATRIC CARDIAC ARREST - BLS

PRMC

Request ALS assistance

Confirm unresponsiveness and check ABCs
If pulseless begin CPR

Attach AED

Check rhythm
Follow AED instructions

Shock advised?

YES NO

Resume CPR (x2 minutes)
Check rhythm

Continue CPR

BLS Non-Transport
BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Transport and contact Medical Control as appropriate

1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations
2 rescuers = 15 compressions: 2 ventilations
PEDIATRIC CHEMICAL AGENTS / AIRWAY RESPIRATORY IRRITANTS / NERVE AGENTS - BLS

Notify Haz Mat Team
Decontamination by Haz Mat Team

PRTC

Request ALS assistance

BLS Non-Transport
Prepare for transport and contact Medical Control as appropriate

BLS Ambulance
Transport and contact Medical Control as appropriate

* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.
PEDIATRIC CROUP OR EPIGLOTTITIS - BLS

1. Attempt to administer oxygen with mask held by parent or guardian 4 inches in front of child’s face only if well tolerated by child.
2. Do not agitate child, keep patient calm and upright.
3. See Pediatric Bronchospasm protocol.
4. Request ALS assistance.
5. Prepare for transport and contact Medical Control as appropriate (BLS Non-Transport). Transport and contact Medical Control as appropriate (BLS Ambulance).
PEDIATRIC DROWNING - BLS

PRMC

Request ALS assistance

Assess ABCs
Start CPR if necessary

Spinal Motion Restriction as indicated

Remove wet clothing
Warm patient

BLS Non-Transport BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Transport and contact Medical Control as appropriate

1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations
2 rescuers = 15 compressions: 2 ventilations
PEDIATRIC HYPERTHERMIA / HEAT EXPOSURE - BLS

1. Request ALS assistance
2. Place in cool environment
   - Remove clothing as appropriate
3. Monitor mental status
   - Monitor nausea/vomiting

BLS Non-Transport
- Prepare for transport and contact Medical Control as appropriate

BLS Ambulance
- Transport and contact Medical Control as appropriate
NOTES:  - May present with altered sensorium or as unconscious.  Heart more susceptible to dysrhythmias.  May have apnea, dusky or cyanotic appearance, fixed and dilated pupils; may appear without signs of life.  
- An individual in a frozen state is not considered salvageable.  
- The suspected hypothermic patient shall never be declared dead in the field.

1 – Pediatric CPR rates: 1 rescuer = 30 compressions: 2 ventilations
2 rescuers = 15 compressions: 2 ventilations
**PEDIATRIC PAIN MANAGEMENT - BLS**

1. Determine cause of patient's pain and refer to appropriate protocol.
2. Determine Patient’s Pain Score using either the Verbal Descriptor Scale or Wong-Baker FACES® Scale.
3. Consider use of non-pharmacologic pain management techniques. Consider application of ice packs or splints as appropriate.
4. Complete vital signs and pain scale should be assessed and documented before and after every intervention.
5. Transport and contact Medical Control as appropriate.

**Universal Pain Assessment Tool**

- **Verbal Descriptor Scale**
  - No Pain
  - Mild Pain
  - Moderate Pain
  - Severe Pain
  - Very Severe Pain
  - Excruciating Pain

- **Wong-Baker FACES®**
  - Smiley face
  - Slightly frowning face
  - Frowning face
  - Face holding head
  - Face in pain
  - Face in severe pain
PEDIATRIC SEIZURES - BLS

PRMC

Request ALS assistance

Protect from injury
Aspiration precautions

Assess level of consciousness (PGCS) during post-ictal period

Support ABCs

Check Blood Sugar

BS ≤ 60 mg/dl

Oral Glucose (if gag reflex is intact):
1 mo – 4 years: ¼ tube
4-8 years: ½ tube
>8 years: 1 tube

BS > 60 mg/dl

BLS Non-Transport
Prepare for transport and contact Medical Control as appropriate

BLS Ambulance
Transport and contact Medical Control as appropriate
PEDIATRIC SHOCK - BLS

PRMC

Request ALS assistance

Secure airway as appropriate
Supine or shock position

Determine etiology of shock

If suspected allergic reaction, see
Anaphylaxis and Allergic Reaction protocol

Support ABCs
Observe
Keep warm

BLS Non-Transport  BLS Ambulance

Prepare for transport and contact Medical Control as appropriate
Transport and contact Medical Control as appropriate
PEDIATRIC TOPICAL CHEMICAL BURN - BLS

Assure scene safety
Remove patient from source as necessary

Notify fire department Haz Mat as appropriate

PRMC

Request ALS assistance

Burn location?

EYE

SKIN

Substance form?

SOLID

LIQUID

Flush eyes continuously with Normal Saline throughout transport

Brush off excess chemical

Remove clothing

FLUSH WITH NORMAL SALINE/WATER

Remove clothing

BLS Non-Transport

BLS Ambulance

Prepare for transport and contact Medical Control as appropriate

Transport and contact Medical Control as appropriate

* All efforts should be made to decontaminate the patient prior to transport, as appropriate per HazMat team.
Title: Pediatric Tracheostomy with Respiratory Distress - BLS

Section: Pediatrics

Approved: EMS Medical Directors Consortium

Effective: March 1, 2016

PEDiatric TRACHEOSTOMY WITH RESPIRATORY DISTRESS - BLS

PRMC

Request ALS assistance

Suction as indicated

Is airway patent?

NO, Obstructed

Repeat suction after removing inner cannula if present

Have caregiver change trach tube

Is airway patent?

NO, Obstructed

Ventilate with mask to mouth
If no chest rise, ventilate with infant mask to stoma

CPR if heart rate ≤ 60 bpm

BLS Non-Transport

BLS Ambulance

YES, Clear

Prepare for transport and contact Medical Control as appropriate

Transport and contact Medical Control as appropriate

Monitor for the following:
- Retractions
- Grunting/wheezing/stridor
- Tachypnea
- Decreasing Consciousness
- Apnea
- Cyanosis

If wheezing, Albuterol 2.5 mg via nebulizer
Repeat Albuterol as needed

1 – Pediatric CPR rates:
1 rescuer = 30 compressions: 2 ventilations
2 rescuers = 15 compressions: 2 ventilations
Oxygen Delivery Methods
Latex Allergy
LATEX ALLERGY

INDICATIONS

- Patients with known sensitivity to latex
- Patients with onset of respiratory or dermatological signs and symptoms

CONTRAINDICATIONS

- None

EQUIPMENT

Latex free products for:

1. Airway:
   - Oral/Nasal airways
   - Suction catheters
   - Bag valve masks
   - Oxygen tubing
   - Endotracheal tubes
   - Stylets

2. IV:
   - Tourniquets
   - Gloves
   - Tape

When utilizing other medical equipment such as stethoscopes or blood pressure cuffs, provide a barrier between the patient and the device (i.e. Kerlix, 4 x 4’s, cloth, etc).

PROCEDURE

1. Utilize latex free products whenever possible.

2. If a patient experiences an onset of symptoms (i.e. respiratory and/or dermatological signs and symptoms) and routine, latex gloves have been utilized:
   a. Do not remove gloves
   b. Place latex free gloves over latex gloves, as a second pair.

3. Medication should not be drawn from a multi-dose vial, if possible. Medication drawn up in a syringe must be given immediately after withdrawing the medication.

4. Secure bandaged sites with cloth or silk tape.

5. See Anaphylaxis and Allergic Reaction protocol for treatment of a latex reaction.
# Oxygen Delivery Methods

<table>
<thead>
<tr>
<th>Delivery Method</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal Cannula</td>
<td>1 – 6L / min.</td>
</tr>
<tr>
<td>Non-rebreather Mask (NRB)</td>
<td>10 -15L / min.</td>
</tr>
<tr>
<td>Bag Valve Mask (BVM)</td>
<td>15L / min.</td>
</tr>
<tr>
<td>Endotracheal Intubation</td>
<td>15L / min.</td>
</tr>
<tr>
<td>I-gel Supraglottic Airway</td>
<td>15L / min.</td>
</tr>
<tr>
<td>King LT Supraglottic Airway</td>
<td>15L / min.</td>
</tr>
<tr>
<td>Blow-by (for children who do not tolerate a NRB)</td>
<td>10 – 15L / min.</td>
</tr>
</tbody>
</table>