NEW JERSEY

# EMS

# FIELD GUIDE

2013

AUGUST

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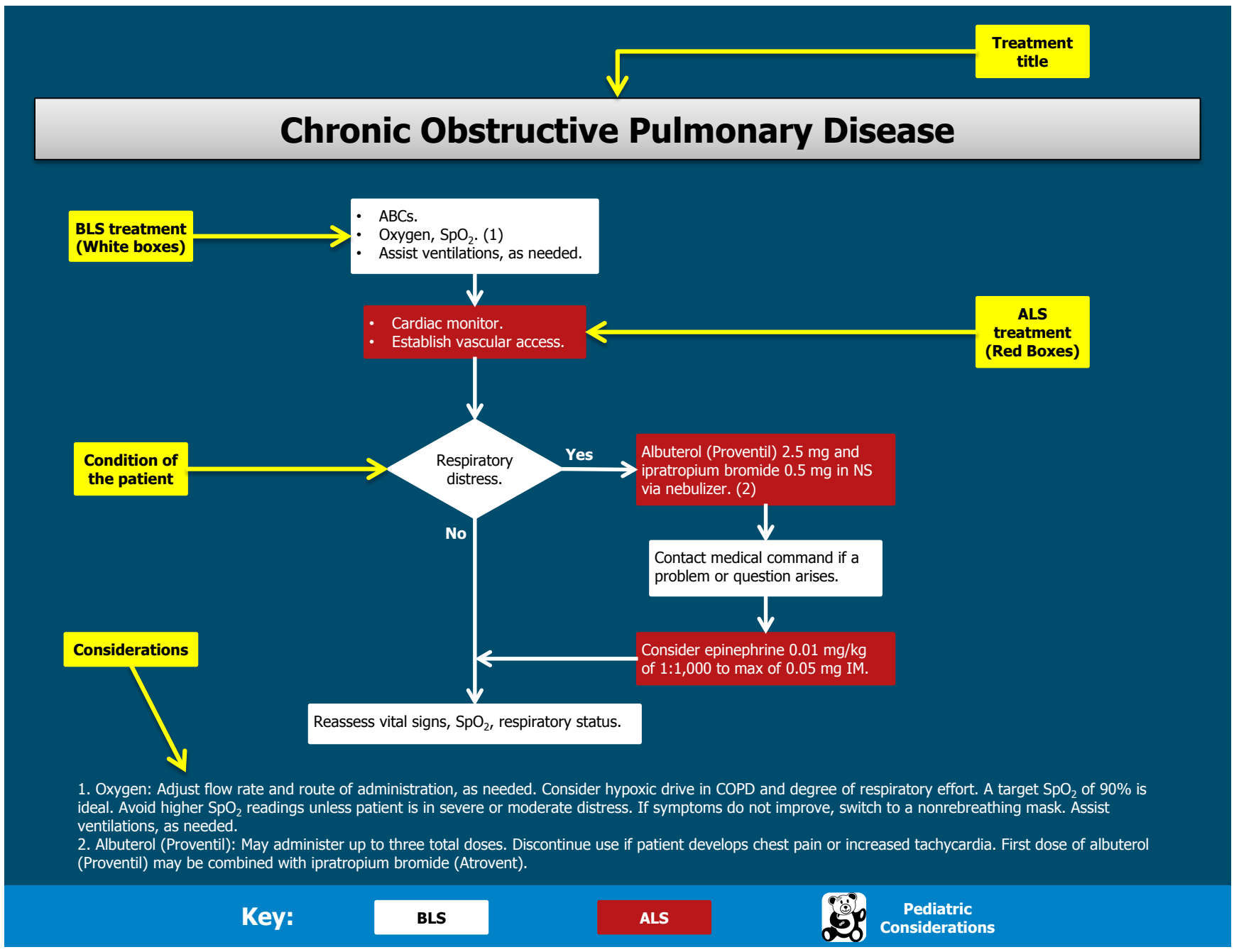
# HOW TO USE THE FIELD GUIDE

The algorithms contained in the field guide are color-coded according to the level of provider that should perform the task. White boxes within algorithms apply to BLS providers and red boxes apply to ALS providers.


## Medical/Respiratory: Chronic Obstructive Pulmonary Disease




Special considerations for the pediatric population are included as necessary and are identifiable by the Emergency Medical Services for Children (EMSC) bear.


Courtesy of the Emergency Medical Services for Children National Resource Center. Available from: http://childrensnational.org/EMSC/

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## Table of Contents

# SECTION 1: GENERAL

## ASSESSMENT TOOLS

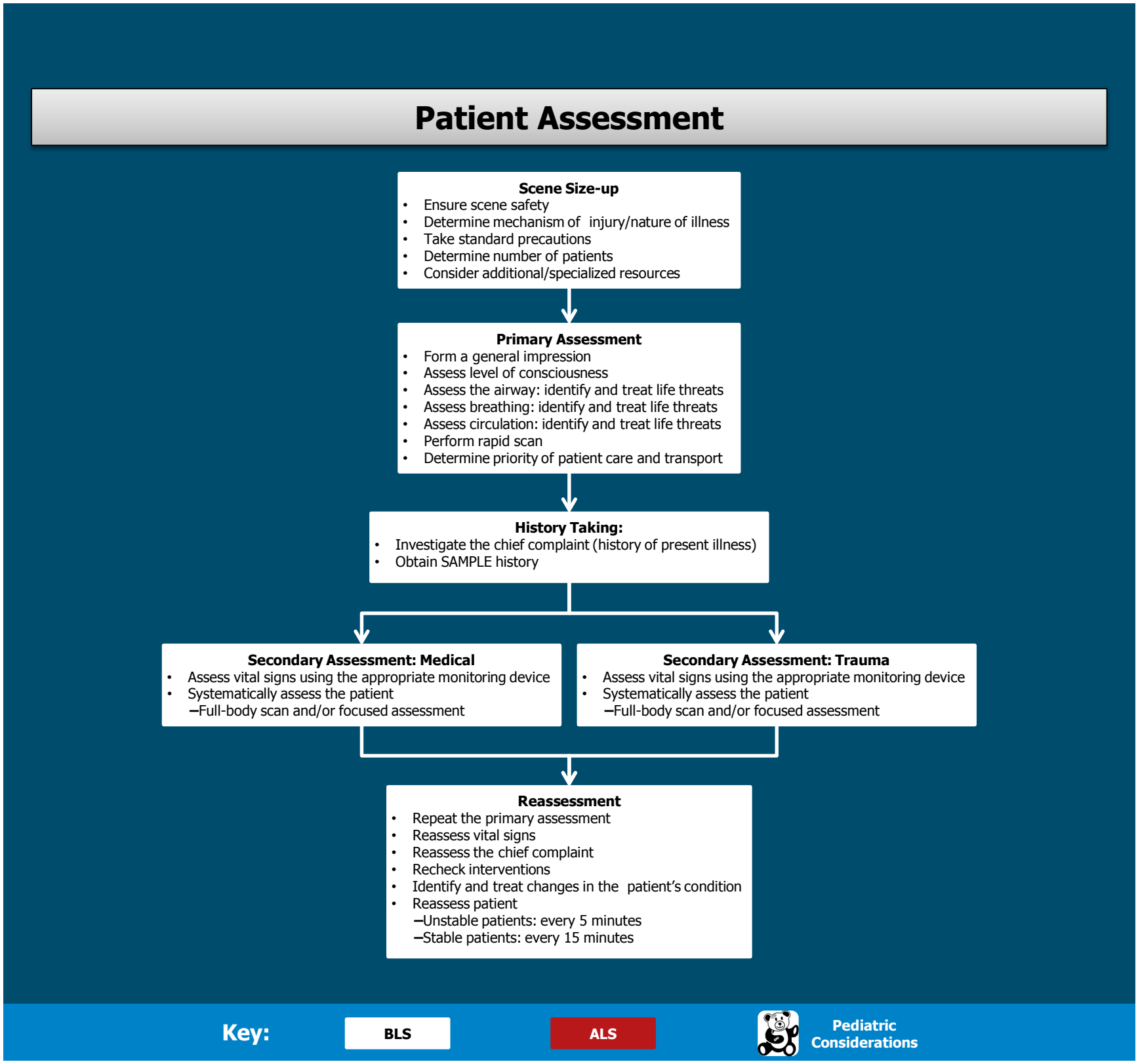
### Patient Assessment

The assessment process is divided into five main parts:

1. Scene size-up
2. Primary assessment
3. History taking
4. Secondary assessment
5. Reassessment

Patient assessment is divided into components to encourage an organized approach, but it needs to be flexible to the patient and to the situation.

A variety of helpful assessment tools may be used throughout the patient assessment process. Some of the more common assessment tools are discussed in this section.



# Glasgow Coma Scale

The Glasgow Coma Scale (GCS) score can be helpful in providing information on patients with changes in mental status. When you are reporting the GCS score,you should document or report each section (i.e., Eyeopening: 3, Verbal response: 4, Motor response: 5 = GCS score of 12) to document baseline function in each area. **Table 1** shows guidelines for determining the GCS.

**Table 1 Glasgow Coma Scale**

| Activity | Score | Adult |
|---|---|---|
| Eye Opening | 4 | Spontaneously |
| | 3 | To Command |
| | 2 | To Pain |
| | 1 | No Response |
| Best verbal response | 5 | Oriented |
| | 4 | Confused |
| | 3 | Inappropriate words |
| | 2 | Incomprehensible |
| | 1 | No Response |
| Best motor response | 6 | Obeys Command |
| | 5 | Localizes pain |
| | 4 | Withdraws from pain |
| | 3 | Flexion (decorticate) |
| | 2 | Extension (decerebrate) |
| | 1 | No response |

**Score 13–15:** May indicate mild dysfunction, although a person with no neurologic disabilities would receive a GCS of 15.
**Score 9–12:** May indicate moderate dysfunction.
**Score 3–8:** Is indicative of severe dysfunction.

## Vital Signs

**Table 2** shows guidelines for adult vital signs.

**Table 2 Vital Signs**

| | Heart Rate (beats/min) | Respirations (breaths/min) | Blood Pressure (systolic mmHg) |
|---|---|---|---|
| Adult | 60–100 | 12–20 | 90–140 |

## OPQRST

The mnemonic OPQRST (see **Table 3**) can be very helpful in the assessment of pain.

**Table 3 OPQRST**

| | |
|---|---|
| **Onset** | When did the problem begin and what caused it? |
| **Provocation or Palliation** | Does anything make it feel better or worse? How are you most comfortable? |
| **Quality** | What is the pain like? Is it sharp, dull, crushing, or tearing? Ask the patient to describe the pain. |
| **Region/Radiation** | Where does it hurt? Does the pain move anywhere? |
| **Severity** | On a scale of 1 to 10, how would you rate your pain? |
| **Timing** | Has the pain been constant, or does it come and go? How long have you had the pain (often answered under "O," onset)? When did the pain start? |

## SAMPLE History

SAMPLE history, a mnemonic used to gather a general past medical or trauma history, assists you in gathering important information from the patient. Use the mnemonic SAMPLE to obtain the following information:

**S**igns and symptoms: What signs and symptoms occurred at the onset of the incident? Does the patient report pain?

**A**llergies: Is the patient allergic to any medication, food, or other substance? What reactions did the patient have to any of them? If the patient has no known allergies, you should note this on the patient care report as "no known allergies" or "NKA."

**M**edications: What medication is the patient prescribed? What dosage is prescribed? How often does the patient take the medication? What prescriptions, over-the-counter medications, or herbal medications has the patient taken in the last 12 hours? This includes medications taken for birth control or erectile dysfunction. How much was taken and when? Does the patient take recreational drugs or drink alcohol?

**P**ertinent past medical history: Does the patient have any history of medical, surgical, or trauma occurrences? Has the patient had a recent illness or injury, fall, or blow to the head? Is there important family history that should be known?

**L**ast oral intake: When did the patient last eat or drink? What did the patient eat or drink, and how much was consumed? Did the patient take any drugs or drink alcohol? Has there been any other oral intake in the last 4 hours?

**E**vents leading up to the injury or illness: What are the key events that led up to this incident? What occurred between the onset of the incident and your arrival? What was the patient doing when this illness started? What was the patient doing when this injury happened?

## DCAP-BTLS

The mnemonic DCAP-BTLS will help remind you what to look for when inspecting and palpating various body regions. Each area of the body is evaluated for the following:

**D**eformities

**C**ontusions

**A**brasions

**P**unctures/Penetrations B Burns

**T**enderness

**L**acerations

**S**welling

## The Wong-Baker FACES Scale

Pain scales using pictures of facial expressions, such as the Wong-Baker FACES Scale, may be helpful in assessing the patient's level of pain.


From Hockenberry MJ,Wilson D,Wikelstein ML.Wong's Essentials of Pediatric Nursing, ed. 7, St. Louis, 2005, p. 1259.Used with permission. Copyright, Mosby.

## PEARRL

The letters PEARRL serve as a useful guide in assessing the pupils. They stand for the following:

**P**upils

**E**qual

**A**nd

**R**ound

**R**egular in size

React to **L**ight

## Revised Trauma Score

Several different trauma scoring systems are available. The one that is the most commonly used for patients with head trauma is the Revised Trauma Score (RTS), because it is heavily weighted to compensate for major head injury without multisystem injury or major physiologic changes.

The RTS is a physiologic scoring system that is also used to assess the severity of a trauma patient's injuries. Objective data used to calculate the RTS includes the Glasgow Coma Scale (GCS) score, systolic blood pressure (SBP), and respiratory rate (RR). In addition to assessing injury severity, the RTS has also demonstrated reliability in predicting survival in patients with severe injuries. The highest RTS a patient can receive is 12; the lowest is 0. The RTS is calculated as shown in **Table 4**.

**Table 4 Revised Trauma Score**

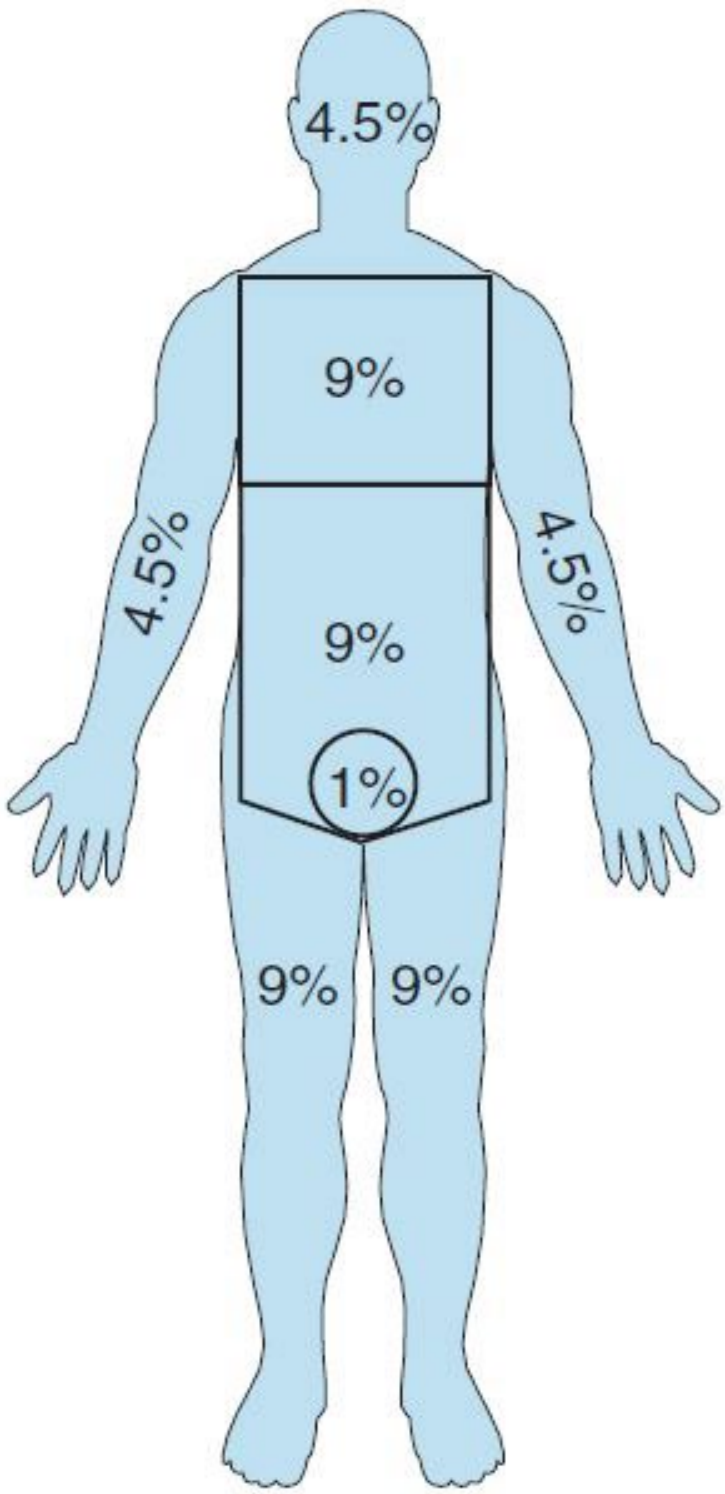
| GCS | SBP | RR | Value |
|---|---|---|---|
| 13–15 | > 89 mmHg | 10–29 breaths/min | 4 |
| 9–12 | 76–89 mmHg | > 29 breaths/min | 3 |
| 6–8 | 50–75 mmHg | 6–9 breaths/min | 2 |
| 4–5 | 1–49 mmHg | 1–5 breaths/min | 1 |
| 3 | 0 | 0 | 0 |

## Burns: Palmar Method

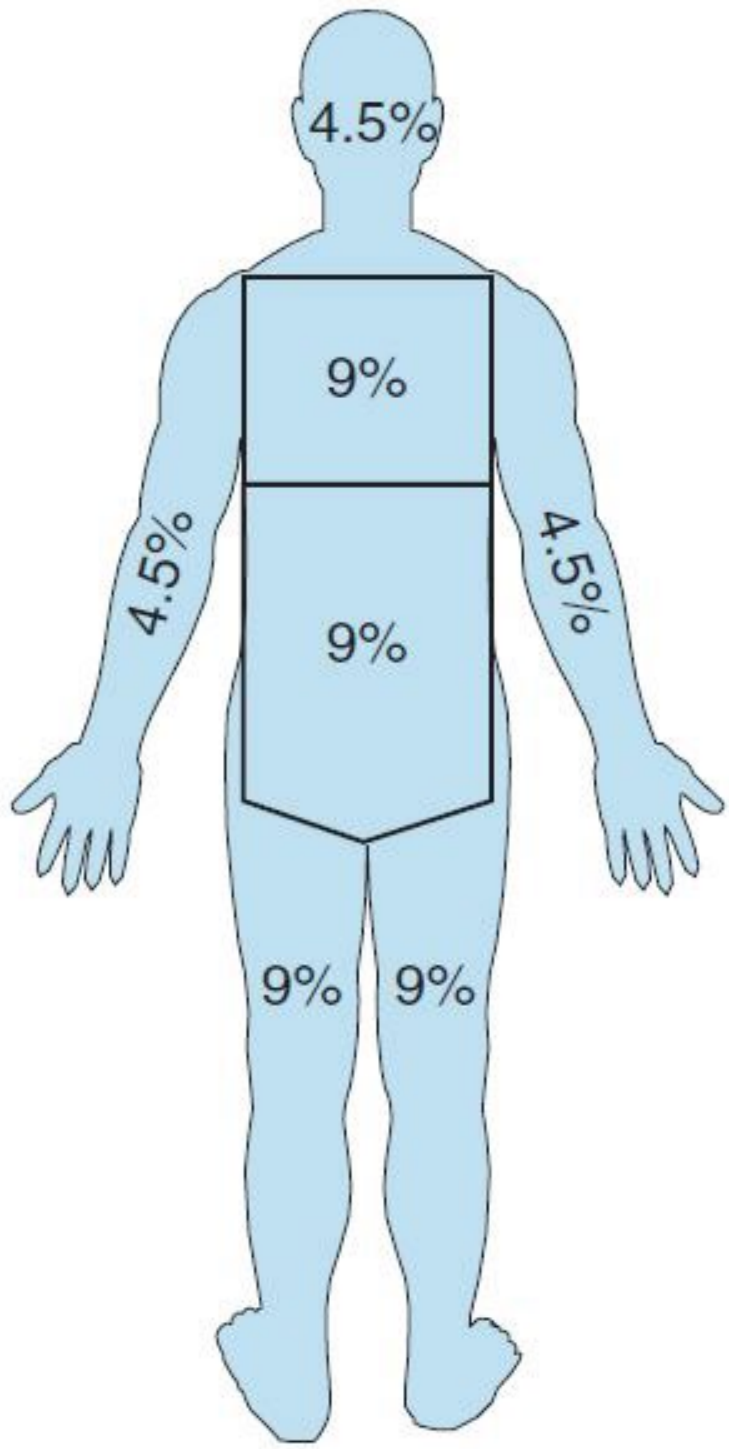
The Palmar Method is a means of assessing the total body surface area (TBSA) burned. This assessment uses the size of the patient's hand (including the fingers) to represent about 1% of the patient's body surface area.

# Burns: The Rule of 9s

The Rule of 9s is another quick way to estimate the amount of body surface area that has been burned on a patient. The Rule of 9s divides the body into sections, each of which is approximately 9% of the total body surface area.




Adult (front)




Adult (back)

# Stroke Assessment

Many EMS services use the Cincinnati Prehospital Stroke Scale (**Table 5**) or the Los Angeles Prehospital Stroke Screen (**Table 6**) to rapidly identify the stroke patient in the field.

## Table 5 Cincinnati Prehospital Stroke Scale

| Test | Normal | Abnormal |
|---|---|---|
| **Facial droop**: Ask patient to show teeth or smile. | Both sides of face move equally well. | One side of face does not move as well as other. |
| **Arm drift**: Ask patient to close eyes and hold both arms out with palms up. | Both arms move the same, or both arms do not move. | One arm does not move, or one arm drifts down compared with the other side. |
| **Speech**: Ask patient to say, "The sky is blue in Cincinnati." | Patient uses correct words with no slurring. | Patient slurs words, uses inappropriate words, or is unable to speak. |

## Table 6 Los Angeles Prehospital Stroke Screen

| Criteria | Yes | Unknown | No |
|---|---|---|---|
| 1.Age > 45 years. | ☐ | ☐ | ☐ |
| 2. History of seizures or epilepsy absent. | ☐ | ☐ | ☐ |
| 3. Symptoms < 24 hours. | ☐ | ☐ | ☐ |
| 4.At baseline, patient is not wheelchair-bound or bedridden. | ☐ | ☐ | ☐ |
| 5. Blood glucose is between 60–400 mg/dL. | ☐ | ☐ | ☐ |
| 6.Obvious asymmetry (right versus left) in any of the following three exam categories (must be unilateral). | ☐ | ☐ | ☐ |

| | Equal | Right Weak | Left Weak |
|---|---|---|---|
| Facial smile/grimace | ☐ | ☐ Droop | ☐ Droop |
| Grip | ☐ | ☐ Weak grip | ☐ Weak grip |
| | | ☐ No grip | ☐ No grip |
| Arm strength | ☐ | ☐ Drifts down | ☐ Drifts down |
| | | ☐ Falls rapidly | ☐ Falls rapidly |

Note: If criteria 1–6 are marked yes, the probability of a stroke is 97%.

# PEDIATRIC ASSESSMENT

## Pediatric Vital Signs

### Pediatric Vital Signs

| | Heart Rate (beats/min) | Respirations (breaths/min) | Blood Pressure (systolic mmHg) |
|---|---|---|---|
| Adolescent (13+ yrs) | 60–100 | 12–16 | > 90 |
| School age (6–12 years) | 70–120 | 18–30 | > 80 |
| Preschool age (3–5 years) | 80–140 | 22–34 | > 75 |
| Toddler (1–3 years) | 90–150 | 24–40 | > 70* |
| Infants (1 month to 1 year) | 100–160 | 30–60 | > 60* |
| Newborn/neonate (0–1 month) | 100–160 | 30–60 | > 60* |

* Infants and children 3 years or younger: evaluate the central pulses instead of measuring blood pressure.

## The Wong-Baker FACES Scale

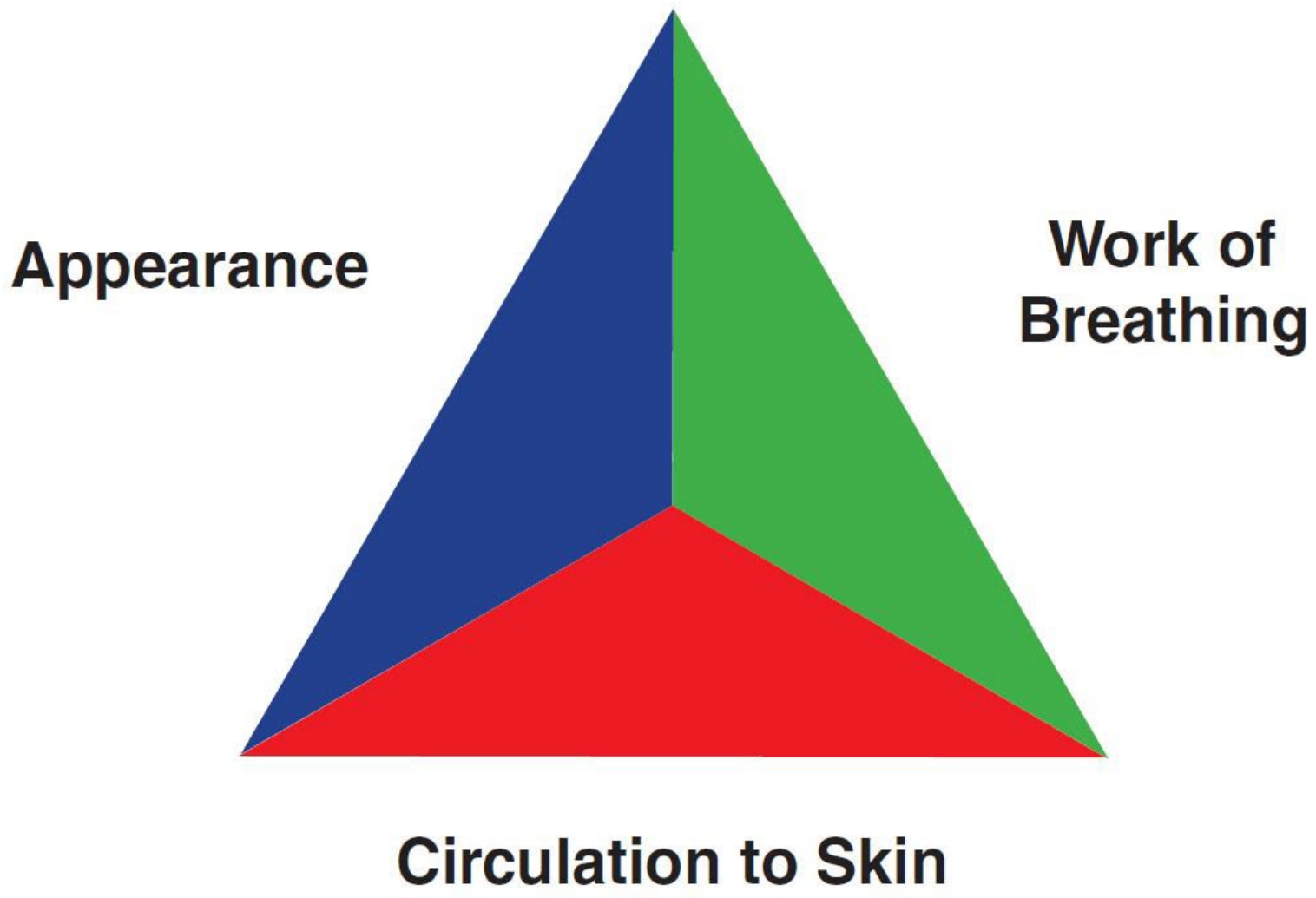
In older children, pain scales using pictures of facial expressions, such as the Wong- Baker FACES Scale, may be helpful in assessing the pediatric patient's level of pain.


From Hockenberry MJ, Wilson D, Wikelstein ML. Wong's Essentials of Pediatric Nursing, ed. 7, St. Louis, 2005, p. 1259. Used with permission. Copyright, Mosby.

# Pediatric Assessment Triangle

The pediatric assessment triangle (PAT) is a structured assessment tool that allows you to rapidly form a general impression of the pediatric patient's condition without touch- ing him or her. It provides a "first glance" assessment to identify the general category of the pediatric patient's physiologic problem and to establish urgency for treatment and/or transport. The PAT is a 15- to 30-second visual assessment of the pediatric patient.

The PAT consists of three elements: appearance (muscle tone and mental status), work of breathing, and circulation to the skin. The only equipment required for the PAT is your own eyes and ears; no stethoscope, blood pressure cuff, cardiac monitor, or pulse oximeter is required.



# Pediatric Glasgow Coma Scale (GCS)

The Pediatric Glasgow Coma Scale (**Table 7**) can be used to assess the pediatric patient's level of consciousness.

## Table 7 Pediatric Glasgow Coma Scale

| Activity | Score | Infant (0–12 mo) | Score | Child (1+ yr) |
|---|---|---|---|---|
| Eye opening | 4 | Spontaneously | 4 | Spontaneously |
| | 3 | To speech | 3 | To command |
| | 2 | To pain | 2 | To pain |
| | 1 | No response | 1 | No response |
| Best verbal response | 5 | Coos, babbles | 5 | Oriented |
| | 4 | Irritable, cries | 4 | Confused |
| | 3 | Cries to pain | 3 | Inappropriate words |
| | 2 | Moans, grunts | 2 | Incomprehensible |
| | 1 | No response | 1 | No response |
| Best motor response | 6 | Spontaneous | 6 | Obeys command |
| | 5 | Localizes pain | 5 | Localizes pain |
| | 4 | Withdraws from pain | 4 | Withdraws from pain |
| | 3 | Flexion (decorticate) | 3 | Flexion (decorticate) |
| | 2 | Extension (decerebrate) | 2 | Extension(decerebrate) |
| | 1 | No response | 1 | No response |

**Score 13–15**: May indicate mild dysfunction, although a person with no neurologic disabilities would receive a GCS of 15.
**Score 9–12:** May indicate moderate dysfunction.
**Score 3–8:** Is indicative of severe dysfunction.

# APGAR Scoring System

The APGAR score is the standard scoring system used to assess the activity status of a newborn at 1-, 5-, and 10-minute intervals after birth. This system assigns a number value (0, 1, or 2) to five areas of activity (**Table 8**).

## Table 8 APGAR Score

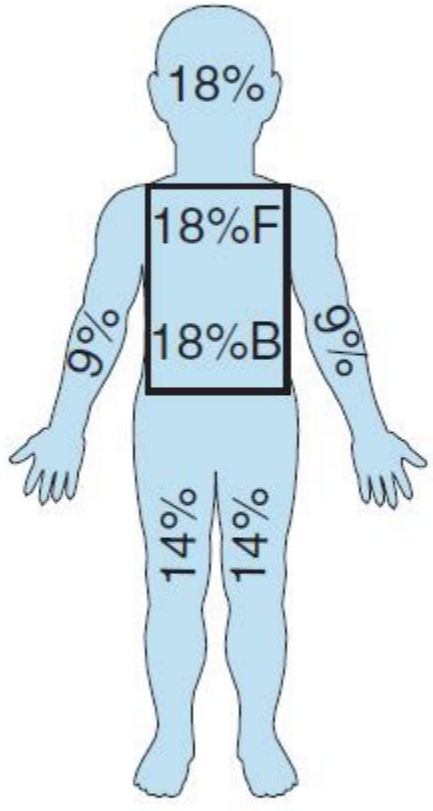
| | Score | | |
|---|---|---|---|
| **Area of Activity** | **2** | **1** | **0** |
| **A**ppearance | Entire infant is pink. | Body is pink, but hands and feet remain blue. | Entire infant is blue or pale. |
| **P**ulse | > 100 beats/min. | < 100 beats/min. | Absent pulse. |
| **G**rimace or irritability | Infant cries and tries to move foot away from finger snapped against sole of foot. | Infant gives a weak cry in response to stimulus. | Infant does not cry or react to stimulus. |
| **A**ctivity or muscle tone | Infant resists attempts to straighten hips and knees. | Infant makes weak attempts to resist straightening. | Infant is completely limp, with no muscle tone. |
| **R**espiration | Rapid respirations. | Slow respirations. | Absent respirations. |

## Pediatric Burns: The Palmar Method

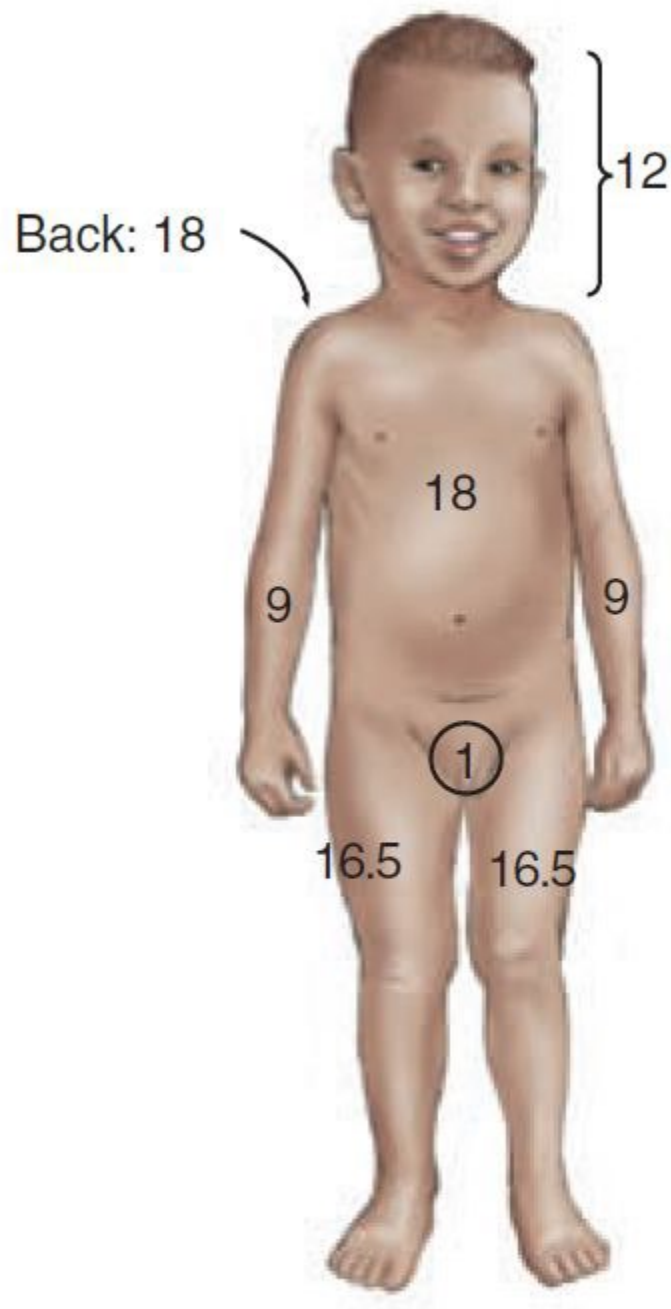
The Palmar Method uses the size of the patient's hand (including the fingers) to repre- sent about 1% of the patient's body surface area.

## Pediatric Burns: The Rule of 9s

The Rule of 9s can also be used during a pediatric assessment to estimate the amount of surface area that has been burned. Burns to children are generally considered more serious than burns to adults. Infants and children have more surface area relative to their total body mass, which means greater fluid and heat loss. Children also do not tolerate burns as well as adults do. Children are more likely to go into shock, develop hypothermia, and experience airway problems. An infant's or child's hand is approximately 1% of its total body area. The adolescent burn chart is the same as the adult burn chart. Refer back to the adult section for those numbers.




Infant




Child

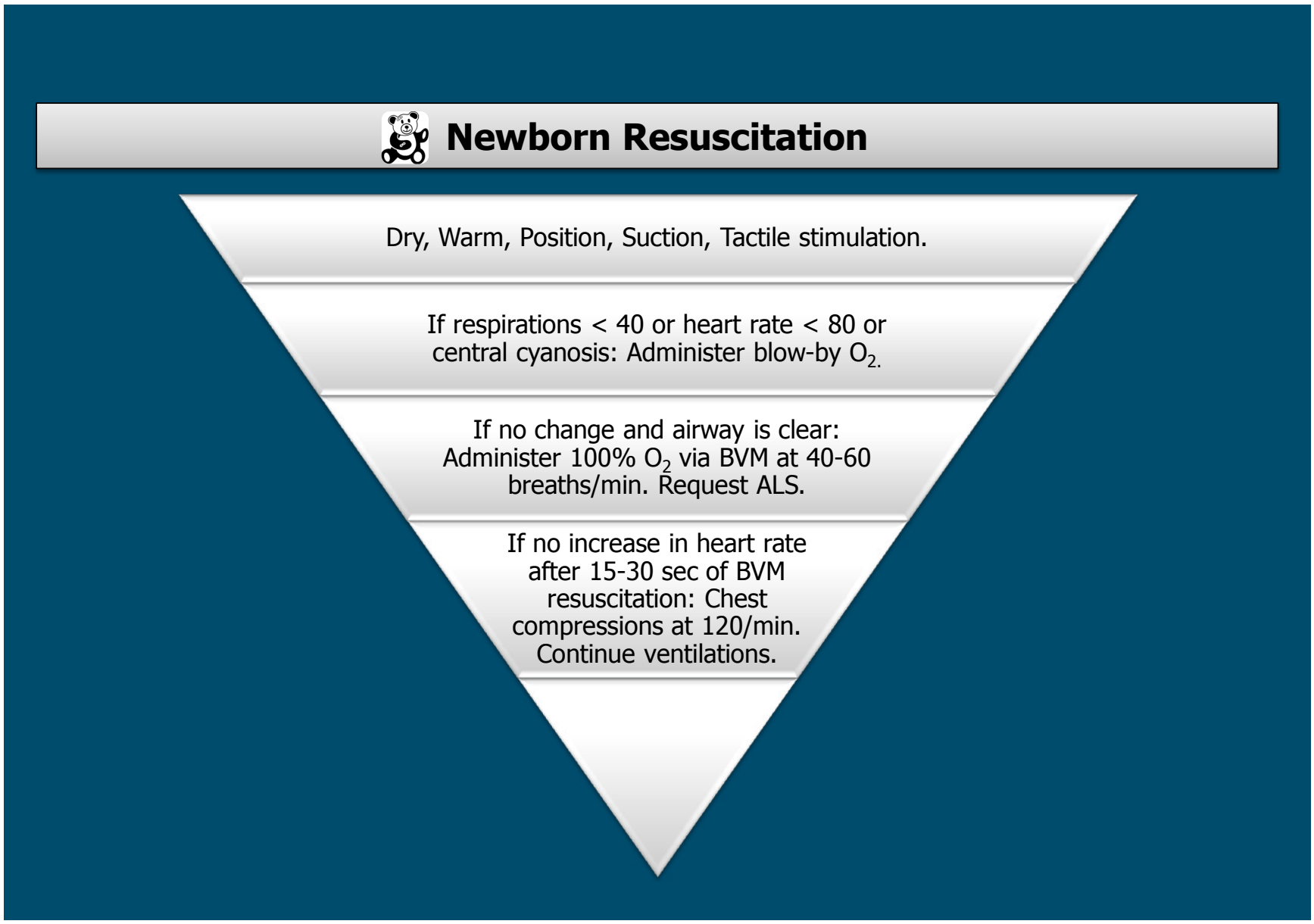
## Equipment Size

The best way to identify the appropriately sized equipment for a pediatric patient is to use the pediatric resuscitation tape measure (e.g., Broselow Tape®), which can determine weight as well as height in pediatric patients weighing up to 75 lbs (34 kg).

### Table 9 Airway, Breathing, Circulation Equipment Sizes

| Age and Weight (kg) | Airway and Breathing | | | | Circulation |
|---|---|---|---|---|---|
| | $O_2$ Mask | Oral Airways | Bag-Valve Mask | Suction | BP Cuff |
| Preemie<br>1–1.5 kg | Preemie<br>Newborn | Infant | Infant | 6–8F | Preemie<br>Newborn |
| Newborn<br>0–6 mos<br>3.5–7.5 kg | Newborn | Infant<br>Small | Infant | 8F | Newborn<br>Infant |
| 6–12 mos<br>7.5 – 10 kg | Pediatric | Small | Pediatric | 8-10F | Infant<br>Child |
| 1–3 yrs<br>10–15 kg | Pediatric | Small | Pediatric | 10F | Child |
| 4–7 yrs<br>17.5–23 kg | Pediatric | Medium | Pediatric | 14F | Child |
| ≥ 8 yrs<br>≥ 25 kg | Adult | Medium<br>Large | Pediatric<br>Adult | 14F | Child<br>Adult |

# Newborn Resuscitation (See "APGAR Scoring System")



# GERIATRIC ASSESSMENT

## The GEMS Diamond


The GEMS diamond was created to help you remember what is different about the older patient. The GEMS diamond is not intended to be a format for the approach to geriatric patients, nor is it intended to replace the ABCs of care. Instead, it serves as an acronym for the issues to be considered when assessing every older patient.

### **G**eriatric Patients

- Present atypically
- Deserve respect
- Experience normal changes with age

### **E**nvironmental Assessment

- Check for hazardous conditions that may be present (eg, poor wiring, rotted floors, unventilated gas heaters, broken window glass, clutter that prevents adequate egress).
- Are smoke detectors present and working? Is carbon monoxide present?
- Is the home too hot or too cold?
- Is there an odor of feces or urine in the home? Is bedding soiled?
- Is food present in the home? Is it adequate and unspoiled?
- Are liquor bottles present? If so, are they lying empty?
- If the patient has a disability, are appropriate assistive devices (eg, ramps, rails, wheelchairs, or walkers) present?
- Does the patient have access to a telephone?
- Are medications out of date or unmarked, or are prescriptions for the same or similar medications from many physicians? Are any of the medications prescribed to other people?
- If living with others, is the patient confined to one part of the home?
- If the patient is residing in a nursing facility, does the care appear to be adequate to meet the patient's needs?

## Medical Assessment

- Older patients tend to have a variety of medical problems, making assessment more complex. Keep this in mind in all cases—both trauma and medical. A trauma patient may have an underlying medical condition that could have caused or may be exacerbated by the injury.
- Obtaining a medical history is important in older patients, regardless of the chief complaint.
- Primary assessment
- Reassessment

## Social Assessment

- Assess activities of daily living (eating, dressing, bathing, toileting).
- Are these activities being provided for the patient? If so, by whom?
- Are there delays in obtaining food, medication, or other necessary items? The patient may complain of this, or the environment may suggest this.
- If in an institutional setting, is the patient able to feed himself or herself? If not, is food still sitting on the food tray? Has the patient been lying in his or her own urine or feces for prolonged periods?
- Does the patient have a social network? Does the patient have a mechanism to interact socially with others on a daily basis?

# COMMUNICATION

## Therapeutic Communication

Therapeutic communication uses various communication techniques and strategies to encourage patients to express how they are feeling and to allow the responder to achieve a positive relationship with the patient.

### Table 1 Factors and Strategies to Consider During Communication

- Age
- Body language
- Clothing
- Culture
- Educational background
- Environment
- Eye Contact
- Facial expression
- Gender
- Posture
- Voice tempo
- Volume

## Verbal Communication

### Table 2 Guidelines for Verbal Communication

- Introduce yourself.
- Ask the patient's name and use it.
- Make and keep eye contact.
- Use language the patient understands.
- Speak slowly, clearly, and distinctly.
- Tell the truth.
- Allow time for the patient to respond.
- Limit the number of people talking with the patient.
- Be aware of body language.
- Act and speak in a calm, confident manner.
- Respect cultural norms.
- Use open- and close-ended questions appropriately.
- Treat all patients as if they were a member of your family.

## Radio Communications

Basic EMS radio communications rely primarily on two-way voice (radio, cell phone, landline) communications for relaying medical information, vehicle dispatch and coordination, and mutual aid among EMS providers and other Public Safety Agencies.  Good operator practice is essential to the effectiveness and efficiency of any public safety communication systems.  It is important for radio users to be aware of the FCC rules that apply to them.  A complete and current version of the applicable FCC rules can be found at the FCC website at http://www.fcc.gov.

### Table 3 Tips for Radio Communication

EMS personnel should follow basic radio guidelines:

- NIMS and ICS describe standardized communications procedures.
- Make sure the radio is on and properly adjusted.
- Listen to the frequency to make sure that there is no traffic before transmitting.

- Think through your message before pushing the transmit button.
- Press the talk switch on the microphone and wait 1 second before speaking.
- Speak clearly and distinctly and at a reasonable pace.
- Use plain English (no jargon or agency-specific terms.)
- Keep the transmission brief and avoid unnecessary phrases like "thank you," or "please."
- Never use profanity.
- Protect patients' privacy.  Do not transmit the name of a patient unless necessary to access the patient and aide in patient care.

## Communicating with Other Health Care Professionals

The easiest way to verbally report your findings is to use the same systematic approach you follow during the patient assessment process. You may have to transfer care of a patient to another professional face to face or you may have to provide an oral report over the radio. The following list contains the essential elements that need to be communicated:

When providing a medical report, identify:

- Unit and level of provider/care.
- Estimated time of arrival (ETA).
- Age and gender of patient.
- History of incident/chief complaint.
- Patient's level of responsiveness.
- How you found the patient.
- Baseline vital signs, airway, breathing and circulation.
- Describe the results of the physical examination.
- Report using the SAMPLE (Signs and symptoms, Allergies, Medications, Pertinent past history, Last oral intake and Events leading to injury or illness) format.
- Interventions/emergency medical care provided and patient's response.

# DOCUMENTATION

## Patient Care Report

The patient care report (PCR), also known as a prehospital care report, is the legal document used to record all aspects of the care your patient received, from initial dispatch to arrival at the hospital. You will most likely use one of two types of forms:

- Traditional written form
- Computerized version of form (ePCR)*

*The ePCR system is available through the NJ Department of Health. For more information visit www.state.nj.us/health/ems.

### Table 1 Sample Components of a Patient Care Report (See "SAMPLE History")

- Patient's name, gender, date of birth, and address
- Dispatched as (when the ambulance was called and the nature of the call as reported by the dispatcher)
- Chief complaint
- Location of the patient when first seen (including specific details, especially if the incident is a motor vehicle crash or when criminal activity is suspected)
- Rescue and treatment given before your arrival
- Signs and symptoms found during your patient assessment
- Care and treatment given by you at the site and during transport
- Vital signs
- SAMPLE history
- Changes in vital signs and conditions
- Date of the call
- Time of the call
- Location of the call
- Time of dispatch
- Time of arrival at the scene
- Time of leaving the scene
- Time of arrival at the hospital
- Patient's insurance information
- Names and/or certification numbers of the EMTs who responded to the call
- Name of the base hospital involved in the call
- Type of call to the scene: emergency or routine

### Table 2 Guidelines for Proper Documentation

- Fill in all boxes completely
- Ensure accuracy of information
- Avoid drawing conclusions
- Present facts based on findings
- Use standard abbreviations only
- Spell words correctly
- Record the time for all findings
- If you accidentally leave out information, create an addendum to the report
- Document refusal of care and have the patient sign the form
- Document medical advice given to the patient
- Document the care you wish to provide
- Draw a single line through an error, initial it, and write the correct information next to the error

# INFECTION CONTROL AND STANDARD PRECAUTIONS

S**tandard precautions are intended to reduce the risk of transmission of bloodborne and other pathogens from both recognized and unrecognized sources.** They are the basic level of infection-control precautions. Standard precautions must be used in the care of all patients.

**Hand hygiene:** Wash hands for 20 seconds with soap and water, especially if visibly soiled. Clean hands with alcohol-based hand rub if not visibly soiled. Wash hands before and after any direct patient contact; between patients; immediately after gloves are removed; before handling an invasive device; after touching blood, body fluids, secretions, excretions, non-intact skin, and contaminated items; during patient care; and when moving from a contaminated to a clean body site on the patient.

**Gloves:** Wear when touching blood, body fluids, secretions, excretions, mucous membranes, and non-intact skin. Change between tasks and procedures on the same patient after contact with potentially infectious material. Remove after use, before touching non-contaminated items or surfaces, and before going to another patient. Perform hand hygiene immediately after removal of gloves.

**Gown:** Wear during procedures when the caregiver's clothing/exposed skin may be exposed to blood, body fluids, secretions, excretions, or contaminated items.

**Mask, eye protection:** Wear during procedures likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.

**Needles and other sharp objects:** Do not recap, bend, break, or hand manipulate used needles. Use needleless vascular access systems when available. Place sharps in puncture-resistant containers.

**Patient care equipment:** Wear gloves if visibly contaminated. Handle equipment in a manner that prevents transfer of microorganisms to others and the environment. Clean, disinfect, and reprocess equipment before use with another patient. Pay special attention to frequently touched surfaces within the ambulance (e.g., handrails, seats, cabinets, doors). Perform hand hygiene.

**Linens:** Transport in a manner that prevents skin and mucous membrane exposure and avoids transfer of microorganisms to others and to the environment.

**Respiratory hygiene/cough etiquette:** Instruct symptomatic patients to cover mouth/nose when sneezing or coughing. Use tissues and dispose of them in no-touch receptacles. Perform hand hygiene after touching tissues. Place a surgical mask on patient. If a mask cannot be used, maintain separation (> 3 feet), if possible.

**Patient resuscitation:** Use mouthpiece, resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions.

Sources: Centers for Disease Control and Prevention 2007. World Health Organization 2006.

## Documentation

- Standard Precautions used
- Personal protective equipment (PPE) used

## Designated Infection Control Officer

The federal Ryan White Law, Subpart II, requires that every emergency response agency have a designated infection control officer (DICO).This individual is charged with ensuring that proper post exposure medical treatment and counseling are provided to the exposed employee/volunteer. Post exposure medical treatment

is offered to prevent the exposed health care provider from contracting the disease to which he or she was exposed. Treatment should be offered within 24 to 48 hours following an exposure, with the actual time frame based on the diagnosis; exposure to bacterial meningitis, for example, would require treatment within 24 hours. The DICO tracks and follows the correct time frames, serves as a liaison between the exposed individual and the medical facility, ensures that confidentiality is maintained, and makes sure that documentation adheres to guidelines. This is important for workers' compensation issues and,in some states, presumption issues.

The communication network for exposure reporting involves three individuals: the exposed EMT/paramedic, the DICO, and the treating physician. If you feel you sustained an exposure, call your DICO directly. It is the DICO's job to make the initial determination as to whether an actual exposure occurred. Each department must have a reporting system that complies with the Ryan White Law and the OSHA-required Exposure Control Plan.

# PATIENT CONFIDENTIALITY AND HIPPA

- Communication between you and the patient is confidential and generally cannot be disclosed without the patient's permission or a court order.
- The Health Insurance Portability and Accountability Act (HIPAA) considers all patient information that you obtain in the course of providing medical treatment to be protected health information (PHI).This includes all medical information, treatment provided, and any information that could be used to identify the patient.
- It is not acceptable for EMS patient care reports to sit in a public area or to be easily accessible. "War stories" told by medics may subject them to liability.

**Patient information shall only be disclosed or released:**

- If the patient, guardian, executor, or other legally authorized person has requested in writing that the information be released to a specific person, entity, or company.
- In compliance with a subpoena, judicial order, or applicable law, rule, and/or regulation.
- To process a claim for insurance, including Medicare or Medicaid, if authorized by the patient, guardian, executor, or other legally authorized person.
- To department staff in the performance of their duties and/or while conducting an inspection, audit, and/or investigation.
- To affect the transfer of the patient to another health care professional receiving the patient.

## Documentation

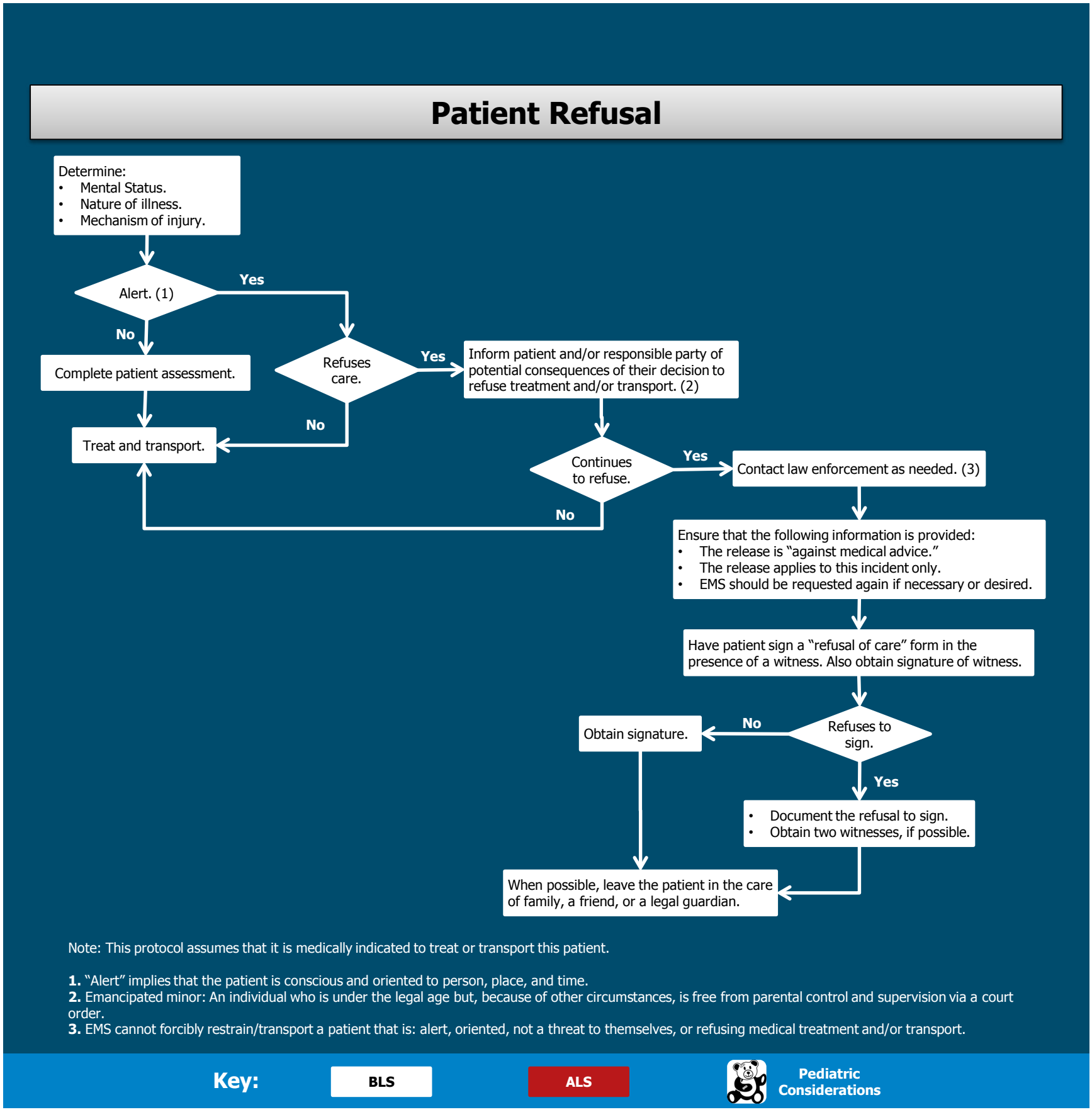
- Patient consent to treatment and transport.

# SOCIAL MEDIA TIPS (E.G., FACEBOOK, TWITTER)

1. Don't post inappropriate pictures or images, including any patient/provider identifiers.
2. Don't complain about your job, supervisors, or co-workers in a public forum.
3. Don't post inappropriate "statuses."
4. Be particular about your friends and associations.
5. Check your privacy and security settings and know their rules.
6. Consider establishing a "professional" profile page.
7. Don't use social networking while engaged in patient care or work activities.
8. Don't misrepresent yourself or others.
9. Be who you are.
10. Respect copyright and fair use laws.

Adapted from FireRescue1 News, Don't Get Fired for Facebook: 10 Ways to Use Social Media Safely, by Steve Wirth and Doug Wolfberg, July 28, 2010, http://www.firerescue1.com/print.asp?act=print&vid=859991.

# PATIENT REFUSAL



# REQUESTING AN AIR MEDICAL UNIT (AMU)

## Considerations

Patients can be transported by ground or air. The goal is to get the patient to the emergency department safely in the least possible amount of time. Consider air transport if any one of the following situations are present:

**Table 1 Guidelines to Request an On-scene Helicopter**

| Environmental Factors | Indicators of Severe Anatomic or Physiologic Compromise |
|---|---|
| The time needed to transport a patient by ground to an appropriate facility poses a threat to the patient's survival and recovery. | Unconsciousness or decreasing level of consciousness. |
| Weather, road, and traffic conditions would seriously delay the patient's access to Advanced Life Support (ALS). | Systolic blood pressure less than 90 mmHg (adult trauma only). |
| Critical care personnel and equipment are needed to adequately care for the patient during transport. | Respiratory rate less than 10 per minute or greater than 30 per minute (adult trauma only). |
| Falls of **20 feet or more**. | Glasgow Coma Scale score less than 10. |
| Motor vehicle crashes (MVC) of **20 mph or more** without restraints. | Compromised airway. |
| Rearward displacement of front of car **by 20 inches**. | Penetrating injury to chest, abdomen, head, neck, or groin. |
| Rearward displacement of front axle. | Two or more femur or humerus fractures. |
| Passenger compartment intrusion, including roof, **>12 inches occupant site, > 18 inches any site.** | Flail chest. |
| Ejection of patient from vehicle. | Amputation proximal to wrist or ankle. |
| Rollover. | Paralysis or spinal cord injury. |
| Deformity of a contact point (steering wheel, windshield, dashboard). | Severe burns. |
| Death of occupant in the same vehicle. | |
| Pedestrian struck at **20 mph or more.** | |

## Accessing the Air Medical Unit

The AMU is accessed through the New Jersey Regional Emergency Medical Communications System (REMCS) by calling **1-800-332-4356**. REMCS dispatches all air medical emergency services for all municipalities.

**If your patient needs air transport, CALL FOR AN AMU NO MATTER WHAT TIME IT IS OR WHAT THE WEATHER CONDITIONS ARE!**

## Documentation

- Time of request
- Communication with REMCS

# REQUESTING SIMULTANEOUS ALS/BLS

## New Jersey 9-1-1 Dispatch

Emergency Medical Dispatchers will initiate either BLS dispatch or simultaneous ALS/BLS dispatch based on "State of New Jersey Emergency Medical Dispatch Guidecards." Criteria for ALS dispatch include, but are not limited to:

- Unconscious/not breathing normally
- Decreased level of consciousness
- Uncontrolled bleeding, after attempts to control bleeding
- Vomiting blood or coffee-grounds material
- Burns over 20% of body surface area
- Burns to nose, airway, mouth
- Electrical burns/electrocution from 220 volts or greater
- Serious neck or face bites from animal bites
- Upper abdominal pain with prior history of heart problem
- Fainting/near fainting when sitting
- Femur fracture
- Multiple casualty incidents
- Unusual behavior/acting strange
- Chest pain
- Stroke

# SECTION 2: MEDICAL

## ABDOMINAL PAIN, NAUSEA, AND/OR VOMITING

### Considerations

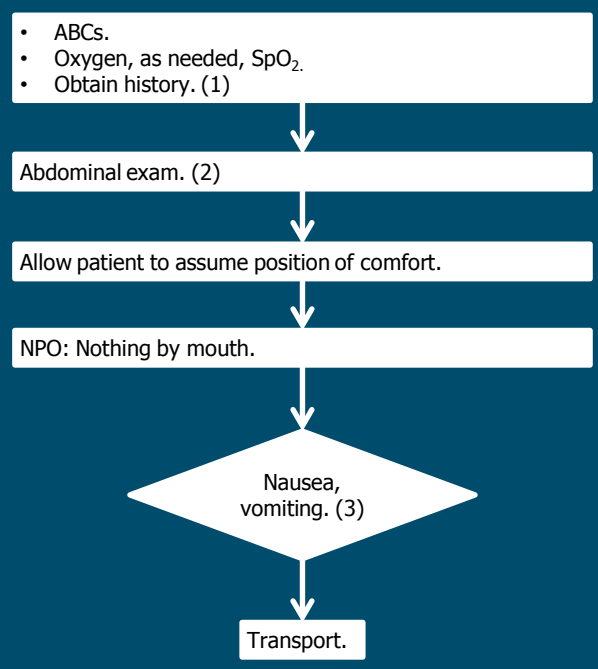
- Allow patient to assume a position of comfort.
- Patient should not take anything by mouth.
- Abdominal pain may be cardiac in origin, especially in older women.

### Assessment - Abdominal Pain, Nausea, and/or Vomiting

- Airway, breathing, circulation.
- Administer oxygen, as needed.
- Obtain history.
- Look for medical alert tags, signs of overdose, and trauma.
- Ask the following:
  - Have there been previous episodes?
  - When was the patient's last meal?
  - What are the patient's current medications?
  - If female, when was the patient's last menstrual period?
  - Is it possible that the patient is pregnant?
- Abdominal exam: Note pain (nature, duration, intensity, radiation on 1–10 scale). Note associated signs and symptoms (nausea, vomiting, bowel tones, guarding, rebound tenderness, distention).

# Treatment - Abdominal Pain, Nausea, and/or Vomiting

## Abdominal Pain, Nausea, and/or Vomiting




1. Ischemic cardiac pain can present as abdominal pain, especially in older female patients.
2. Note pain (nature, duration, intensity, radiation on 1–10 scale). Auscultate prior to palpation. Observe for palpable mass; avoid palpation if you suspect an abdominal mass. Note associated signs and symptoms (nausea, vomiting, bowel tones, guarding, rebound tenderness, distention).
3. Consider ALS for severe nausea/vomiting. ALS may administer Ondansetron hydrochloride (Zofran) 4 mg IV over 2 minutes. May repeat in 10 minutes if symptoms not resolved. Ondansetron hydrochloride (Zofran) should be used with caution in patients with impaired liver function. Ondansetron hydrochloride (Zofran) does not prevent motion sickness and is not recommended for children younger than 12 years.

**Key:** BLS | ALS | Pediatric Considerations

## Documentation

- Signs and Symptoms
- Cardiac rhythm, if obtained
- Nature, intensity, and duration of pain
- Vital signs
- Oxygen saturation (SpO2)
- Treatment
- Response to treatment

# ABUSE AND NEGLECT

## Considerations

Abuse takes many forms, and some people suffer from more than one kind of abuse.

- Abuse is the physical, sexual, or emotional harm or risk of harm to another, such as a child, elder, or spouse.
  - Child abuse is the physical, sexual, or emotional harm or risk of harm to a child under the age of 18.

  - Neglect occurs when a parent or caregiver fails to provide proper supervision or adequate food, clothing, shelter, education, or medical care although financially able or assisted to do so.

## Physical Abuse

**Physical signs:** Bruises, welts, cuts, scars, broken bones, burns, other injuries, often in various stages of healing.

**Behavioral signs:** Wears clothing inappropriate for weather to hide injuries, appears withdrawn or depressed, afraid or reluctant to go home, will shy away from physical contact, may be aggressive.

## Sexual Abuse

**Physical signs:** Torn, stained, or bloody underwear; trouble walking or standing; pain, itching, bruises, or bleeding in the genital area; a sexually transmitted disease.

**Behavioral signs:** Has an unusual knowledge of sex or acts seductively, fear of a particular person, withdrawal or depression, sudden weight gain or loss, shies away from physical contact, runs away from home.

## Emotional Abuse

**Physical signs:** Speech disorders, slow physical development.

**Behavioral signs:** Acts too mature or too childish for his or her age, has difficulty making and/or keeping friends, extreme behavioral changes.

## Neglect

**Physical signs:** Poor hygiene, slow physical development, or may appear underweight; unattended medical needs; little or no supervision at home.

**Behavioral signs:** Arrives at school or work very early or late or misses school or work often, frequently tired or hungry, steals food, dresses inappropriately for the weather.

### If You Suspect Abuse

- Watch for signs
- Be approachable
- Evaluate the situation
- Report it

### If Someone Tells You About Abuse

- Be a good listener
- Be supportive
- Don’t overreact
- Write it down and report it

# Reporting Abuse or Neglect

## Children

If you suspect child abuse,or a child tells you about abuse,don't delay. You must report it! Everyone in New Jersey is required to report suspected abuse. To make a report,call the NJ Division of Youth and Family Services' toll-free Child Abuse Hotline  24 hours a day, 7 days a week: 1-877-NJ-ABUSE (1-877-652-2873) TTY 1-800-835-5510.

## Adults

If you or someone you know is 18 years of age or older; living in the community; and is subject to abuse, neglect, and/or exploitation; a county Adult Protective Services (APS) program may be the place to turn! There is an APS program in each of the 21 counties that is monitored and evaluated by state staff. Complainants may be clients, caregivers, family members, agencies, or any interested or involved individuals. Calls may be made to the particular county APS office or to the Public Awareness, Information, Assistance, and Outreach Unit at 1-800-792-8820.

## Elders

The Office of the Ombudsman for the Institutionalized Elderly investigates and responds to complaints of abuse, neglect, and exploitation of individuals 60 years of age and older who reside in licensed facilities within New Jersey, both public and private. To make a report, call 1-877-582-6995.

**County Adult Protective Services (APS) Offices**

**Atlantic**

Atlantic County Division of Intergenerational Services Phone: 1-888-426-9243

**Bergen**

Bergen County Board of Social Services
Phone: 201-368-4300
After hours: 1-800-624-0275

**Burlington**

Burlington County Board of Social Services
Phone: 609-261-1000
After hours: 1-866-234-5006 or 856-234-8888

**Camden**

Camden County Board of Social Services
Phone: 856-225-8178

**Cape May**

Cape May County Board of Social Services
Phone: 609-886-6200

**Cumberland**

Cumberland County Office on Aging and Disabled
Phone: 856-453-2223

**Essex**

FOCUS, Hispanic Center for Community Dev., Inc.
Phone: 973-624-2528 Ext. 134 or 1-866-90-FOCUS

**Monmouth**

Family and Children Services of Monmouth County Phone: 732-531-9191
After hours: 732-531-9191

**Morris**

Morris County Aging, Disabilities and Veterans
Phone: 973-326-7282
After hours: 973-285-2900

**Ocean**

Ocean County Board of Social Services
Phone: 732-349-1500
After hours: 732-240-6100

**Passaic**

Passaic County Board of Social Services
Phone: 973-881-0100
After hours: 973-345-2676

**Gloucester**

Gloucester County Board of Social Services
Phone: 856-582-9200 or 856-256-2209

**Hudson**

Hudson County Protective Services, Inc.
Phone: 201-537-5631

**Hunterdon**

Hunterdon County Department of Human Services Phone: 908-788-1253
After hours: 908-782-HELP or 908-735-HELP

**Mercer**

Mercer County Board of Social Services
Phone: 609-989-4346 or 609-989-4347

**Middlesex**

Middlesex County Board of Social Services
Phone: 732-745-3635

**Salem**

Salem County Office on Aging
Phone: 856-935-7510 Ext. 8622 or 856-339-8622

**Somerset**

Somerset County Board of Social Services
Phone: 908-526-8800

After hours: 1-800-287-3607

**Sussex**

Sussex County Division of Social Services
Phone: 973-383-3600 Ext. 5170
After hours: 1-800-446-6963

**Union**

Catholic Charities of the Archdiocese of Newark
Phone: 908-497-3902

**Warren**

Warren County Division of Senior Services
Phone: 908-475-6591

## What to Report

Report the person's name, age, and address. Report the name of the suspected abuser and his or her relationship with the person. Report the type of abuse suspected, any knowledge of past abuse, whether there are witnesses, and your relationship to the per- son. If you do not have all this information, it is still your responsibility to make a report.

## Documentation

- Physical and/or behavioral signs observed by you or described by you
- Environment
- Comments made by person, parents, or caregiver that may suggest abuse or neglect
- Time of contact with person, parents, or caregivers
- Time abuse hotline was contacted

# ALLERGIC REACTIONS AND ANAPHYLAXIS

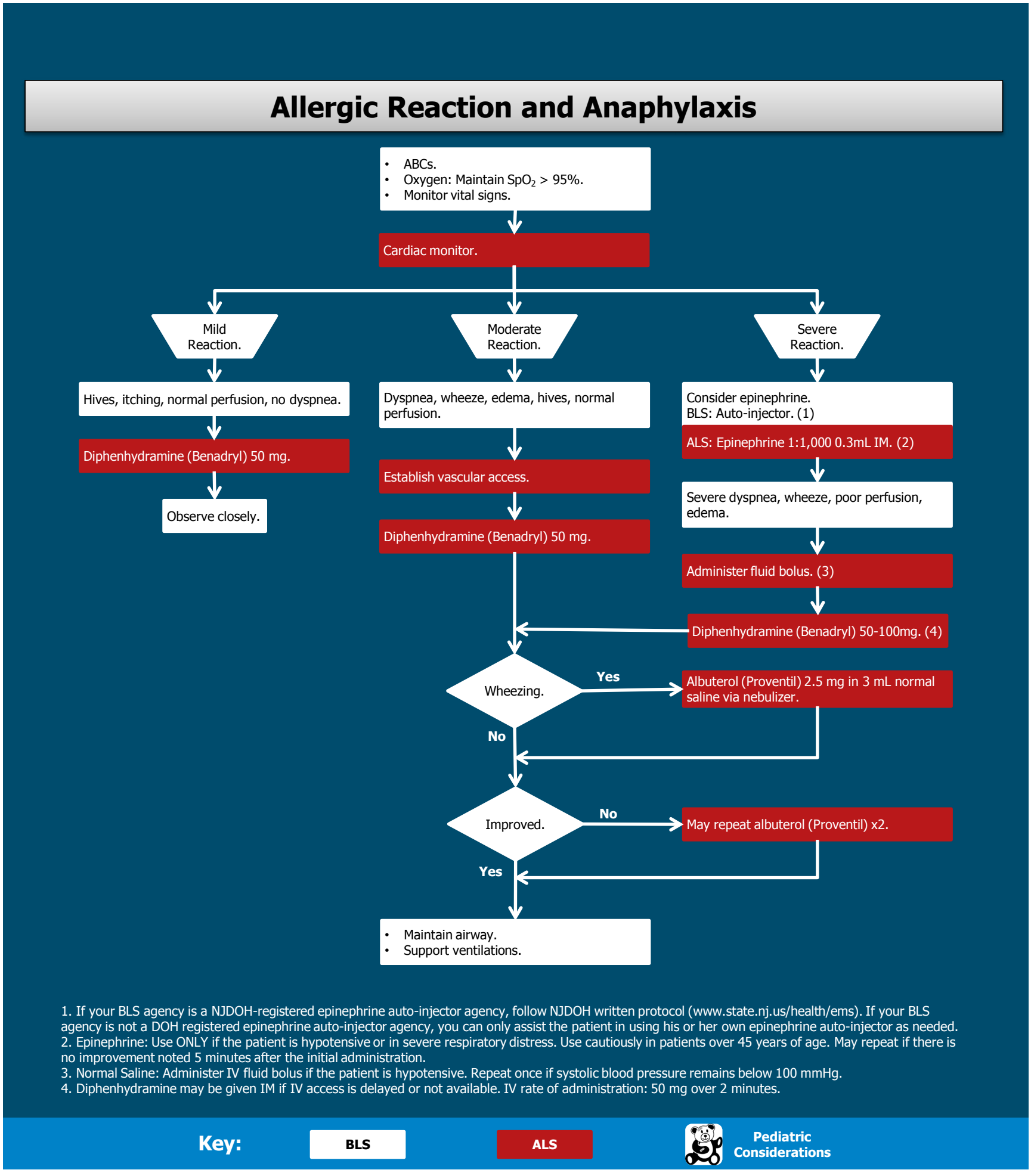
## Considerations

The treatment flowchart protocol is intended to be used in the event that an adult patient presents with signs of generalized allergic findings, such as urticaria, with signs of acute significant respiratory distress and/or profound hypotension (systolic blood pressure ≤ 80 mm Hg and/or heart rate > 120 beats/min [adult], > 140 beats/min [1–11 years], > 180 beats/min [less than 1 year]) and clinical evidence of shock; altered mental status; cool, clammy, or mottled skin; and/or delayed capillary refill. Pediatric patients can easily become cold (vasodilatation) during/after an allergic reaction. Maintain normal body temperature.

## Assessment - Allergic Reactions and Anaphylaxis

- Airway, breathing, circulation.
- Administer oxygen, 12–15 L/min via NRB.
- BLS to request ALS.
- Transport ASAP.

# Treatment - Allergic Reactions and Anaphylaxis



# Pediatric Considerations - Allergic Reactions and Anaphylaxis

**BLS**

- If under age 4, consider pediatric epinephrine auto-injector.
- Consider medical command.

**ALS**

- Epinephrine: 1:1,000: 0.01 mg/kg (0.01 mL/kg) IM (max 0.3 mg).
- Albuterol (Proventil): 2.5 mg in 3 mL NS via nebulizer, if wheezing is present.
- Establish vascular access.
- If hypotensive, administer IV NS 20 mL/kg.
- If no improvement, administer diphenhydramine hydrochloride (Benadryl) 1 mg/kg IV/IO to a maximum of 50 mg slowly (over 2 minutes).
- Contact medical command.

## Documentation

- Respiratory effort/quality
- Glasgow Coma Scale (GCS) Score
- Skin Color
- Capillary refill
- Response to treatment

# ALTERED MENTAL STATUS

## Considerations

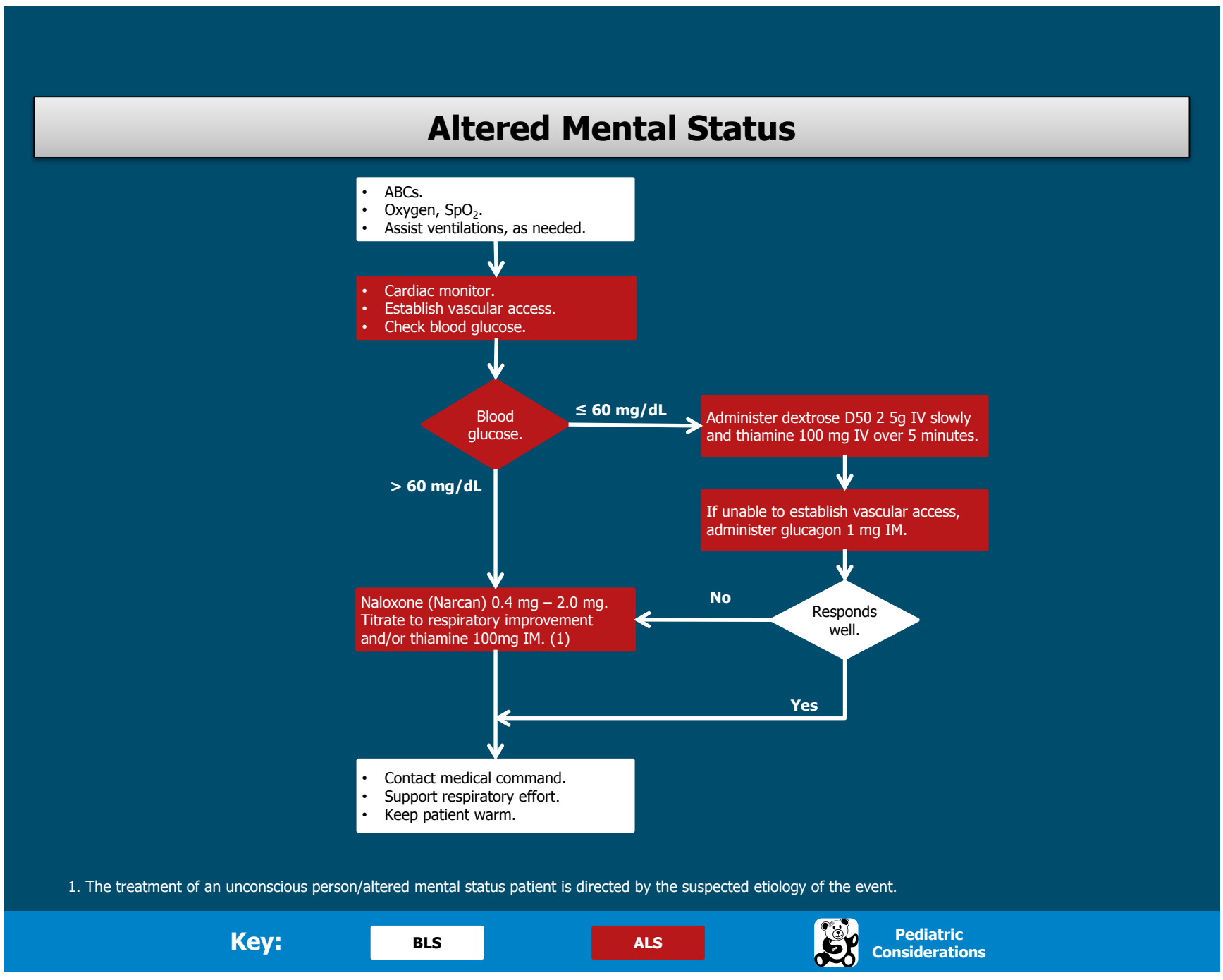
Possible causes: Head injury, diabetes, overdose, cardiac or respiratory arrest, arrhythmias, seizure, hypertension, hypotension, stoke.

- Consider *Stroke and Cerebrovascular Accidents* protocol.
- Consider *Diabetic Emergencies* protocol.

## Assessment - Altered Mental Status

- Airway, breathing, circulation.
- Administer Oxygen.
- Assist ventilations via bag-valve mask (BVM), as needed.
- BLS to request ALS.
- Transport ASAP.
- Look for medical alert tags, signs of overdose, trauma. Bring medication bottles to ED.
- Keep patient warm.

## Treatment - Altered Mental Status



# Pediatric Considerations - Altered Mental Status

**ALS**

- Dextrose: Patients younger than 1 month, administer dextrose 10% solution, D10, 0.5 g/kg slow IV/IO; patients 1 month or older,  administer dextrose 25% solution, D25, 0.5 g/kg slow IV/IO.
- If unable to establish vascular access,  administer glucagon 0.1 mg/kg IM, to a maximum of 1 mg. (1 mg = 1 mL = 1 unit).
- If there is no change in the patient's mental status and there are signs of possible opioid toxicity, administer naloxone hydrochloride (Narcan) 0.2 mg.
- If no responses, administer naloxone hydrochloride (Narcan) 0.1 mg/kg to a maximum of 2 mg.
- If there is a history of dehydration, and vascular access has been established administer fluid bolus NS 20 mL/kg.
- Contact medical command.

## Documentation

- Glasgow Coma Scale (GCS) Score
- Clinical response to medications
- Blood glucose level
- Oxygen saturation (SpO2)
- Total IV fluids
- Medical history
- Vital signs
- Cardiac rhythm

# BEHAVIORAL EMERGENCIES AND PSYCHIATRIC DISORDERS

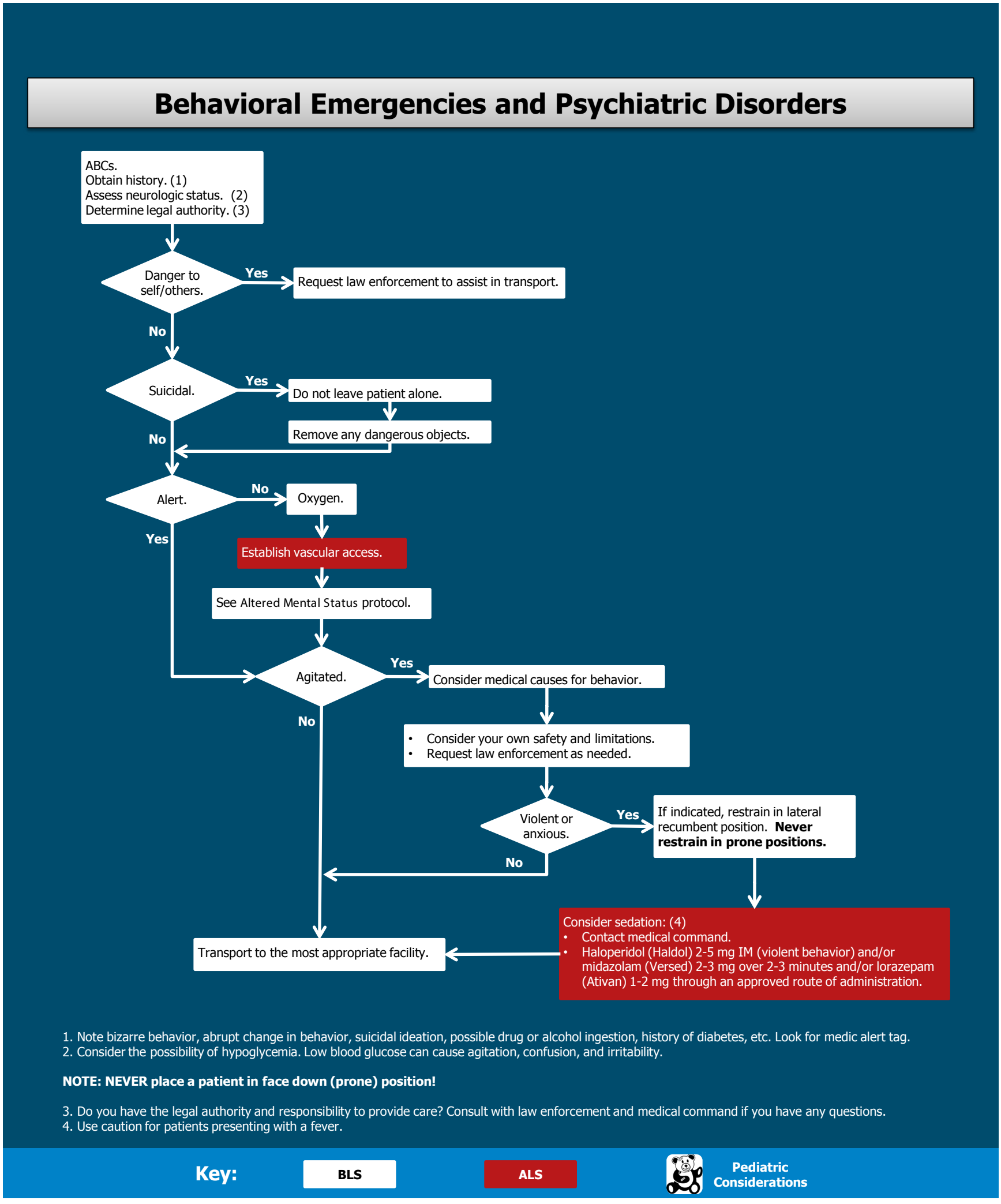
## Considerations

- Ensure your personal safety.
- Request law enforcement, as needed.
- Approach the patient only when it is safe to do so. Speak in an even, reassuring manner.

## Assessment - Behavioral Emergencies and Psychiatric Disorders

- Airway, breathing, circulation.
- Administer oxygen, as needed.
- Obtain history (consider possibility of hypoglycemia).
- Look for medic alert tags.
- Is the patient a danger to self or others? Request that law enforcement assist with transport.
- Is the patient suicidal? Do not leave patient  alone. Remove any dangerous objects.
- Is the patient alert? If not alert, provide oxygen. See Altered Mental Status protocol.
- Is the patient agitated? Consider your own safety and request law enforcement assistance, as needed.
- Is the patient violent? Restrain in lateral recumbent position or supine.
- Transport to the most appropriate facility.

# Treatment - Behavioral Emergencies and Psychiatric Disorders



## Documentation

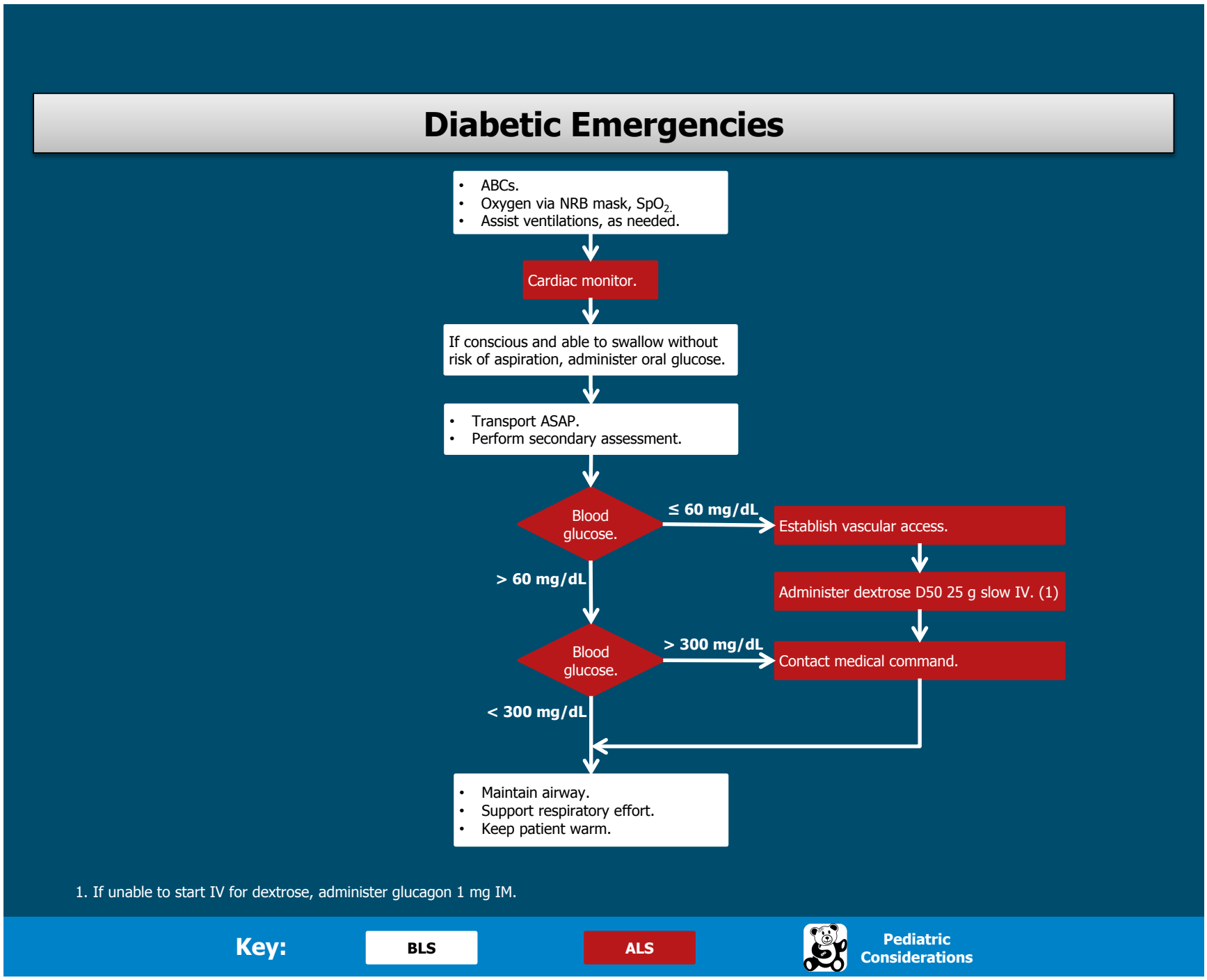
- Behavior
- Speech patterns
- Suicidal ideation
- Glascow Coma Scale (GCS) score
- Level of cooperation
- Skin color
- Medical history
- Current medications
- Communication with law enforcement
- Contact with medical command or other authorities

# DIABETIC EMERGENCIES

## Assessment - Diabetic Emergencies

- Form a general impression.
- Airway, breathing, circulation.
- Administer Oxygen via  nonrebreathing mask, as needed; assist ventilations, as needed.
- Perform physical examination.
- Keep patient warm.
- Transport.
- BLS to consider ALS.

## Treatment - Diabetic Emergencies



# Pediatric Considerations - Diabetic Emergencies

**ALS**

Dextrose: Patients younger than 1 month, administer dextrose 10% solution D10, 0.5 g/kg slow IV/IO; patients 1 month or older administer dextrose 25% solution D25, 0.5 g/kg slow IV/IO.

If unable to establish vascular access for dextrose, may give children older than 8 years glucagon 0.1 mg/kg up to 1 mg IM.

## Documentation

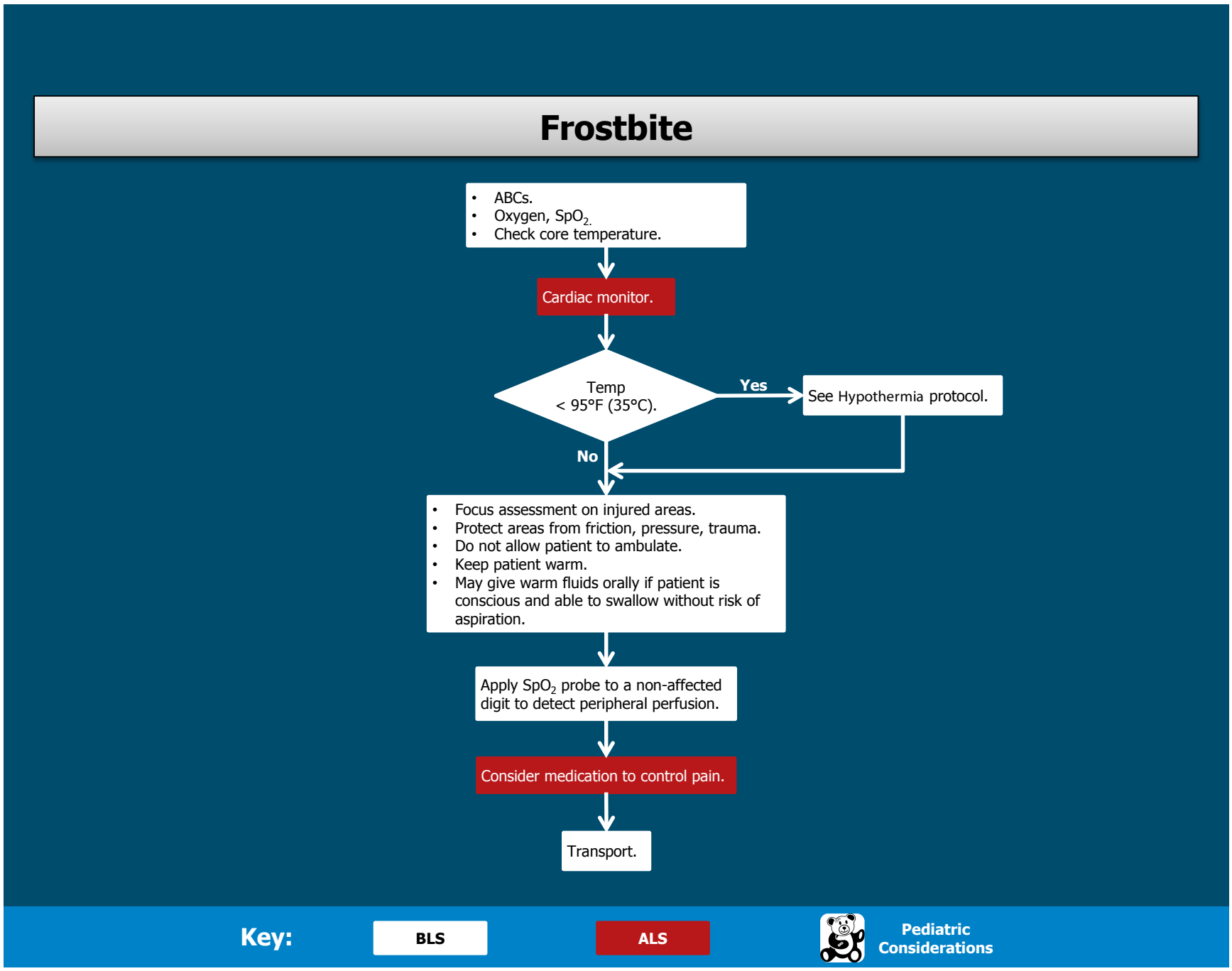
- Respiratory effort
- Oxygen saturation (SpO2)
- Blood glucose level
- IV fluid totals
- Response to dextrose
- Skin color
- Glasgow Coma Scale (GCS) score
- Cardiac rhythm

# FROSTBITE

## Assessment - Frostbite

- Airway, breathing, circulation.
- Administer Oxygen.
- Check core temperature. If the patient’s temperature is < 95°F (35°C), see the
- Hypothermia  protocol.
- Protect affected area from friction, pressure, and trauma.
- Do not allow the patient to ambulate.
- Keep the patient warm.
- Provide warm fluids orally if the patient’s gag reflex is intact.
- Apply oxygen saturation (SpO2) probe to detect peripheral perfusion.
- Transport.

# Treatment - Frostbite




## Documentation

- Signs and symptoms
- Oxygen saturation (SpO2)
- Glasgow Coma Scale (GCS) score
- Cardiac rhythm
- Core temperature
- Mechanism of injury/exposure
- Treatment
- Response to treatment

# HYPOPERFUSION: NONTRAUMATIC SHOCK

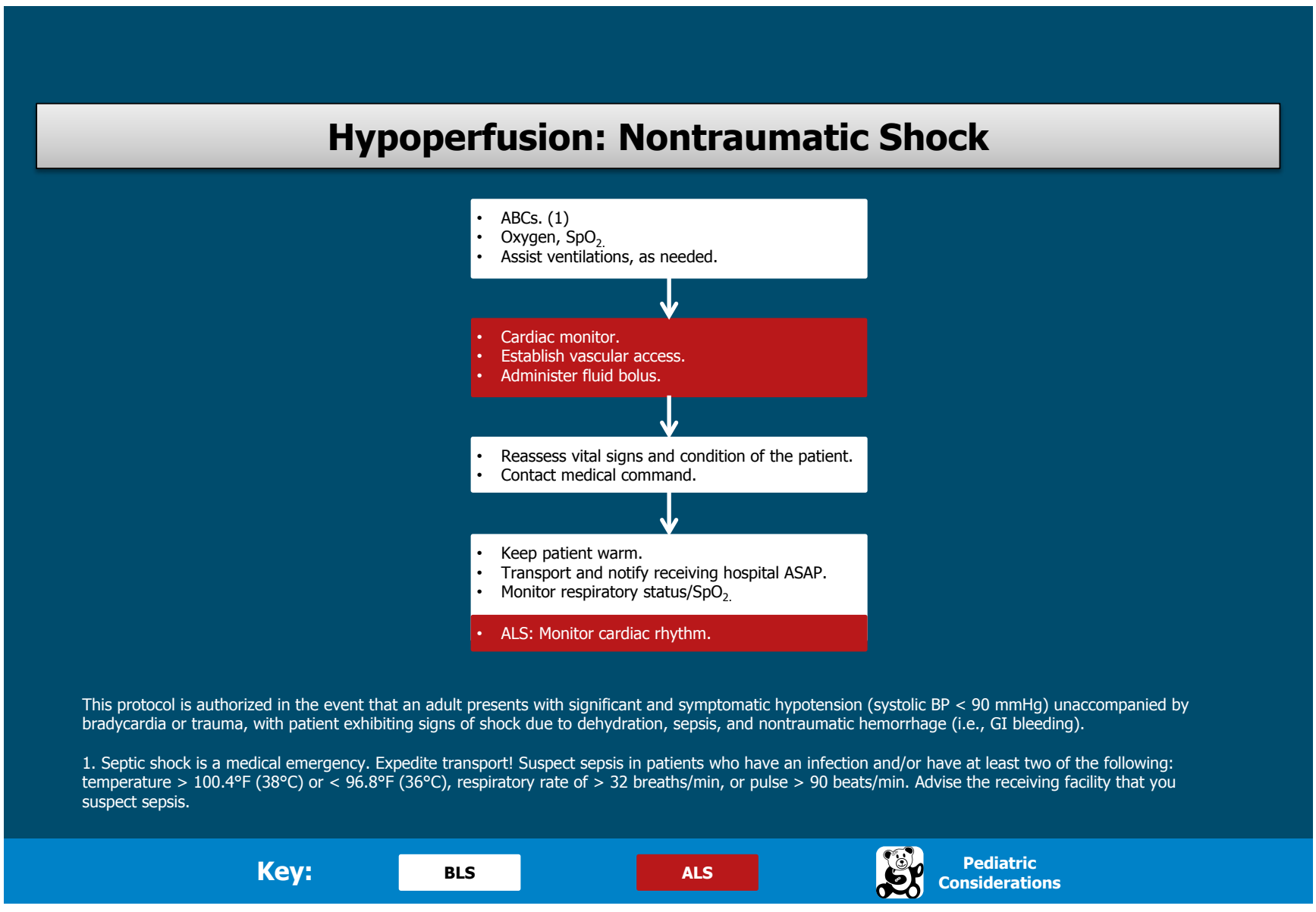
## Considerations (Adult Patient)

- Signs and symptoms of shock include a pulse > 120 beats/min, systolic blood pressure < 90 mm Hg, delayed capillary refill, confusion, restlessness, apathy, postural hypotension/syncope, cool/moist skin.

## Assessment - Hypoperfusion: Nontraumatic Shock

- Airway, breathing, circulation.
- Administer Oxygen. Assist ventilations, as needed.
- Transport  ASAP.
- BLS to consider ALS (IV fluids, advanced airway).
- Calculate Glasgow Coma Scale (GCS) score.

## Treatment - Hypoperfusion: Nontraumatic Shock



# Pediatric Considerations - Hypoperfusion: Nontraumatic Shock

**BLS**

- Maintain normal body temperature.
- Contact medical command.

**ALS**

- Maintain normal body temperature.
- Establish vascular access.
- Administer NS 20 mL/kg IV.
- Check blood glucose. If blood glucose < 60 mg/dL: For patients younger than 1 month of age, administer 0.5 g/kg of a D10 solution IV/IO; for patients older than 1 month of age, administer 0.5 g/kg of a D25 solution IV/IO.
  - If unable to establish IV/IO, administer glucagon 0.1 mg/kg to a maximum of 1 mg via IM.
- If no change, repeat IV NS bolus.
- Contact medical command.

## Documentation

- Respiratory effort
- Oxygen saturation (SpO2)
- Cardiac rhythm
- Capillary refill
- GCS score
- Lung sounds
- Quality of pulses
- Skin color, temperature, and moisture

# HYPERTHERMIA

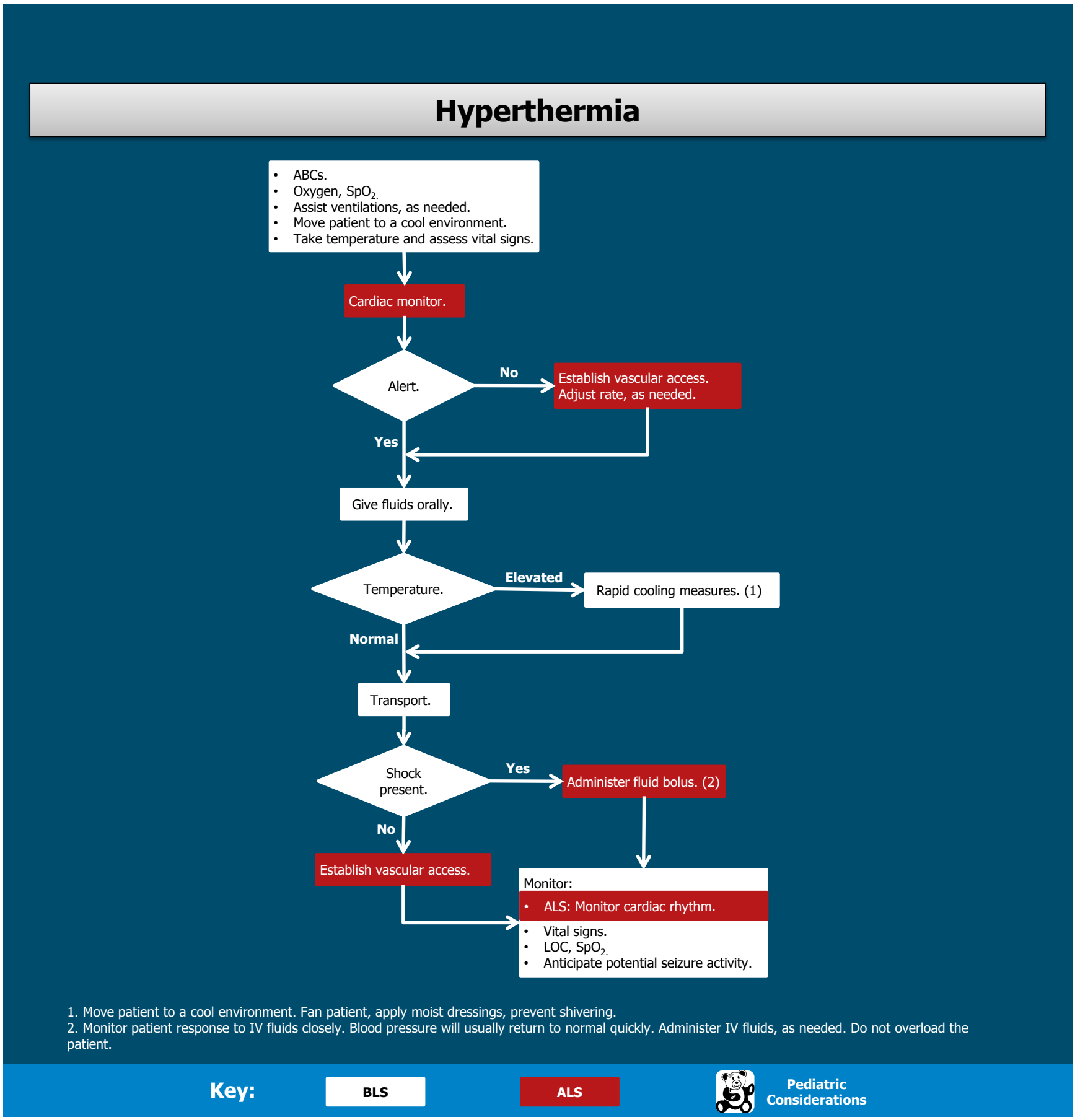
## Considerations

- Prevent patient from shivering.

## Assessment - Hyperthermia

- Airway, breathing, circulation.
- Administer Oxygen.
- Transport ASAP.
- Cooling measures:
  - Move patient to a cool environment (shade, air conditioning).
  - Fan patient.
  - Apply moist dressings.
  - Give cool fluids orally if gag reflex is intact.

# Treatment - Hyperthermia




## Documentation

- Signs and symptoms
- Oxygen saturation (SpO2)
- Glasgow Coma Scale (GCS) score
- Cardiac rhythm
- Core temperature
- Mechanism of injury/exposure
- Treatment
- Response to treatment

# HYPOTHERMIA

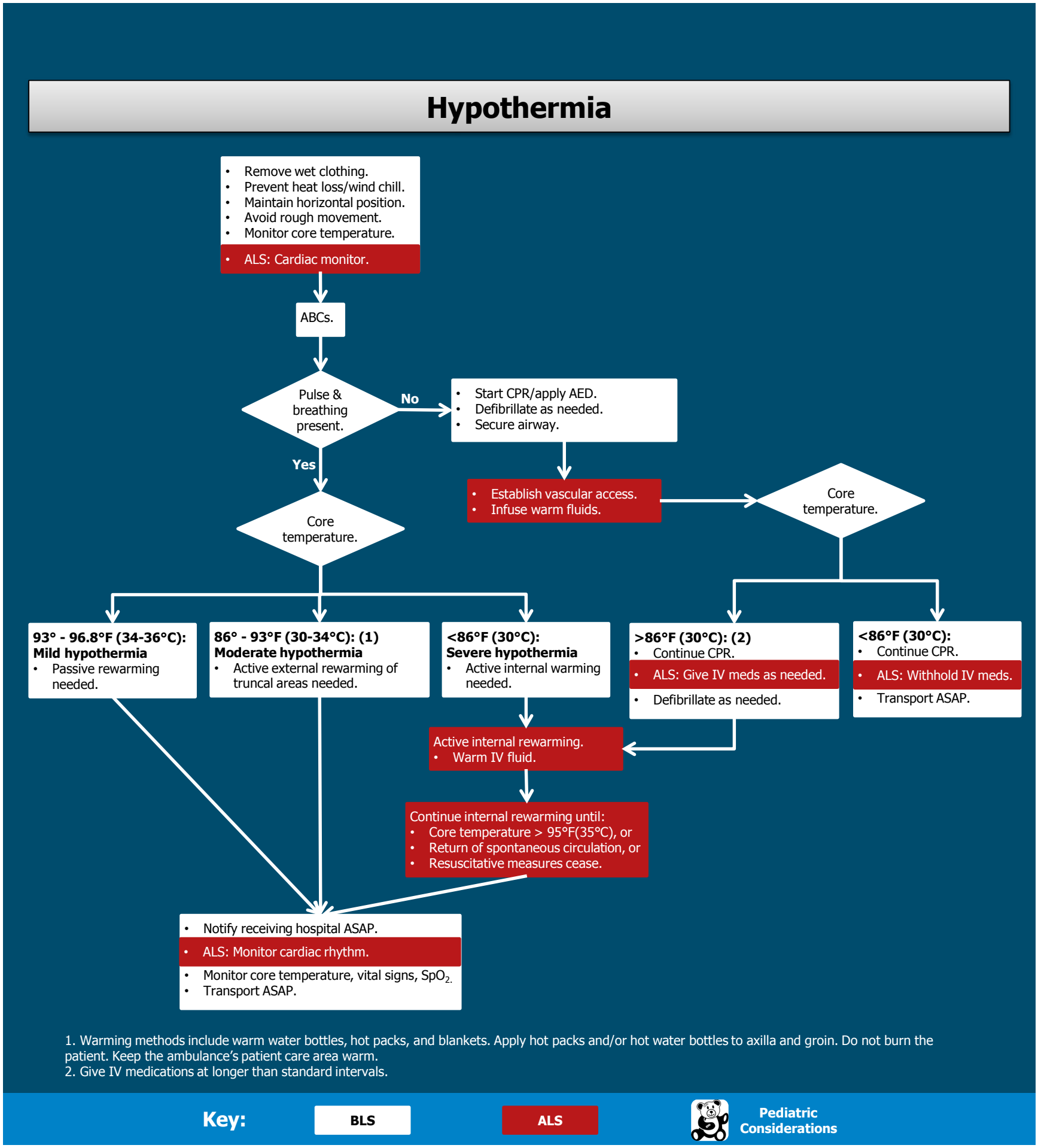
## Considerations

- Remove wet clothing.
- Prevent heat loss/wind chill.
- Avoid rough movement.

## Assessment - Hypothermia

- Airway, breathing, circulation.
- Administer oxygen, as needed.
- Perform CPR, as needed.
- Maintain horizontal position.
- Monitor core temperature.
  - **Mild hypothermia:** 93°–96.8°F (34°–36°C) passive rewarming needed.
  - **Moderate hypothermia:** 86°–93°F (30°–34°C) active external rewarming needed.
  - **Severe hypothermia:** < 86°F (30°C) active internal warming needed.
- AED, as needed.
- BLS to consider ALS.
- Transport ASAP.
- Warming methods include warm water bottles, heating pads, radiant heat sources, and warming beds. Apply hot packs and/or hot water bottles to axilla and groin. Do not burn the patient. Keep the ambulance's patient care area warm.

# Treatment - Hypothermia




## Documentation

- Signs and symptoms
- Oxygen saturation (SpO2)
- Cardiac rhythm
- Core temperature
- Mechanism of injury/exposure
- Treatment
- Response to treatment

# NEAR DROWNING

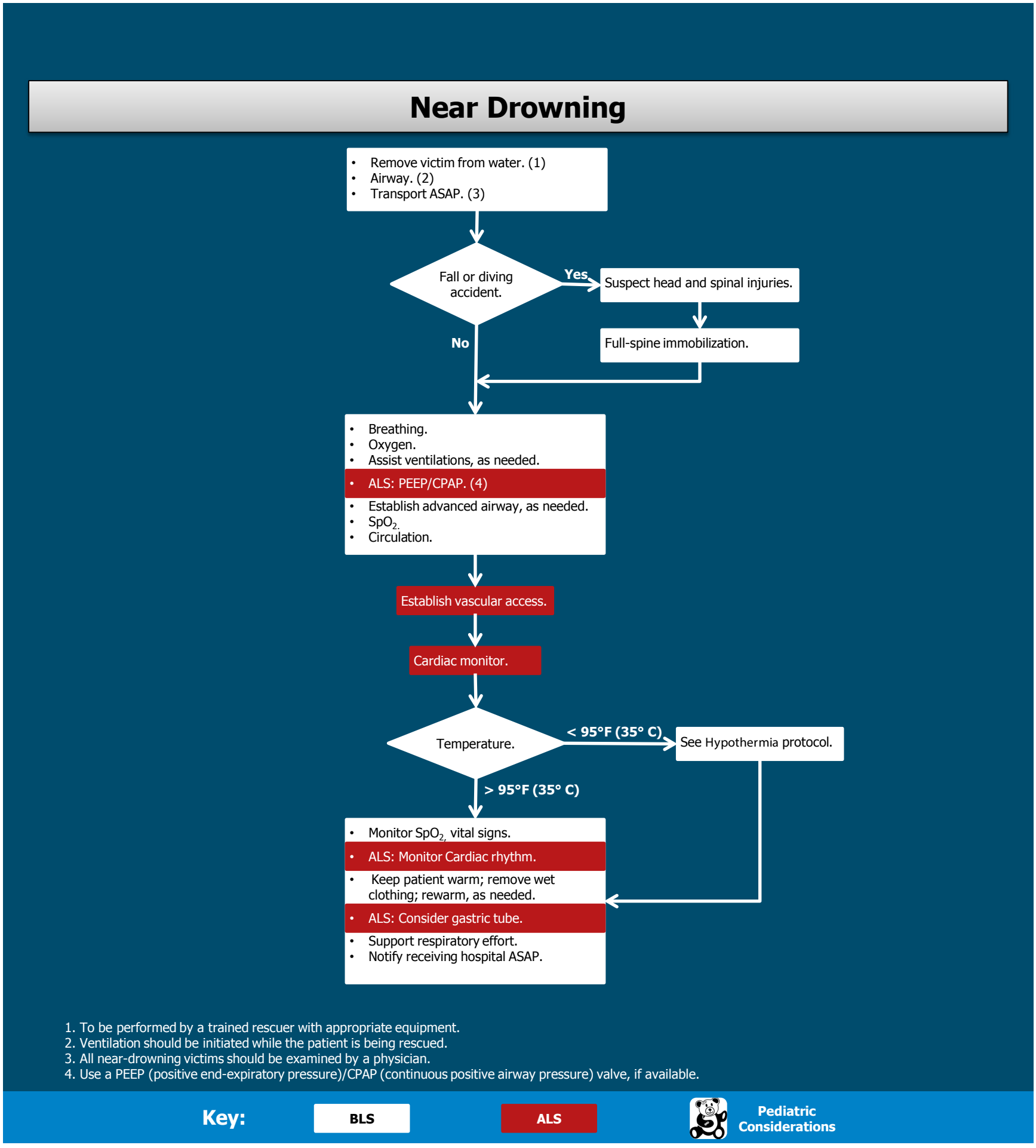
## Considerations

- The rescue from the water should be performed by a trained rescuer with the appropriate equipment and support.
- Aggressive respiratory management is the key to effective treatment in drowning and near-drowning cases.

## Assessment - Near Drowning

- Remove the victim from the water.
- Airway, breathing, circulation.
- Protect c-spine if fall or diving accident suspected.
- Administer Oxygen. While patient is being rescued, assist ventilations, as needed.
- BLS to consider ALS.
- Keep patient warm. Remove wet clothing. Apply hot packs if the patient is cold.
- Transport ASAP. All near-drowning victims should be examined by a physician.

# Treatment - Near Drowning



## Documentation

- Onset and duration of incident
- Respiratory effort
- Oxygen saturation (SpO2)
- IV fluid totals
- Treatment
- Response to treatment
- Skin color
- Glasgow Coma Scale (GCS) score
- Cardiac rhythm
- Capillary refill

# PAIN MANAGEMENT

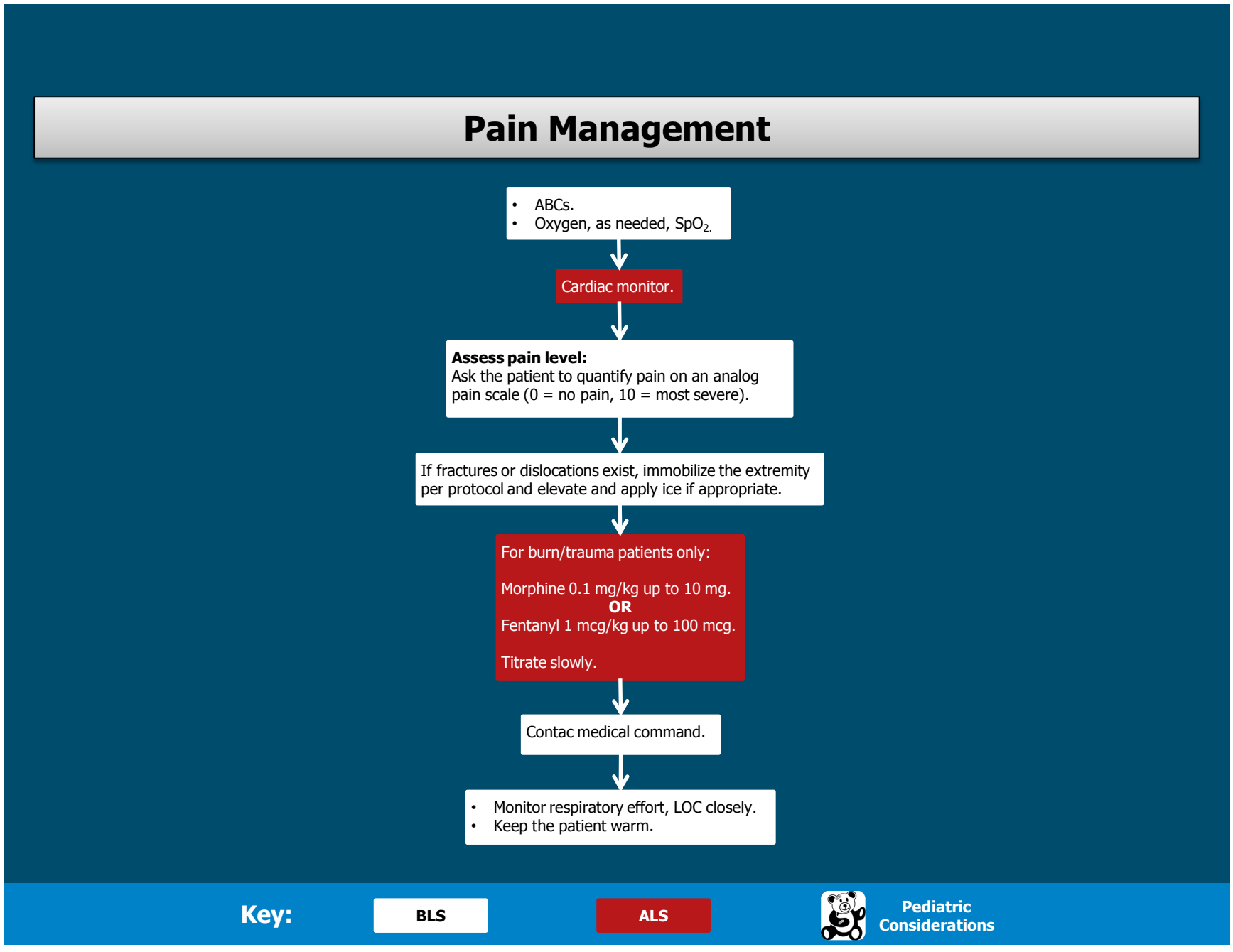
## Considerations

- See the *Chest Pains* protocol if chest pain exists.
- Use the *Wong-Baker Faces Scale* to quantify the patient's pain level.

## Assessment - Pain Management

- Airway, breathing, circulation.
- Administer oxygen, as needed.
- Assess pain level.
- BLS to consider ALS.
- Immobilize fractures/dislocations; elevate and apply ice, if appropriate.

## Treatment - Pain Management



# Pediatric Considerations - Pain Management

**ALS**

Morphine and fentanyl dosages are identical for both pediatric and adult patients.

## Documentation

- Dose
- Pain level
- Complications or absence of complications of medication administration
- Effectiveness
- Respiratory effort

# SEIZURES

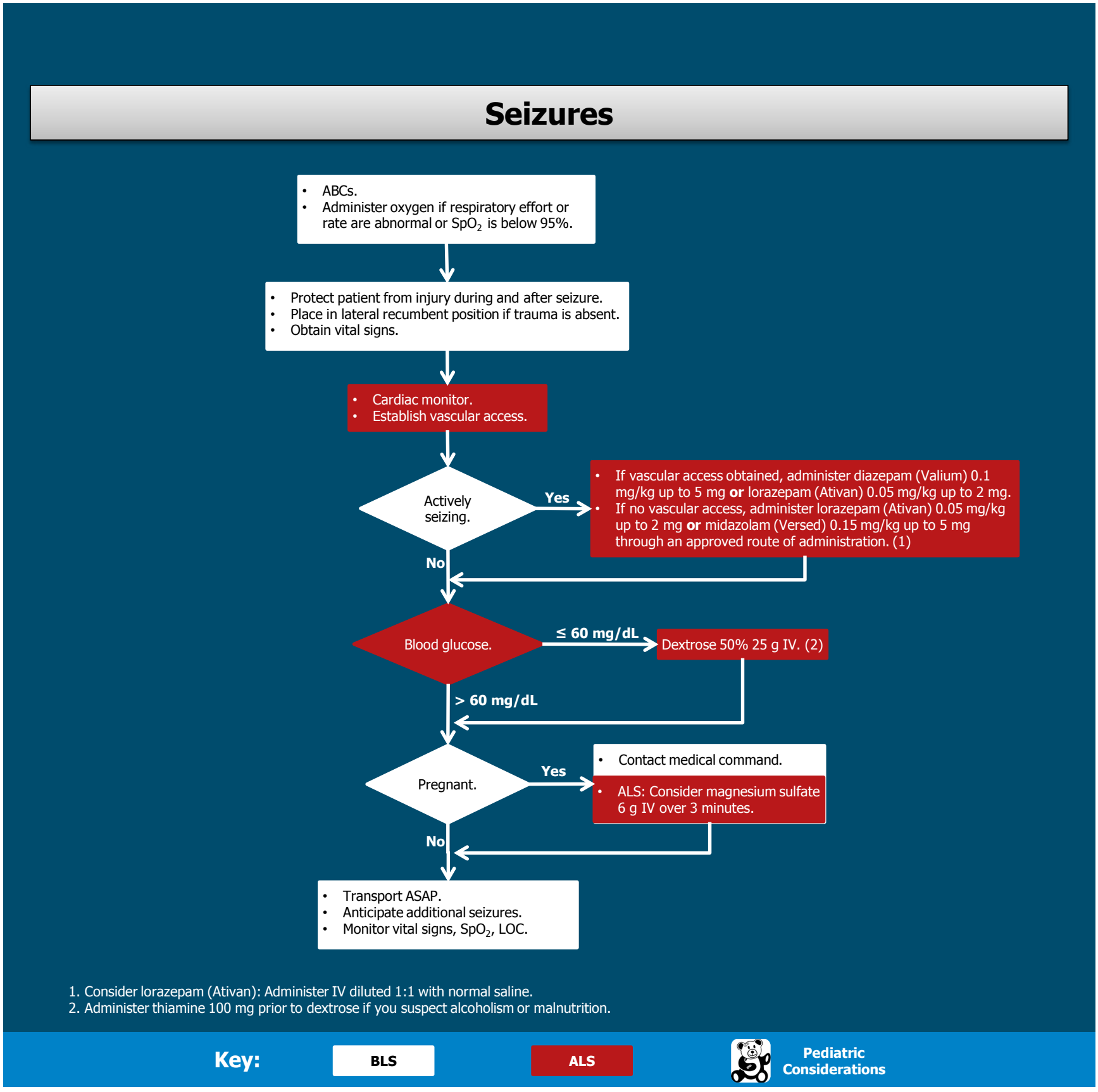
## Considerations

- Seizures in children should be taken seriously. Febrile seizures usually last no longer than 5 minutes and resolve without medications. Consider cooling measures.
- Causes of seizures include overdose, epilepsy, and cerebral neoplasm.
- Provide a quiet, reassuring environment during transport.

## Assessment - Seizures

- Airway, breathing, circulation.
- Administer oxygen if respiratory effort or rate is abnormal.
- BLS to request ALS.
- Look for medical alert tags, signs of overdose, trauma.
- Transport  ASAP.
- Anticipate additional seizures.

# Treatment - Seizures



# Pediatric Considerations - Seizures

**ALS**

- Diazapam (Valium): May be administered rectally if vascular access route is not available. To administer rectally, draw the appropriate IV dose into a tuberculosis syringe, remove the needle, and gently insert the syringe into the patient's rectum.
- Valium, Ativan, and Versed dosages are identical for both pediatric and adult patients.

# Documentation

- Glasgow Coma Scale (GCS) score
- Clinical response to medications
- Blood glucose level
- Oxygen saturation (SpO2)
- Total IV fluids administered
- Medical history
- Cardiac rhythm
- Physical activity during/before seizure
- Length of seizure

# STROKE AND CEREBROVASCULAR ACCIDENTS

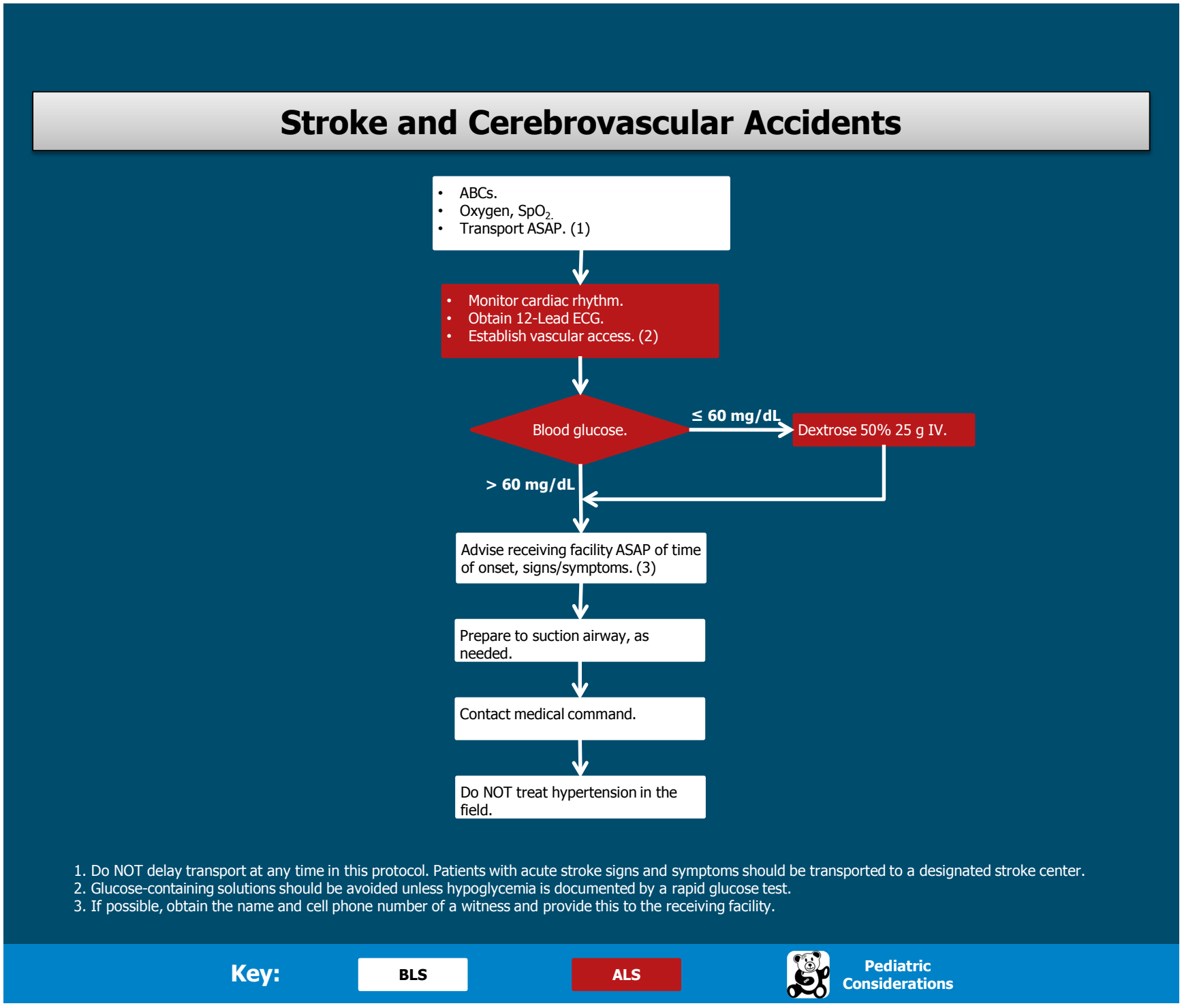
## Considerations

- Stroke treatment is time sensitive. If the signs and symptoms of stroke have been identified, transport should be initiated without delay and the receiving hospital notified.
- If the patient is hemodynamically stable and/or without airway compromise, they should be transported to the closest New Jersey-designated stroke center.
- If the patient is unstable (respiratory or hemodynamically) and is accompanied by
- BLS only, then the patient is to be transported to the closest, most appropriate hospital regardless of stroke center status.
- Review Stroke Triage Guidelines (See “Stroke Assessment”)

## Assessment - Stroke and Cerebrovascular Accidents

- Airway, breathing, circulation.
- Administer oxygen, as needed.
- Perform the ACT F.A.S.T. stroke assessment, Cincinnati Prehospital Stroke Scale assessment, or Los Angeles Prehospital Stroke Screen.
- BLS to call for ALS but not delay transport awaiting their arrival.
- Determine time of onset, which is defined as the last time the patient was seen or spoken to in a normal state. If possible, obtain the name and cell phone number of the witness and provide this to the receiving facility.
- Patients who are stable should be transported to a designated stroke center with notification to receiving facility.
- Perform a detailed neurologic assessment. Calculate Glascow Coma Scale (GCS) score.

# Treatment - Stroke and Cerebrovascular Accidents




## Documentation

- Time of onset
- Duration of incident
- Results of detailed neurologic assessment
- GCS score
- Respiratory effort
- Oxygen saturation (SpO2)
- Cardiac rhythm
- Capillary refill

# CHEST PAIN AND ACUTE MYOCARDIAL INFARCTION

## Considerations

- Contact medical command any time you have concerns or questions.

## Assessment - Chest Pain and Acute Myocardial Infarction

- Airway, breathing, circulation.
- Oxygen.
- BLS to request ALS.
- Place the patient in a position of comfort.
- BLS: Nitroglycerin administration: You may assist the patient to administer nitroglycerin 0.4 mg if:
  – The patient possesses his or her own prescribed nitroglycerin in either tablet or spray form (0.4 mg per dose),
  – AND the patient's systolic blood pressure is equal to or greater than 100 mm Hg,
  – AND the patient has NOT taken the maximum of three doses within the past 15 minutes.
- Nitroglycerin is contraindicated if the patient is taking Viagra, Levitra, Cialis, or another erectile dysfunction medication.
- Monitor relief of discomfort after interventions using a **pain scale** of 1 to 10.
- BLS: Aspirin administration: You may assist the patient with the administration of aspirin up to 325 mg if:
- The patient is at least 19 years old
- AND the patient has NOT taken the maximum 325 mg dose for this episode.
- *Have patient chew then swallow the aspirin (even if not a "chewable" tablet).

## Procedure for Nitroglycerin Administration

1. Check the medication's expiration date. Do not administer nitroglycerin if it is beyond the expiration date.
2. Assist in the administration of one tablet or spray under the patient's tongue.
3. Wait 2 minutes before reassessing the patient's chest pain or chest discomfort Reassess vital signs.

- If the chest pain continues AND the systolic blood pressure remains > 100 mm Hg, you may repeat the administration of one dose.
- You may give up to three doses within a 10–15 minute time frame, provided the patient has not already taken one or more doses during the time frame. If pain free for more than 15 minutes and pain returns, this is considered a new onset. May administer an additional three doses.

## Contraindications to Nitroglycerin Administration

- Hypotension (a systolic blood pressure < 100 mm Hg)
- Recent head injury
- Infants and children
- Patients who have already taken three doses within the 15 minutes prior to your arrival
- Use of erectile dysfunction medications within the previous 72 hours

## Contraindications to Aspirin Adminsitration

- Known hypersensitivity or allergy to aspirin
- Bleeding or active bleeding disorder
- Third trimester pregnancy
- Abdominal pain or pulsations, suspicion of thoracic or abdominal aortic aneurysm
- The aspirin is expired
- Dosage taken prior to arrival

# BLS Treatment - Chest Pain and Acute Myocardial Infarction

## Chest Pain and AMI (BLS treatment)

- ABCs.
- Oxygen, $SpO_2$. (1)
- Vital signs.

↓

- Obtain medical history. (2)
- Transport ASAP.

↓

Assist/administer aspirin.

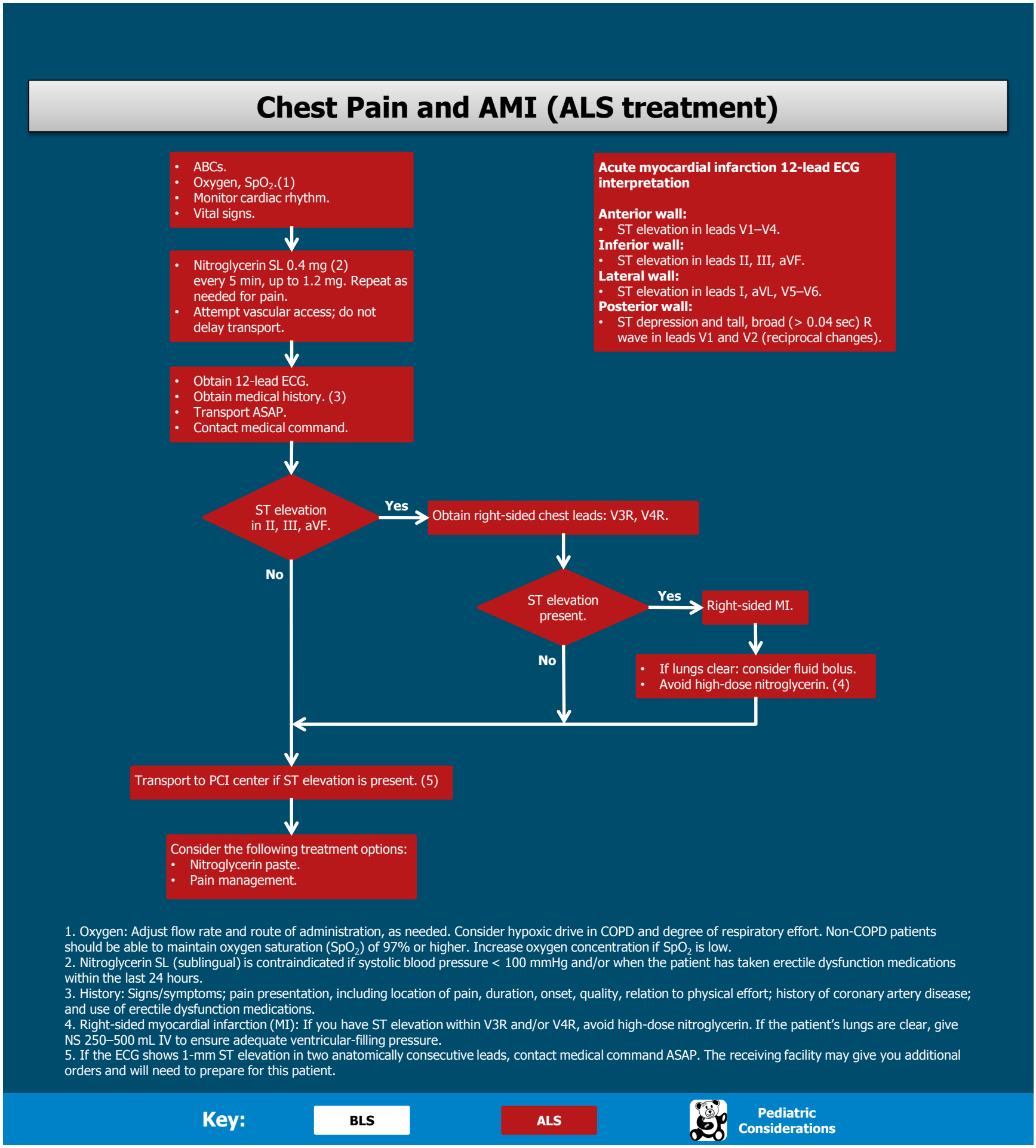
↓

Assist patient with nitroglycerin.
See Assessment section for guidelines.

1. Oxygen: Adjust flow rate and route of administration, as needed. Consider hypoxic drive in COPD and degree of respiratory effort. Non-COPD patients should be able to maintain oxygen saturation ($SpO_2$) of 97% or higher. Increase oxygen concentration if $SpO_2$ is low.
2. History: Signs/symptoms; pain presentation, including location of pain, duration, onset, quality, relation to physical effort; history of coronary artery disease; use of aspirin and/or nitroglycerin; and use of erectile dysfunction medications.

**Key:** BLS | ALS | Pediatric Considerations

# ALS Treatment - Chest Pain and Acute Myocardial Infarction




## Documentation

- Signs and symptoms
- Cardiac rhythm, if obtained
- Nature, intensity, and duration of pain
- Previous medical/cardiac history
- Vital signs
- SpO2
- Treatment
- Response to treatment

# CPR GUIDELINES

Life support may be withheld if any of the following exist:

- Patient qualifies for DNR status.
- Decapitation.
- Rigor mortis in a warm environment.
- Dependent lividity: venous pooling in dependent body parts.

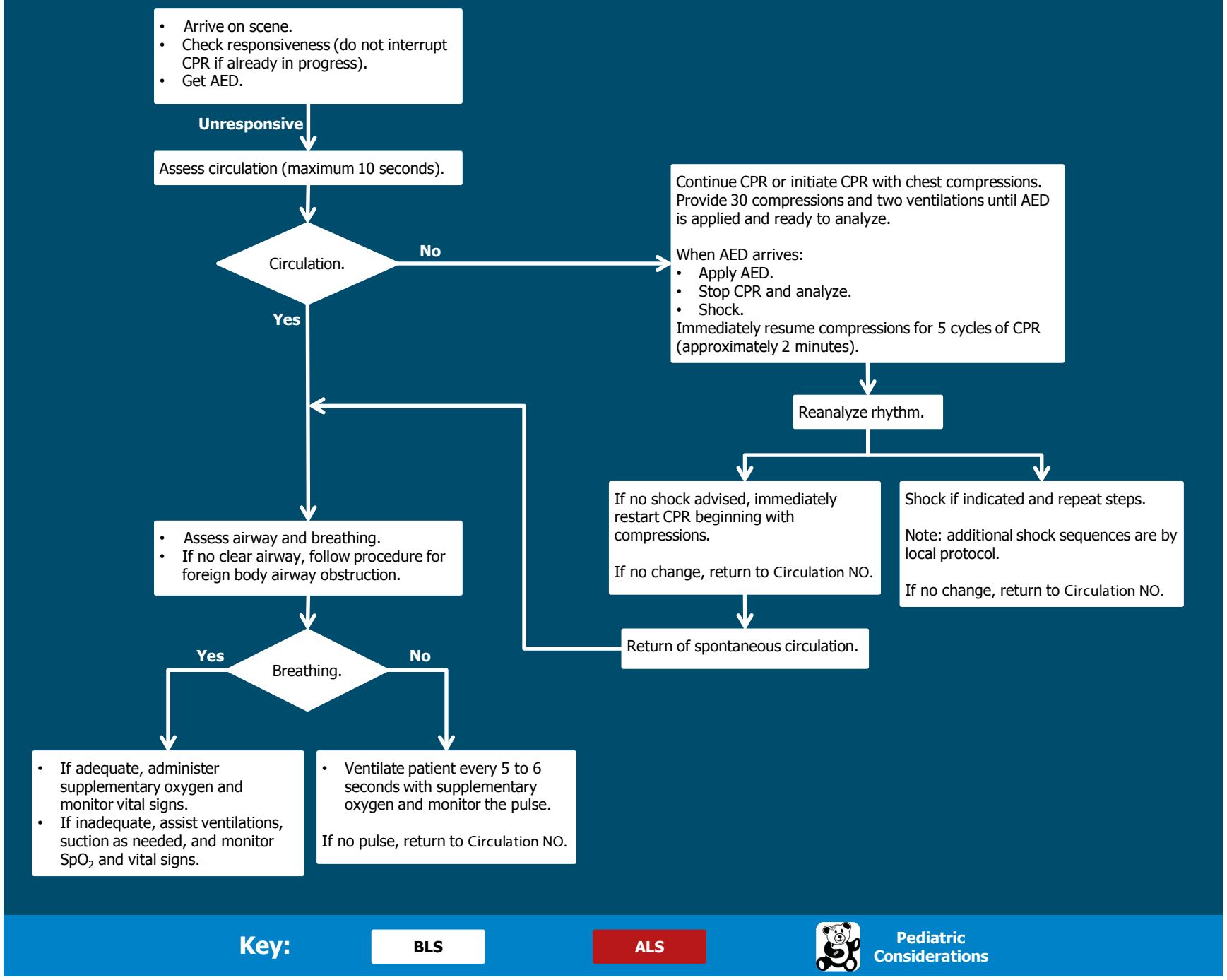
## Response and Breathing

- If unresponsive and breathing: Place in recovery position and monitor for changes until help arrives.
- If unresponsive and not breathing (or only gasping): Check pulse for 5 to 10 seconds.
- If pulse is present open the airway and give one breath every 5 to 6 seconds.
- Recheck pulse every 2 minutes.
- If pulse is absent, begin chest compressions.
- Give 30 compressions at a rate of at least 100/minute and at a depth of at least 2 inches. Allow full check recoil. Minimize interruptions in chest compressions.
- Open the airway and give two breaths that make the chest rise.
- Continue cycles of 30 compressions and 2 breaths until the AED arrives, ALS arrives, or the patient starts to move.

## AED or Defibrillator Arrives

- Apply pads and analyze cardiac rhythm.
- If shock advised, deliver one shock and immediately resume CPR for 2 minutes.
- If no shock advised, immediately resume CPR for 2 minutes.
- Reanalyze cardiac rhythm every 2 minutes, deliver one shock (if indicated), and immediately resume CPR. Continue as needed until ALS arrives or the pediatric patient starts to move.

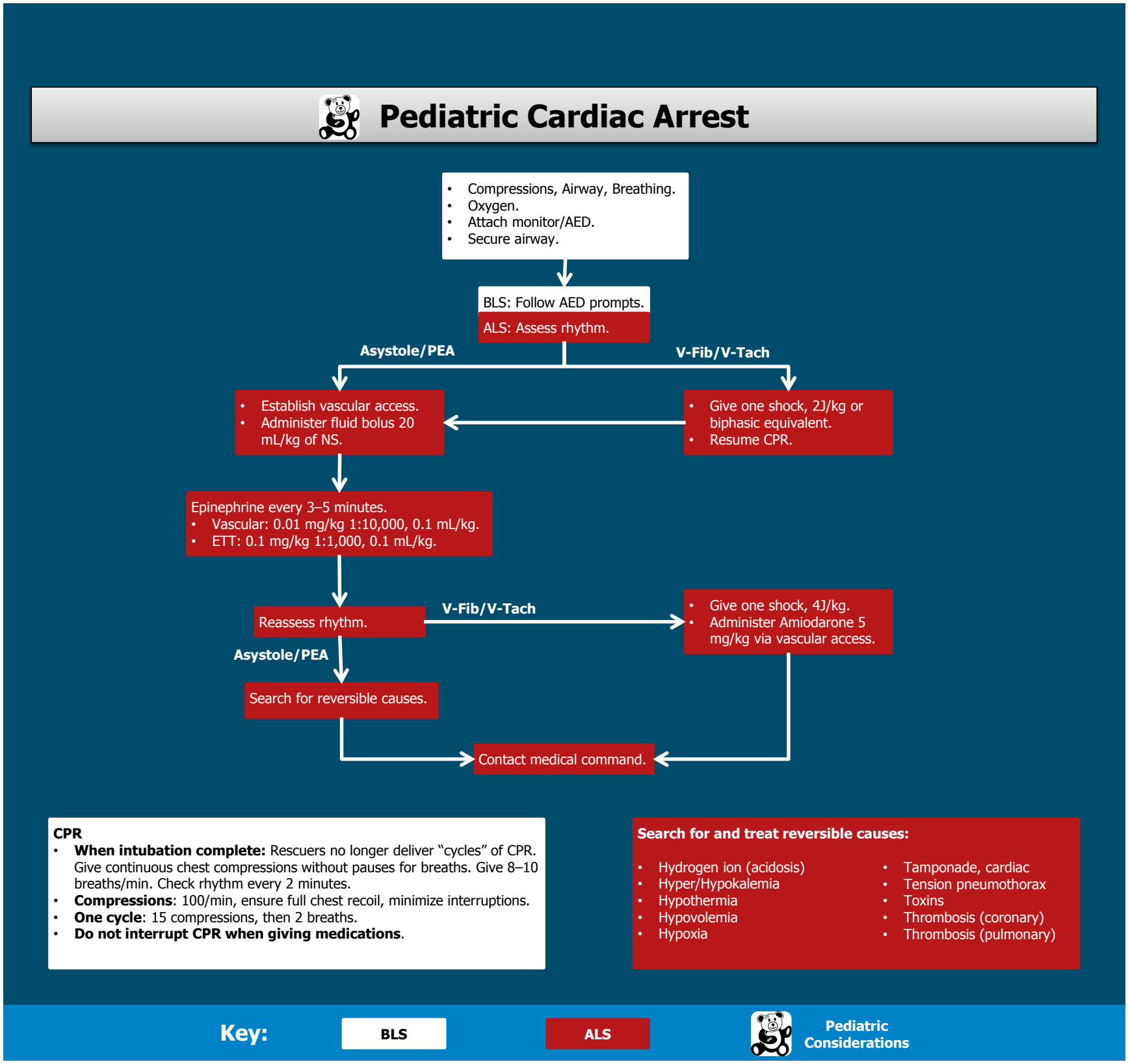
# CPR Guidelines



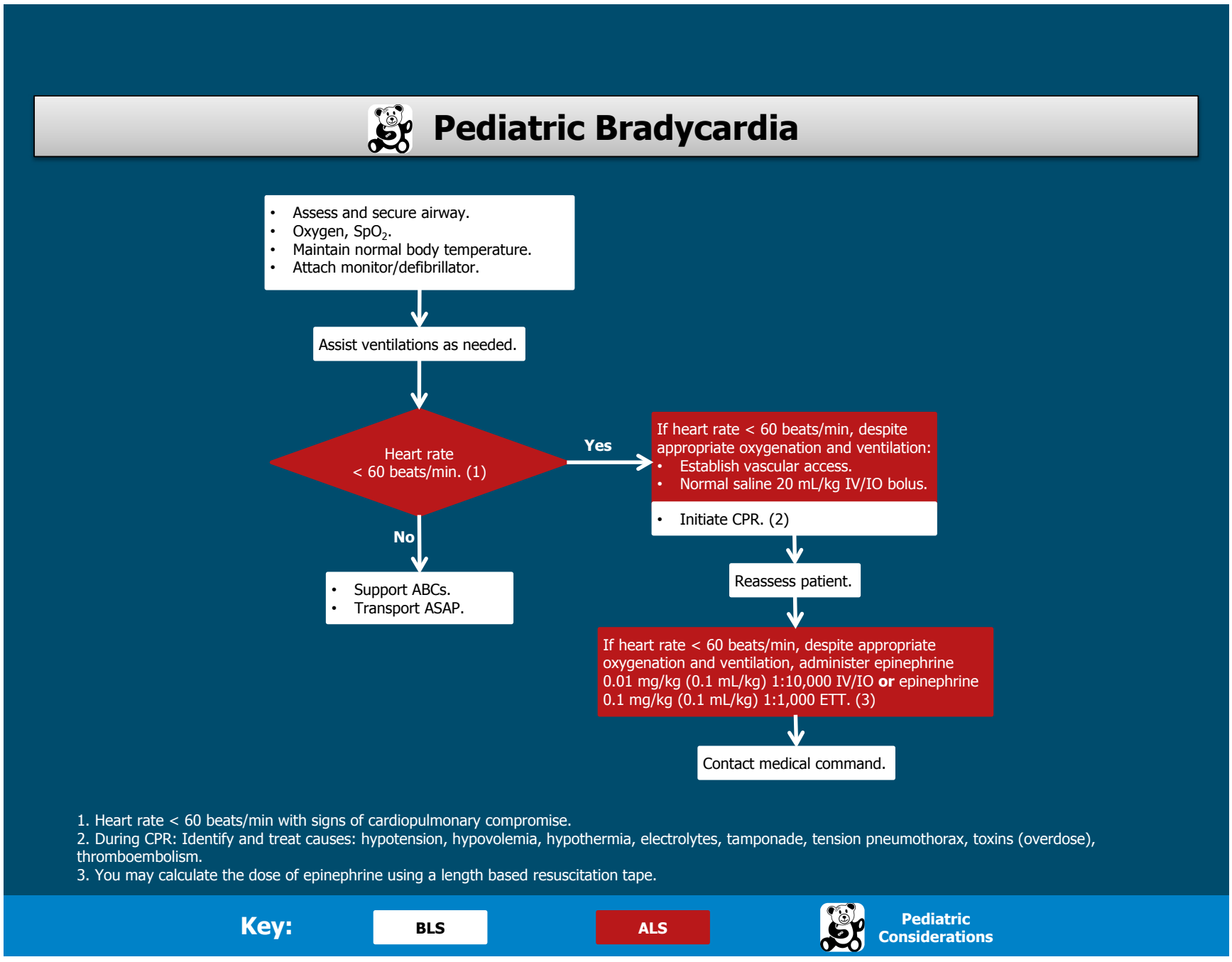

## Documentation

- Signs and symptoms
- Cardiac rhythm, if obtained
- Vital signs
- Oxygen saturation (SpO2)
- Treatment
- Response to treatment

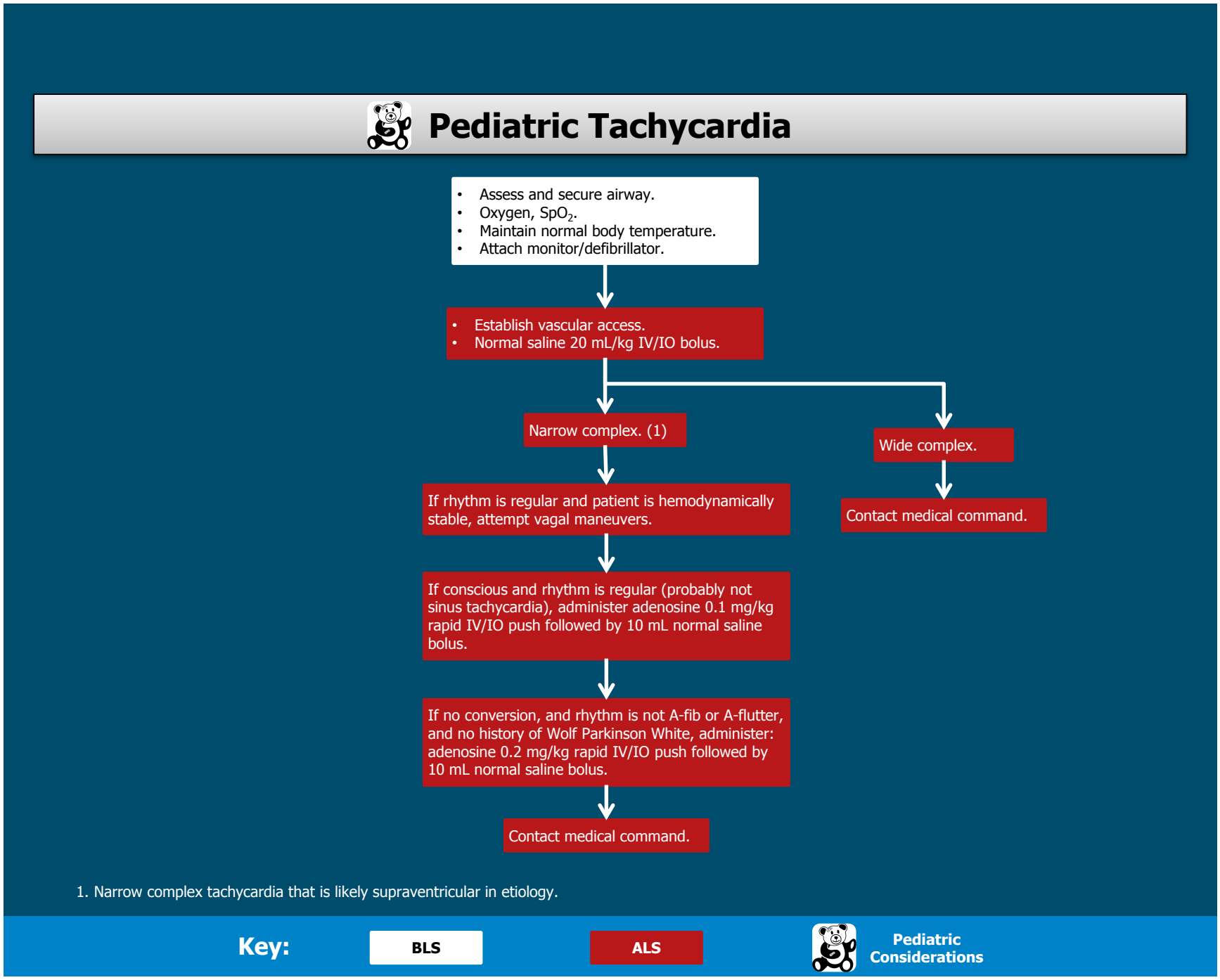
# PEDIATRIC CARDIAC ARREST



# PEDIATRIC BRADYCARDIA



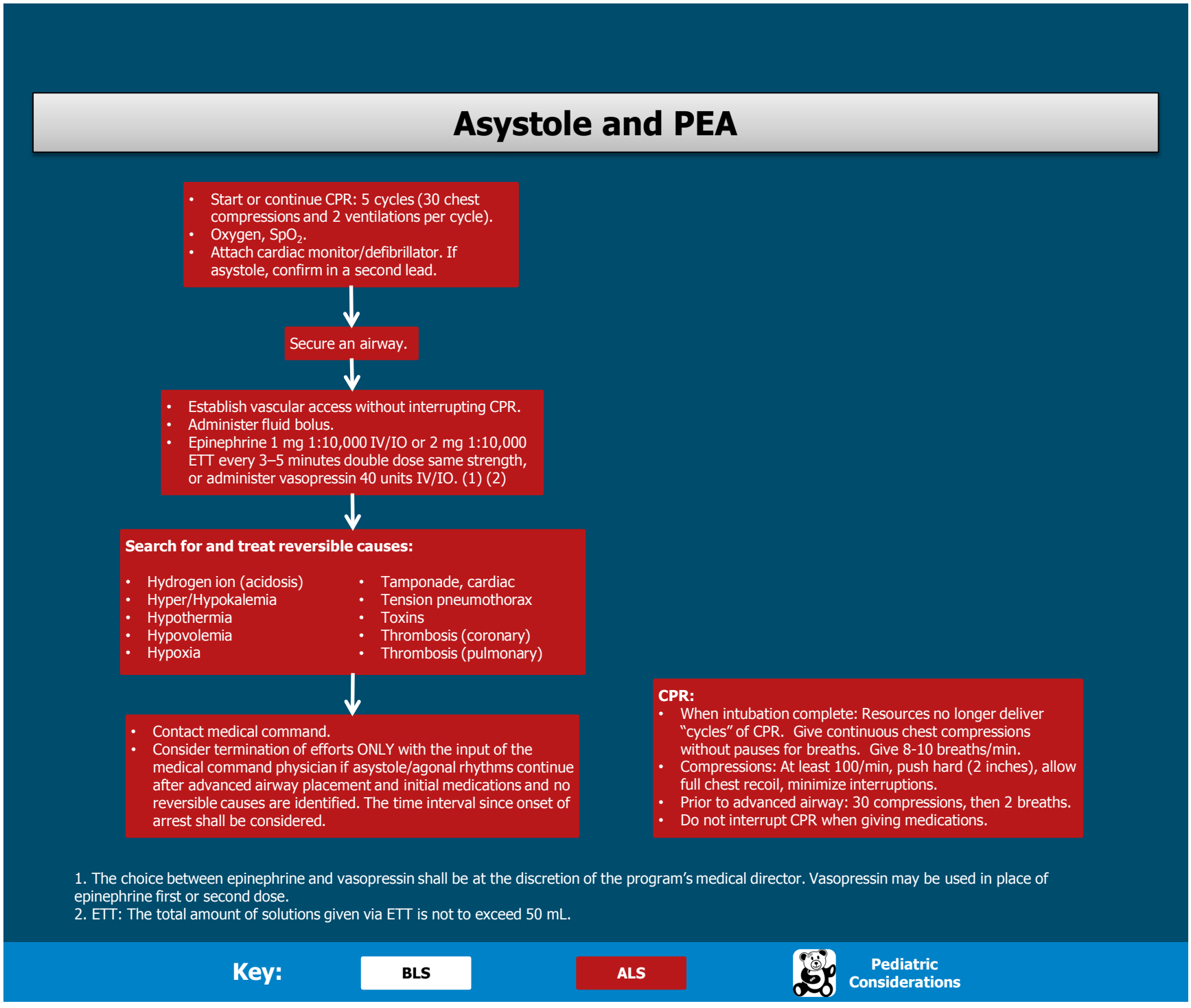
# PEDIATRIC TACHYCARDIA



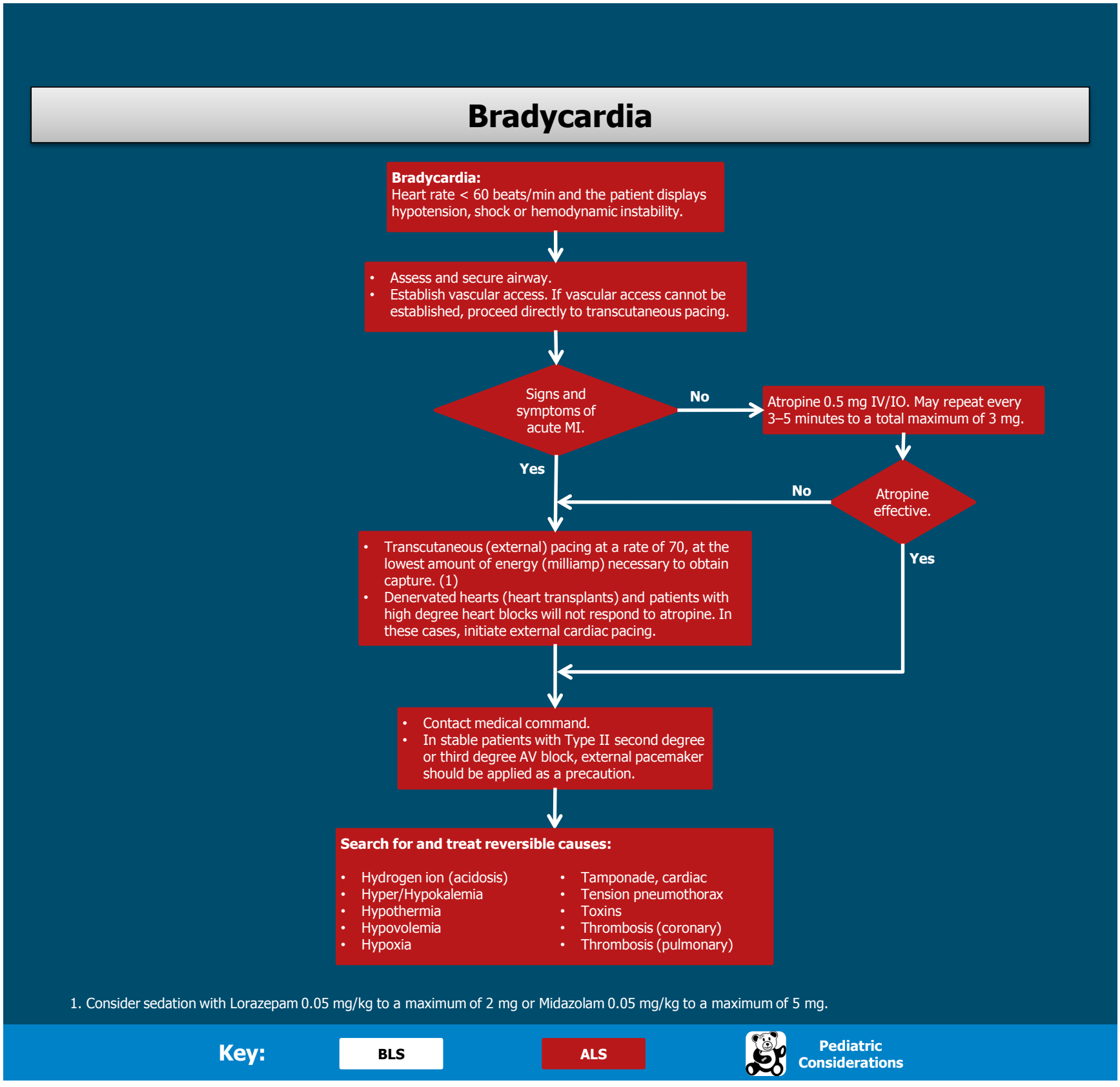
# ADVANCED CARDIAC LIFE SUPPORT

The following protocols are for adults only.

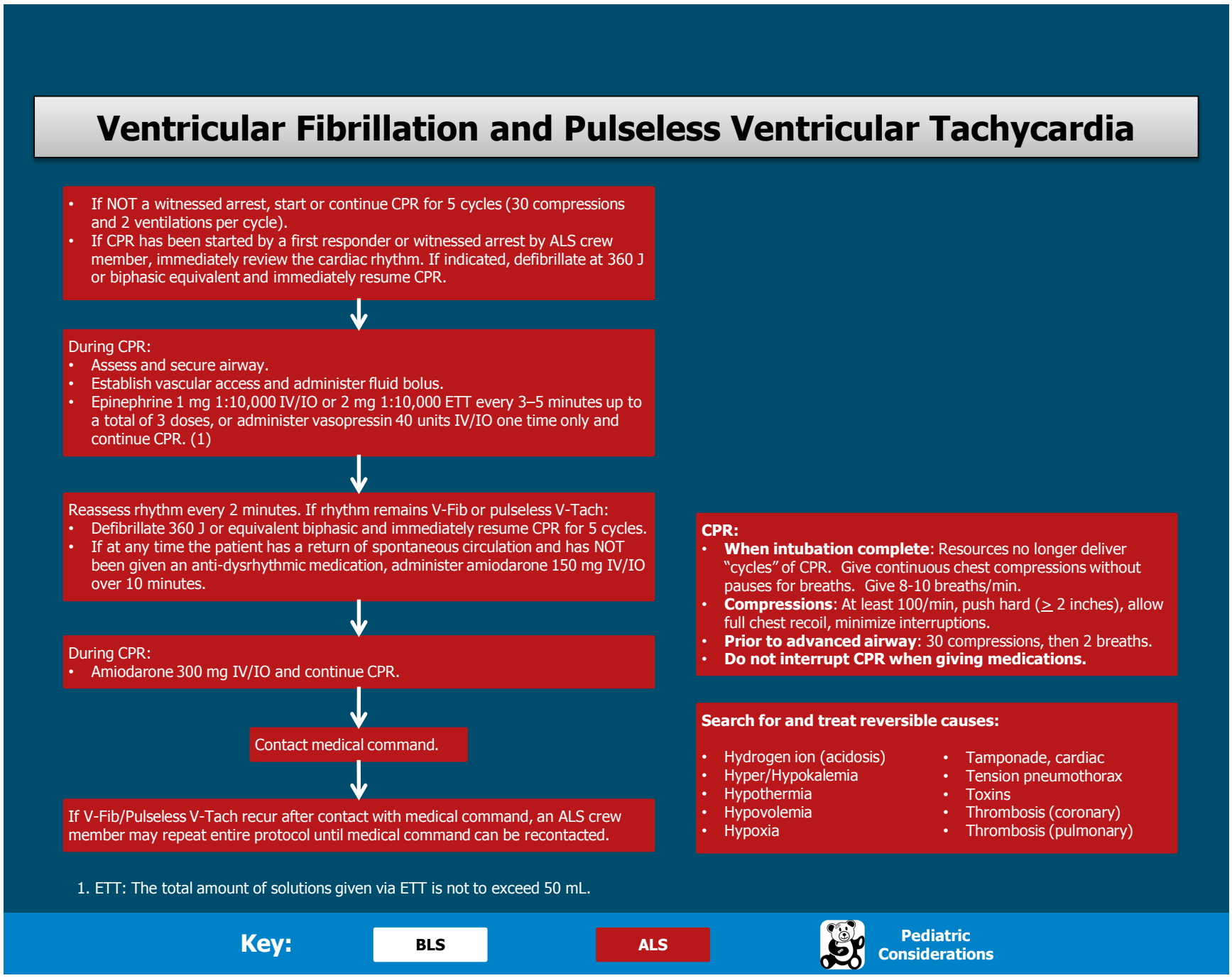
## Asystole and PEA



# Bradycardia

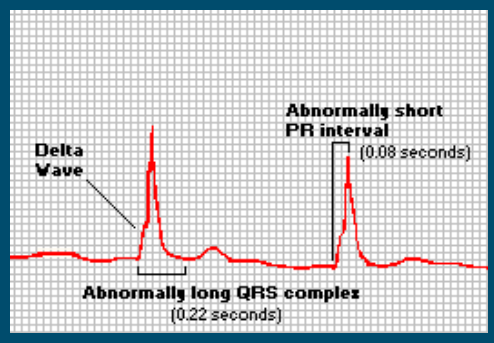


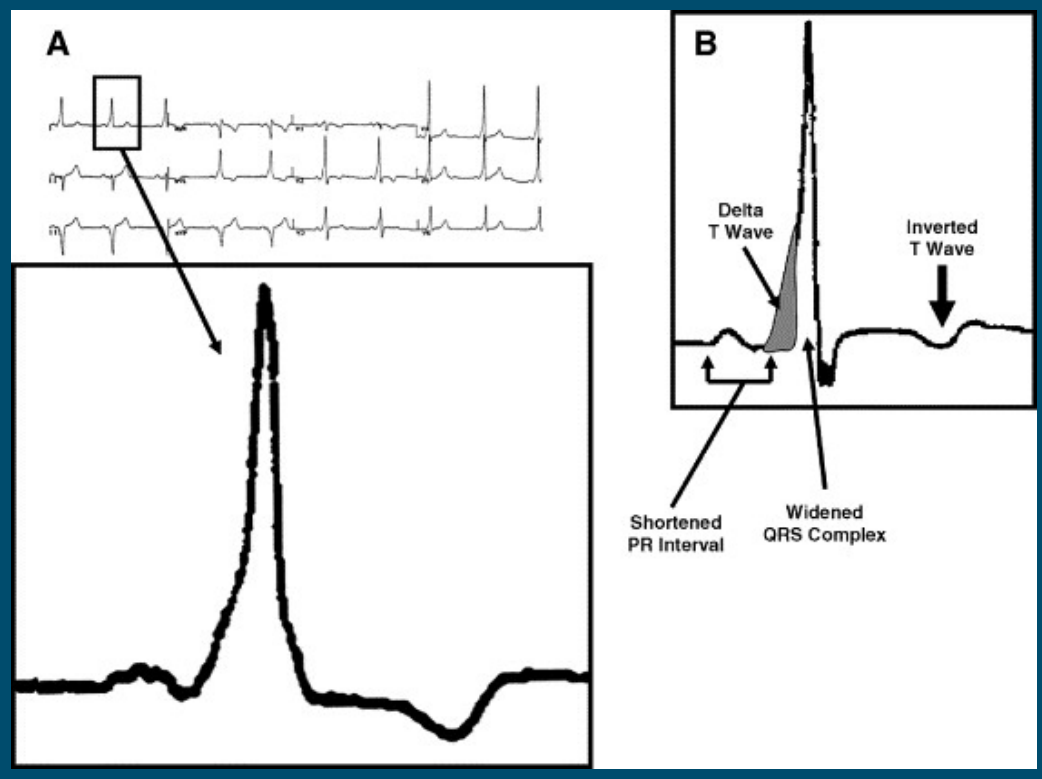
# Ventricular Fibrillation and Pulseless Ventricular Tachycardia



# WOLFF-PARKINSON-WHITE SYNDROME

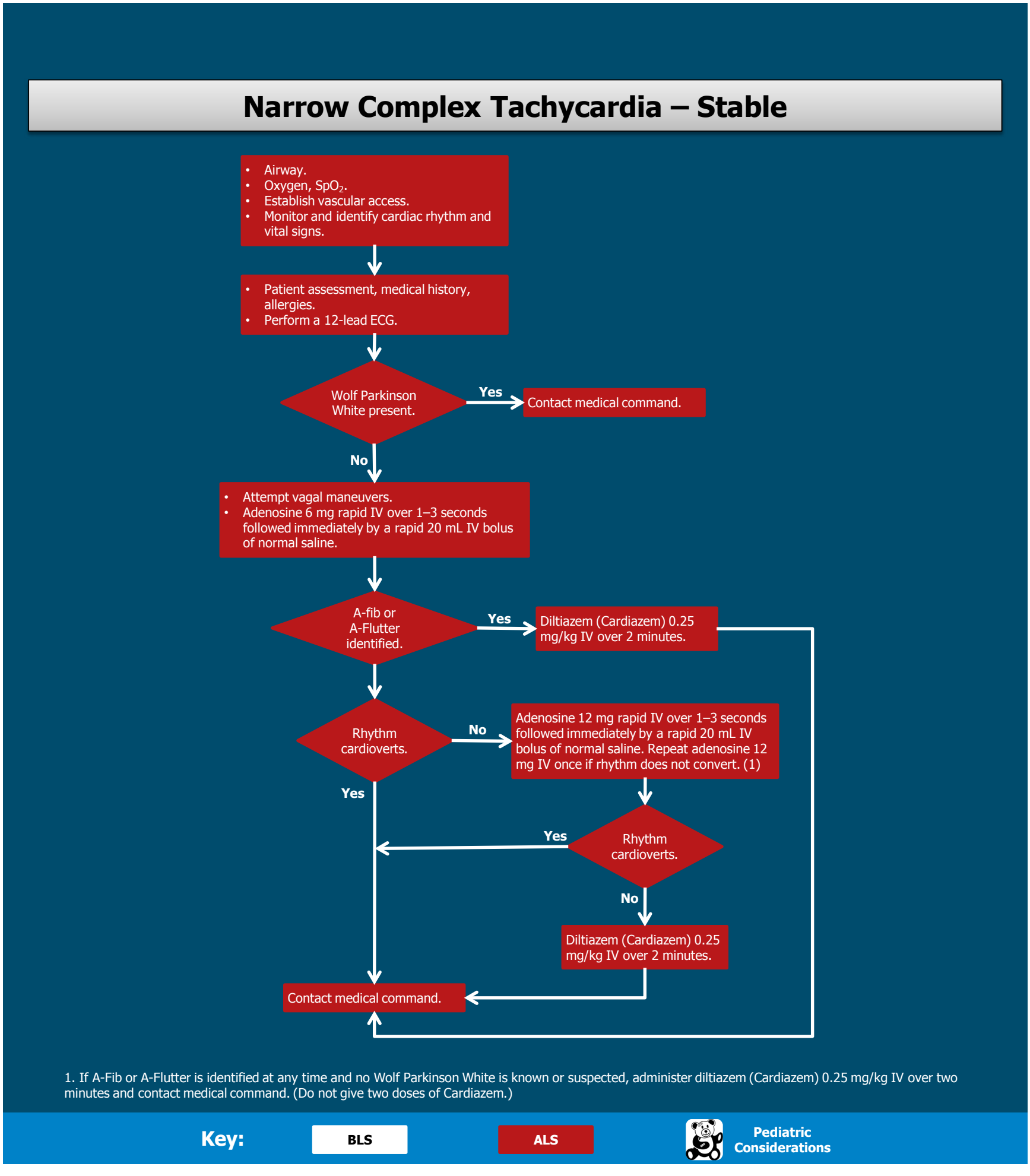
## Wolff-Parkinson-White Syndrome



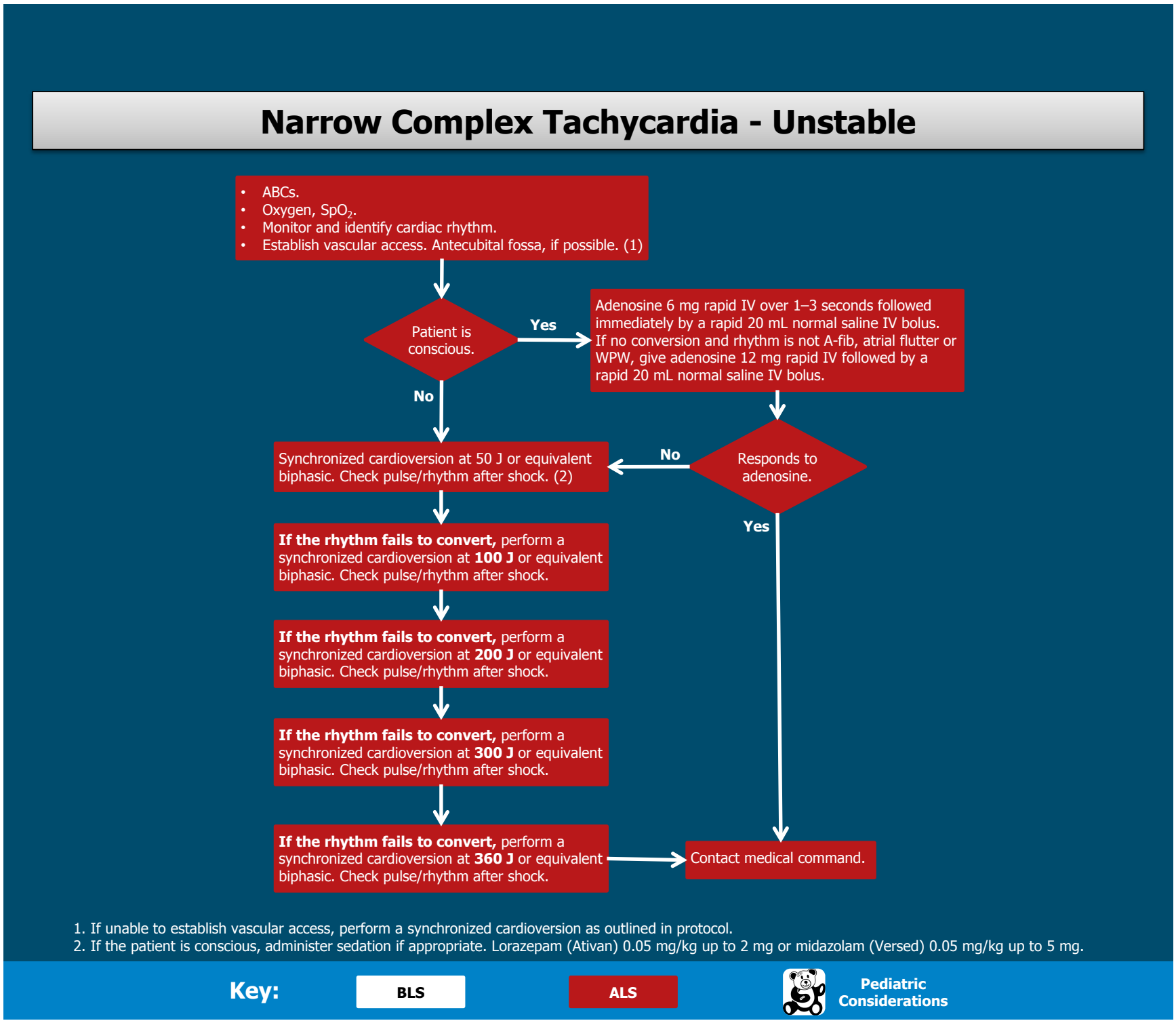



# Tachycardia

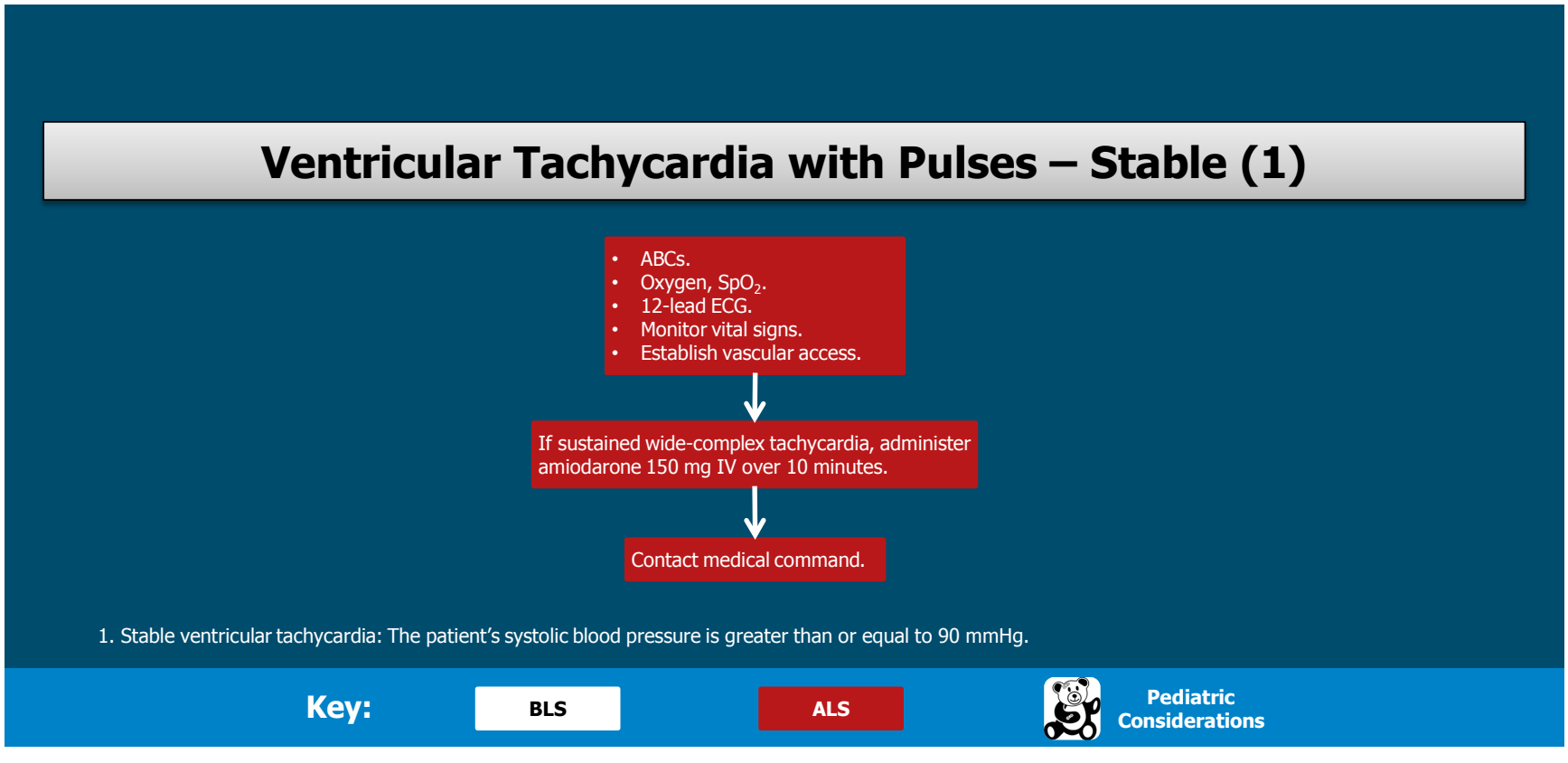
## Narrow Complex Tachycardia-Stable



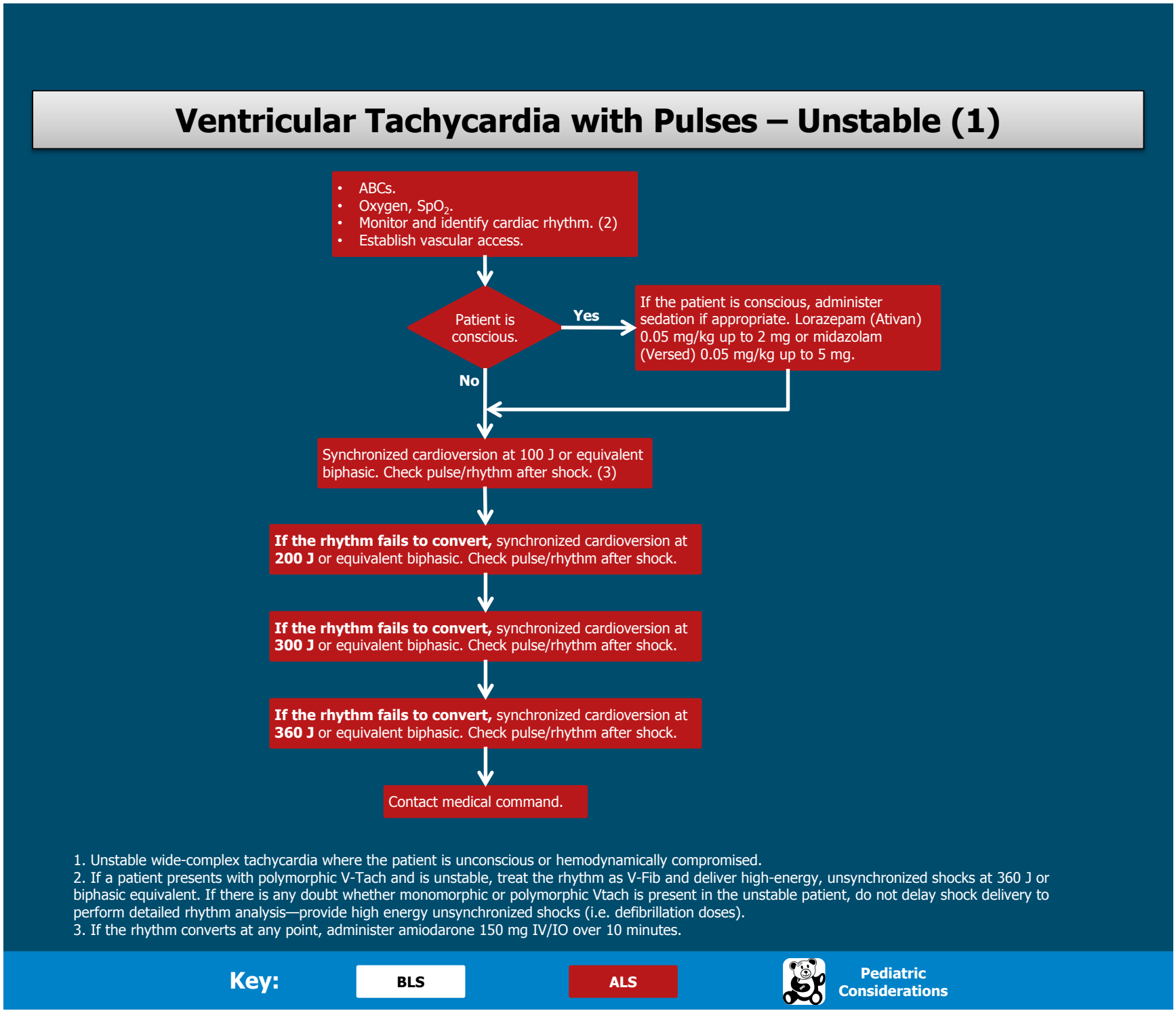
# Narrow Complex Tachycardia-Unstable



# Ventricular Tachycardia with Pulses-Stable (1)



# Ventricular Tachycardia with Pulses-Unstable (1)




## Documentation

- Detailed assessment
- Cardiac rhythm
- Chief complaint
- Treatment
- Response to treatment
- Vital signs
- Oxygen saturation (SpO2)
- Lung sounds
- Level of consciousness
- Verification of ET tube placement or use of airway adjuncts
- Communication with medical command physician

# NORMAL DELIVERY CHILDBIRTH

## Considerations

Transport to a facility with obstetric capabilities for abnormal presentation.

**Gravid:** The total number of pregnancies, not necessarily carried to term.

**Para:** The total number of pregnancies carried to more than 28 weeks' gestation, regardless of whether delivered dead or alive.

## Assessment - Normal Delivery Childbirth

- Airway, breathing, circulation.
- Administer Oxygen.
- BLS to request ALS.
- If the baby is NOT crowning, transport the patient on her left side and rendezvous with ALS.
- If the baby is crowning, do not transport. Prepare for delivery.
- If foot, hand, cord, or face presents, place in Trendelenburg position, prevent cord compression with gloved hand, and transport ASAP.
- If normal presentation exists, control the delivery of the head. Support head during rotation. Bulb suction mouth, then nose. Guide head down to deliver the anterior shoulder, then upward to deliver the posterior shoulder. Control delivery of trunk and legs. The trunk and legs are often released quickly after the shoulders are delivered. Anticipate this and control their delivery. Clamp cord 8 inches from the navel twice, 2 inches apart. Cut between the clamps.
- Treat the baby per neonatal resuscitation program guidelines. Keep the baby warm.
- Perform APGAR scores at 1, 5, and 10 minutes. (See "APGAR Scoring System")
- Record time of birth.
- Transport mother and baby.
- Watch for delivery of placenta. Do not pull on the cord. Document time the placenta delivers.
- If significant vaginal bleeding is present, intermittently massage the fundus until it is firm. Expedite transport.

# Treatment - Normal Delivery Childbirth

## Normal Delivery Childbirth

- ABCs.
- Oxygen, $SpO_2$.
- ALS: Establish vascular access.

History and exam: (1) (2)
Previous births, prenatal care, edema, multiple births, previous C-section, medical history, vital signs, frequency of contractions, fetal heart rate.

Crowning.

**No** → Position lateral recumbent.

- Transport to most appropriate facility.
- Monitor vital signs.
- Comfort.

**Yes**

Prepare for delivery.

Control delivery of head.
Support head with rotation.

Suction mouth, then nose with bulb suction.

Guide head down to deliver anterior shoulder, then upward to deliver posterior shoulder.

Control delivery of trunk and legs.

Clamp cord 8 inches from navel, 2 inches apart, and cut between clamps.

- Treat baby per neonatal resuscitation program guidelines.
- Perform APGAR score at 1, 5, 10 minutes.
- Keep baby warm.
- Note time of birth.

Watch for delivery of placenta. Do not pull on cord.
After delivery of placenta, intermittently massage fundus until firm.

Bleeding ≥ 250 mL.

**Yes** → Massage fundus.

**No**

- Complete transport.
- Monitor vital signs.
- Keep baby warm.

1. Normal fetal heart rate is 120 to 150 beats/min.
2. Do NOT perform a digital cervical examination. Because of the possibilities of placental previa or abruptio placenta, digital cervical exams are contraindicated.

**Key:** BLS | ALS | Pediatric Considerations

## Documentation

- Maternal history: gravid ___; para ___
- Gestational age in weeks/days
- Estimated date of conception
- Frequency and duration of contractions
- Time of birth
- APGAR score at 1, 5, and 10 minutes (See “APGAR Scoring System”)
- Time of placental delivery
- Estimated fluid/blood loss
- Complications, if any
- Communication with medical command, if any

# ABNORMAL DELIVERY CHILDBIRTH

Transport to a facility with obstetric capabilities for abnormal presentation.

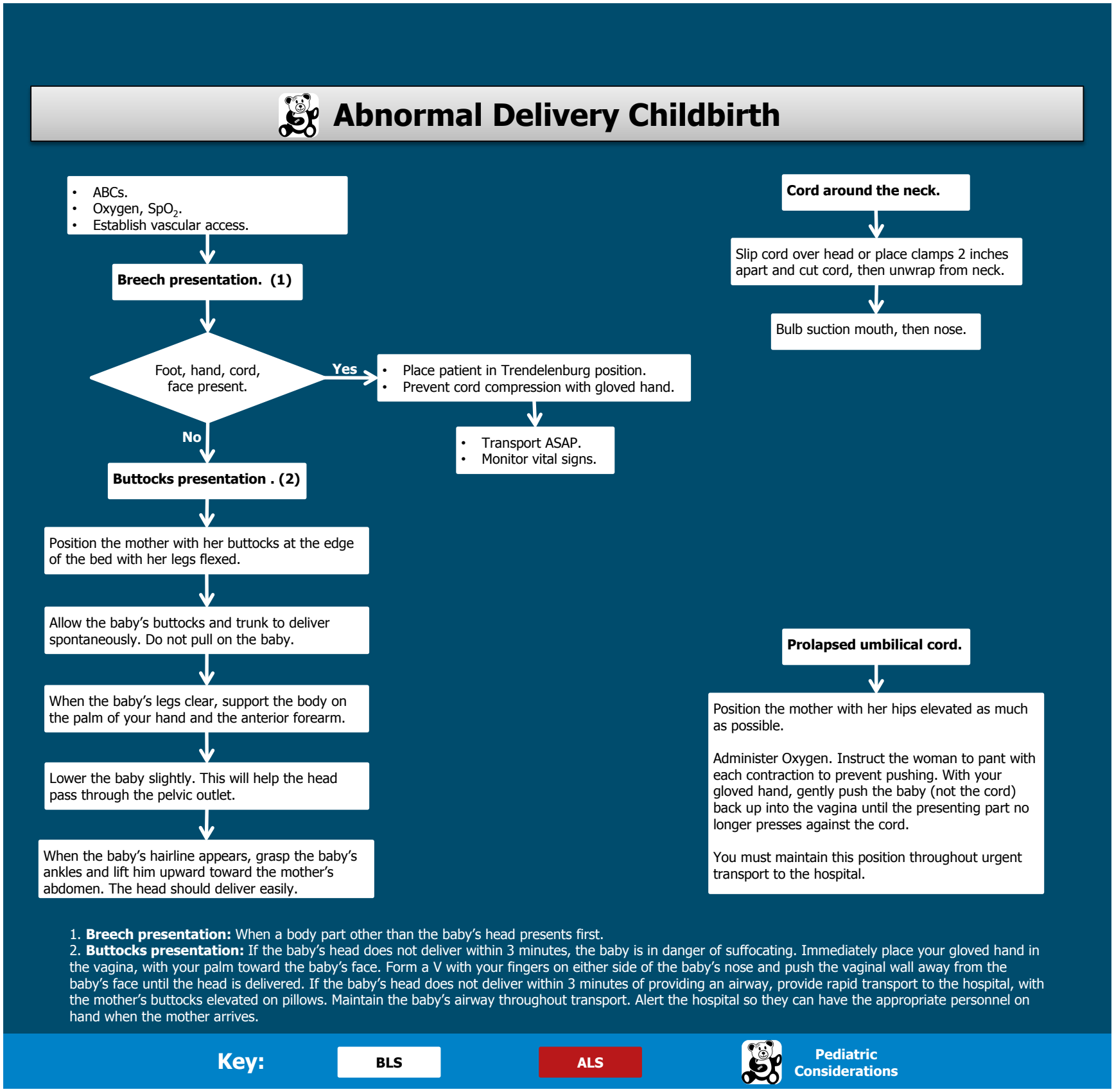
**Gravid:** The total number of pregnancies, not necessarily carried to term.

**Para:** The total number of pregnancies carried to more than 28 weeks' gestation, regardless of whether delivered dead or alive.

## Assessment - Abnormal Delivery Childbirth

- Airway, breathing, circulation.
- Administer Oxygen.
- BLS to request ALS.
- If the baby is NOT crowning, transport the patient on her left side and rendezvous with ALS.
- If the baby is crowning, do not transport. Prepare for delivery.
- If foot, hand, cord, or face presents, place in Trendelenburg position, prevent cord compression with gloved hand, and transport ASAP.
- If breech presentation (buttocks), support legs and trunk as they deliver. Do not pull on the baby. Deliver arms before the head. Lower body to help head deliver. As hairline appears, move chin to chest. Head should deliver. If there is a delay in delivery while in a breech presentation and the baby attempts to breathe, form a V with your fingers and hold the vaginal wall away from the baby's face, allowing the baby to breathe. Suction mouth, then nose.
- If the umbilical cord is wrapped around the baby's neck, slip the cord over the head. If this is not possible, place two clamps 2 inches apart, cut the cord, and remove the cord from the baby's neck.
- Treat the baby per neonatal resuscitation program guidelines. Keep the baby warm.
- Perform APGAR scores at 1, 5, and 10 minutes. (See "APGAR Scoring System")
- Record time of birth.
- Transport mother and baby.
- Watch for delivery of placenta. Do not pull on the cord. Document time the placenta delivers.
- If significant vaginal bleeding is present, intermittently massage the fundus until it is firm. Expedite transport.

# Treatment - Abnormal Delivery Childbirth




## Documentation

- Maternal history: gravida ____, para _____
- Gestational age in weeks/days
- Estimated date of conception
- Frequency and duration of contractions
- Time of birth
- APGAR score at 1, 5, and 10 minutes (See "APGAR Scoring System")
- Time of placental delivery
- Estimated fluid/blood loss
- Complications
- Communication with medical command

# PREGNANCY BLEEDING

## Considerations

**Abruptio placenta:** The premature separation of a normally implanted placenta from the wall of the uterus. The patient usually reports vaginal bleeding, with bright red blood. The patient almost always reports sudden and severe abdominal pain. The abdomen is tender and rigid. Shock is often significant.

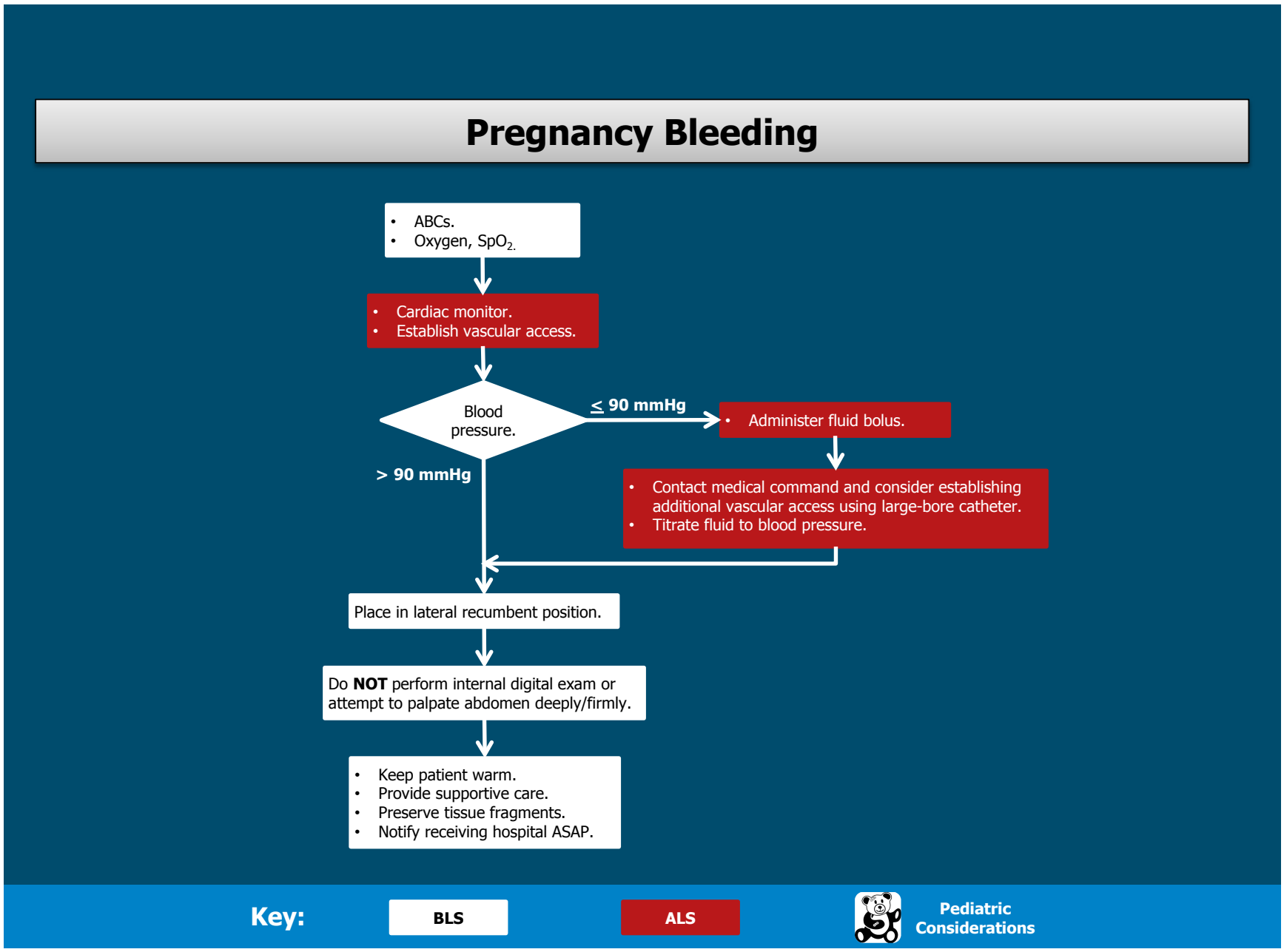
**Placenta previa:** The placenta is implanted low in the uterus, and as it grows it partially or completely obscures the cervical canal. This is the leading cause of vaginal bleeding in the second and third trimester. Typical signs and symptoms include painless vaginal bleeding with a loss of bright red blood. The uterus is soft and nontender. Do not try to palpate the abdomen deeply.

**Eclampsia:** A disorder that may occur in late pregnancy, during or immediately after childbirth, that is characterized by seizures, edema, hypertension, and proteinuria. Suspect/assume preeclampsia or eclampsia if the pregnant patient has an elevated blood pressure.

## Assessment - Pregnancy Bleeding

- Airway, breathing, circulation.
- Administer Oxygen.
- BLS to request ALS.
- Transport  ASAP.
- Place in lateral recumbent position, if in second or third trimester.
- Do not attempt to perform a digital, internal vaginal exam or pack the vagina with trauma pads.
- Do not try to palpate the abdomen deeply. Deep or firm palpation may induce heavy vaginal bleeding.

# Treatment - Pregnancy Bleeding




## Documentation

- Signs and symptoms
- Oxygen saturation (SpO2)
- Cardiac rhythm
- Time bleeding started
- Estimated amount of bleeding
- Nature of pain, if present (dull, sharp, cramping, duration, frequency)
- Color of blood

# NEONATAL RESUSCITATION

## Assessment - Neonatal Resuscitation

- BLS to request ALS.
- Keep baby warm.
- Position, clear airway.
- Suction mouth, then nose.
- Provide gentle tactile stimulation.
- Dry, then stimulate to breathe.
- Assess respirations, heart rate, and skin color:

  – If apneic or heart rate is < 100 beats/min, provide positive-pressure ventilation. If heart rate is <60 beats/min, begin chest compressions.

  – If breathing and heart rate is >100 beats/min and skin is cyanotic, give Oxygen blow-by. If cyanosis persists, provide positive-pressure ventilation. If the infant becomes pink, is breathing, and heart rate is >100 beats/min, observe closely and transport ASAP.

  – If breathing and heart rate is >100 beats/min and skin is pink, observe closely and transport ASAP.

## Term Newborn Vital Signs

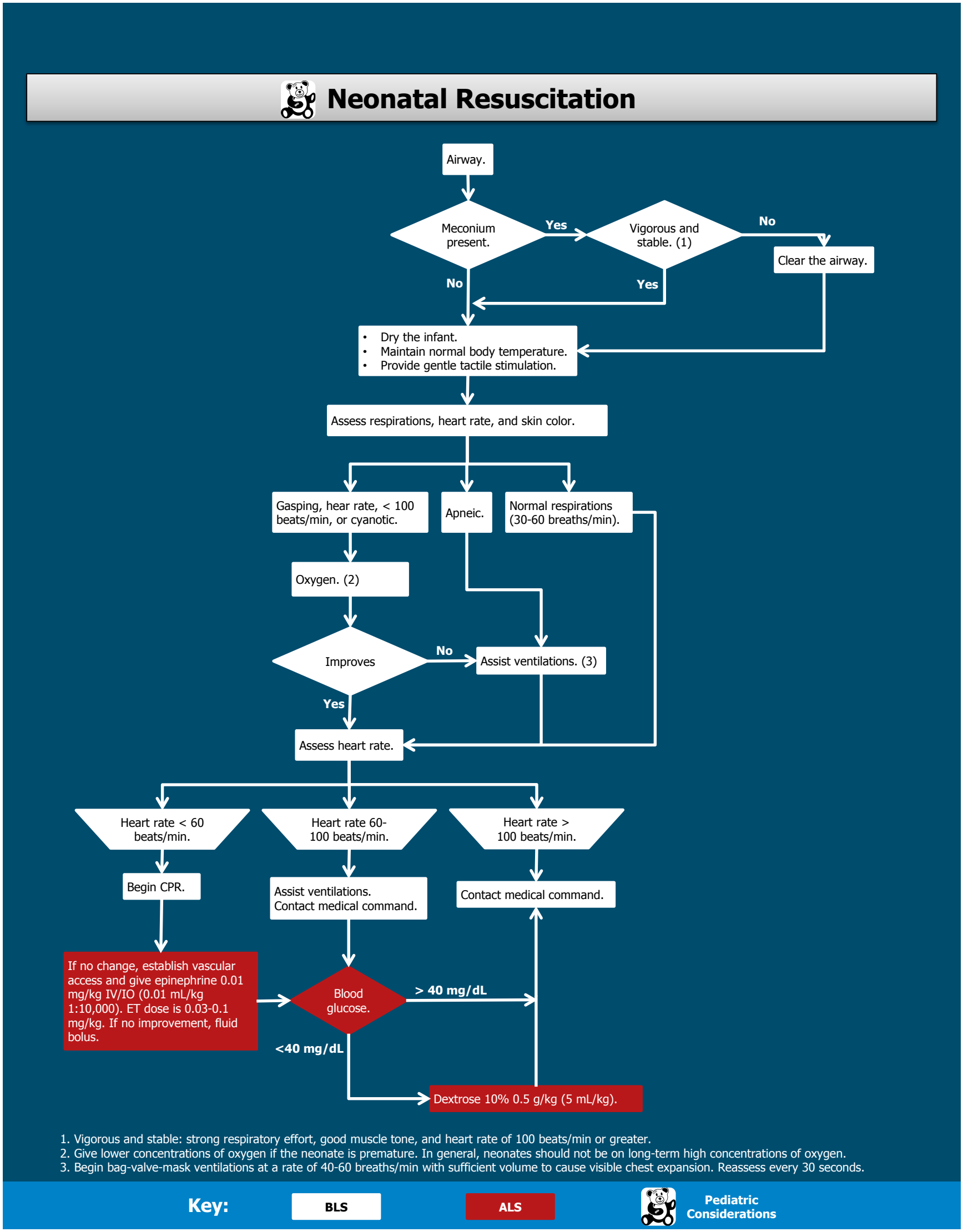
**Heart rate** (awake): 100-180 beats/min

**Respiratory rate:** 30-60 breaths/min

**Systolic blood pressure:** 55-90 mm Hg

**Diastolic blood pressure:** 26-55 mm Hg

# Treatment - Neonatal Resuscitation



# Pediatric Considerations - Neonatal Resuscitation

**ALS: Medications Used in Neonatal Resuscitation**

- Epinephrine 1:10,000: 0.01 mg/kg IV/IO.
- Normal Saline: Fluid bolus of 20 mL/kg over 5-10 minutes. Indicated for shock.
- Sodium Bicarbonate: 1-2 mEq/kg IV over 2 minutes. Use only in prolonged resuscitation and when infant is effectively ventilated.
- Naloxone (Narcan): 0.1 mg/kg IV or IM. Establish adequate ventilation first. Give rapidly. Use cautiously in opioid-addicted mothers.
- Dextrose 10%: 0.5 g/kg (5 mL/kg) slow IV. Check bedside blood glucose.

## Documentation

- Respiratory effort and quality
- Skin color
- Capillary refill
- Response to treatment
- APGAR scores at 1, 5 and 10 minutes (See “APGAR Scoring System”)

# CNS DEPRESSANT POISONING/OVERDOSE

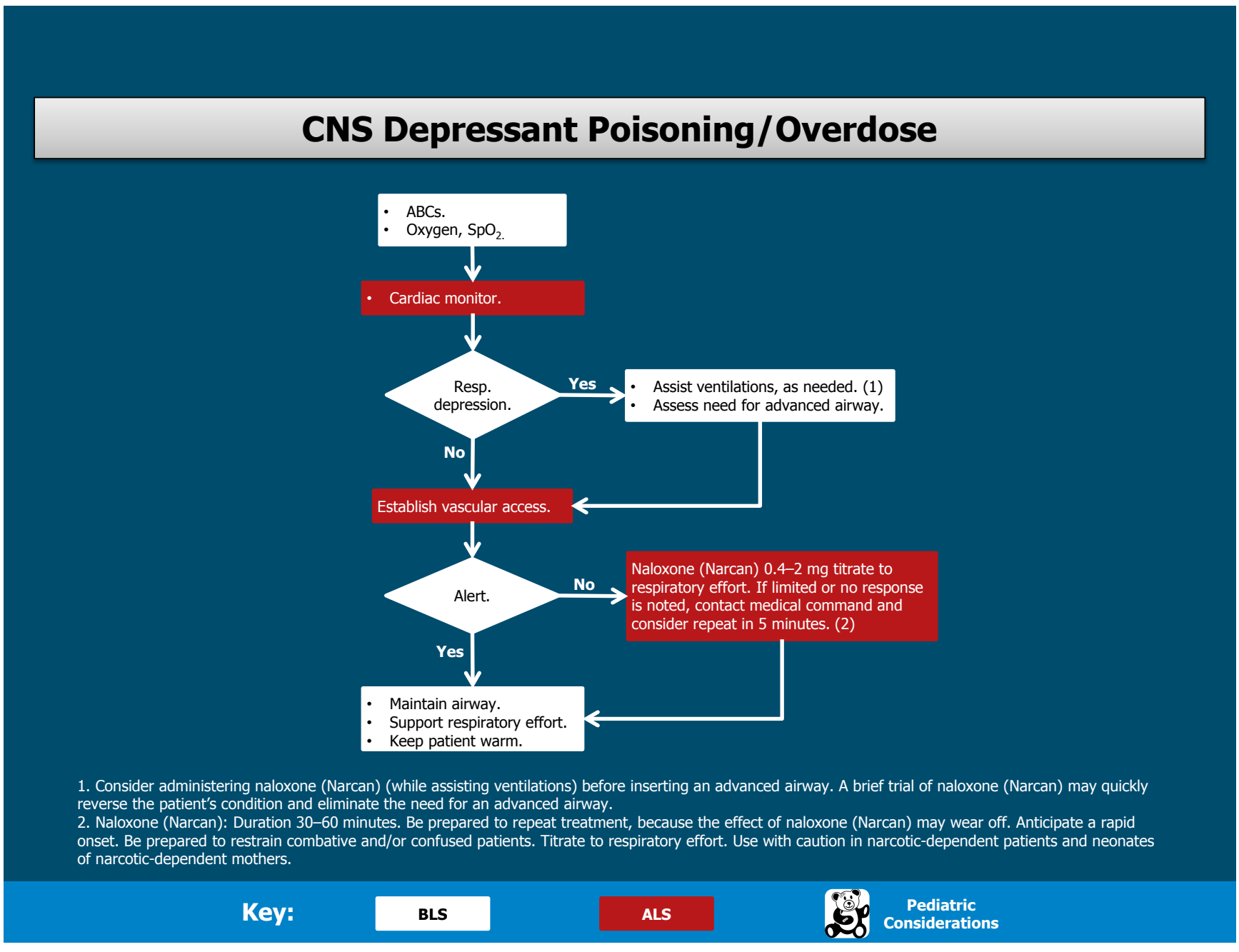
## Considerations

Potential signs and symptoms of depressant use include central nervous system (CNS) and respiratory depression, drowsiness, nausea, vomiting, pinpoint pupils, and bradycardia.

## Assessment - CNS Depressant Poisoning/Overdose

- Airway, breathing, circulation.
- Administer Oxygen.
- Assist ventilations, as needed.
- BLS to request ALS.
- Transport  ASAP.

## Treatment - CNS Depressant Poisoning/Overdose



# Pediatric Considerations - CNS Depressant Poisoning/Overdose

**ALS**

Naloxone (Narcan) dose: 0.1 mg/kg/dose IV, IM. Maximum dose: 2 mg. If no response in 10 minutes, administer a second dose 0.1 mg/kg.

## Documentation

- Signs and symptoms
- Glasgow Coma Scale (GCS) score
- Response to treatment
- Oxygen saturation (SpO2)
- Cardiac rhythm, if obtained

# TRICYCLIC ANTIDEPRESSANT POISONING/OVERDOSE

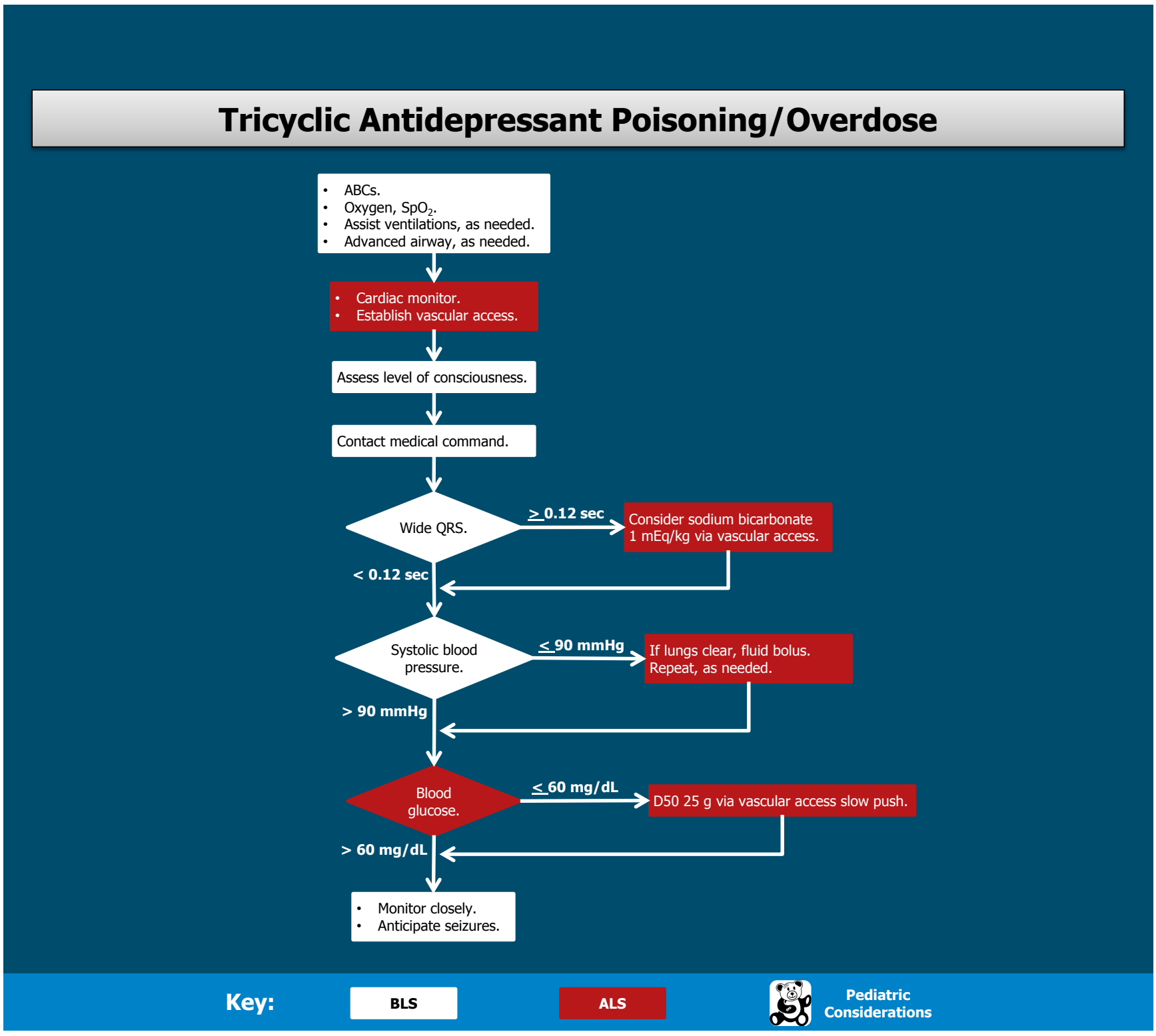
## Considerations

- Potential signs and symptoms of tricyclic antidepressant overdose include: wide QRS, tachycardia, ventricular dysrhythmias, hypoventilation, decreased level of consciousness (LOC), seizures, cardiovascular collapse, dry, flushed (red) skin, and hypotension.
- Tricyclics include: amitriptyline (Amitril, Elavil, Endep, Emitrip, Enovil, Etrafon, Limbitrol,Triavil); amoxapine (Asendin, Asendis, Defanyl, Demolox,Moxadil); desipramine (Norpamin, Pertofane); doxepin (Aponal, Sinaquan); imipramine (Antideprin, Deprimin,Tofranil); maprotiline (Deprilept, Ludiomil); nortriptyline (Aventyl, Pamelor); protriptyline (Vivactil); trimipramine (Surmontil).

## Assessment - Tricyclic Antidepressant Poisoning/Overdose

- Airway, breathing, circulation.
- Administer Oxygen.
- Assist ventilations, as needed.
- BLS to request ALS if ANY of the signs and/or symptoms are present.
- RAPID transport ASAP.

## Treatment - Tricyclic Antidepressant Poisoning/Overdose



# Pediatric Considerations - Tricyclic Antidepressant Poisoning/Overdose

**ALS**

Dextrose: Patients younger than 1 month, administer dextrose 10% (D1O) solution 0.5 g/kg slow IV/IO; patients 1 month or older, administer dextrose 25% (D25)  solution, 0.5 g/kg slow IV/IO.

## Documentation

- Signs and symptoms
- Glasgow Coma Scale (GCS) score
- Response to treatment
- Oxygen saturation (SpO2)
- Cardiac rhythm

# ASTHMA

## Considerations

The absence of normal lung sounds strongly suggests the patient is moving little to no air. Respiratory arrest may be imminent.

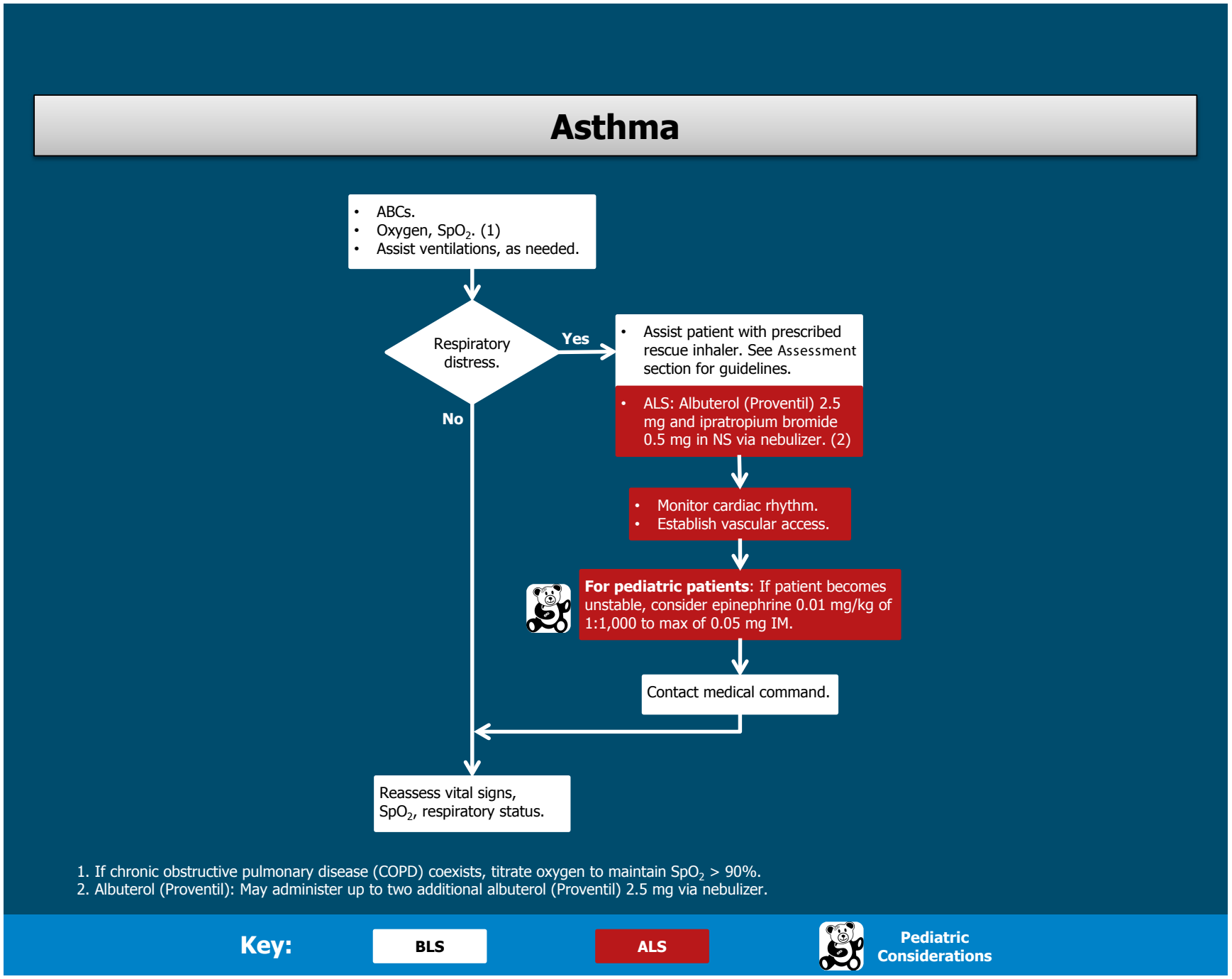
## Assessment - Asthma

- Airway, breathing, circulation.
- Administer Oxygen.
- Transport ASAP.
- BLS to consider ALS backup.
- Allow patient to sit in a position of comfort.
- Maintain body temperature.
- BLS: Metered dose inhaler (MDI) administration: You may assist the patient to administer a rescue inhaler if:
    - The patient possesses his or her own prescribed MDI,
    - AND the patient is alert enough to use the inhaler properly,
    - AND the patient has NOT taken the maximum number of inhalations per the prescription.

## Procedures for MDI Administration

1. Check the medication's expiration date. Do not assist with the inhaler if it is beyond the expiration date.
2. Remove the oxygen delivery device from the patient's face.
3. Instruct the patient to exhale deeply.
4. Have the patient assist by placing his or her lips around the mouthpiece of the inhaler. Note: If the patient has a spacer device for use with the inhaler, it should be used.
5. Assist the patient in depressing the cartridge as he or she takes a deep inhalation.
6. Instruct the patient to hold his or her breath for as long as possible.
7. Replace the oxygen delivery device to the patient's face.
8. Allow the patient to breathe a few times before assessing the need to administer an additional dose.
9. Do not delay transport.

# Treatment - Asthma



# Pediatric Considerations - Asthma

**ALS**

- Administer albuterol (Proventil) 2.5 mg and ipratropium bromide 0.5 mg in 3 mL normal saline via nebulizer.
- Administer additional albuterol 2.5 mg in 3 mL normal saline via nebulizer, up to a total of three treatments.
- Contact medical command.

# Documentation

- Respiratory effort
- Lung sounds before/after airway management
- Oxygen saturation (SpO2), capnography
- Treatment
- Response to treatment
- Skin color
- Glasgow Coma Scale (GCS) score

# CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

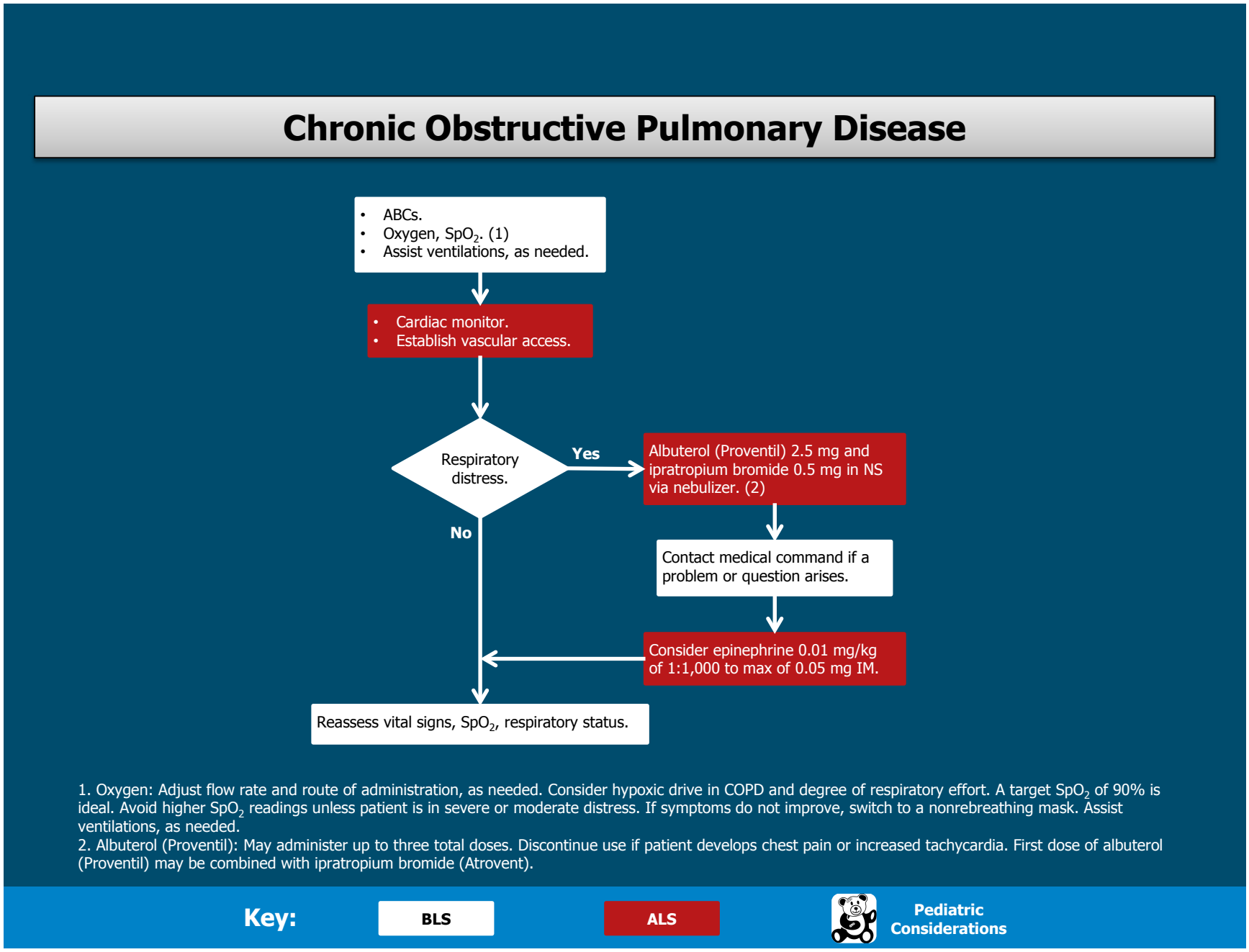
## Considerations

- The absence of lung sounds strongly suggests the patient is moving little to no air. Respiratory arrest may be imminent.
- **Hypoxic drive:** A healthy patient exhales because the body detects the presence of carbon dioxide. Some patients with chronic obstructive pulmonary disease (COPD), unlike healthy patients, use their hypoxic drive (exhale/inhale because their body detects lower oxygen level).When COPD patients who are using their hypoxic drive are given too much oxygen, their respiratory drive may decrease or stop when their body detects ample oxygen. As a result, expect and accept oxygen saturation (SpO2) readings below 90% and above 85% on patients with COPD Give lower concentrations (2–3 L/min via nasal cannula) to these patients, but never deprive a patient in respiratory distress of oxygen. If a patient is in respiratory distress, give high concentrations of oxygen.

## Assessment - Chronic Obstructive Pulmonary Disease (COPD)

- Airway, breathing, circulation.
- Administer oxygen 2 L/min via nasal cannula. If symptoms do not improve, switch to a nonrebreathing mask. Assist ventilations, as needed.
- Assist the patient with use of any prescribed metered-dose inhalers (MDI) he or she may have.
- Transport  ASAP.
- BLS to consider ALS.
- Allow patient to sit up in a position of comfort.
- BLS: Complaints of respiratory distress and wheezing, assist patient with their own MDI, not to exceed maximum prescribed dose.

# Treatment - Chronic Obstructive Pulmonary Disease (COPD)




## Documentation

- Respiratory effort
- Lung sounds before/after airway management
- Oxygen saturation (SpO2), capnography
- Treatment
- Response to treatment
- Skin color
- Glasgow Coma Scale (GCS) score

# CONGESTIVE HEART FAILURE (CHF)

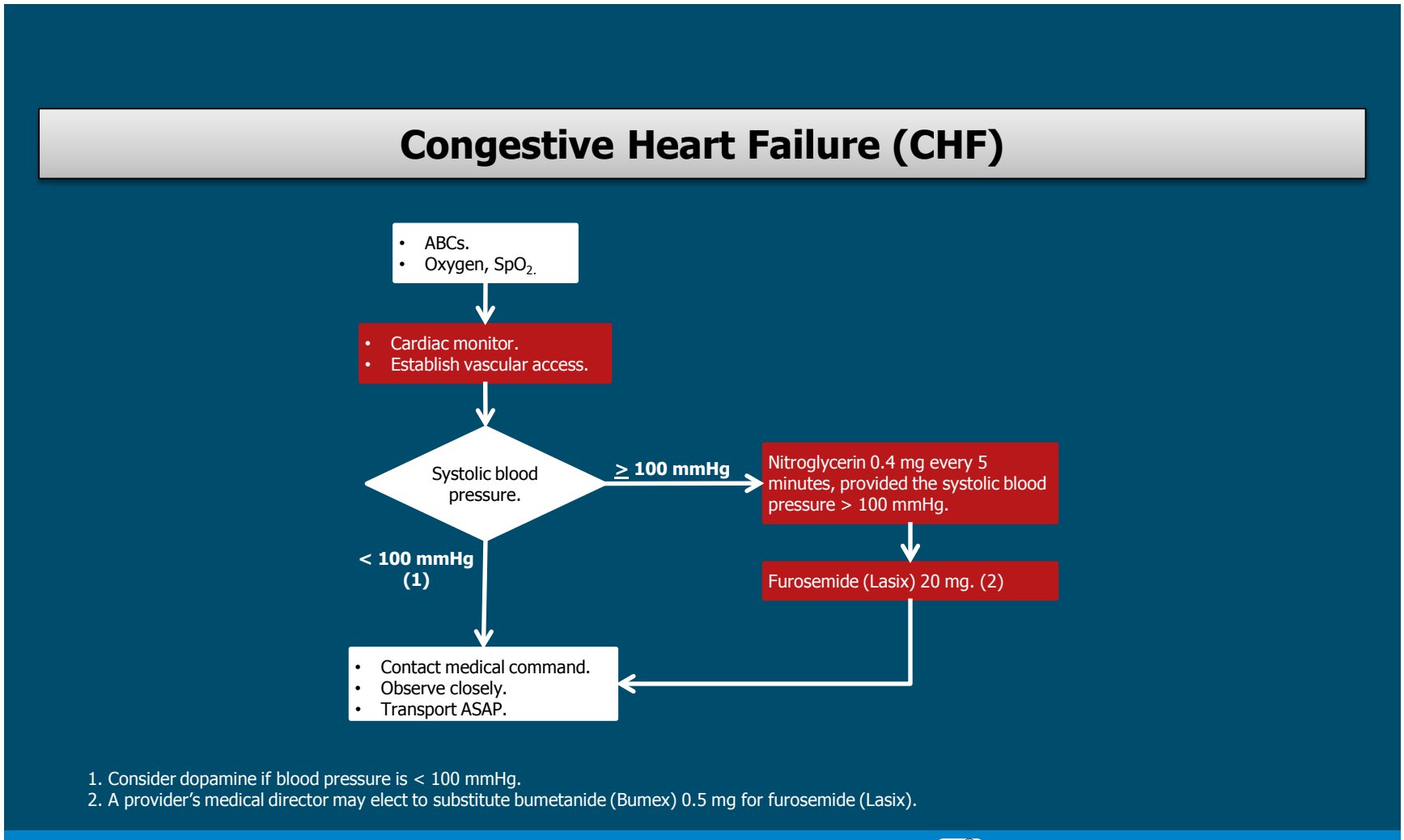
## Considerations

- The absence of lung sounds strongly suggests the patient is moving little to no air. Respiratory arrest may be imminent.
- It is often difficult to differentiate congestive heart failure (CHF) from chronic obstructive pulmonary disease (COPD).When in doubt, ask the patient what medications he or she is taking. Patients taking digoxin and/or furosemide (Lasix) are probably being treated for CHF.
- Possible signs and symptoms: Dyspnea, rales, wheezing, frothy-pink sputum, jugular vein distention, peripheral edema.
- If in respiratory distress, consider CPAP.

## Assessment - Congestive Heart Failure (CHF)

- Airway, breathing, circulation.
- Administer oxygen, as needed.
- Assist ventilations, as needed.
- Transport  ASAP.
- BLS to consider ALS.
- Allow patient to sit up in a position of comfort.
- If chest pain is present, consider assisting the patient with his or her prescribed nitroglycerin.

# Treatment - Congestive Heart Failure (CHF)




## Documentation

- Respiratory effort
- Lung sounds before/after airway management
- Oxygen saturation (SpO2), capnography
- Treatment
- Response to treatment
- Skin color
- Glasgow Coma Scale (GCS) score

# CROUP AND EPIGLOTTITIS

## Considerations

- Approach the child in a calm and reassuring manner. Do not startle the patient; anxiety is likely to exacerbate the patient.
- Allow the child to adopt position of comfort.
- Consider blow-by humidified oxygen. Pediatric patients rarely tolerate a mask.
- Mild to moderate distress
- Moderate to severe distress: Stridor at rest, retractions, tripoding, and accessory muscle use.
- Children who have not had immunization are at a greater risk for acute epiglottitis.

## Croup

- Age 6 months through 3 years.
- Gradual onset.
- Signs and symptoms: Often preceded by an upper respiratory infection.
- Barking cough.
- Often worse at night.
- May or may not have a fever.
- Condition varies from mild to severe.

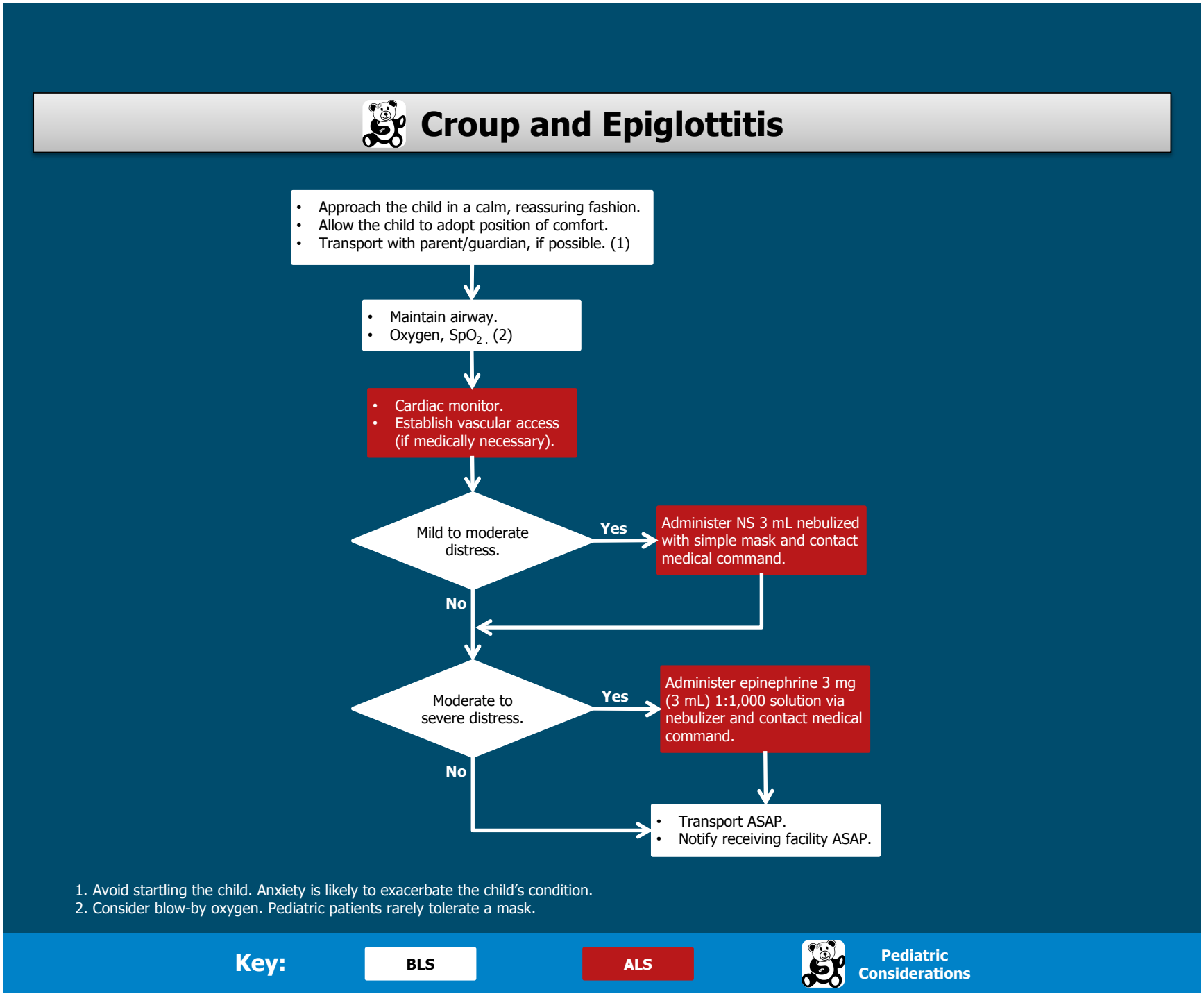
## Epiglottitis

- Age usually > 2 years.
- Rapid onset.
- Sign and symptoms: Fever, often looks sick, air hunger, nasal flaring, restlessness, drooling, retractions,wants to sit upright.
- Muffled cough.

## Assessment - Croup and Epiglottitis

- Airway, breathing, circulation.
- Administer Oxygen. Consider blow-by humidified oxygen (pediatric patients rarely tolerate mask).
- Assist ventilations, as needed.
- Maintain body temperature.
- Monitor cardiac rhythm.
- BLS to consider ALS.
- Transport  ASAP.

# Treatment - Croup and Epiglottitis




## Documentation

- Respiratory effort
- Lung sounds before/after airway management
- Oxygen saturation (SpO2)
- Treatment
- Response to treatment
- Skin color
- Glasgow Coma Scale (GCS) score

# OBSTRUCTED AIRWAY, CHILD/ADULT

## Considerations

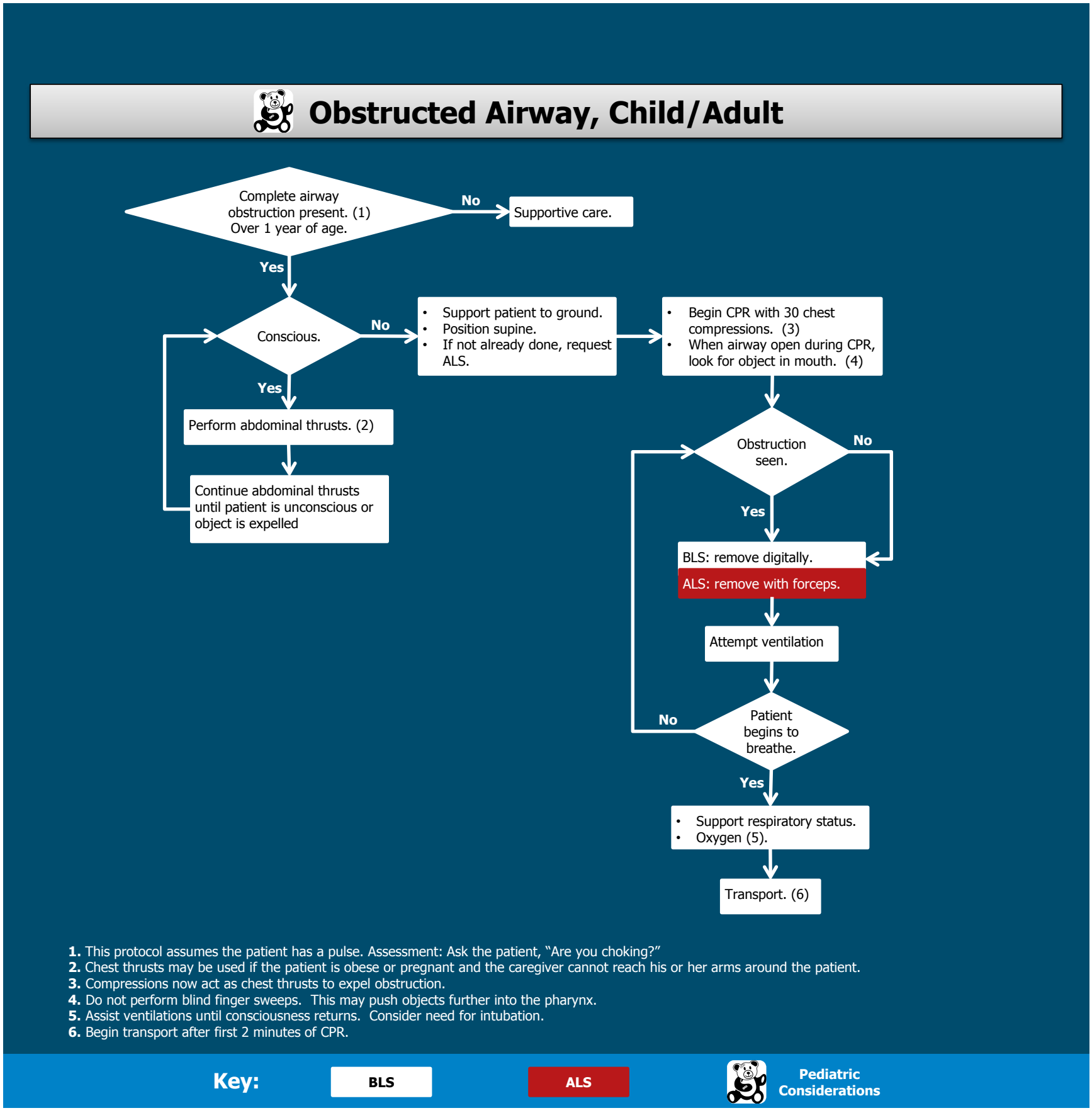
It is important to distinguish this emergency from fainting, heart attack, seizure, or other conditions that may cause sudden respiratory distress, cyanosis, or loss of consciousness. Most reported cases of airway obstruction occur in adults while they are eating. Most reported episodes of chocking in infants and children occur during eating or play.

- Foreign objects may cause either mild or severe airway obstruction.
- The rescuer should intervene if the choking victim shows signs of severe airway obstruction, such as silent cough, cyanosis, or inability to speak or breathe.

## Assessment - Obstructed Airway, Child/Adult

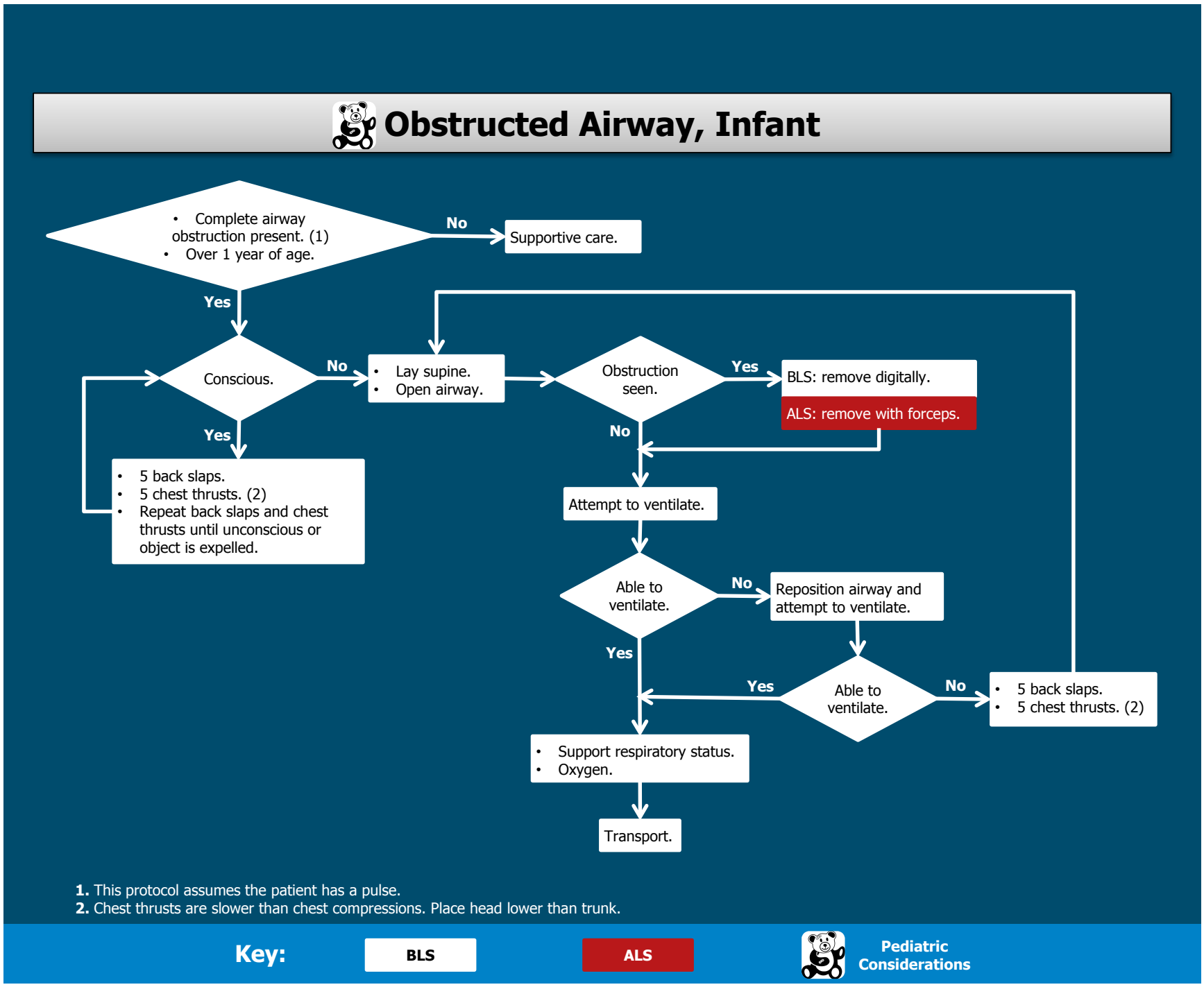
- Airway, breathing, circulation.
- BLS to consider ALS if signs of severe obstruction develop.
- Transport ASAP.

# Treatment - Obstructed Airway, Child/Adult



# OBSTRUCTED AIRWAY, INFANT

## Treatment - Obstructed Airway, Infant



# SECTION 3: TRAUMA

## AMPUTATION

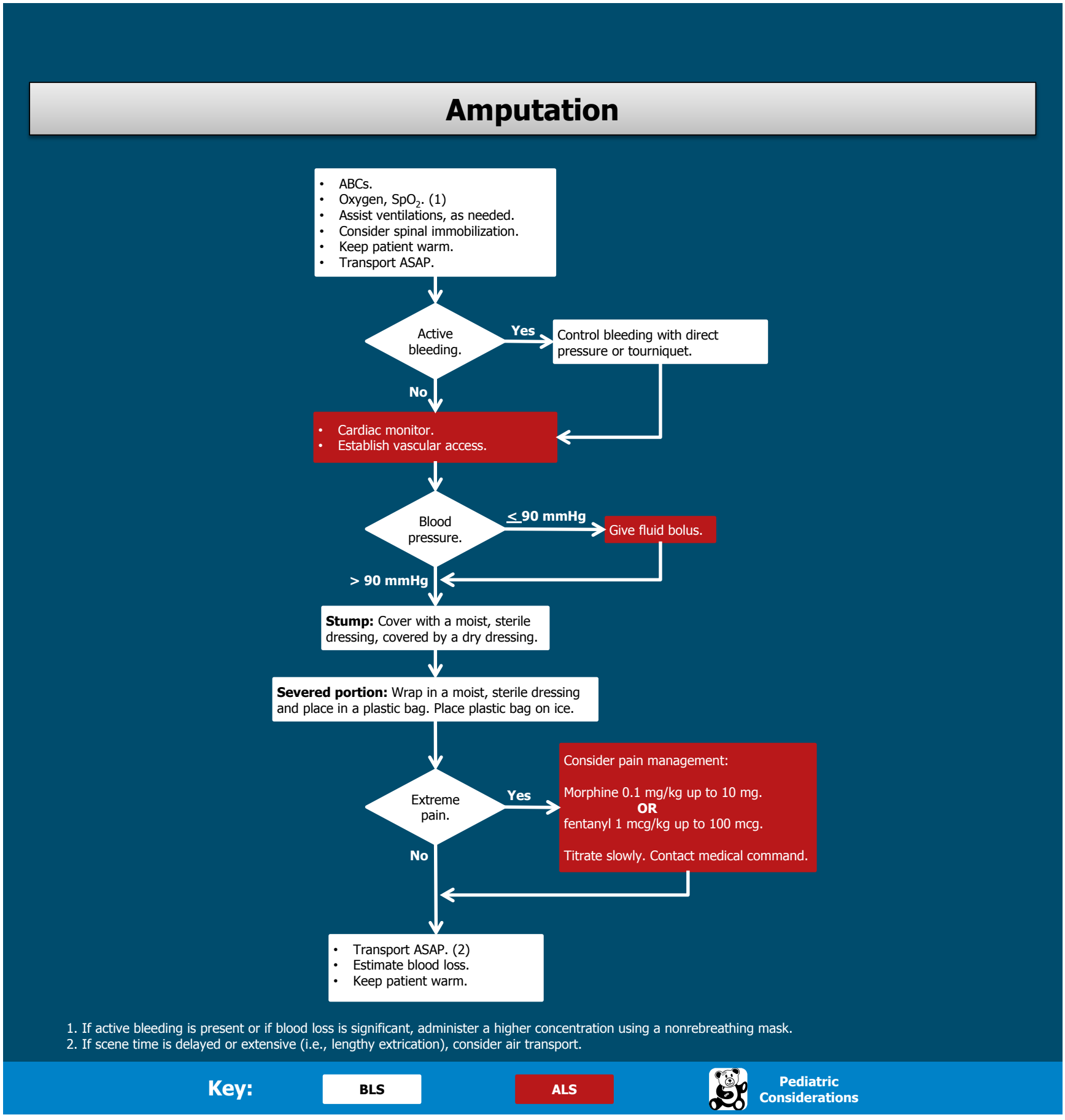
### Considerations

If an extremity is involved and venous or arterial bleeding cannot be stopped with direct pressure, a tourniquet should be applied. The tourniquet should be gradually tightened until the bleeding has stopped. Note the time the tourniquet was applied.

### Assessment - Amputation

- Airway, breathing, circulation.
- Administer oxygen via nasal cannula, as needed. If active bleeding is present or if blood loss is significant, administer a higher concentration using a nonrebreathing mask.
- Control bleeding (direct pressure, tourniquet).
- BLS to consider ALS. Transport ASAP. Consider air transport if scene time is delayed.
- Stump: Cover with a moist, sterile dressing, covered by a dry dressing.
- Amputated tissue: Wrap in sterile, moistened gauze and seal in a plastic bag. Place the bag over ice. The tissue should not come into direct contact with the ice or soak in water.

# Treatment - Amputation



## Pediatric Considerations - Amputation

**ALS**

- Morphine: 0.1 mg/kg up to 10 mg. Titrate slowly.
- Fentanyl: 1 mcg/kg up to 100 mcg.

## Documentation

- Mechanism of injury
- Time of injury
- Time tourniquet applied

# BURNS

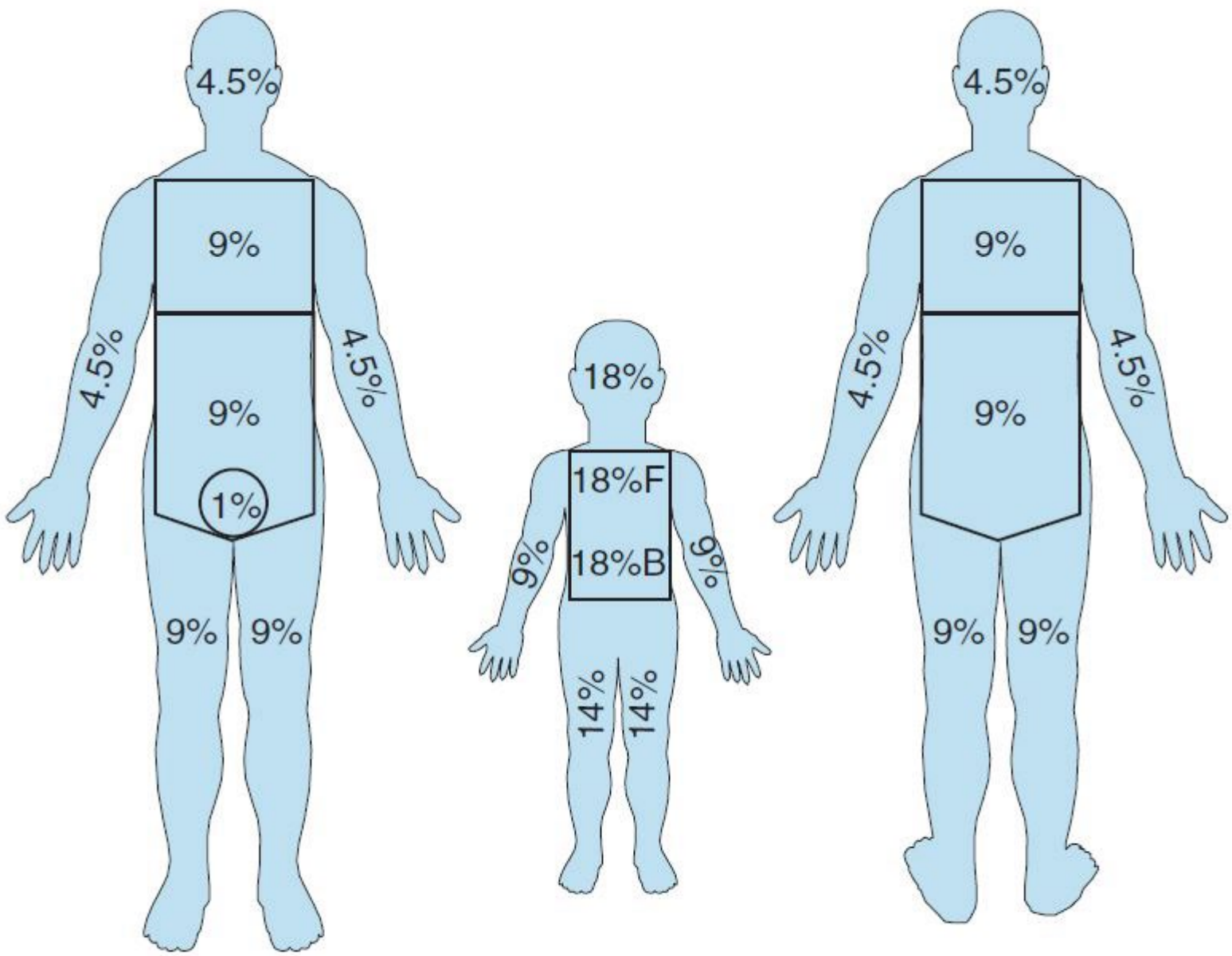
## Considerations

- Consider carbon monoxide poisoning.
- Administer  high-flow oxygen.
- Transport burn patients to the most appropriate facility.

## Palmar Method (See "Burns: Palmar Method")

The Palmar Method is a mechanism of assessing the total body surface area (BSA) burned. This assessment uses the size of the patient's hand (including the fingers) to represent about 1% of the patient's body surface area.

## The Rule of 9s (See "Pediatric Burns: The Rule of 9s")




## Assessment - Burns

- Airway, breathing, circulation.
- If patient is in respiratory distress, apply Oxygen. Assist ventilations, as needed.
- Immobilize the spine, if indicated.
- Stop the burning process and prevent unnecessary cooling.
- Focus assessment on depth and extent of burn. The patient's hand represents 1% of his or her body surface area (BSA). Use this as a reference.
- Apply a clean sheet or blankets to prevent hypothermia.
- Transport ASAP.

## Stop the Burning Process

- **Thermal**: Remove patient from environment.
- **Tar**: Cool with water or NS. Do not attempt to remove the tar.
- **Chemical:** Brush dry chemicals off. Flush skin with copious amounts of water for 15 to 20 minutes. Avoid getting particles airborne. Do not attempt to neutralize. Consider need for HAZMAT.
- **Electrical**: Make sure the patient is de-energized before approaching. Suspect internal injuries. Look for entrance and exit wounds.

# Treatment - Burns

## Burns

- ABCs.
- Oxygen, $SpO_2$.
- Assist ventilations, as needed.
- Consider spinal immobilization.
- Keep patient warm.
- Transport ASAP. (1)

**Respiratory distress.**

**Yes**

- Oxygen, as needed.
- Assist ventilations, as needed.
- Advanced airway, as needed.

**No**

Evaluate extent of burn and percent BSA involved. (2)

- Cardiac monitor.
- Establish vascular access. (3)

**Burn ≥ 10% BSA. (4)**

**Yes**

Administer fluid bolus.

**No**

Cover patient with clean sheet or blanket.

**Pain management:**
Morphine: 0.1 mg/kg up to 10 mg.
Fentanyl: 1 mcg/kg up to 100 mcg.

Notify receiving facility ASAP. Prevent unnecessary cooling. Monitor LOC, vital signs, $SpO_2$, capnography, respiratory status.

Contact medical command.

**Parkland formula:**

- The amount of IV fluid the patient will need for the first 24 hours: 4 mL of Lactated Ringer's **X** the patient's weight (in kg) **X** the % BSA burned.
- Give half of the total fluid within the first 8 hours of the burn.
- Give the second half over the next 16 hours.

1. Burns without other trauma, take to burn center; with other trauma, take to trauma center.
2. The patient's hand represents 1% of his or her BSA. Use this as a reference.
3. Start IVs within unburned areas, if possible. Burned areas may be used, if needed.
4. American Burn Association transport guidelines for taking patients to burn centers:
   - Partial thickness burn, surface area  to 10% BSA.
   - Full-thickness burns.
   - Chemical, electrical, or smoke-inhalation burns.
   - Burns involving the hands, face, feet, genitalia, or major joints.
   - Burns requiring long-term rehabilitation and/or psychological support.
   - Patients with pre-existing serious medical history.

**Key:** BLS | ALS | Pediatric Considerations

# Pediatric Considerations - Burns (See "Pediatric Burns: The Palmar Method")

**ALS**

- If trauma is accompanied by burns, substitute NS for Lactated Ringer's (LR) solution.
- Administer a rapid fluid bolus of LR 20 mL/kg via IV/IO or NS 20 mL/kg (if trauma is accompanied by burns).
- Morphine and fentanyl dosages are identical for pediatric and adult patients.

## Documentation

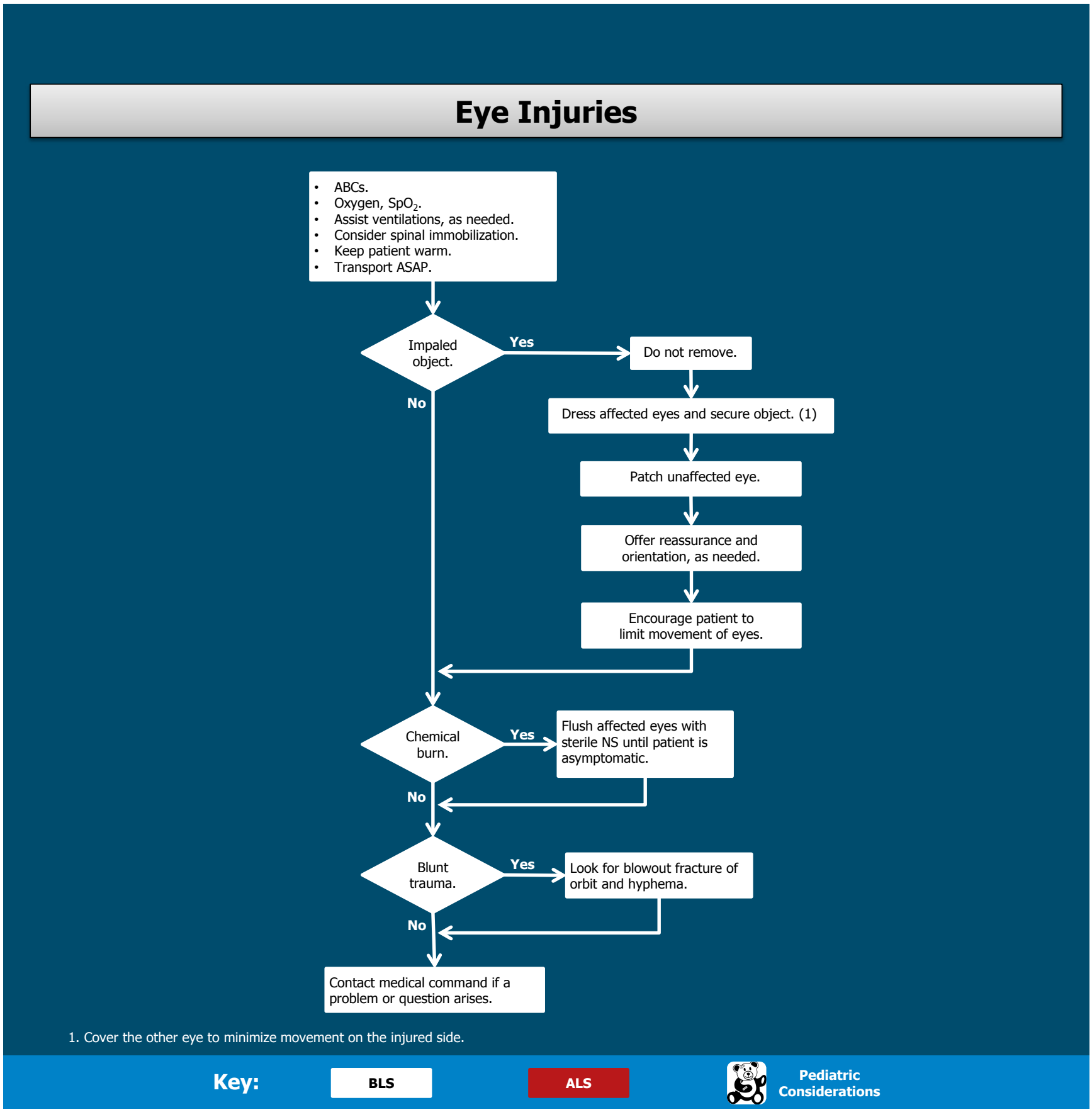
- Degree (depth) of burn
- Extent of burn (percent BSA involved)
- Mechanism of injury
- Type of burn (chemical,thermal,electrical, scald,contact,smoke inhalation)
- Respiratory status
- Sign of inhalation (singed nares, soot in mouth)
- Oxygen saturation (SpO2)
- Entrapment

# EYE INJURIES

## Assessment - Eye Injuries

- Airway, breathing, circulation.
- Impaled object: Do not remove. Dress affected eye and secure object.
- Chemical burn: Flush affected eye with normal saline.
- Offer orientation and reassurance.
- Calculate Glasgow Coma Scale (GCS) score.
- Calculate Revised Trauma Score (RTS).
- Transport.

## Treatment - Eye Injuries



## Documentation

- Signs and symptoms
- Appearance of eye:Pupils Equal And Round, Regular in size, react to Light (PEARRL)
- Cardiac rhythm, if obtained
- Mechanism of injury
- Intensity and duration of pain
- Vital signs
- Oxygen saturation (SpO2)
- Treatment
- Response to treatment
- GCS score
- Revised Trauma Score (RTS)

# GENERAL MANAGEMENT OF TRAUMA

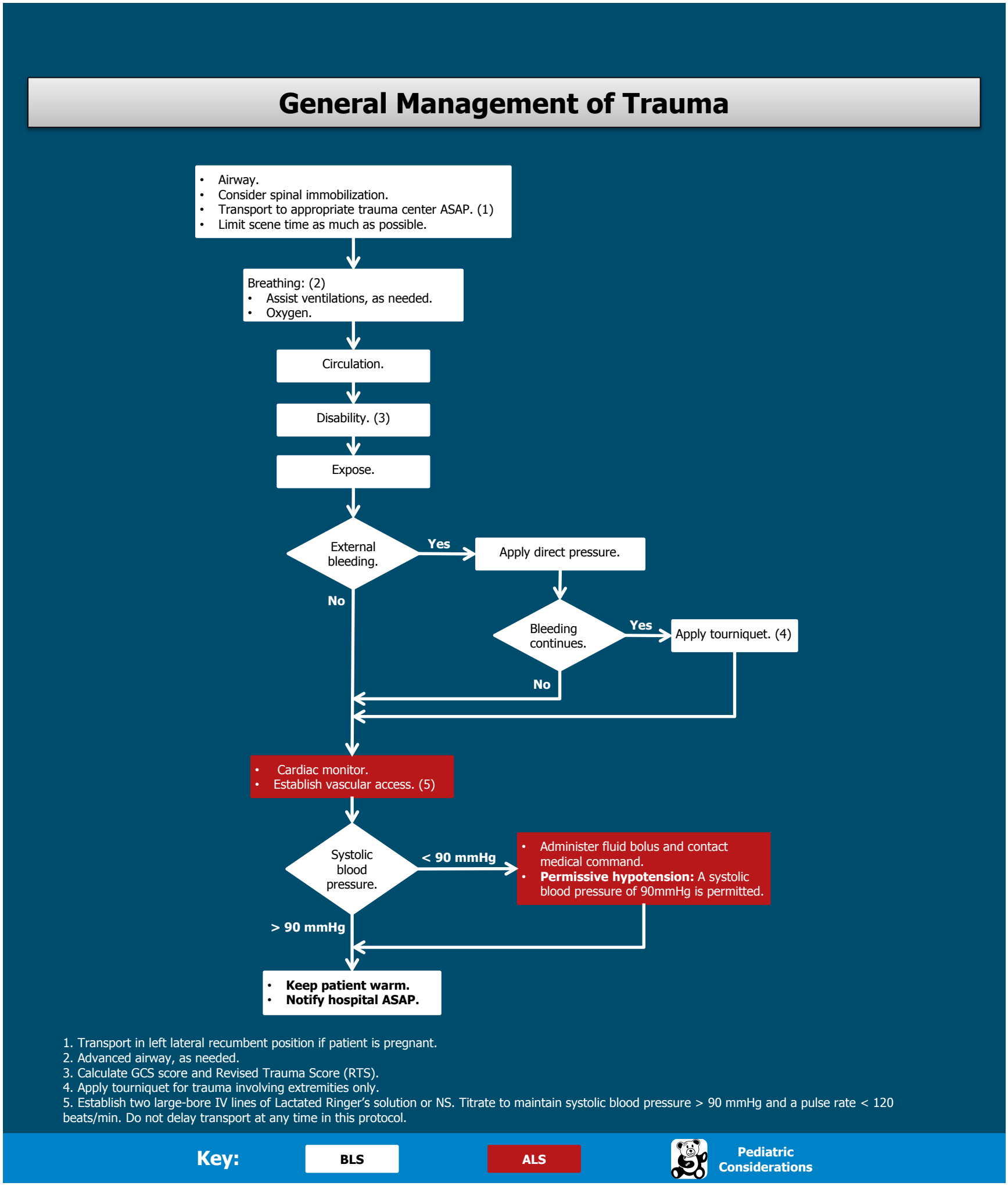
## Considerations

Patients can be transported by ground or air. The goal is to get the patient to the emergency department in the least possible amount of time. Refer to pages 32 and 33 of this Field Guide for air transport considerations.

## Assessment - General Management of Trauma

- Airway, breathing, circulation.
- Consider spinal immobilization.
- Administer Oxygen via nonrebreathing mask.
- Assist ventilations, as needed.
- Calculate Glasgow Coma Scale (GCS) score.
- Calculate Revised Trauma Score (RTS).
- Control external bleeding.
- BLS to consider ALS (advanced airway, IV fluids).
- Transport ASAP.

# Treatment - General Management of Trauma



# Pediatric Considerations - General Management of Trauma

**ALS**

- If trauma is accompanied by burns, substitute NS for Lactated Ringer's (LR) solution.
- Administer a rapid fluid bolus of LR 20 mL/kg via IV/IO or NS 20 mL/kg (if trauma is accompanied by burns).
- Morphine and fentanyl dosages are identical for both pediatric and adult patients.

# Documentation

- Signs and symptoms
- GCS score
- Revised Trauma Score (RTS)
- Neurologic status
- Onset and duration of loss of consciousness, if any
- Oxygen saturation (SpO2)
- Cardiac rhythm
- Mechanism of injury

# HEAD AND SPINE INJURIES

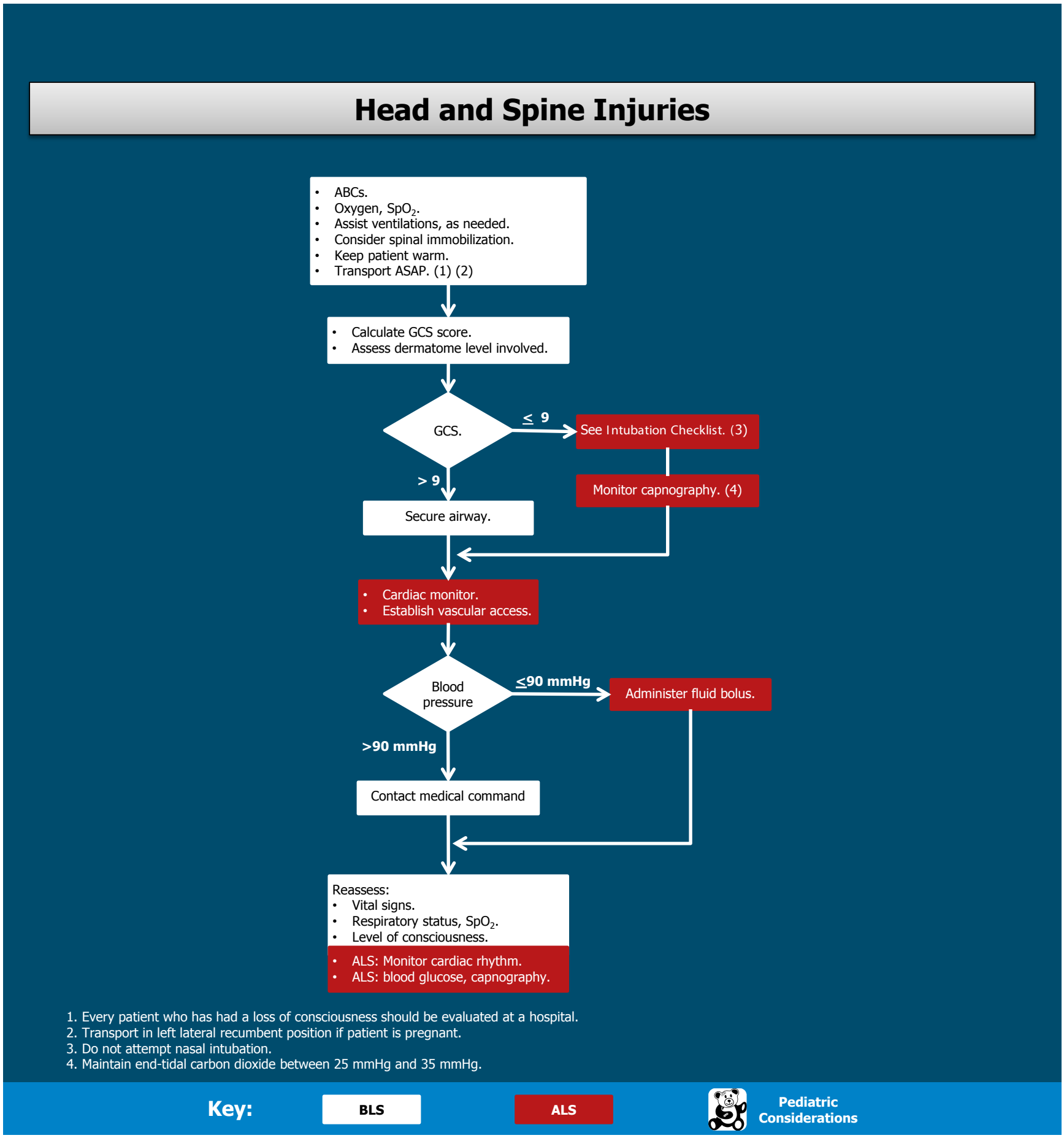
## Considerations

Every patient who has had a loss of consciousness should be evaluated at a hospital. Open wounds that expose brain tissue should be covered with saline-soaked gauze.

## Assessment - Head and Spine Injuries

- Airway, breathing, circulation.
- Administer Oxygen.
- Assist ventilations, as needed.
- Full-spine immobilization.
- Glasgow Coma Scale (GCS) score.
- Revised Trauma Score (RTS).
- BLS to consider ALS (advanced airway, IV fluids).

# Treatment - Head and Spine Injuries




## Documentation

- Signs and symptoms
- GCS score
- Revised Trauma Score (RTS)
- Onset and duration of loss of consciousness
- Oxygen saturation (SpO2)
- Cardiac rhythm
- Motor function/sensation
- Mechanism of injury

# ORTHOPEDIC INJURIES

## Considerations

- Check distal pulses, motor function, and sensation before and after splinting.
- Consider use of pneumatic anti-shock garment (PASG) or pelvic sling to stabilize and splint pelvic fractures.

## Assessment - Orthopedic Injuries

- Airway, breathing, circulation.
- Administer oxygen, as needed.
- Treat life-threatening injuries first.
- Prepare for transport:
  - Immobilize fracture site, splinting above and below the site. If there is significant deformity or if the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting.
  - Isolated closed femur (mid-shaft) fractures: Apply a traction splint.
  - Pelvic fractures: Consider PASG or a pelvic sling.

# Treatment - Orthopedic Injuries

## Orthopedic Injuries

- ABCs.
- Oxygen, $SpO_2$.
- Assist ventilations, as needed.
- Consider spinal immobilization.
- Keep patient warm.
- Transport ASAP.

- Cardiac monitor.
- Establish vascular access. (1)

Pain.

Yes

Blood pressure.

≤ 90 mmHg

Consider pain management:

Morphine 0.1 mg/kg up to 10 mg.
**OR**
fentanyl 1 mcg/kg up to 100 mcg.

Contact medical command. (2)

No

≥ 90 mmHg

Deformity.

Yes

- Immobilize fracture site.
- Consider the need to reduce a fracture or dislocation. (3) (4) (5)
- Check distal pulses, motor function, and sensation before and after splinting.

No

- Elevate simple extremity injuries.
- Apply ice to site.

- Keep patient warm.
- Monitor distal pulses, skin temperature, sensation, and motor function.
- Transport ASAP.

1. Start IV NS on any serious injury. Use your judgment on minor fractures.
2. Morphine may cause nausea, especially if given quickly.
3. If there is significant deformity or if the distal extremity is cyanotic or lacks distal pulses, align with gentle traction before splinting.
4. Isolated closed femur (mid-shaft) fractures: Apply a traction splint. Traction splints are contraindicated in the presence of a pelvic, hip, distal femur, and/or lower leg fracture.
5. Pelvic fractures: Consider PASG or a pelvic sling.

**Key:** BLS | ALS | Pediatric Considerations

# Pediatric Considerations - Orthopedic Injuries

**ALS**

- If trauma is accompanied by burns, substitute NS for Lactated Ringer's (LR) solution.
- Administer a rapid fluid bolus of LR 20 mL/kg via IV/IO or NS 20 mL/kg (if trauma is accompanied by burns).
- Morphine and fentanyl dosages are identical for pediatric and adult patients.

## Documentation

- Signs and symptoms
- Presence and degree of deformity
- Distal circulation
- Motor function
- Sensation
- Oxygen saturation (SpO2)
- Skin color
- Mechanism of injury

# SOFT TISSUE INJURIES

## Considerations

## Controlling External Bleeding

**Direct Pressure:** Use a sterile dressing and gloved hand to apply direct, steady pressure over a bleeding site. Maintain the pressure and secure with a roller bandage. If bleeding continues, leave the original dressing in place and apply a second bandage. Elevating the site, if possible, will slow venous bleeding.

**Tourniquet**: Apply a commercially available tourniquet per manufacturer's instructions. If not available, use wide material, such as a cravat. A blood pressure cuff works well for upper extremities. Wrap the material around the extremity twice at a point approximately 8 cm distal to the axilla or groin and tie a half knot. Place a stick or similar object on top of the half knot, and complete the square knot above the stick. Twist the stick to tighten the tourniquet until the bleeding stops. Secure the stick in that position. Write provider's name and the exact time (hour and minute) you applied the tourniquet on adhesive tape. Add the phrase "time applied." Securely fasten this tape to patient's forehead. Do not remove the tourniquet. Notify hospital personnel on your arrival that your patient has a tourniquet in place. Record the same information on your patient care report.

## Management of Specific Injuries

**Amputation:** Preserve the amputated tissue. Rinse the tissue of debris and wrap it loosely in saline-moistened gauze. Seal tissue in a plastic bag and place in a cool container. Keep the tissue cold, but do not allow it to freeze and do not allow it to soak in water. Transport as quickly as possible. If any delays are expected, consider air transport.

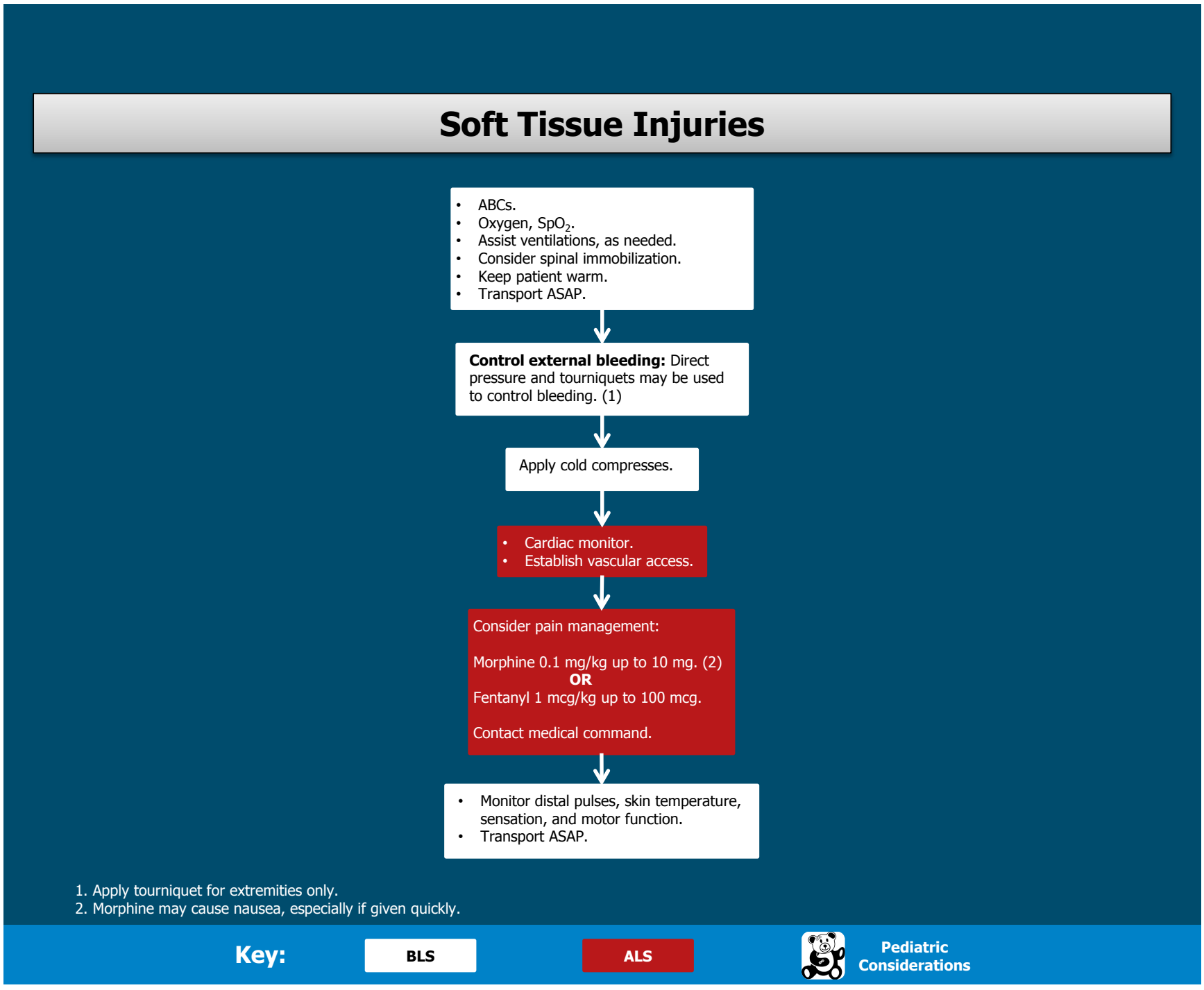
**Impaled Object:** Do not remove an impaled object unless it interferes with the airway. Stabilize the object in place with a bulky dressing and immobilize the site, if possible. The goal is to limit motion of the impaled object.

**Crush Syndrome:** Make every effort to treat the patient: start multiple IVs, give IV normal saline (NS) before removing the crushing object. The concern is that the patient will experience severe hypotension and a release of potassium (hyperkalemia). Avoid Lactated Ringer's (LR), because LR has potassium. Contact medical command for direction.

## Assessment - Soft Tissue Injuries

- Airway, breathing, circulation.
- Spinal immobilization, as needed.
- Administer Oxygen.
- Control external bleeding. See *Considerations*.
- Apply cold compresses for pain.
- Transport ASAP.

# Treatment - Soft Tissue Injuries




# Pediatric Considerations - Soft Tissue Injuries

**ALS**

- If trauma is accompanied by burns, substitute NS for Lactated Ringer's (LR) solution.
- Administer a rapid fluid bolus of LR 20 mL/kg via IV/IO or NS 20 mL/kg (if trauma is accompanied by burns).
- Morphine and fentanyl dosages are identical for pediatric and adult patients.

# Documentation

- Signs and symptoms
- Time tourniquet applied
- Distal neurovascular status: pulse, motor function, sensation
- Oxygen saturation (SpO2)
- Skin color
- Mechanism of injury

# TRAUMA TRANSPORT GUIDELINES

## Considerations

- Steps 1 and 2 of this algorithm attempt to identify the most seriously injured patients. These patients should be transported to the highest level of care within the trauma system.
- See "Accessing the Air Medical Unit" for air transport considerations.

# Treatment - Trauma Transport Guidelines

## Trauma Transport Guidelines

**Step 1**

**Measure vital signs and level of consciousness.**
**Are ANY of the following indicators present?**

- Glasgow Coma Scale: ≤ 13.
- Systolic Blood Pressure (mmHg): < 90 mmHg.
- Respiratory rate: < 10 or > 29 breaths/min , or need for ventilatory support (< 20 in infant aged <1 year).

**Yes** → **Transport to a trauma center**. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

**No** → Assess anatomy of injury.

**Step 2**

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee.
- Chest wall instability or deformity (e.g., flail chest).
- Two or more proximal long-bone fractures.
- Crushed, degloved, mangled, or pulseless extremity.
- Amputation proximal to wrist or ankle.
- Pelvic fractures.
- Open or depressed skull fractures.
- Paralysis.

**Yes** → **Transport to a trauma center**. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

**No** → Assess mechanism of injury and evidence of high-energy impact.

- **Falls:**
  - Adults: >20 feet (one story is equal to 10 feet).
  - Children: >10 feet or two to three times the height of the child.
- **High-risk auto crash:**
  - Intrusion, including roof: > 12 inches on occupant site; >18 inches any site.
  - Ejection (partial or complete) from automobile.
  - Death in same passenger compartment.
  - Vehicle telemetry data consistent with high risk of injury.
- **Auto vs. pedestrian/bicyclist thrown, run over, or with significant (> 20 mph) impact.**
- **Motorcycle crash > 20 mph.**

**Yes** → **Transport to a trauma center**, which, depending upon the defined trauma system, need not be the highest level trauma center.

**No** → Assess special patient or system considerations.

- **Older Adults:**
  - Risk of death increases after age 55 years.
  - SBP <110 may represent shock after age 65.
  - Low impact mechanisms (e.g., ground level falls) may result in severe injury.
  - All NJ trauma centers have pediatric capability.
- **Children:**
  - Should be triaged preferentially to pediatric-capable trauma centers.
- **Anticoagulation and bleeding disorders:**
  - Patients with head injury are at high risk for rapid deterioration.
- **Burns:**
  - Without other trauma mechanism, triage to burn facility.
  - With trauma mechanism, triage to trauma center.
- **Pregnancy > 20 weeks.**
- **EMS provider judgment.**

**Yes** → **Transport to a trauma center** or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical command.

**No** → Transport according to protocol.

**When in doubt, transport to a trauma center.**

**Key:** BLS | ALS | Pediatric Considerations

## Documentation

- Communication with medical command
- Mechanism of injury
- Trauma criteria/indicator
- Activation of trauma system

# SECTION 4: PROCEDURES

## CRICOTHYROTOMY

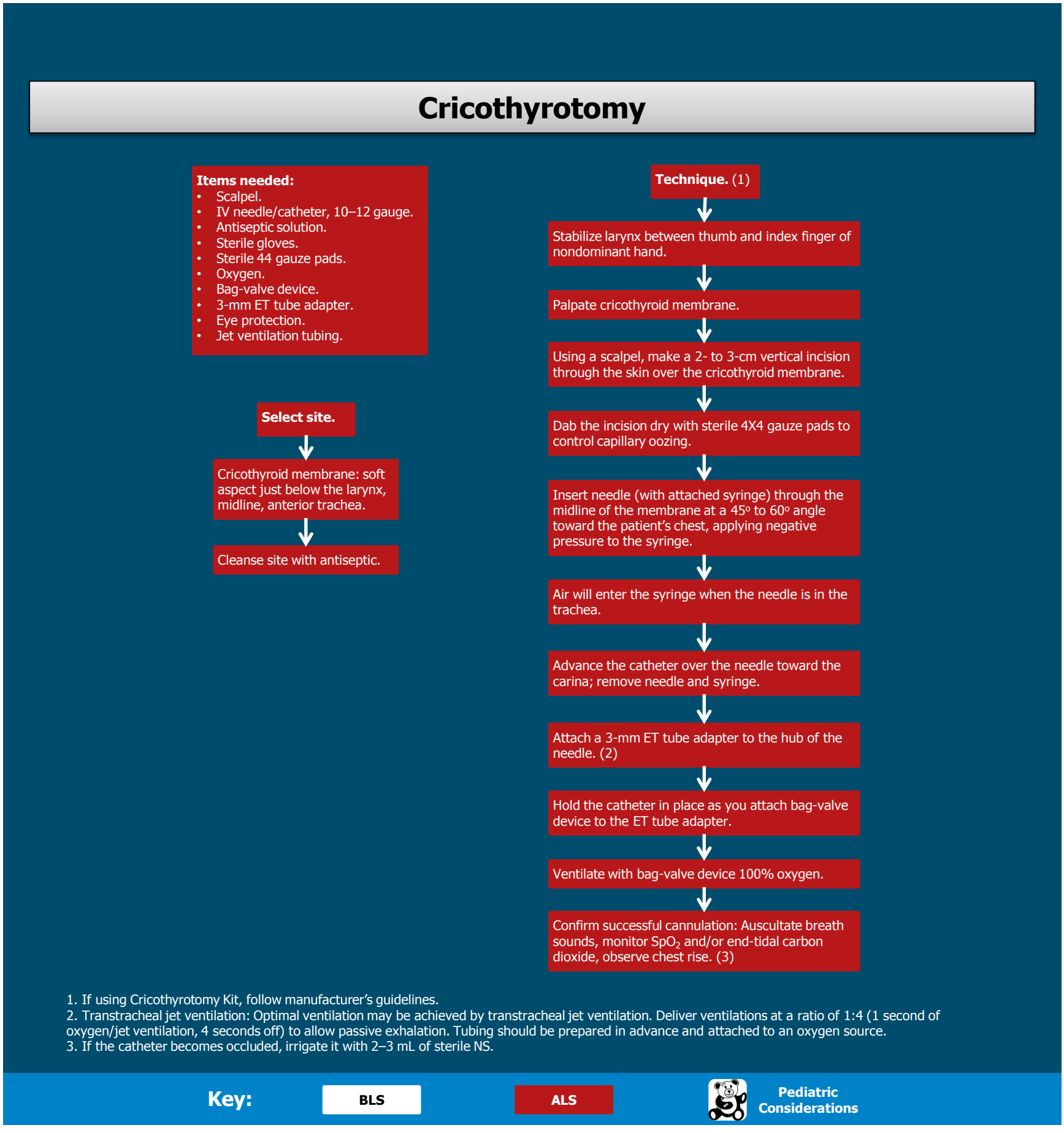
### Considerations

- Indications: Severe facial or nasal injuries, anaphylaxis, chemical inhalation injury, or when other means of establishing an airway are not adequate.
- Contraindications: Patients whose airway can be secured by an alternate advanced airway.
- Procedure cannot be initiated without approval from medical command.

### Assessment - Cricothyrotomy

- Airway, breathing, circulation.
- Administer Oxygen.
- BLS to request ALS.
- Transport  ASAP.

# Treatment - Cricothyrotomy




## Documentation

- Need for cricothyrotomy
- Signs and symptoms
- Procedure/technique
- Treatment
- Response to treatment
- Oxygen saturation (SpO2)
- End-tidal carbon dioxide

# EPINEPHRINE AUTO-INJECTOR

**This procedure applies to NJDOH registered epinephrine auto-injector agencies only.**

## Considerations

1. If the patient has his or her own prescribed epinephrine auto-injector and it is immediately available, use it.
2. If credible history determines that the patient has been given an appropriate dose of epinephrine prior to your arrival, allow at least 10 minutes from the reported time of injection for symptoms to improve. Reevaluate vital signs and clinical status.
3. Use appropriate epinephrine auto-injector from your vehicle stock as additional dose (if needed) after use of patient's own auto-injector or as only dose if patient does not have one.
4. Clinical criteria to administer is the same, regardless of whether the auto-injector is carried by EMS or it belongs to the patient.
5. Verbal notification shall be made to the Office of Emergency Medical Services (OEMS) within 72 hours of administration by the EMT or the BLS agency. Copies of the patient care report shall be mailed to the OEMS within 45 days of administration. BLS agencies must register with the OEMS to carry epinephrine auto-injectors.

## Assessment - Epinephrine Auto-Injector

- Airway, breathing, circulation.
- Administer Oxygen via nonrebreathing (NRB) mask at a rate of 15 L/min. If unable to tolerate mask, administer via nasal cannula at a rate of 1–6 L/min.
- BLS to request ALS.
- Obtain vital signs and SAMPLE history.
- Initiate treatment with the appropriate epinephrine auto-injector if anaphylaxis is present. Look for the following indications of a generalized allergic reaction such as signs of widespread urticaria with signs of acute significant respiratory distress and/or profound hypotension (systolic blood pressure equal to or less than 90 mmHg) with clinical evidence of shock (altered mental status, cool, clammy or mottled skin and/or delayed capillary refill), generalized itching and burning, wheals, swelling around the lips and tongue, chest tightness and coughing, dyspnea, anxiety, restlessness and abdominal cramps:
  - **Age 0–12 months:** pulse > 180 beats/min and/or systolic blood pressure < 60 mm Hg
  - **Age 1–12 years:** pulse > 140 beats/min and/or systolic blood pressure < 70 mm Hg
  - **Older than 12 years:** pulse > 120 beats/min and/or systolic blood pressure < 80 mm Hg
- Transport ASAP.

## Epinephrine Administration

**Dose amount: Younger than 4 years,** use the auto-injector that delivers 0.15 mg; **4 years and older,** use the auto-injector that delivers 0.3 mg.

1. Check the medication.
2. Remove the auto-injector safety cap.

3. Place the auto-injector against the lateral portion of the patient's thigh, midway between the waist and the knee.
4. Push auto-injector firmly against site until injector activates.
5. Hold the auto-injector in place for 10 seconds to make sure the medication is injected.
6. Using a straight motion, pull the injector from the injection site.
7. Dispose of the auto-injector into a biohazard container.
8. Record the location of the injection site, time, dose, medication, vital signs, and changes in patient condition.
9. Continuously monitor the patient. Maintain normal body temperature.
10. Contact medical command if problem or question arises.

## Documentation

- Location of the injection site
- Time
- Dose
- Medication
- Vital signs
- Changes in patient condition
- Signs and symptoms
- Cardiac rhythm, if obtained
- Oxygen saturation (SpO2)
- Response to treatment

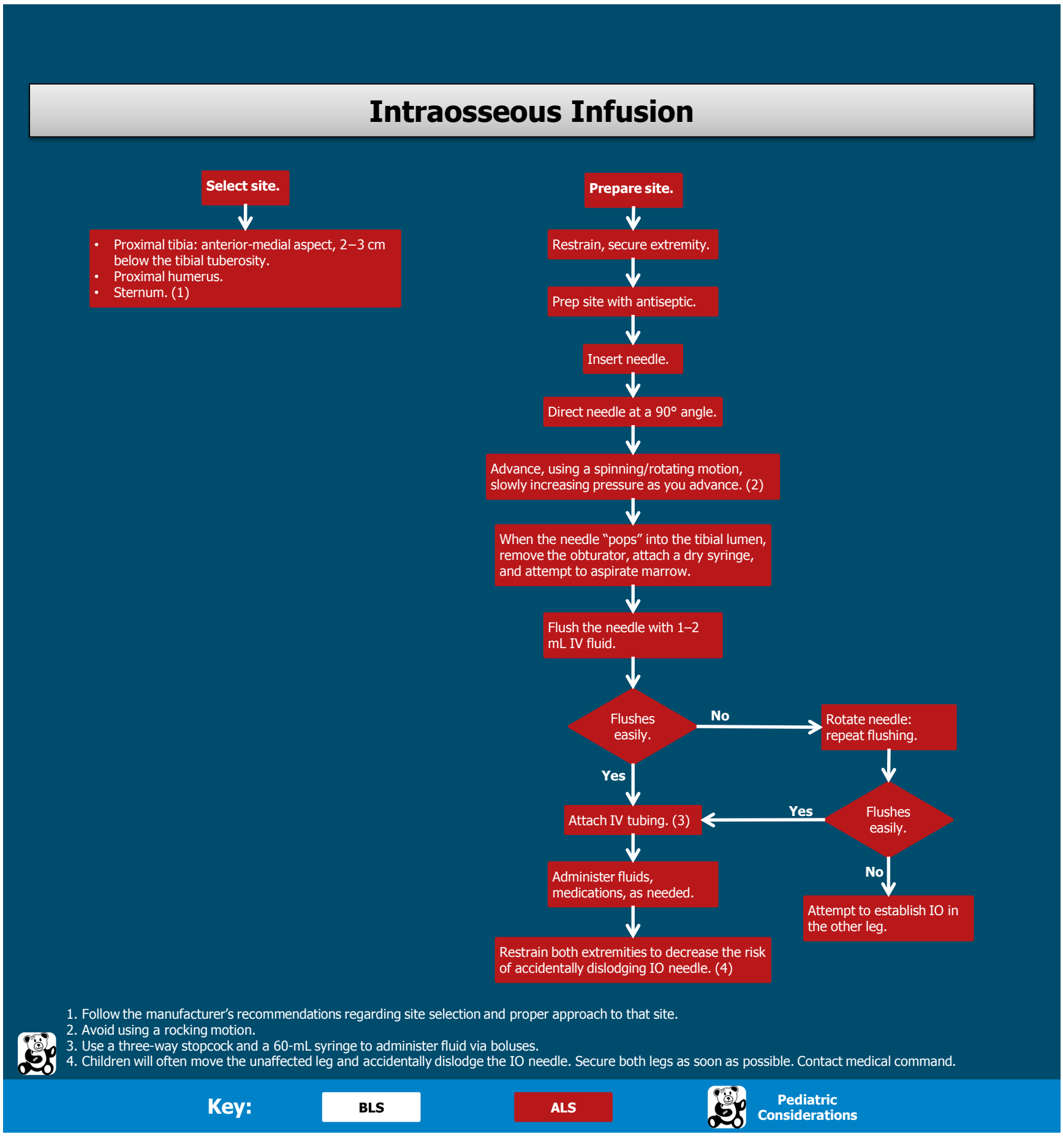
# INTRAOSSEOUS INFUSION

- Technique varies based on the type of supplies and equipment used. Follow the manufacturer's guidelines.
- Indications: Urgent need to administer IV fluid or medications.
- Contraindications: Trauma at proposed site, infection at proposed site.

## Assessment - Intraosseous Infusion

- Airway, breathing, circulation.
- BLS to request ALS.
- Transport ASAP.

## Treatment - Intraosseous Infusion



## Documentation

- Insertion site
- Signs and symptoms
- Time of IV/IO therapy
- Time of contact with medical command

# INTUBATION CHECKLIST

## Considerations

- Keep the patient warm. Paralyzed patients lose their ability to generate body heat.
- Creating a sniffing position where the patient's earlobe and sternal notch are level with each other is ideal and will bring all of the intubation angles into place. Do not move the patient's neck into an exaggerated sniffing position if c-spine precautions are in place.
- When properly performed, cricoid pressure applies pressure to the inferior aspect of the larynx (thyroid cartilage).
- These procedures shall not delay the transport of a patient in the event of a difficult intubation. Advanced interventions shall only be attempted after all BLS interventions have been instituted.

## Assessment (BLS Assisting ALS with Intubation)Intubation Checklist

- Airway, breathing, circulation.
- Administer Oxygen via bag-mask.
- Obtain history. Does the patient have allergies?

# Treatment - Intubation Checklist

## Intubation Checklist

### Preparation

- [ ] Rule out allergies.
- [ ] Pre-oxygenate oxygen per BVM.
- [ ] $SpO_2$ probe on and reading.
- [ ] Suction on, Yankauer tip in place.
- [ ] Consider other advanced airways.
- [ ] Extra ETTs: one larger, one smaller.
- [ ] Bougie, end-tidal $CO_2$ detector at hand.
- [ ] Stethoscope, multiple blades at hand.
- [ ] Alternative airway at hand.

### Patient (procedure)

- [ ] Examine patient, difficult airway?
- [ ] Earlobe level with sternal notch. (1)
- [ ] Consider cricoid pressure. (2)
- [ ] Rapid sequence intubation (RSI): Approved for age 13 or older.
  - [ ] If head injury present: lidocaine 1 mg/kg IV.
  - [ ] Atropine: 0.01 mg/kg.
  - [ ] Midazolam (Versed): 0.1 mg/kg normal BP (3) OR etomidate (Amidate): 0.3 mg/kg low BP .
  - [ ] Succinylcholine (Anectine): 1.5 mg/kg. (4)
  - [ ] Rocuronium (Zemuron): 0.6–1.2 mg/kg.
  - [ ] Vecuronium (Norcuron): 0.1 mg/kg.
  - [ ] Ketamine: 0.2–1 mg/kg IV.

### Post-Intubation

- [ ] Confirm ETT placement.
- [ ] Secure ET tube with commercial device.
- [ ] Continued sedation/paralysis:
  - [ ] Midazolam (Versed): 0.1 mg/kg IV if BP normal or elevated.
  - [ ] Ativan (Lorazepam): 0.05–2 mg/kg.
  - [ ] Vecuronium (Norcuron): 0.1 mg/kg IV.

1. To obtain the appropriate sniffing position, elevate the patient's head so that the patient's earlobe is level or even with the patient's sternal notch. Do NOT move the patient's neck if possibility of c-spine injury exists.
2. Cricoid pressure: When performed properly, the caregiver is applying pressure to the inferior aspect of the larynx (thyroid cartilage).
3. Consider pain-control measures. Neither paralytics nor sedatives provide pain control.
4. Succinylcholine (Anectine): Obtain history. Do not give succinylcholine (Anectine) if familial history of malignant hyperthermia is noted. Succinylcholine (Anectine) is contraindicated in penetrating eye injury, in severe burns or crush injuries that are 2 to 5 days old, in the presence of hyperkalemia, and in patients with chronic muscular conditions (i.e., muscular dystrophy). The onset of succinylcholine (Anectine) is 30–60 seconds; duration is 8–10 minutes.

**Key:** BLS | ALS | Pediatric Considerations

## Documentation

- Airway
- Respiratory status
- Oxygen saturation (SpO2)
- End-tidal carbon dioxide
- Endotracheal tube (ETT) size/length (cm at the patient's teeth)
- Confirmation of ETT placement (mist in the ETT, end-tidal carbon dioxide color change, bilateral lung sounds, chest rise, skin color)

# OXYGEN ADMINISTRATION

**Hypoxic drive:** A healthy patient exhales because the body detects the presence of carbon dioxide. Some patients with chronic obstructive pulmonary disease (COPD), unlike a healthy patient, use their hypoxic drive (exhale/inhale because their body detects lower oxygen level).When COPD patients who are using their hypoxic drive are given too much oxygen, their respiratory drive may decrease or stop when their body detects ample oxygen. As a result, expect and accept oxygen saturation (SpO2) readings below 90% and above 85% on patients with COPD. Give lower concentrations (2–3 L/min via nasal cannula) to these patients, **but never deprive a patient in respiratory distress of oxygen. If a patient is in respiratory distress, give high concentrations of oxygen.**

**Table 1** outlines oxygen delivery devices, their flow rates, and the percentage of oxygen delivered.

**Table 1 Oxygen Delivery Devices**

| Device | Flow Rate | Oxygen Delivered |
|---|---|---|
| Bag-mask device with reservoir | 15 L/min | Nearly 100% |
| CPAP | 15 to 25 L/min | Nearly 100% |
| Mouth-to-mask device | 15 L/min | Nearly 55% |
| Nasal cannula (NC) | 1 to 6 L/min | 24% to 44% |
| Nonrebreathing mask (NRB) | 10 to 15 L/min | Up to 90% |
| Venturi mask | 12 to 15 L/min | 24% to 60% |

# ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION (STEMI)

## Considerations

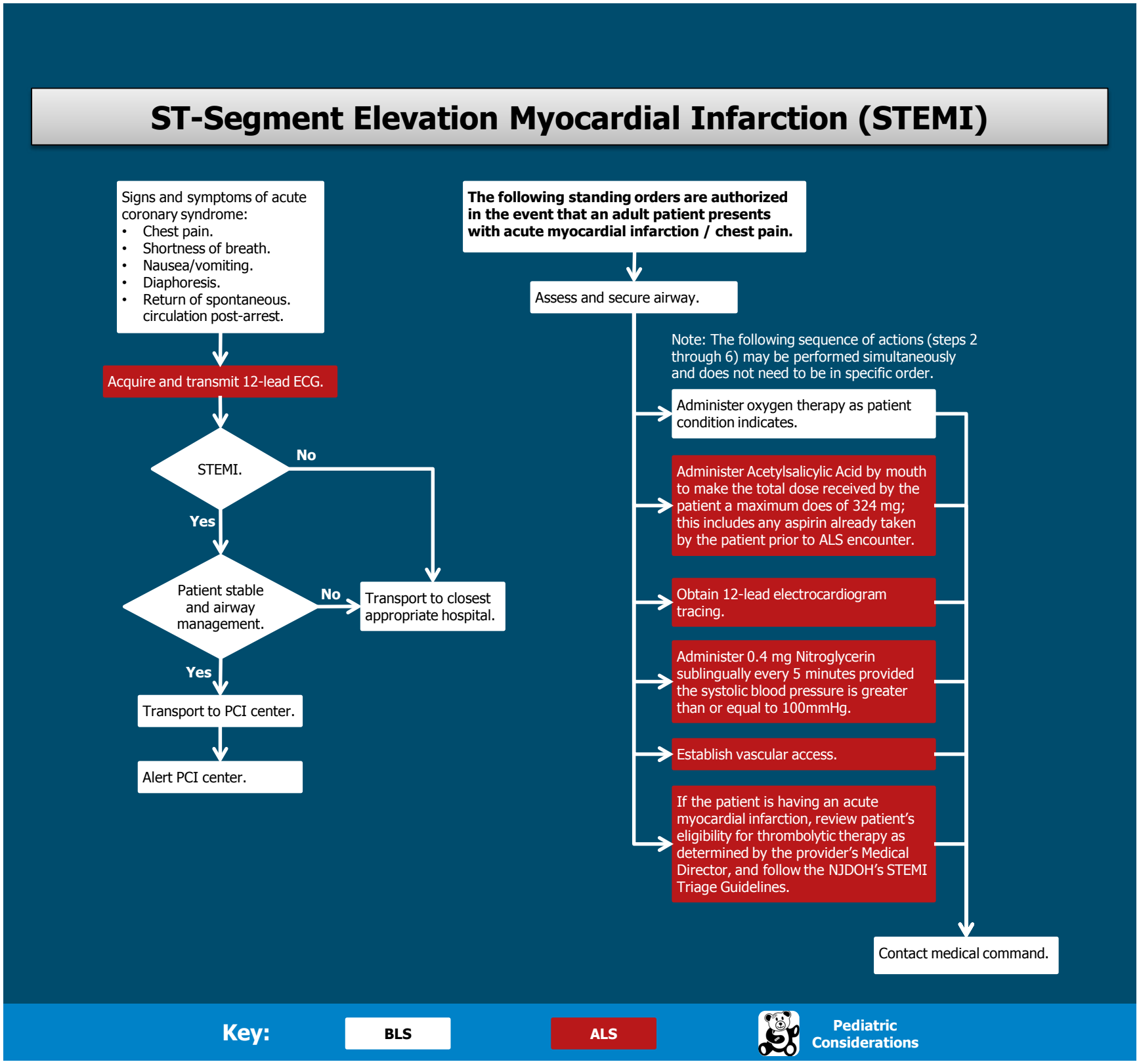
Consider atypical presentation (vague complaints) in female, diabetic, or elderly patients and for patients with return of spontaneous circulation (ROSC) post cardiac arrest.

## Assessment - ST-segment Elevation Myocardial Infarction (STEMI)

- Airway, breathing, circulation.
- Oxygen.
- BLS to request ALS when the patient presents with signs and symptoms of acute coronary syndrome (chest pain or pressure, shortness of breath, nausea, diaphoresis).
- Place the patient in a position of comfort.
- **BLS: Nitroglycerin administration:** You may assist the patient to administer nitroglycerin 0.4 mg if:
  - The patient possesses his or her own prescribed nitroglycerin in either tablet or spray form (0.4 mg per dose),
  - AND the patient's systolic blood pressure is equal to or greater than 100 mm Hg,
  - AND the patient has NOT taken the maximum of three doses within the past 15 minutes.
- Nitroglycerin is contraindicated if the patient is taking Viagra, Levitra, Cialis, or another erectile dysfunction medication.
- Monitor relief of discomfort after interventions using a **pain scale** of 1 to 10.
- **BLS: Aspirin administration:** You may assist the patient with administration of aspirin* up to 325 mg if:
  - The patient is at least 19 years old,
  - AND the patient has NOT taken the maximum 325 mg dose for this episode.

* Have patient chew then swallow the aspirin (even if not a "chewable" tablet).

# Treatment - ST-segment Elevation Myocardial Infarction (STEMI)




## Documentation

- Signs and symptoms
- Electrocardiogram (ECG)
- Cardiac rhythm
- Nature, intensity, and duration of pain
- Vital signs
- Oxygen saturation (SpO2)
- Treatment
- Response to treatment
- Consultation with medical command

# ACT F.A.S.T. STROKE ASSESSMENT

## Assessment - ACT F.A.S.T. Stroke Assessment

## BLS

- Support ABCs; provide oxygen.
- Perform Act F.A.S.T. stroke assessment.
- Establish time when patient was known normal.
- Obtain witness/contact name and cell number.
- Transport to Stroke Center if stable.
- Alert Stroke Center.

## ALS

- Check glucose level
- Start IV 0.9% NS
- Acquire & transmit 12 lead EKG
- Contact medical command
- Consider treating high blood pressure after consultation with medical command

The acronym F.A.S.T. teaches the signs and symptoms of stroke. The acronym stands for:

**F** **Facial Dropp:** Have the patient smile. Is there facial droop? Is there eyelid droop?

**A** **Arm drift:** Have patient close eyes and extend arms for 10 seconds. Is one arm drifting downwards, turning toward body?

**S** **Speech Slurred:** Have patient say "You can't teach an old dog new tricks." Is the speech slurred? Are the words appropriate?

**T** **Time:** If the patient is showing these symptoms, time is important! Transport ASAP.

# TENSION PNEUMOTHORAX DECOMPRESSION

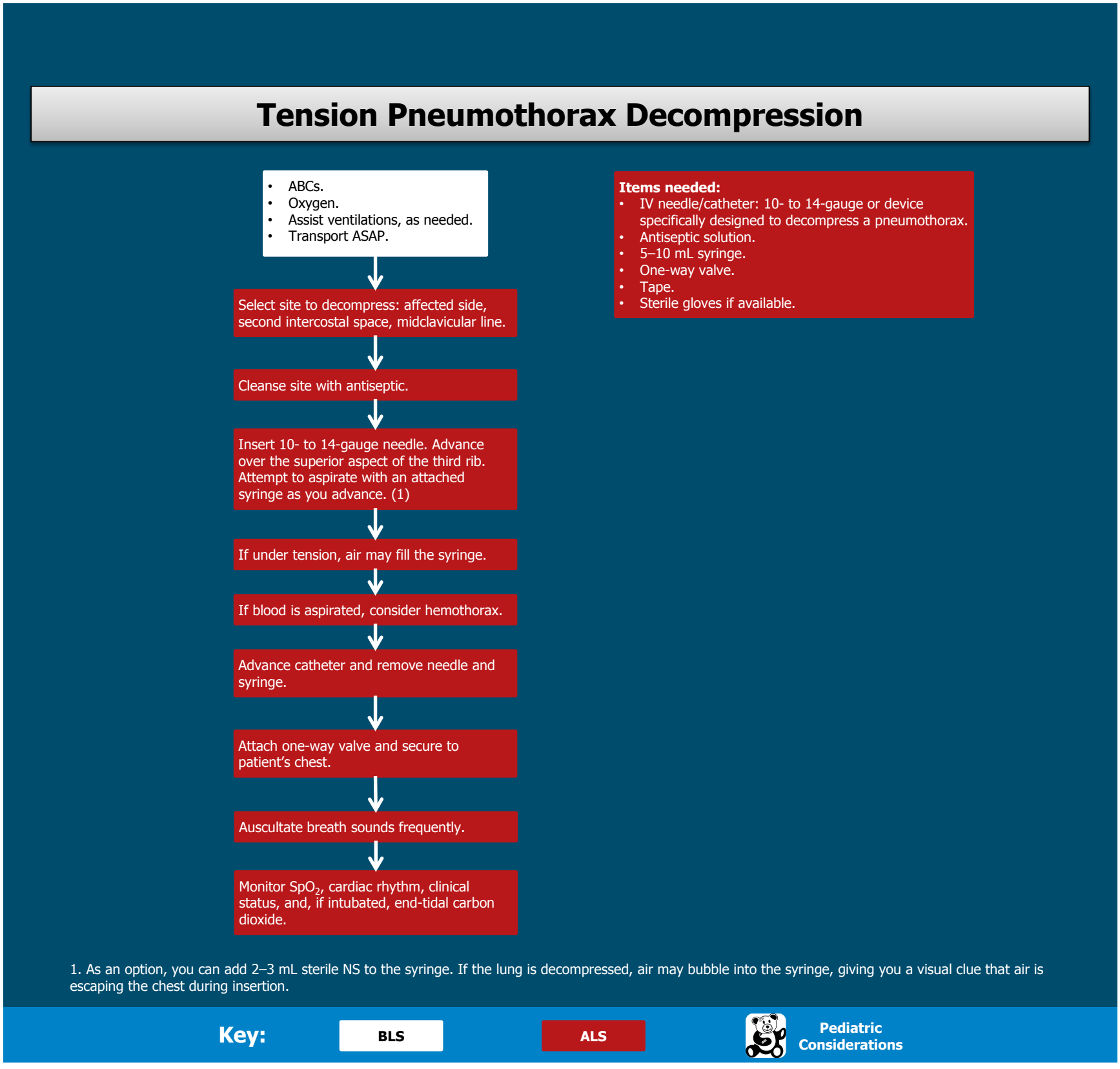
## Considerations

Signs and symptoms of tension pneumothorax include, shock, respiratory distress, decreased breath sounds on the affected side, jugular vein distention, increased resistance to positive ventilation, tracheal deviation, and asymmetrical chest rise.

## Assessment - Tension Pneumothorax Decompression

- Airway, breathing, circulation.
- Administer Oxygen, as needed.
- Assist ventilations, as needed.
- BLS to request ALS.
- Transport ASAP.

# Treatment - Tension Pneumothorax Decompression




## Documentation

- Respiratory effort and lung sounds before and after procedure
- Site selection
- Oxygen saturation (SpO2)

# VENTRICULAR ASSIST DEVICES (VADS)

## Ventricular Assist Devices (VADs)

**Always attempt to:**
- Request ALS if appropriate.
- Contact VAD Implant Center.
- Keep patient's companion/family member with the patient.
- Bring VAD equipment with you.
- Transport to VAD Implant Center.
- Consider air medical transport.

911 Called.

**Patient Problem:**
- Volume related (bleeding/ infection).
- Arrhythmia.
- Heart failure.
- Non-cardiac related emergency.

**Pump Problem:**
- Battery/power.
- Controller related.
- Internal device related.

CONTACT VAD CENTER.

**Patient Stable:**
Signs of good perfusion: (alert, oriented, good skin color/temperature).

- Contact VAD Center.
- Treat per recommendations or standard protocol.
- Transport urgently to ED or VAD Center.

**Patient Unstable:**
Signs of poor perfusion: (altered mental status, cyanosis, cool skin, unresponsive).

- Treat with standard protocol.
- Consider fluid bolus.
- OK to administer medications.
- OK to use electrical therapy.
- Transport urgently to ED or VAD Center.
- AVOID CHEST COMPRESSIONS.

**Controller Related:**
- Switch to spare controller.

**Battery/Power:**
- Replace battery.
- Attach to wall outlet.

DO NOT RESTART UNLESS INSTRUCTED TO DO SO BY VAD CENTER.

**Internal Device Related:**
- Support circulation.

**VAD Patient Facts:**
- Patient may or may not have a palpable pulse normally.
- Blood pressure is normally audible by doppler only.
- Most patients wear a MedicAlert tag showing the VAD Center contact information.
- Controller alarm colors same as triage colors (Red: Urgent, Yellow: Emergent, Green: Time to take action).
- Be careful with scissors—lots of wires and tubing.

**NJ VAD Centers—Emergency Phone Numbers:**

Make every effort to speak with VAD Coordinator or On-call Team:

| | |
|---|---|
| Hackensack University Medical Center: | 201-996-4849 |
| Newark Beth Israel Medical Center: | 973-926-7205 |
| Morristown Memorial Hospital: | 973-971-4179 |
| RWJ—University Hospital: | 732-253-3699 |

**Key:** BLS | ALS | Pediatric Considerations

# SECTION 5: EMERGENCY PREPAREDNESS

## EMERGENCY PREPAREDNESS DEFINITIONS

**Control zones** Areas at an incident that are designated as hot,warm, or cold, based on safety issues and the degree of hazard found there.

**Hazardous materials (HAZMAT)** Any substance or material that is capable of posing an unreasonable risk to human health, safety, or the environment when transported in commerce, used incorrectly, or not properly contained or stored.

**Incident commander (IC)** The overall leader of the incident command system.

**Incident command system (ICS)** A system implemented to manage disasters and mass casualty incidents in which section chiefs, including finance, logistics, operations, and planning, report to the incident commander.

**Joint Information System (JIS)** A system that ensures coordination and information accuracy between response agencies.

**Mass casualty incident (MCI)** An event in which the number of patients exceeds the available resources in the initial response.

**Personal protective equipment (PPE)** Clothing and gear designed to create a barrier against workplace hazards, as well as to prevent injury from incorrect use or malfunction of equipment.

**Regional Operations and Intelligence Center (ROIC)** The New Jersey state command center that serves as the foundation for the state's homeland security, crime fighting, and emergency response efforts.

**Terrorism** The use or violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion, or ransom.

**Triage"Sorting"** your patients based on the severity of their injuries. There are five common triage categories: Immediate (red tag), Delayed (yellow tag),Minor (green tag), Deceased (black tag), and Uninjured (white tag).

**Unified command** An incident command option that allows representatives from multiple jurisdictions and/or agencies to share command authority and responsibility, working together as a "joint" incident command team.

**Weapons of mass destruction (WMD)** Any agent designed to bring about mass death, casualties, and/or massive damage to property and infrastructure (bridges, tunnels, airports, and seaports).

# EMS TASK FORCE

## Mission

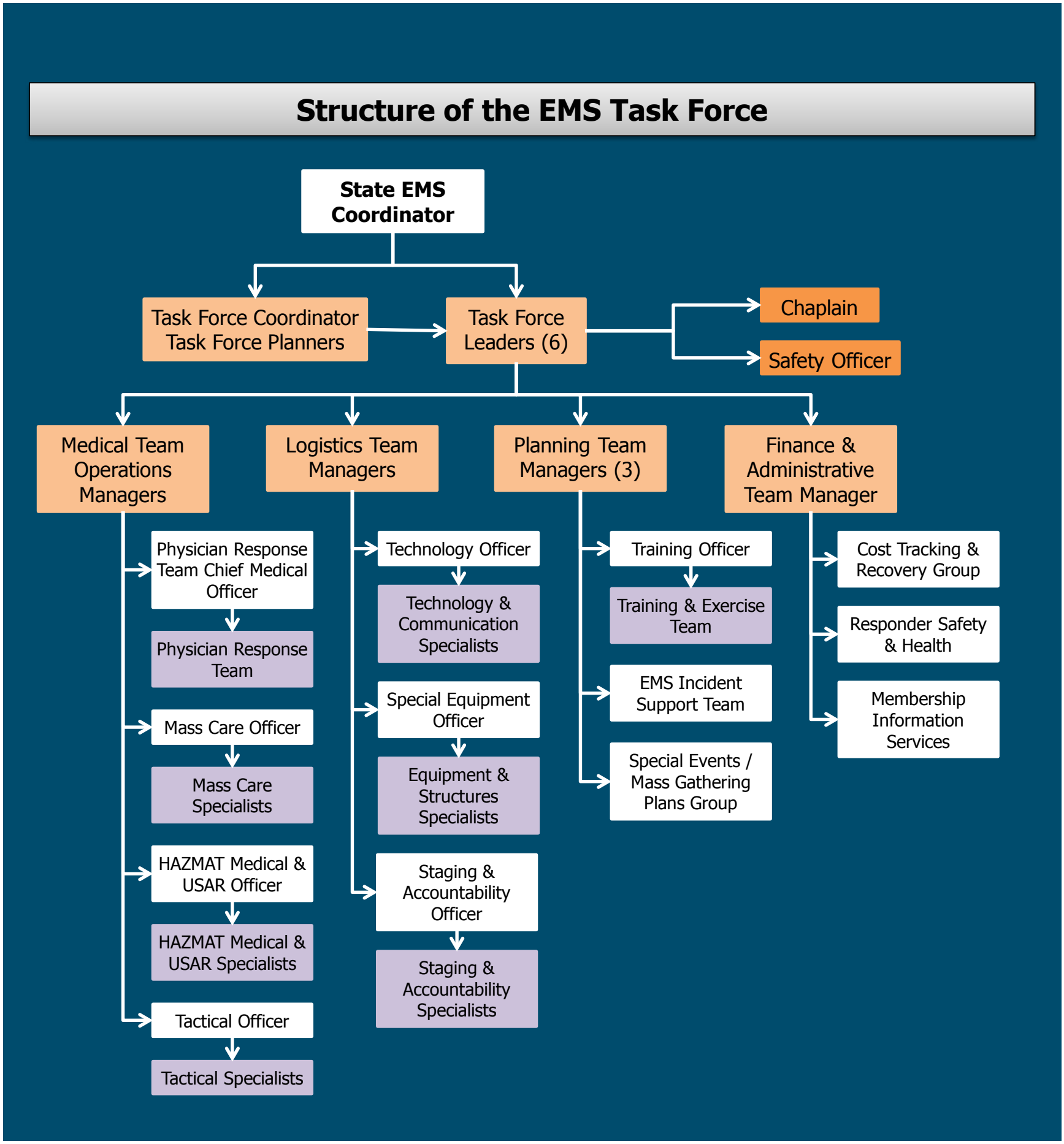
- To provide New Jersey and the region with specialized, modular component EMS resources to support operations at major incidents and preplanned events throughout the state's Emergency Management System
- To focus on CBRNE preparation and response and to provide specialized EMS and other resources
- To not take the place of existing mutual aid procedures and command structures
- To be NIMS compliant

## Background

- The Task Force supports the Urban Area Security Initiative (UASI) region in New Jersey.
- The UASI region is most vulnerable in New Jersey due to:
  - Greatest infrastructure
  - Highest vulnerabilities and risk
  - Population density
  - Proximity to New York City (#1 target)

## Structure of the Task Force

- Consists of EMTs, paramedics, nurses, physicians, and others who will specialize in any one (or more) of the following areas of specialization:




- Designed to be deployed in modules that are activated based on the needs of an event.
- Many modules are operational and some are still under development.
- Specialized operational modules include:
  - Incident Advanced Team
  - EMS HAZMAT Team
  - Medical Operations Team

– Logistics Team

– Staging and Accountability Team

– Helibase Management Team

– Communications and Technology Team

– Safety Team

## Activation

New Jersey EMS Task Force assets are requested through the County OEM-EMS Coordinator when county/ regional mutual aid resources are insufficient to support an incident.

# EMERGENCY INCIDENT REHABILITATION

## Considerations

- Large enough for estimatd number of responders
- Close to scene but sheilded from incident
- Safe for removal of protective clothing
- Protected from elements

### Wind Chill and Heat Index Danger Levels

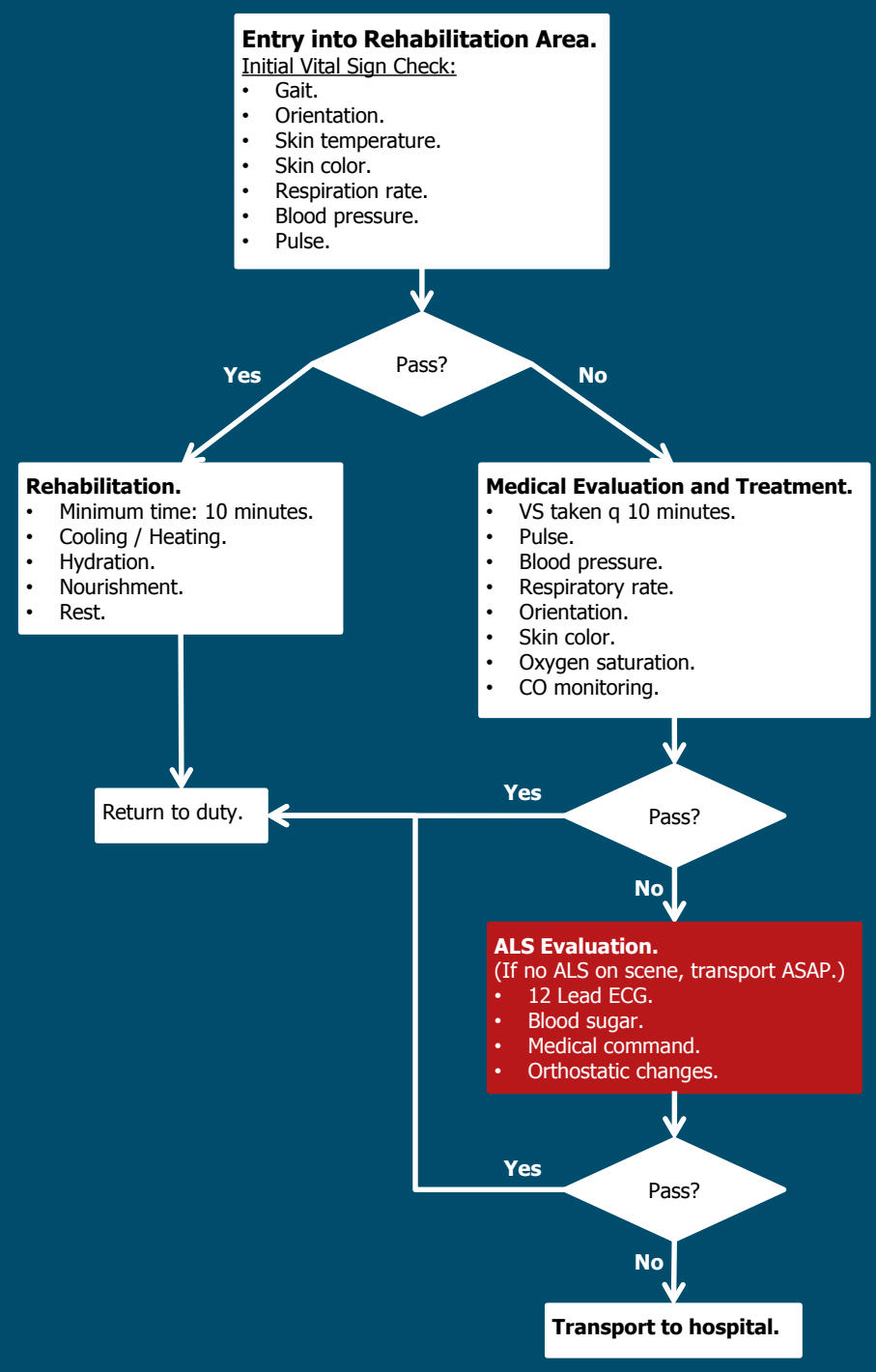
| Wind Chill Temperature | Danger Level |
|---|---|
| Above -25°F | **Little danger** for a properly clothed person. |
| Between -25°F and -75°F | **Increasing danger**; flesh may freeze. |
| Below -75°F | **Great danger**; flesh may freeze in 30 seconds. |

| Heat Index | Danger Level | Injury/Threat |
|---|---|---|
| Below 60°F | **None** | Little or no danger under normal circumstances. |
| Between 80°F and 90°F | **Caution** | Fatigue possible if exposure is prolonged and there is physical activity. |
| Between 90°F and 105°F | **Extreme Caution** | Heat cramps and heat exhaustion possible if exposure is prolonged and there is physical activity. |
| Between 105°F and 130°F | **Danger** | Heat cramps and heat exhaustion likely; heat stroke is possible if exposure is prolonged and there is physical activity. |
| Above 130°F | **Extreme Danger** | Heat stroke imminent. |

## Assessment

- Medical monitoring (pulse, BP, RR, body temp if HR >110)
- Rehydration immediately & nutritional support (after baseline vitalsigns)

# Emergency Incident Rehabilitation




**Key:** BLS | ALS | Pediatric Considerations

# Communication Centers

## Primary Center: REMCS

- Single point of contact to ensure coordination
- Emergency lines: **(973) 972-0911 or (973) 973-7000**
- Nonemergency lines: **(800) 631-3444 or (973) 972-6290**
- Emergency Air Medical Requests: **(800) 332-HELO (4356)**

## Secondary Center: MEDCENTRAL

- Robert Wood Johnson University Hospital Emergency Medical Services MEDCENTRAL is the designated backup communications center:
    - Emergency line: **(800) 660-1148**
    - Nonemergency line: **(732) 937-8687**

# Contact Information

## State EMS Coordinator

(609) 633-7777 (Office)

## Task Force Coordinator

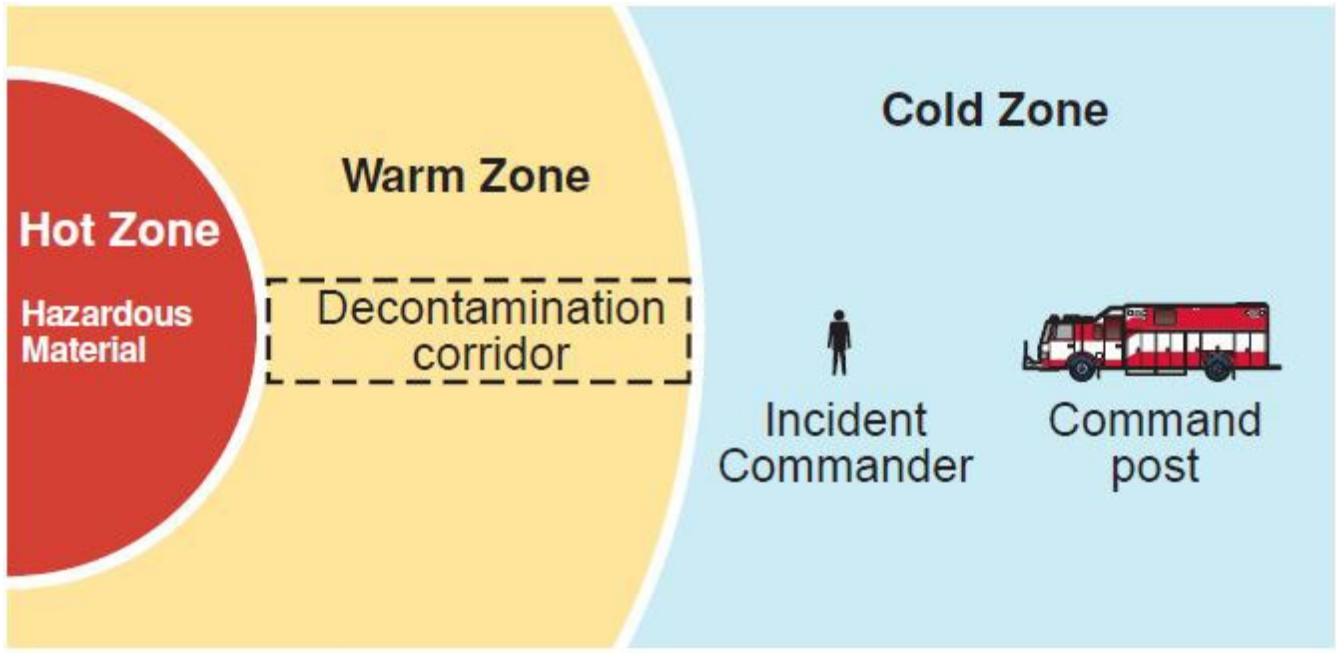
(609) 633-7777 (Office)

# HAZARDOUS MATERIALS

## BLS Response

## Approaching the Scene

- Approach cautiously from upwind and uphill.
- Position vehicle well away from the incident and facing away from the scene.
- If you are the first on the scene, establish incident command until the HAZMAT team arrives.
- Confirm that the HAZMAT team and fire department have been notified.
- Isolate the scene.
- Keep others away.




## Patient Care

- Determine the name of the hazardous material. If unable to determine material, contact the Chemical Transportation Emergency Center (CHEMTREC) at 1-800- 262-8200, or reference the Emergency Response Guidebook (ERG).
- Advise medical command of the material involved and request direction for treatment.
- The HAZMAT team and fire department are responsible for initial decontamination and patient packaging.
- Don personal protective equipment, as directed.
- Receive packaged patient at decontamination corridor from HAZMAT team and fire department and transfer to a prepared ambulance.
- Treat patient as directed by HAZMAT team and fire department.

## Ambulance Preparation

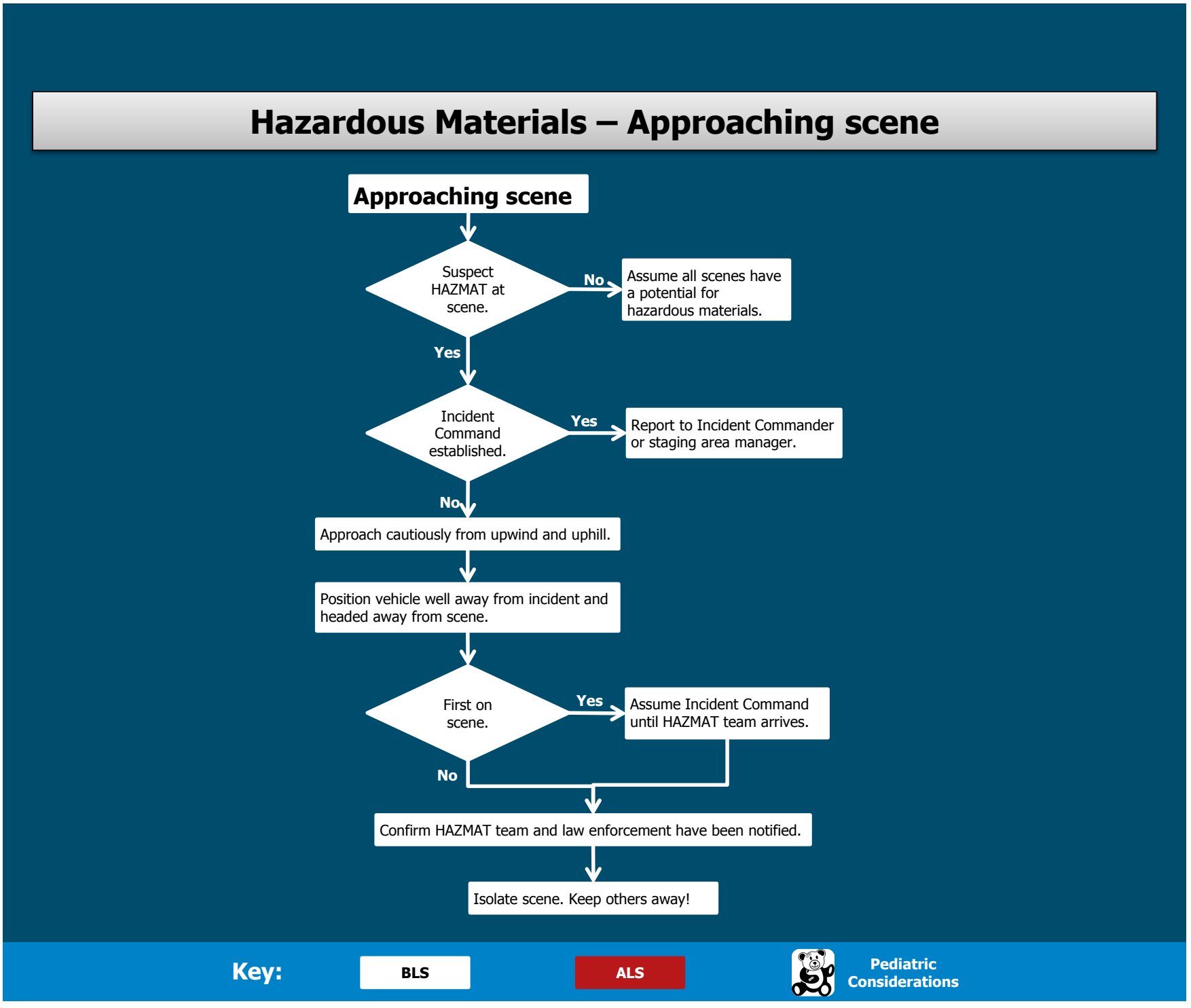
- Prepare ambulance, as directed by HAZMAT team.
- Remove all nonessential supplies/equipment.
- Drape interior and floor with plastic, if directed.

## Transport

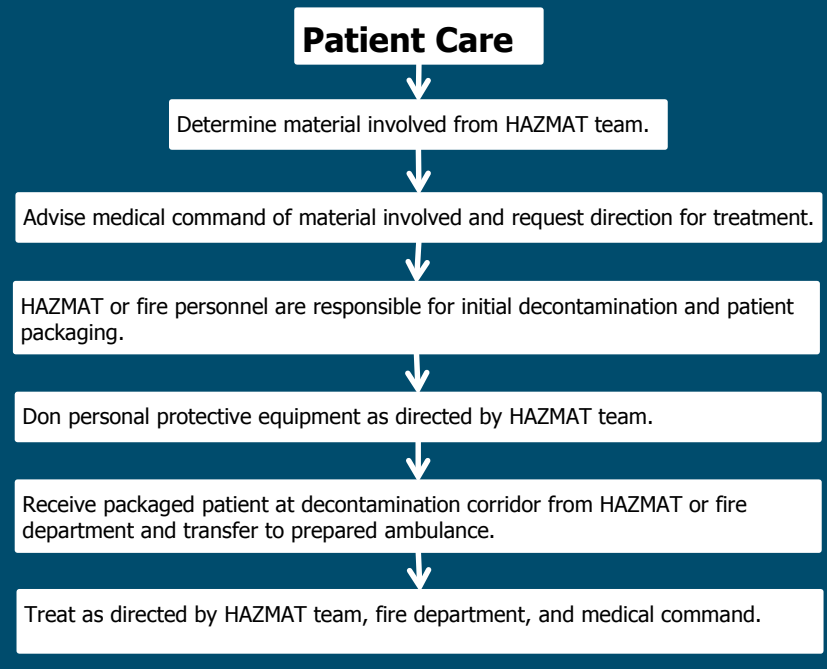
- Notify receiving facility. Provide relevant information and ask where they would like you to park.
- After transferring the patient to emergency department (ED) staff, return to the ambulance. Do not move vehicle or allow others inside.
- Contact Incident Command to determine how and where the vehicle should be decontaminated.
- Ensure crew and vehicle are decontaminated before further use.

## EMS Personnel Exposure

- If exposed at the scene, remove yourself from further contamination and report the incident to the Safety Officer or HAZMAT team and wait for direction.
- After decontamination, receive clearance from HAZMAT team supervisor or ED MD and your supervisor before returning to duty.

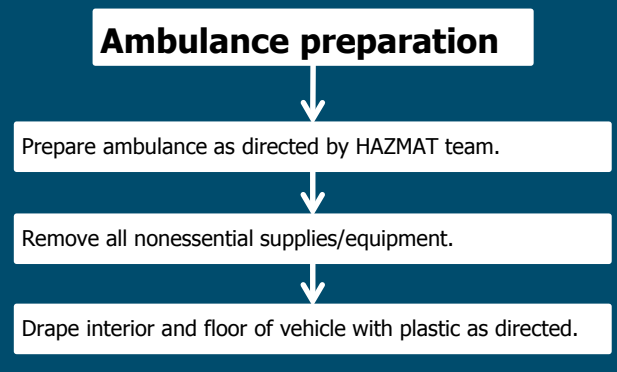


## Hazardous Materials – Patient Care




Key: BLS ALS Pediatric Considerations

## Hazardous Materials – Ambulance preparation




Key: BLS ALS Pediatric Considerations

# Hazardous Materials - Transport

**Transport**

- Notify receiving facility: Provide relevant information and ask where they would like you to park.
- Do not enter the ED without specific direction from the ED staff.
- After transferring the patient to ED staff, return to the ambulance and remain inside. Do not move the vehicle or allow others inside.
- Ensure crew and vehicle are decontaminated before further use.

**Key:** BLS | ALS | Pediatric Considerations

# Hazardous Materials – EMS Personnel exposure

**EMS personnel exposure**

- If exposed at scene: Remove yourself from further contamination and report incident to Safety Officer or HAZMAT team and wait for direction.
- If exposed en route to the hospital: Inform ED and await direction.
- After decontamination and treatment, receive clearance from HAZMAT team supervisor or ED MD and your supervisor before returning to duty.

**Key:** BLS | ALS | Pediatric Considerations

## Documentation

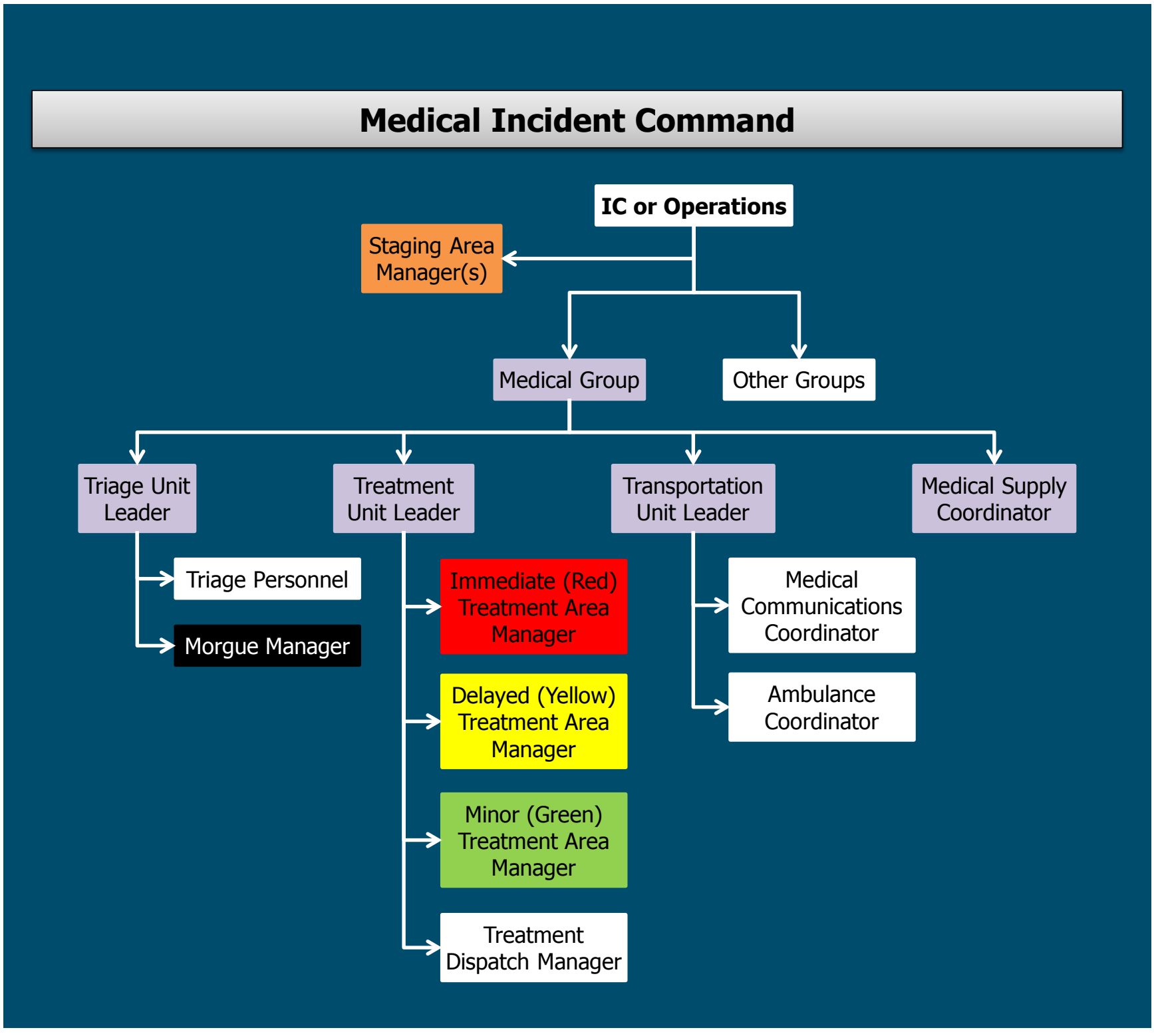
- Patient care
- Hazardous material present
- Communication with HAZMAT team and ED
- Measures taken to limit exposure
- Decontamination

# MASS CASUALTY INCIDENT

## Mass Casualty Incidents

A mass casualty incident (MCI) is an event in which the number of patients exceeds the available resources in the initial response. By using the Incident Command System (ICS) and understanding the various roles and responsibilities of each person,the responders and/or the Incident Commander (IC) can manage the incident in a smooth,organized manner. All systems have different protocols for when to declare an MCI and initiate the ICS.

## Medical Incident Command



**Triage Unit Leader**

- Ensures safety of members working in the area.
- Counts and prioritizes patients using triage tags.
- Ensures all patients are moved to the treatment area.
- Documents activities in the triage area.
- Establishes initial morgue, if necessary.

**Treatment Unit Leader**

- Ensures safety of members working in the area.
- Sets up the treatment area with a tier for each triage level.
- Assign crews to treat patients.
- Ensures sufficient supplies and personnel.
- Initiates decontamination procedures, if necessary.
- Documents activities in the treatment area.

**Transportation Unit Leader**

- Ensures safety of members working in the area.
- Coordinates the transportation and destination of patients.
- Communicates with hospitals.
- Establishes a landing zone for air medical, if needed.
- Tracks all patient movement.

# Triage

Triage simply means to "sort" your patients based on the severity of their injuries.

## Triage Categories

There are five common triage categories:

**Immediate (red tag):** First-priority patients need immediate care and transport. They usually have problems with ABCs, head trauma, or shock. Patients who fall into this category have respirations > 30 breaths/min; capillary refill > 2 seconds; no radial pulse; and are unable are to follow simple commands.

**Delayed (yellow tag):** Second-priority patients who need care and transport but can be delayed.

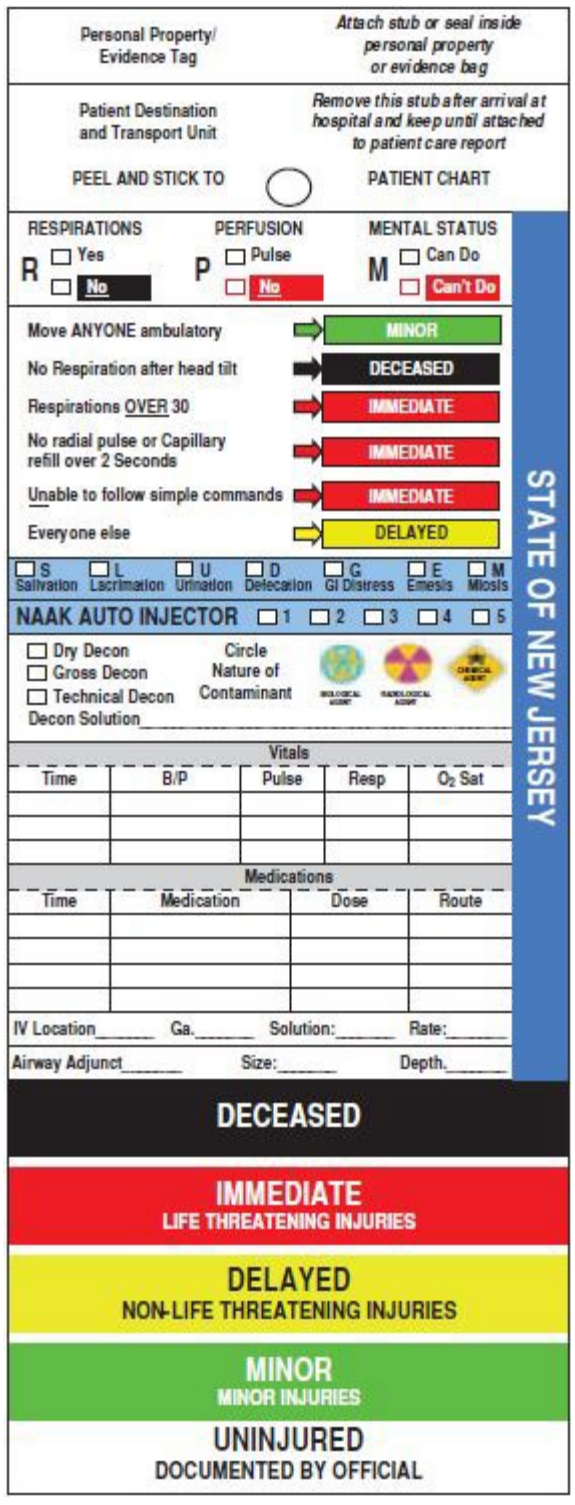
**Minor (green tag):** Third-priority patients are ambulatory and need minimal treatment.

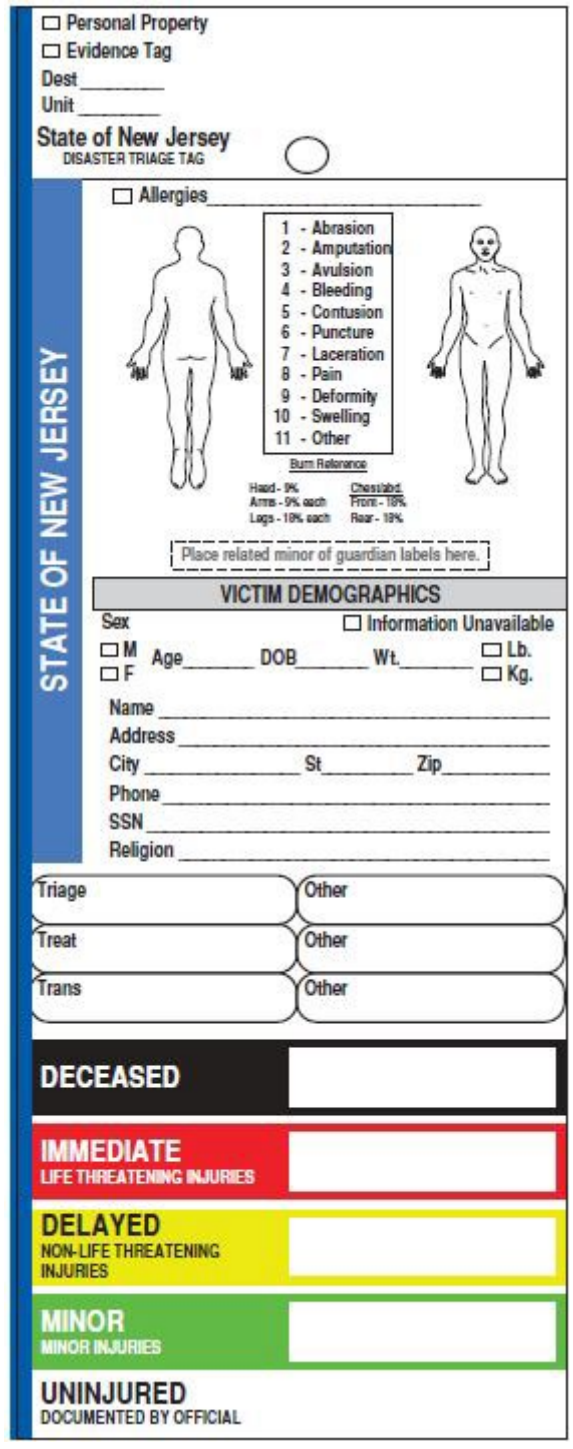
**Deceased (black tag):** No respirations after the head tilt–chin lift procedure is performed.

**Uninjured (white tag):** These victims do not need or want medical assistance. They are not entered into the EMS system but still need to be documented.

# NJ Triage Tags

When a triage system is used, it is vital that there is some way for responders to keep an accurate record of patients' conditions. Triage tags are used to clearly show the category of each patient. Triage tags are usually used when there are eight (8) or more minor (green) patients, when there are six (6) or more patients with mixed categories, or when there are four (4) or more immediate (red) patients. Each unit is required to carry a minimum of 50 triage tags at all times. Triage tags are double-sided.






## Changing a Patient's Priority

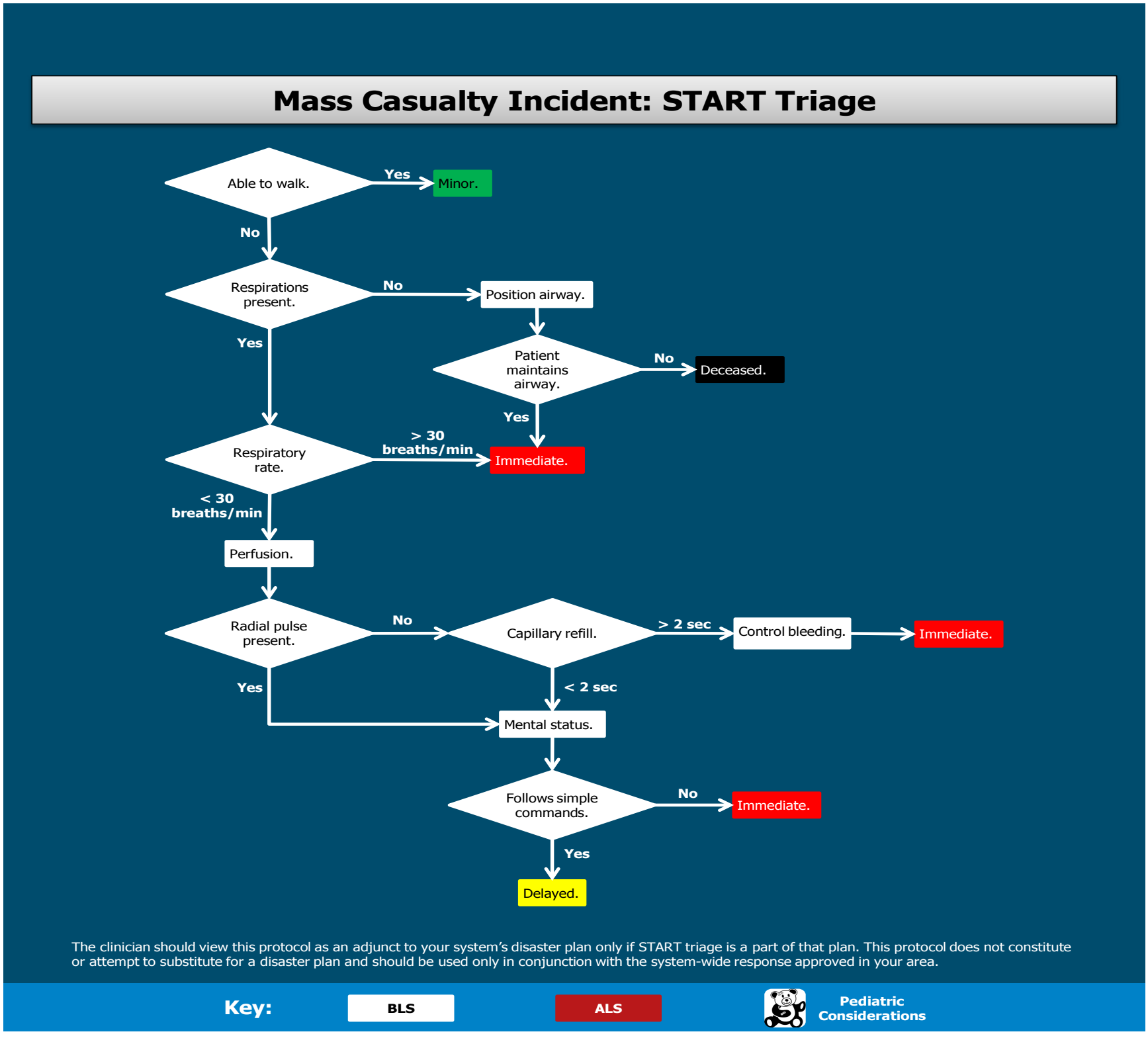
To change a patient's condition:

1. Leave the original triage tag on the patient.
2. Retag the patient with a new triage tag.
3. Write a large "2" on the new triage tag.
4. Additional, successive retriaging should be numbered sequentially (3, 4, 5).

# Determining a Patient's Priority

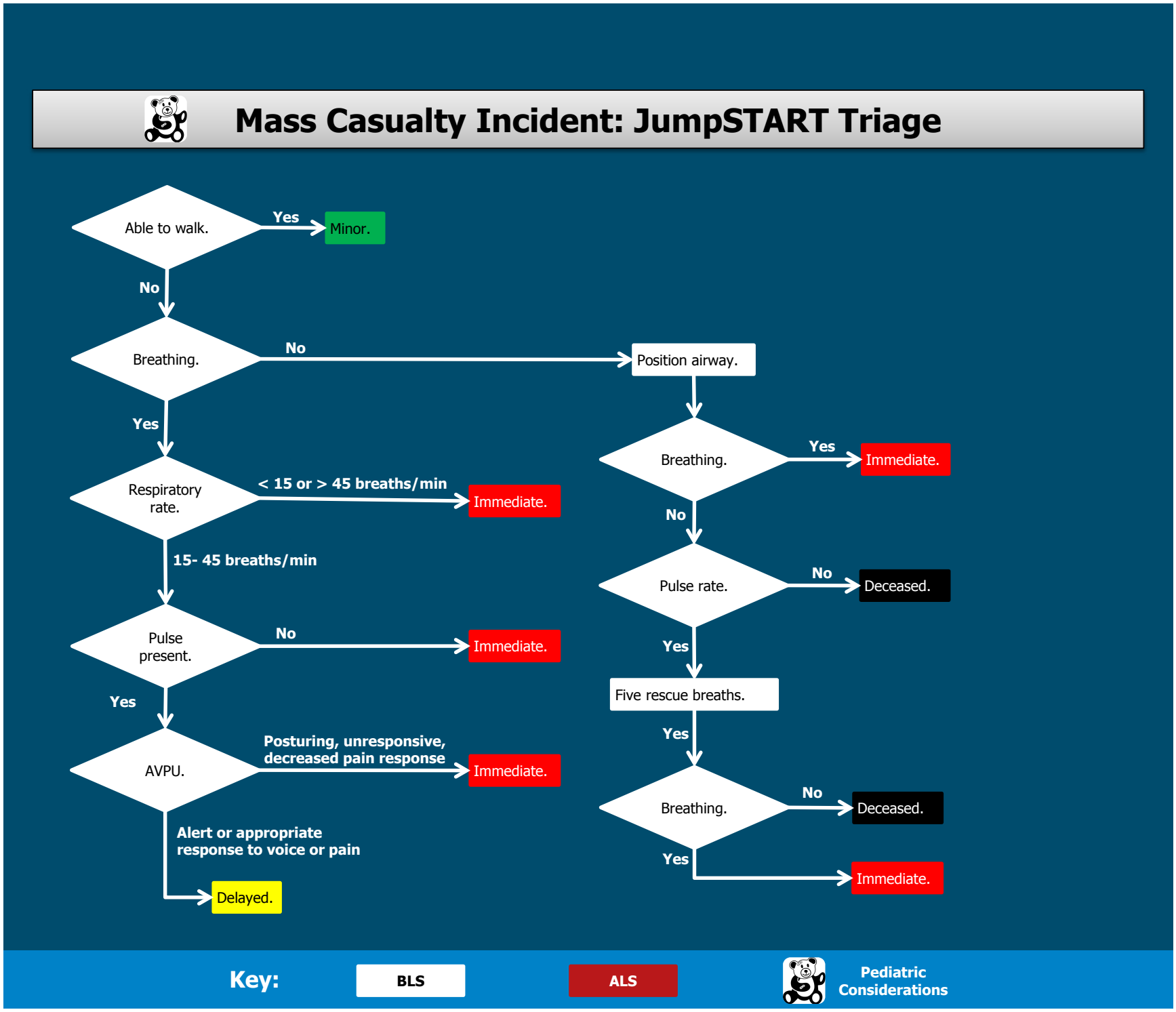
## START Triage

START triage is one of the easiest methods of triage. START stands for Simple Triage And Rapid Treatment. This method gives you the ability to rapidly categorize patients at an MCI. The staff members at Hoag Memorial Hospital, Newport Beach, California, are responsible for developing this method.



## JumpSTART Triage

The JumpSTART triage method was developed by Lou Romig, MD. This method takes into account the physiologic and developmental differences of pediatric patients. This method is intended to be used for patients younger than 8 years who appear to weigh less than 100 lb.



# NJ BURN MATRIX FOR MASS CASUALTIES

Once a burn mass casualty incident has been declared, triage burn patients following the NJ Burn Matrix for Mass Casualties:

| | |
|---|---|
| Tier I (red) | Survival and good outcome likely (survival > 50%) with aggressive care and comprehensive resources |
| Tier II (yellow) | Survival and good outcome likely (survival > 90%) with limited/short term admission and resources |
| Tier II/Tier III (blue) | Survival and good outcome likely (survival < 50%) even with long-term, aggressive treatment and resources |
| Outpatient (green) | Survival and good outcome expected without requiring initial admission |
| Tier IV (gray) | Survival less than 10% even with unlimited, aggressive treatment |

## NJ Burn Tier Matrix of Patient Distribution in Mass Casualties

| Burn with Smoke Inhalation | 0-10% | 11-20% | 21-30% | 31-40% | 41-50% | 51-60% | 61-70% | 71-80% | > 80% |
|---|---|---|---|---|---|---|---|---|---|
| %TBSA<br>Age | 0-10% | 11-20% | 21-30% | 31-40% | 41-50% | 51-60% | 61-70% | 71-80% | 81-90% | 90+% |
| 0-1 Y | Tier II | Tier II | Tier I | Tier I | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II | Tier III<br>Tier II | Tier IV |
| 2-4 Y | Outpatient | Tier II | Tier II | Tier I | Tier I | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II | Tier III<br>Tier II |
| 5-19 Y | Outpatient | Tier II | Tier II | Tier II | Tier I | Tier I | Tier I | Tier I | Tier I | Tier III<br>Tier II |
| 20-29 Y | Outpatient | Tier II | Tier II | Tier II | Tier I | Tier I | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II |
| 30-39 Y | Outpatient | Tier II | Tier II | Tier I | Tier I | Tier I | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II |
| 40-49 Y | Outpatient | Tier II | Tier II | Tier I | Tier I | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II | Tier III<br>Tier II |
| 50-59 Y | Outpatient | Tier II | Tier II | Tier I | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II | Tier IV | Tier IV |
| 60-69 Y | Tier II | Tier II | Tier I | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II | Tier III<br>Tier II | Tier IV | Tier IV |
| 70+ Y | Tier II | Tier I | Tier I | Tier III<br>Tier II | Tier III<br>Tier II | Tier IV | Tier IV | Tier IV | Tier IV | Tier IV |

Tier I: Burn Centers  Tier II: NJ Trauma Centers  Tier III: Medical Centers > 250 beds  Tier IV: Community Hospitals < 250 beds

**Patient Survivability:** **GREEN – Stable** **YELLOW – High** **RED – Medium** **BLUE – Low** **GRAY – Expectant**

# PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is clothing and gear designed to create a barrier against workplace hazards, as well as to prevent injury from incorrect use or malfunction of equipment. Examples include gloves, gowns, respirators, face shields, and reflective vests.

## Using Personal Protective Equipment

**Table 1 Tasks Requiring Personal Protective Equipment**

| | |
|---|---|
| Hand hygiene<br>  | Wash hands:<br>• For at least 30 seconds.<br>• After touching blood, body fluids, secretions, excretions, or contaminated items.<br>• Immediately after removing gloves.<br>• Between patient contacts. |
| Gloves<br>  | • For touching blood, body fluids, secretions, excretions, or contaminated items.<br>• For touching mucous membranes and non-intact skin.<br>• Remove gloves when not providing patient care. |

Gown

- During procedures and patient care activities when contact of the responder's clothing/ exposed skin to blood, body fluids, secretions, excretions, or contaminated items is anticipated.

Mask, face shield combination

- During procedures and patient care activities likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Examples include suctioning or endotracheal intubation.

Facemask

- Helps to block large-particle droplets, splashes, sprays, or splatter that may contain germs.

N-95 Particulate Respirator

- Respiratory protective device.
- Designed to prevent inhalation of very small particles.
- Blocks at least 95% of airborne particles.

Environmental controls

- Have procedures for the routine care, cleaning, and disinfection of environmental surfaces.
- Pay special attention to frequently touched surfaces within the ambulance (handrails, seats, cabinets, doors).

Textiles and laundry

- Handle in a manner that prevents transfer of microorganisms to others and to the environment.

Needles and other sharp objects

- Do not recap, bend, break, or hand manipulate used needles.
- Use safety features when available (needleless vascular access systems).
- Place sharps in puncture-resistant containers.

Patient resuscitation

- Use mouthpiece, resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions.

Respiratory hygiene/cough etiquette

- Instruct symptomatic patients to cover mouth/ nose when sneezing or coughing.
- Use tissues and dispose in no-touch receptacle.
- Perform hand hygiene after touching tissues.
- Place surgical mask on patient/provider.
- If mask cannot be used, maintain spacial separation (> 3 feet), if possible.

# How to Properly Don and Doff PPE

Don and doff PPE in the order shown in **Table 2.***

## Table 2 Donning and Doffing PPE

| Don Process | Doff Process |
|---|---|
| **1. Gown**<br>• Select appropriate type and size.<br>• Opening should be in the back.<br>• Secure at neck and waist.<br>• If gown is too small, use two (tie one in front and one in back). | **1. Gloves**<br>• Grasp outside edge near wrist.<br>• Peel away from hand, turning glove inside out.<br>• Hold in opposite gloved hand.<br>• Slide ungloved finger under the wrist of remaining glove.<br>• Peel off from inside, creating a bag for both gloves and discard. |
| **2. Mask or particulate respirator**<br>**Mask**<br>• Place mask over nose, mouth, chin.<br>• Fit flexible nose piece over nose bridge.<br>• Secure on head with ties or elastic.<br>• Adjust to fit.<br>**Particulate respirator (must be fit-tested annually)**<br>• Select fit-tested respirator.<br>• Hold N-95 in hand (narrow end at fingertips).<br>• Place N-95 under chin.<br>• Place top strap on top of head, bottom strap below ear.<br>• Adjust to fit.<br>• Perform a fit check (inhaling should collapse the mask, exhale to check for leaks). | **2. Goggles or face shield**<br>• Grasp ear or head pieces with ungloved hands.<br>• Lift away from face.<br>• Place on designated receptacle for reprocessing or disposal. |
| **3. Goggles or face shield**<br>• Position goggles over eyes and secure to the head using the ear pieces of headband.<br>• Position face shield over face and secure on brow with headband.<br>• Adjust to fit comfortably. | **3. Gown**<br>• Unfasten ties.<br>• Peel gown away from neck and shoulder.<br>• Turn the contaminated outside of gown toward the inside.<br>• Fold or roll into a bundle.<br>• Discard in red biohazard bag. |
| **4. Gloves**<br>• Don gloves last.<br>• Select correct type and size.<br>• Insert hands into gloves.<br>• Extend gloves over isolation gown cuffs. | **4. Mask or particulate respirator**<br>**Mask**<br>• Untie the bottom, then the top.<br>• Remove from face.<br>• Discard.<br>**Particulate respirator**<br>• Remove the bottom strap first, then the top.<br>• Remove from face.<br>• Discard.<br>**Thoroughly wash hands with soap and water.** |

* Combination of PPE will affect sequence. Be practical!

## PPE Tips

- **Be safe.** If you think a patient might have an infectious condition or be contaminated, treat the patient as such until proven otherwise. Request appropriate PPE and resources if they are not available at the scene.
- **Vaccinate.** Be up-to-date on all vaccinations, including hepatitis B and influenza.
- **Wash your hands.** Wash your hands throughout the day and after every patient contact. Use an alcohol-based hand sanitizer if you don't have access to soap and water.

Adapted from: Department of Health, Office of Emergency Medical Services, and Public Employees Occupational Safety and Health (PEOSH) Administration, *Personal Protective Equipment for EMS Agencies*, flyer.

# TERRORISM AND WEAPONS OF MASS DESTRUCTION

## Terrorism

Terrorism is the use of violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation,coercion,or ransom. Terrorism aims to:

- Create fear among the public.
- Convince citizens that their government is powerless to prevent terrorism.
- Get immediate publicity for their causes.

Terrorism may be accomplished through kidnappings, assassinations, hijackings, bomb scares and bombings, cyber attacks, and the use of chemical, biologic, radiologic, nuclear, and explosive weapons.

The number of the toll -free, 24-hour Terrorism Hotline is **1-866-4SAFENJ.**

## Weapons of Mass Destruction

A weapon of mass destruction (WMD) is any agent designed to bring about mass death, casualties, and/or massive damage to property and infrastructure (bridges, tunnels, airports, and seaports).These instruments of death and destruction include biologic, nuclear, incendiary, chemical, and explosive weapons (B-NICE) or chemical, biologic, radiologic, nuclear, and explosive (CBRNE) weapons. Both mnemonics (B-NICE and CBRNE) are used to remember the kinds of weapons of mass destruction.

# SLUDGEM

First responders must be familiar with the SLUDGEM mnemonic to accurately identify the signs and symptoms of a nerve agent or organophosphate exposure:

**S** – Salivation

**L** – Lacrimation

**U** – Urination

**D** – Defecation

**G** – Gastirc emptying

**E** – Emesis

**M** – Miosis

# Chemical Agents

## Table 1 Types of Chemical Agents

| Chemical Agent | Signs and Symptoms | Treatment |
|---|---|---|
| **Nerve agents:**<br>▪ Tabun (GA)<br>▪ Sarin (GB)<br>▪ Soman (GD)<br>▪ VX | Rhinorrhea, dyspnea, apnea, convulsions, paralysis, altered mental status, excessive secretions.<br><br>Odor: fruity (GA, GB, GD), sulfur (VX) | Decontaminate and call for ALS and HAZMAT.<br><br>No decontamination needed for exposure to vapor.<br><br>Secure ABCs.* |
| **Vesicants (blister agents):**<br>▪ Sulfur mustard (H)<br>▪ Lewisite (L)<br>▪ Phosgene oxime (CX) | Asymptomatic latent period, skin redness (erythema) and blisters, upper respiratory secretions, dyspnea, airway damage, gastrointestinal effects.<br><br>Odor: garlic (H), geraniums(L) | There are no antidotes. British anti-Lewisite is the antidote for Lewisite; however, it is not carried by civilian EMS.<br><br>Decontaminate before initiating ABCs. Patient may require prompt airway support if agent is inhaled. Transport as soon as possible. |
| **Metabolic agents:**<br>▪ Hydrogen cyanide (AC)<br>▪ Cyanogen chloride (CK) | After exposure to high estimated dose: seizures, cardiopulmonary arrest.<br><br>Odor: bitter almonds (AC), irritating (CK) | Ensure decontamination has been performed. Remove patient from atmosphere. Support ABCs.<br>▪ **Mild-exposure (conscious) patients:** do not receive an antidote; provide oxygen and suction, as needed.<br>▪ **Severe-exposure (unconscious and/or not breathing) patients:** secure airway, provide oxygen and perhaps ventilation with supplemental oxygen via bag-valve-mask device or ventilator device.<br><br>Also, see Cyanide Exposure and Treatment protocol. |
| **Pulmonary agents (choking agents):**<br>▪ Phosgene (CG)<br>▪ Chlorine (CL) | Immediate burning and irritation followed by wheal-like lesions, eye and airway damage.<br><br>Odor: freshly mown hay or grass (CG), bleach (CL) | Remove patient from contaminated atmosphere; decontaminate; treat ABCs aggressively; suction as necessary; place patient in position of comfort with head elevated; initiate rapid transport.<br><br>There are no antidotes to counteract these agents. |
| **Neurotoxin agents:**<br>▪ Ricin | Initial symptoms will develop 6–8 hours after exposure: respiratory distress, fever, cough, nausea, chest tightness, vomiting, diarrhea, erythema, and severe diaphoresis. | Treatment is supportive and includes respiratory support and cardiovascular support, as needed. Early intubation and ventilation, combined with treatment of pulmonary edema, are appropriate.<br><br>There is no treatment or vaccine available. |

*Note: The DuoDote Auto-Injector contains 2.1 mg of atropine and 600 mg of 2-PAM delivered in a single dose through one needle.

## Biological Agents

**Table 2** shows only a handful of the biologic agents prehospital care providers may encounter in the field. The prehospital treatment of these agents is mostly supportive.

### Table 2 Biologic Agents

| Biologic Agents | Signs and Symptoms | Treatment |
|---|---|---|
| ▪ Anthrax<br>▪ Cholera<br>▪ Q fever<br>▪ Tularemia | Fever, general malaise and weakness, flulike symptoms, chest discomfort, cough, dyspnea, diaphoresis, signs of shock, organ and system failure, death | **Pulmonary/inhalation:** Follow standard precautions, oxygen, ventilatory support if in pulmonary edema or respiratory failure, and transport.<br><br>**Cutaneous:** Follow standard precautions; apply dry, sterile dressing to prevent accidental contact with wound and fluids. |
| ▪ Botulinum toxin | Dry mouth, intestinal obstruction, urinary retention, constipation, nausea, vomiting, abnormal pupil dilation, blurred and/or double vision, drooping eyelids, difficulty swallowing and/or speaking, respiratory failure as result of descending paralysis. | Support ABCs, provide oxygen, transport, ventilatory support in case of paralysis of the respiratory muscles.<br><br>Botulism anti-toxin is available. |
| ▪ Smallpox | Severe fever, malaise, body aches, headaches, small blisters on skin, bleeding of skin and mucous membranes. | Follow standard precautions, support ABCs.<br><br>There is no specific treatment. |
| ▪ Tuberculosis<br>▪ Plague | Above symptoms with hemoptysis, lymph tenderness. | Follow standard precautions, support ABCs, provide oxygen, transport. |

**Use personal protective equipment (PPE) when treating any patient suspected of being exposed to a biologic agent.**

## Radiological

**Table 3** describes a radiologic incident that prehospital care providers may see in the field and their appropriate treatments.

A radiological incident may result from the presence of radioactive materials subsequent to a technological disaster at a Nuclear Generating Station, acts of terrorism involving a radioactive dispersal device (RDD), or a nuclear detonation.

### Table 3 Radiologic Incidents

| Radiologic Agents | |
|---|---|
| **Symptoms of high levels of exposure to radiation** | Anorexia, nausea, vomiting, and skin erythema.<br><br>Patients may exhibit intermittent temporary periods of remission, but this is short-lived and worsening symptoms are likely. Depending on the severity of exposure, patients may succumb after a few hours, or live for several months. |
| **Treatment** | Exposure to radiation does not make a patient contaminated and/or radioactive. However, if a radioactive material is present on the patient, the patient is considered contaminated and must be decontaminated prior to transportation.<br><br>Once decontaminated, address any physical injuries and management of ABCs. |
| **Factors affecting patient exposure** | The degree of patient exposure to radiation is dependent upon the distance from the source, the **time** exposed, and the presence of **shielding**.<br><br>Patients exposed to large doses of radiation or for an extended period of time will exhibit the most severe symptoms. |

## Incendiary and Explosive Devices

The type and severity of wounds sustained from incendiary and explosive devices primarily depend on the patient's distance from the epicenter of the explosion.

### Table 4 The Anatomy of an Explosion

| Phase | Injuries |
|---|---|
| **Primary blast injury** | Direct effects of the pressure wave on body. Mostly affects gas-filled organs such as lungs, intestines, and middle ear. |
| **Secondary blast injury** | Penetrating or nonpenetrating injury that results from being struck by flying debris. May cause both penetrating and/or blunt trauma. |
| **Tertiary blast injury** | Whole body displacement or body being thrown and subsequent traumatic impact with environmental objects. This results in a wide array of injuries, including blunt trauma and even penetrating trauma, such as impalement. |
| **Quaternary blast injuries** | Associated injuries not due to primary, secondary, or tertiary mechanisms. Thermal and inhalation injuries as well as crush injuries. |

## Secondary Devices

First responders must be vigilant when responding to a reported explosion due to the possible presence of "secondary devices."These devices are bombs placed at the scene before the first explosion, but detonated afterward with the intention of killing first responders. In addition, an improvised explosive device (IED) can be combined with any of the other weapons of mass destruction to create a "dirty bomb." In the case of radiologic and biologic agents, first responders may not know they have been exposed until after the incident has ended.

## Vehicle-Borne Improvised Explosive Device (IED) Identification

The following may indicate a vehicle carrying an IED:

- A vehicle that is heavy or sagging (rear-weighted).
- A vehicle that is parked illegally or near authorized vehicle entrances or crowded access points.
- A vehicle with covered or tinted windows.
- A vehicle with large containers on seats or cargo area (e.g., bags, boxes, barrels, tanks).
- A vehicle without a license plate or that has a plate that has been altered.
- Odor of gasoline, propane, acids, or chemicals.
- Visible wires, switches, batteries, or antennae inside or on a vehicle.
- Cargo concealed with tarp or blanket.

If observed, call dispatch or communications center.

# CYANIDE EXPOSURE AND TREATMENT

## Considerations

The following standing orders (optional, at medical director's discretion) are authorized in the event an adult patient presents with cyanide poisoning.

## Assessment - Cyanide Exposure and Treatment

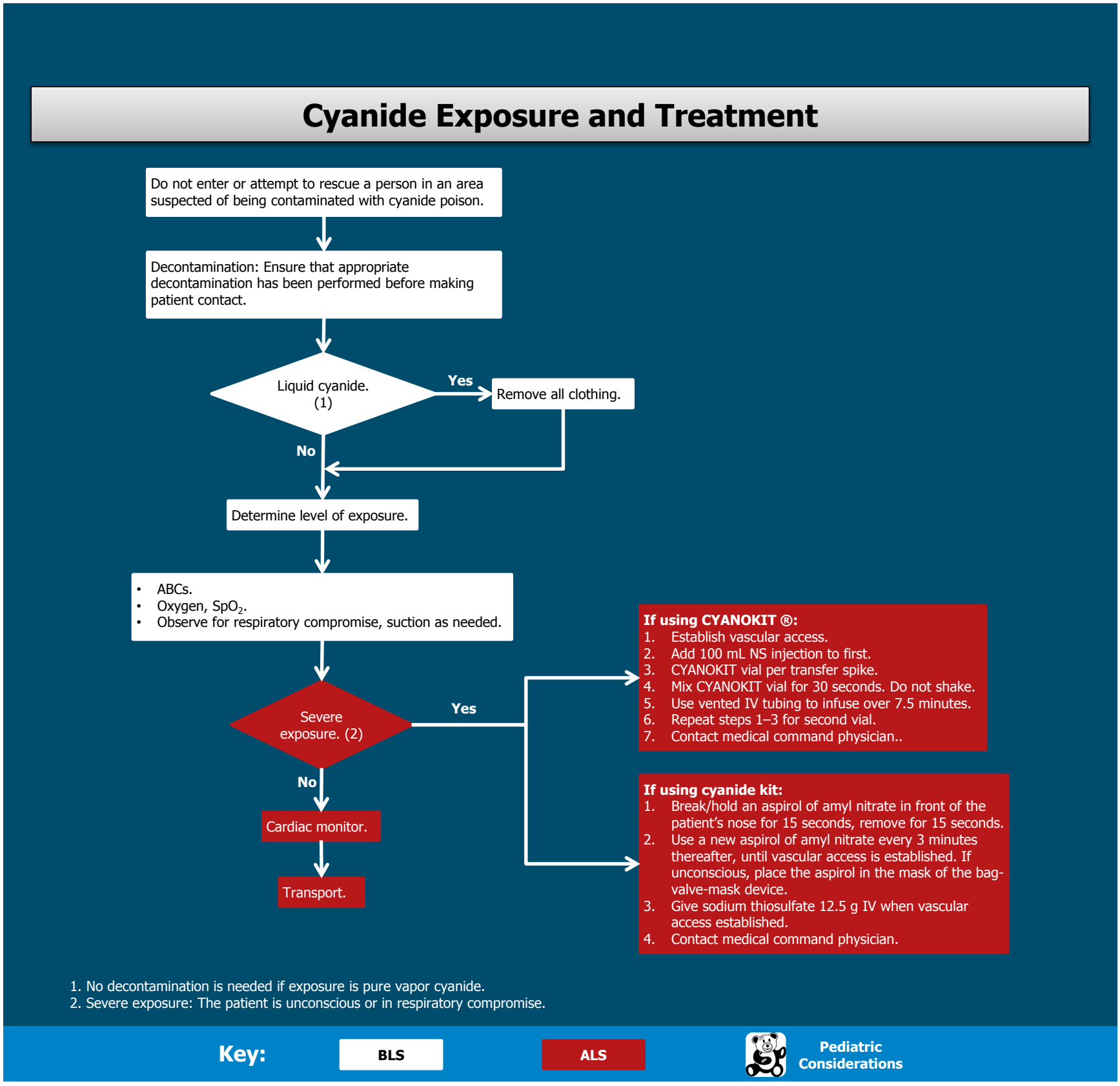
- There may be no distinguishing physical findings or symptoms, particularly at low concentrations.
- There may be rapid death in high concentrations. Sudden collapse, seizures, or death after exposure. Generally, the victims are acyanotic (often retain the normal pink coloration until after death).
- There may be an odor of bitter almonds. Victims often will complain of dizziness, weakness, and anxiety.
- Determine level of exposure:

– If the exposure level is mild (patient is conscious and breathing): Secure airway. Give Oxygen. Observe for respiratory distress. Suction, as needed.

– If the exposure level is severe (patient is unconscious or respirations are severely compromised): Secure airway. Give Oxygen. Suction, as needed.

- BLS to request ALS and HAZMAT.

# Treatment - Cyanide Exposure and Treatment




## Documentation

- Signs and symptoms
- Cardiac rhythm, if obtained
- Nature of exposure
- Response to treatment

# ORGANOPHOSPHATE EXPOSURE

## Considerations

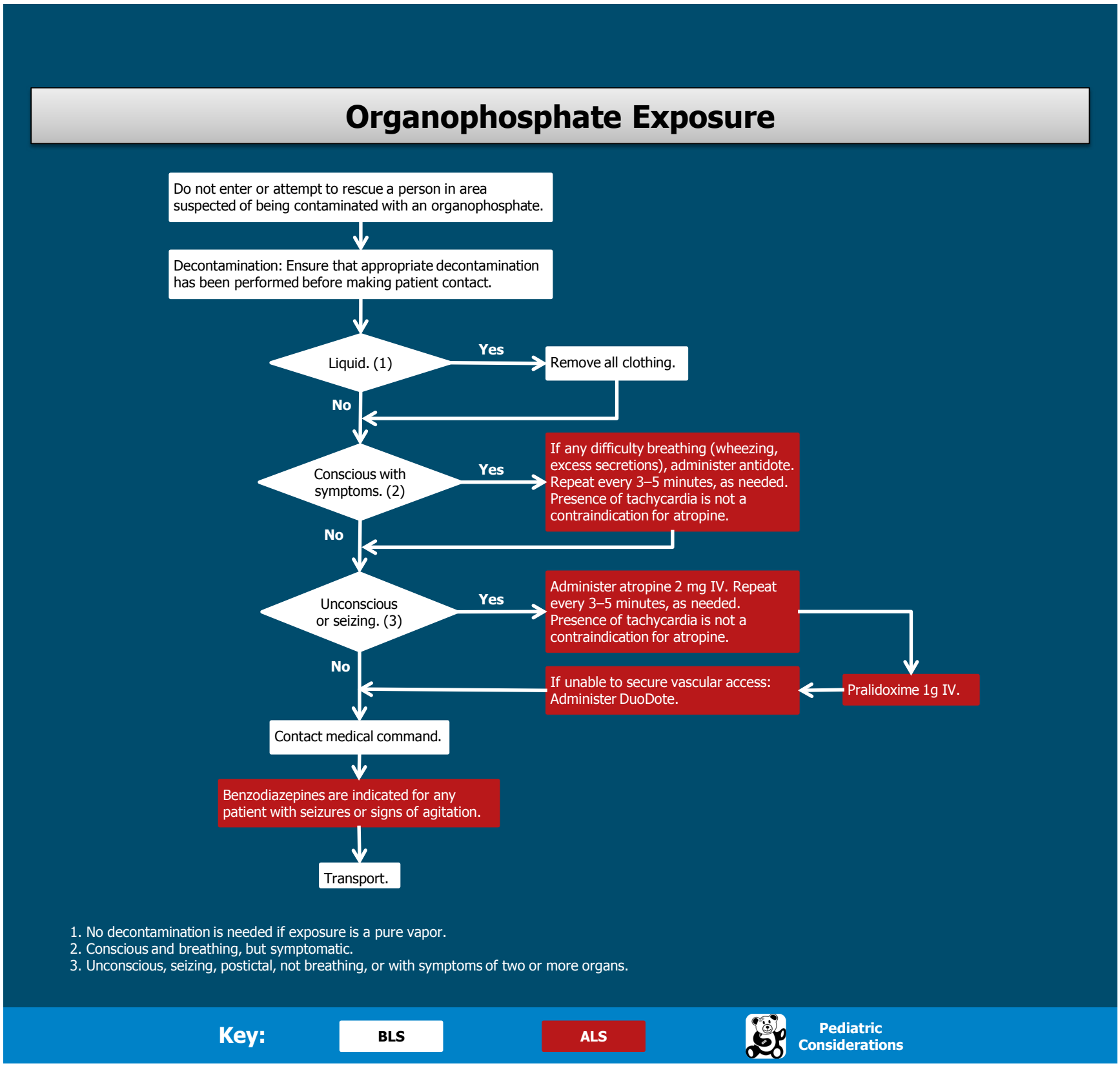
Organophosphate is a family of nerve agents. Examples include the following:

- **Insecticides:** malathion, parathion, diazinon, fenthion, dichlorvos, chlorpyrifos, ethion
- **Nerve gases:** soman, sarin, tabun,VX
- **Antihelmintics:** trichlorfon
- **Herbicides:** tribufos (DEF), merphos, tricresyl phosphate

## Assessment - Organophosphate Exposure

- Signs and symptoms include sudden collapse, seizures, muscle fasciculations (contractions), cyanosis, bradycardia, miosis (small pupils), shortness of breath, cough, excess nasal secretions, excess pulmonary secretions, salivation, urination, nausea, vomiting, diarrhea, headache, muscle weakness, blurred or dimmed vision.
- Effects appear almost immediately and will vary from mild to severe. There will likely be deaths near the source of the exposure.
- Do not enter or attempt to rescue a person in an area suspected of being contaminated with organophosphate.
- Decontamination: Before making patient contact, ensure that appropriate decontamination has been performed. If it is certain the exposure is to gas, there is no need for decontamination. If there is the possibility of droplet or liquid contamination, ensure that all clothing is removed.
- BLS to request ALS and HAZMAT.
- Airway, Oxygen.
- Suction, as needed.

# Treatment - Organophosphate Exposure



# Pediatric Considerations - Organophosphate Exposure

**ALS**

**Atropine:** 0.02 mg/kg IV/IO with a minimum of 0.1 mg and maximum of 0.5 mg as the first dose. If patient is older than 10 years, treat as an adult. If IV/IO access is not available and the child is seriously ill, a single IM dose of atropine 2 mg is acceptable. Children younger than 2 years of age should be initially dosed at 0.1 mg and titrated to effect (dry secretions).

**Pralidoxime:** Smaller children should be treated intravenously, if possible, at a dose of 25–50 mg/kg up to 1–2 grams given as a 5% solution or less over no faster than 20–30 minutes. If vascular access is not available, a single dose of 600 mg IM is accept- able in any child above 10 kg. Even smaller children may be treated based on urgency.

## Documentation

- Signs and symptoms
- Cardiac rhythm, if obtained
- Nature of exposure
- Treatment
- Response to treatment

# SECTION 6: MISCELLANEOUS

## ANATOMY REFERENCES

### Planes of the Body

The anatomic planes of the body are imaginary straight lines that divide the body There are three main axes of the body, depending on how it is sliced.

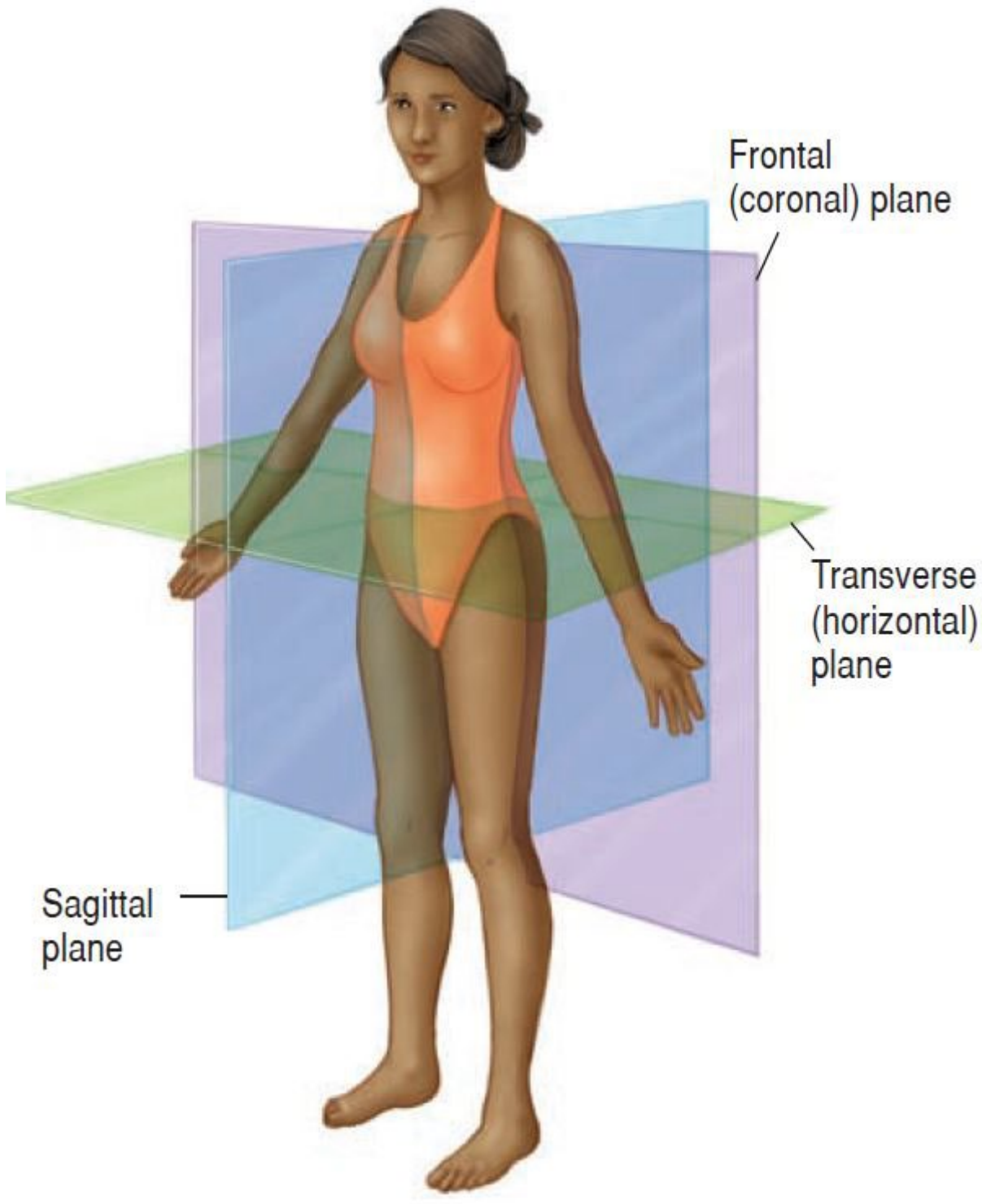


**Table 1 Planes of the Body**

| Plane | Description |
|---|---|
| Coronal | Front and back |
| Transverse | Top and bottom |
| Sagittal | Left and right |
| Midsagittal (midline) | Left and right, equal halves |

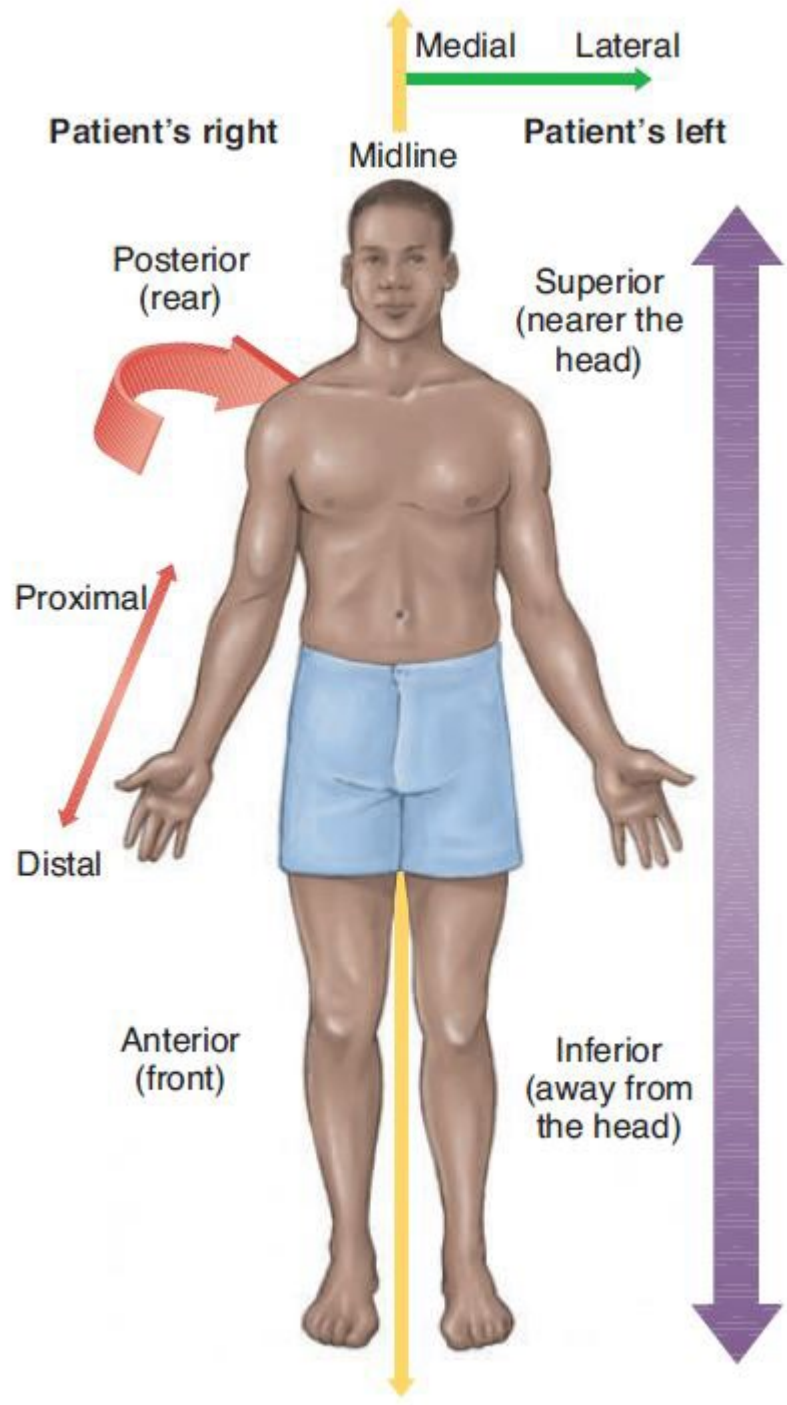
## Directional Terms

When you are discussing where an injury is located or how a pain radiates in the body, you need to know the correct directional terms.

Table 2 provides the basic directional terms used in medicine. Directional terms are paired as "opposites."

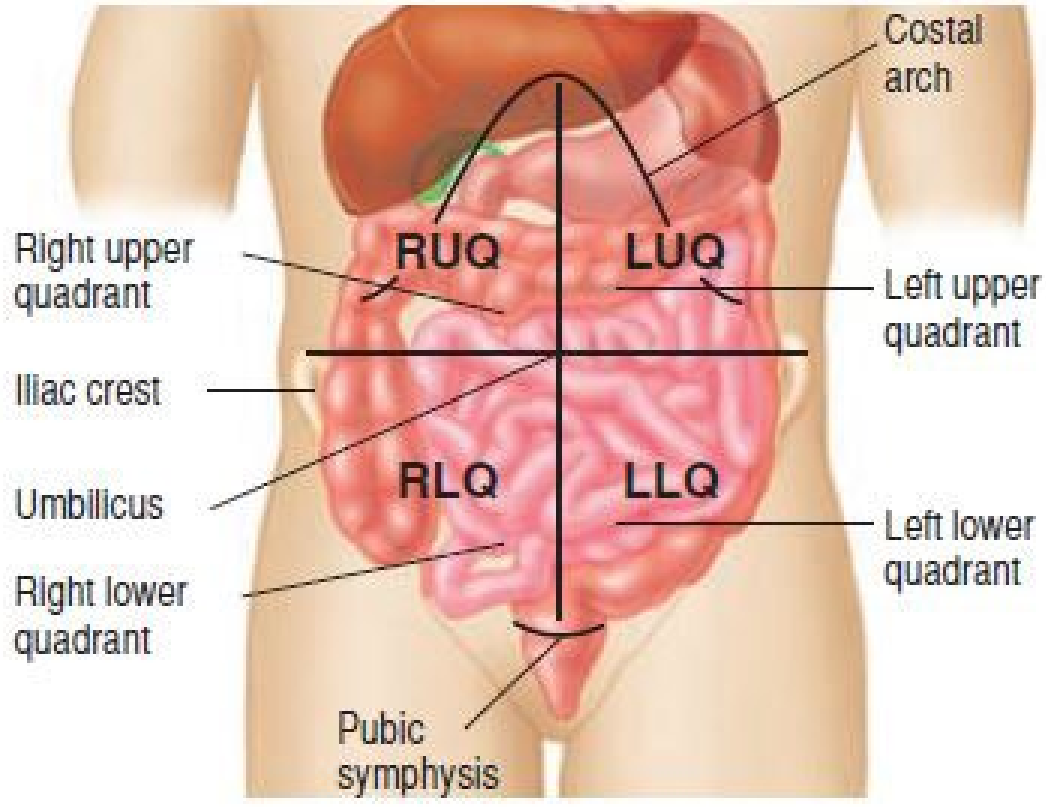
**Table 2 Common Directional Terms**

| Common Term | Directional Term | Definition |
|---|---|---|
| Front and back | Anterior (ventral)<br>Posterior (dorsal) | The front surface of the body<br>The back surface of the patient |
| Right and left | Right<br>Left | The patient's right<br>The patient's left |
| Top and bottom | Superior<br>Inferior | Closest to the head<br>Closest to the feet |
| Closest and farthest | Proximal<br>Distal | Closest to the point of attachment<br>Farthest from the point of attachment |
| Middle and side | Medial<br>Lateral | Closest to the midline<br>Farthest from the midline |
| In and out | Superficial<br>Deep | Closest to the surface of the skin<br>Farthest from the surface of the skin |


Medial
Lateral
Patient's right
Midline
Patient's left
Posterior
(rear)
Superior
(nearer the
head)
Proximal
Distal
Anterior
(front)
Inferior
(away from
the head)

# Abdominal Quadrants

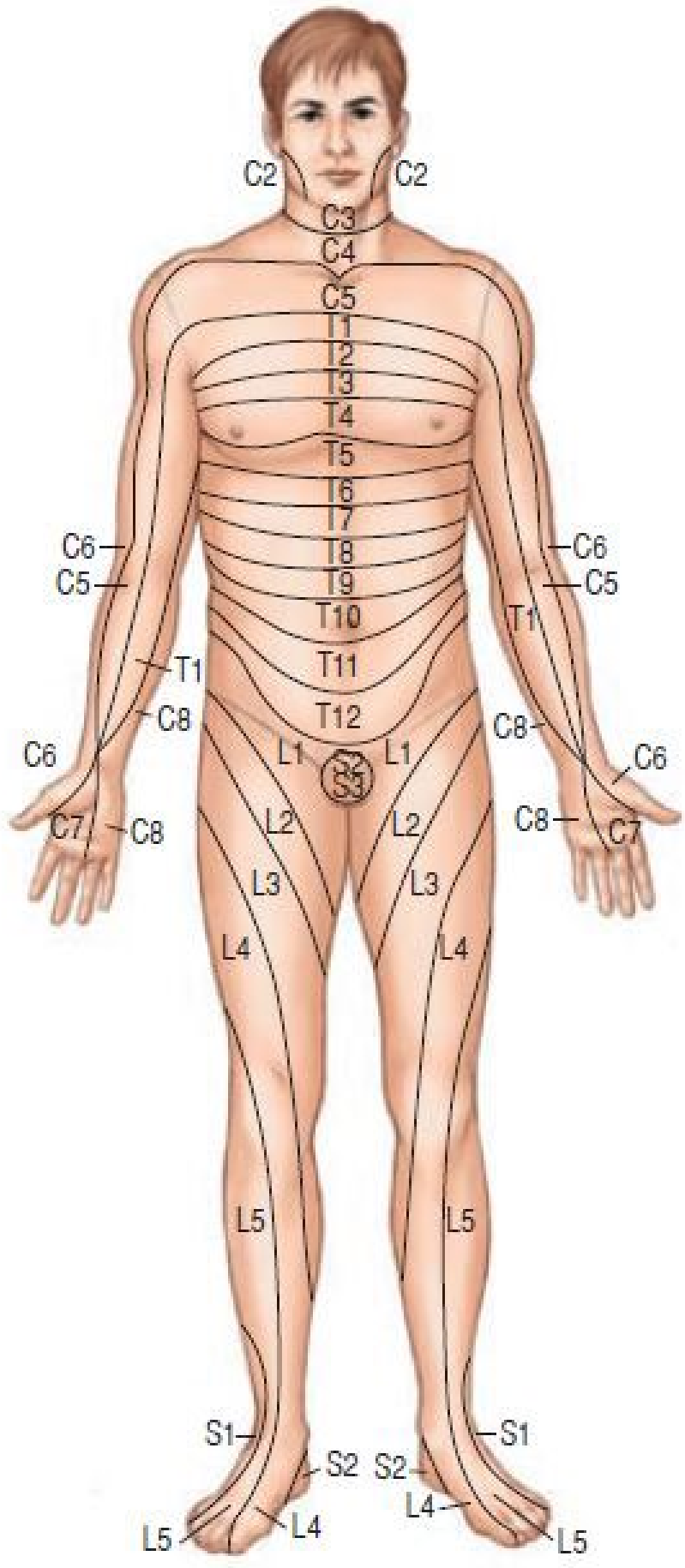
The sections of the abdominal cavity are described by quadrants.




| Right Upper Quadrant | Left Upper Quadrant |
|---|---|
| Liver | Left lower part of liver |
| Gallbladder | Upper lobe of left kidney |
| Duodenum | Splenic flexure of colon |
| Head of pancreas | Section of transverse colon |
| Right Adrenal gland | Section of descending colon |
| Upper lobe of right kidney | Stomach |
| Hepatic flexure of colon | Spleen |
| Section of ascending colon | Pancreas |
| Section of transverse colon | Left Adrenal gland |
| **Right Lower Quadrant** | **Left Lower Quadrant** |
| Lower lobe of right kidney | Lower lobe of left kidney |
| Section of ascending colon | Section of descending colon |
| Right fallopian tube (female) | Left spermatic cord (male) |
| Right ovary (female) | Part of uterus (if enlarged) |
| Part of uterus (if enlarged) | Sigmoid colon |
| Right spermatic cord (male) | Left ureter |
| Cecum | Left ovary (female) |
| Appendix | Left fallopian tube (female) |
| Right ureter | |

# DERMATOME CHART

**Dermatome:** Distinct areas of skin that correspond to specific spinal or cranial nerve levels where sensory nerves enter the central nervous system.



# COMMON MEDICAL ABBREVIATIONS

**ABCs:** airway, breathing, circulation

**abd:** abdomen

**ACLS:** advanced cardiac life support

**ACS:** acute coronary syndrome

**AIDS:** acquired immune deficiency syndrome

**AMU:** air medical unit

**A & O:** alert and oriented

**ASA:** aspirin

**bid:** twice a day

**BM:** bowel movement

**BP:** blood pressure

**BSA:** body surface area

**BVM:** bag-valve-mask

**c:** with

**CA:** cancer

**CABG:** coronary artery bypass graft

**CAD:** coronary artery disease

**CAP:** capsule

**CBC:** complete blood count

**CC:** chief complaint

**CHF:** congestive heart failure

**CID:** cervical immobilization device

**cm:** centimeter

**CNS:** central nervous system

**CO:** carbon monoxide

**CO2:** carbon dioxide

**COPD:** chronic obstructive pulmonary disease

**CSF:** cerebrospinal fluid

**CVA:** cerebrovascular accident (stroke)

**D/C:** discontinue

**DKA:** diabetic ketoacidosis

**DNR:** do not resuscitate

**DOB:** date of birth

**Dx:** diagnosis

**ED:** emergency department

**ETT:** endotracheal tube

**ETA:** estimated time of arrival

**ETOH:** alcohol

**GCS:** Glasgow Coma Scale

**GI:** gastrointestinal

**GSW:** gunshot wound

**gt:** drop

**gtt:** drops

**GU:** genitourinary

**HIV:** human immunodeficiency virus

**HR:** heart rate

**hr (h):** hour

**HTN:** hypertension (high blood pressure)

**Hx:** history

**IM:** intramuscular

**inj:** injection; injury

**IO:** intraosseous

**IV:** intravenous

**JVD:** jugular vein distention

**K+:** potassium

**kg:** kilogram

**(L):** left

**L:** liter

**LBB:** long backboard

**LLQ:** left lower quadrant

**LMP:** last menstrual period

**LOC:** level of consciousness; loss of consciousness

**lpm:** (LPM, L/min) liters per minute

**LR:** lactated Ringer's

**LUQ:** left upper quadrant

**m:** meter

**mcg:** microgram

**MCI:** multiple casualty incident

**mEq:** milliequivalent

**mg:** milligram

**MI:** myocardial infarction (heart attack)

**MICU:** Mobile Intensive Care Unit

**min:** minute; minimum

**mL:** milliliter

**mm:** millimeter

**MOI:** mechanism of injury

**Na:** sodium

**NC:** nasal cannula

**neg:** negative

**NG:** nasogastric

**NOI:** nature of illness

**NRB:** nonrebreathing mask

**NS:** normal saline

**NTG:** nitroglycerin

**N & V:** nausea and vomiting

**O2:** oxygen

**OB:** obstetrics

**OBS:** organic brain syndrome

**OD:** overdose

**OTC:** over-the-counter

**P:** after

**PCI:** percutaneous coronary intervention

**PCN:** penicillin

**PE:** pulmonary embolism

**PID:** pelvic inflammatory disease

**PO:** by mouth

**PMS:** pulse, motor, sensation

**prn:** as needed

**Pt:** patient

**PVC:** premature ventricular contraction

**Px:** physical examination

**q:** every

**R:** right

**RBC:** red blood count

**REMCS:** Regional Emergency Medical Communications System

**RLQ:** right lower quadrant

**ROSC:** return of spontaneous circulation

**R/O:** rule out

**RSI:** rapid sequence intubation

**RTS:** revised trauma score

**RUQ:** right upper quadrant

**Rx:** medication or prescription

**s:** without

**SC:** subcutaneous

**sec:** (s) second

**tab:** tablet

**temp:** temperature

**TIA:** transient ischemic attack

**tid:** three times daily

**TKO:** to keep open

**top:** topical

**Tx:** treatment

**µg:** microgram

**UTI:** urinary tract infection

**VF:** ventricular fibrillation

**VS:** vital signs

**VT:** ventricular tachycardia

**WBC:** white blood count

**WPW:** Wolff-Parkinson-White

**w/:** with

**w/o:** without

**wk:** week

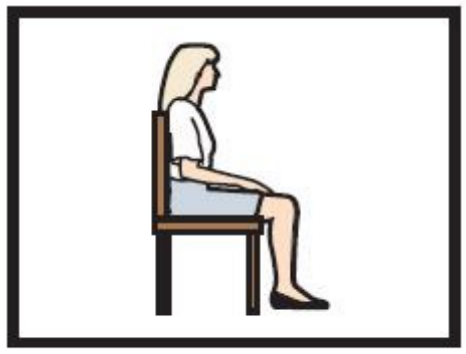
**wt:** weight

**yr:** year

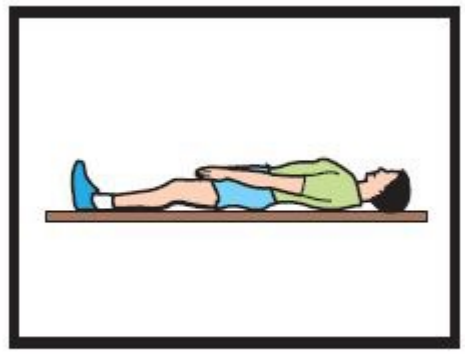
# COMMUNICATION FLIPCHART

It is important to take the time to make sure the patient understands what is being said or taking place. Hearing or speech impaired patients may be capable of reading lips so it is important to speak clearly with lips visible to the patient. Sign language may be helpful or the passing of notes may be required. Interpreters may be needed if the patient does not speak or understand English. Slowly demonstrate or gesture to indicate what will be done. EMS personnel must win the trust and confidence of any pediatric patient before meaningful communication can be established. Individuals with developmental disabilities may have difficulty communicating, understanding and responding to others. Elderly patients may be hard of hearing or have poor vision.

## Basic Directions



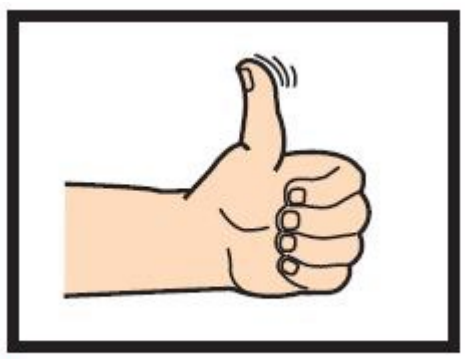
Sit down



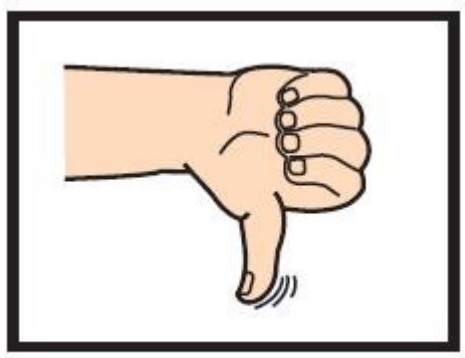
Lie down

Wait

Quiet



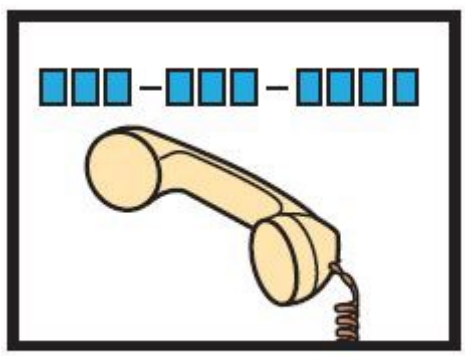
Yes



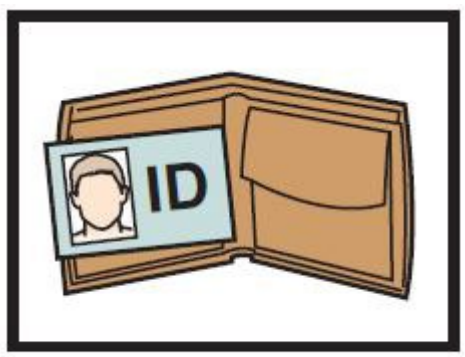
No


Stop

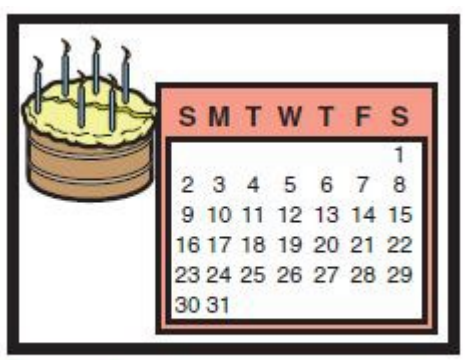
## Identification



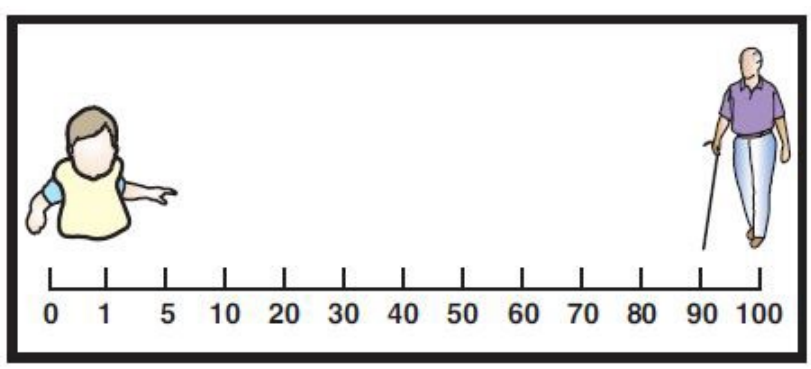
Phone




Name




Date of Birth

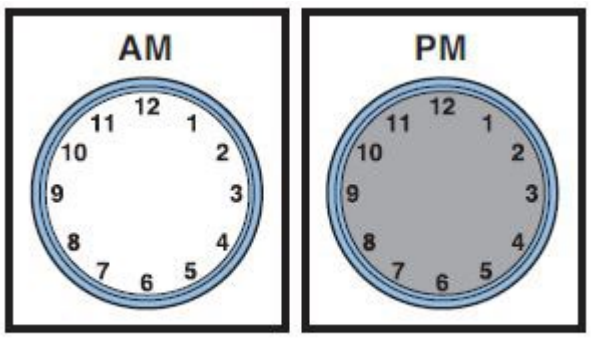



Age


Alphabet card


Number card

## When

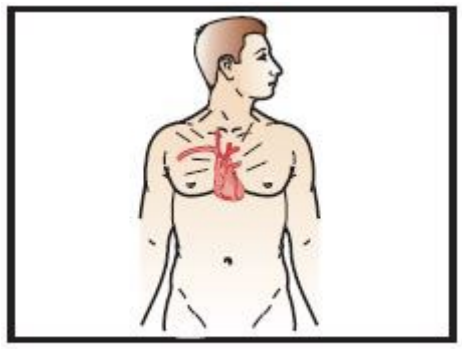



AM hours PM hours

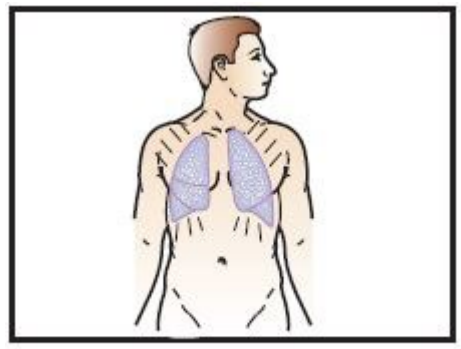

Day Night

# Symptoms

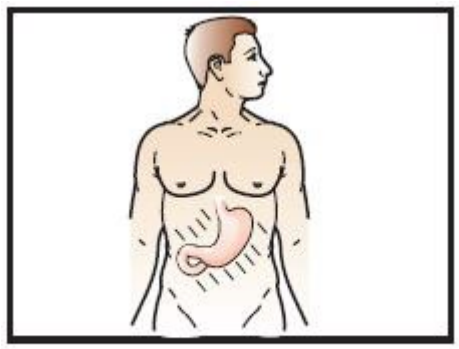
## Where does it hurt?



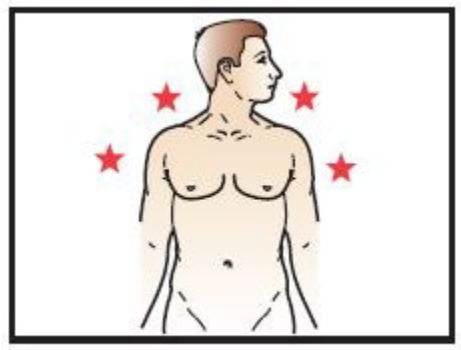
Chest pain



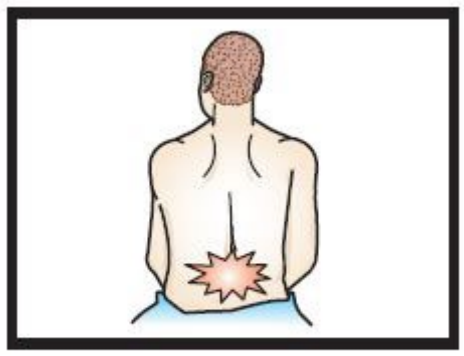
Respiratory distress



Stomach

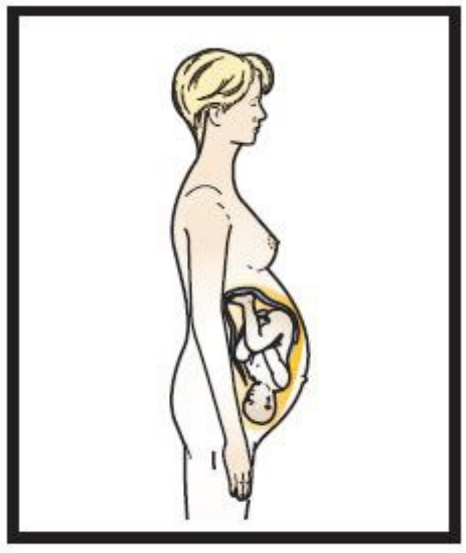


Muscle aches



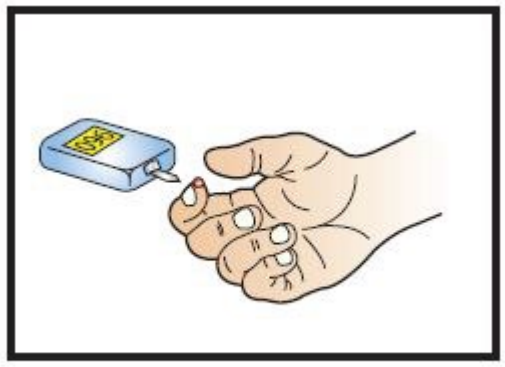
Backache

Headache



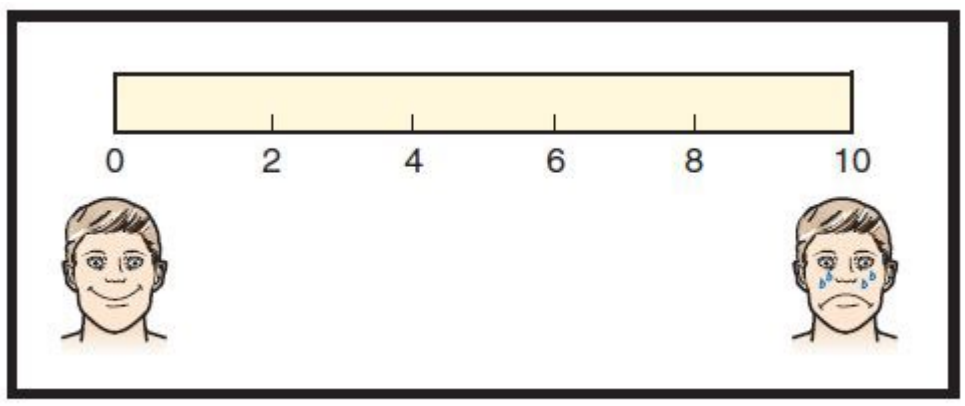
Pregnancy

Fever/Chills



Diabetes

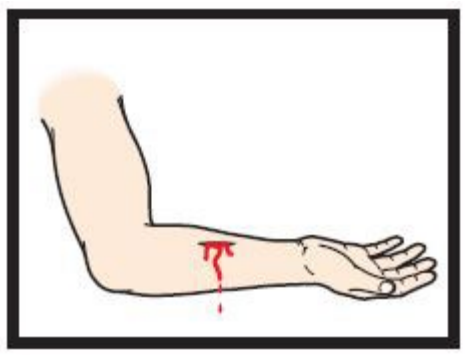
## Pain



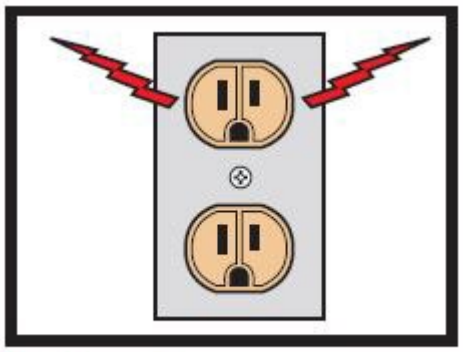

1–10 pain scale


## Accidents

Burn

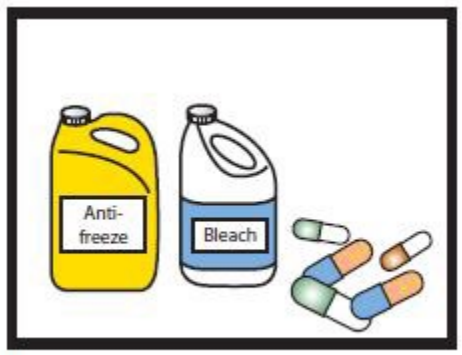


Cut



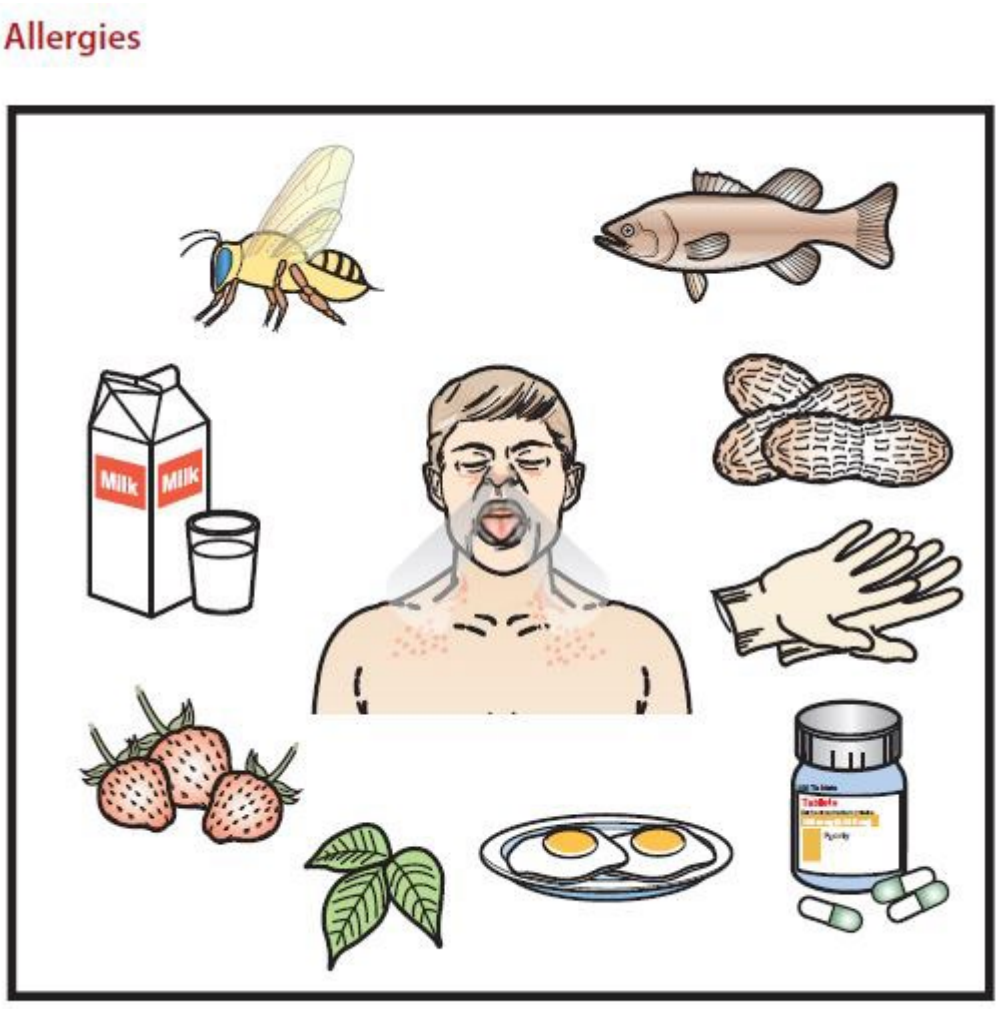
Electric outlet


Alcohol



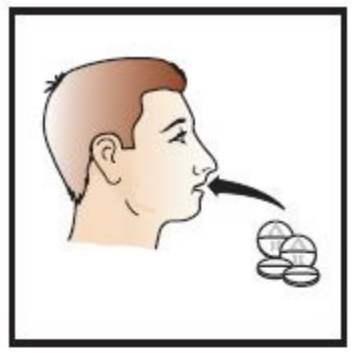

Poisons

# Allergies

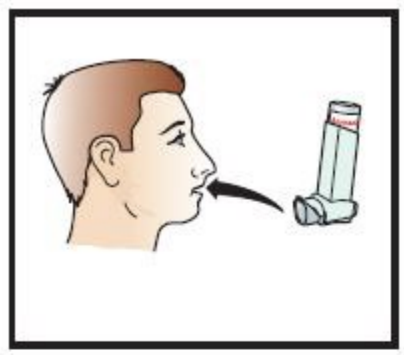



Allergies

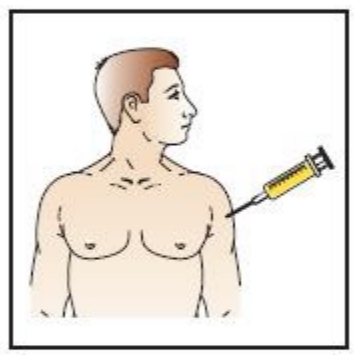
# Medications



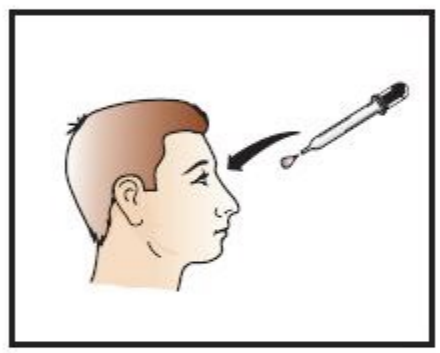
Oral



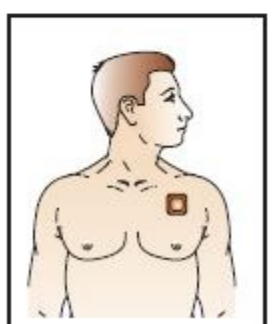
Inhaler



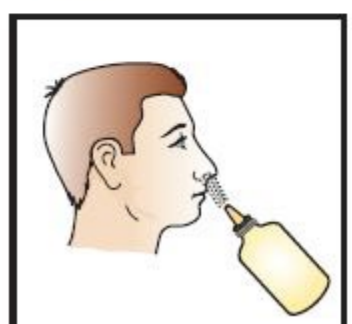
Needle



Dropper



Patch



Nasal spray

# DEVELOPMENTAL DISABILITIES

## Interventions for Patients with Challenging Behaviors

Individuals with developmental disabilities will present with varying physical and mental limitations. They may have difficulty communicating, learning, understanding, and responding to others. Human behavior is complex and unpredictable. Obvious and hidden disabilities can make interactions difficult.

## Possible Indicators

- Look for a medical-alert bracelet, necklace, pocket card, shoelace tag
- Self-stimulation—hand-flapping, finger-flicking, body rocking or twirling, off-key humming, repetitive speech
- Repetition—sits up and down repeatedly, repeats sounds/mimics your words, twirls objects, handles objects compulsively, lines objects up in patterns
- Acclimation—wanders around looking at or touching objects, invades your personal space without warning
- Stands too close or too far away
- Resistant to physical contact
- Seems distracted or unaware
- Slow to answer—reacts more slowly to commands/requests
- Dissociated speech—reply with seemingly meaningless answers
- Unusual tone of voice—often a monotone quality or ”robot voice,” inappropriately loud or soft-spoken, interrupting or talking-over others, tone of voice does not demonstrate an appropriate level of fear or anger
- May not notice or understand nonverbal signs—body language, gestures, eye contact
- Lack of eye contact—may have little or no eye contact,may appear to be ignoring you or failing to pay attention
- Unusual or awkward gait—toe-walking, unsteady gait, clumsy, difficulty balancing(especially when over-stimulated)
- Uncoordinated
- Explosive outbursts and temper tantrums
- Overreact to change in routine
- Reacts severely to sensory input—lights, sirens, voices, group situation
- Oblivious to danger/may resist rescue attempts
- May try to please you
  - Inclined to accept blame
  - Confess to any crime
  - Pretend to understand
  - May inaccurately answer yes/no questions
- Involvement in criminal activity
  - Frequent victims of crime
  - Frequently confess to crimes they didn’t commit
  - More vulnerable to sexual assault and abuse
  - Oblivious to danger
  - Alternative sense of personal modesty
  - Gravitate to water/wandering
  - May resist rescue attempts
- May idolize authority figures

- Unusual facial features—flat nasal bridge, protruding tongue, short neck

## During Encounters

- Seek out caregivers to help or provide advice
- Be safe—maintain safe distance
- Reduce distractions
  - Approach quietly
  - Stay back a few extra feet
  - Be aware that lights, sirens, fast-approaching vehicles may escalate crisis situation
  - Reduce stress/outside stimulation (less of everything)
  - Avoid crowding
- Be patient
- Use calm and reassuring tone of voice and slow hand gestures
- Stay at same level (don't tower over the person)
- Allow them to acclimate when possible
- Allow repetitive behaviors/self-stimulation unless they cause danger
- Ignore unwanted, inappropriate behaviors
- Model calm behavior and allow time for calming
- Don't expect or force eye contact or other "appropriate" body language
- Don't equate the inability to speak with deafness or illiteracy—pointing to pictures/symbols may help
- Use a normal volume and tone of voice
- Keep commands/questions brief, clear, and literal
- Explain, describe, and demonstrate what you are doing
- Avoid jargon, slang, and professional words
- Tell them what's next
- Allow extra time for responses
- Don't read meaning into their words
- Complete one topic at a time
- Dispel their fears
- Say "good job" to both kids and adults
- Recognize that they may have an altered sense of pain
- Document everything

## Medical Precautions

- Frequent co-morbidities (seizures, hypertension, hearing impairment, physical disability, communication disorder)
- Be alert to positional asphyxia
  - Hypotonia
  - Support and constantly monitor breathing
- Altered sense of pain
- Adrenaline stays up (need extra time to cool/calm down)

# DEATH OF A PATIENT

## Considerations

- Contact the appropriate authorities.
- Stay with the body until the proper authorities arrive.
- Do not disturb or destroy potential evidence if a crime scene is suspected.

## Asssessment - Death of a Patient

- Form a general impression of the patient's condition
- Establish responsiveness.
- Assess airway and breathing and confirm apnea.
- Assess  pulselessness.
- If patient does not exhibit lividity and/or rigor mortis, begin resuscitative measures.
- If patient exhibits lividity and/or rigor mortis, contact medical command for pronouncement of death.
- Provide supportive measures to the family.
- If the patient is an infant and sudden infant death syndrome (SIDS) is suspected, provide the family with the telephone number for the New Jersey Sudden Infant Death Syndrome (SIDS) Center 1-800-545-7437. The SIDS Center provides culturally competent bereavement support for grieving families and SIDS risk-reduction education.
- Obtain patient history and reassess the environment.

## Documentation

- Changes in patient condition
- Signs and symptoms
- Cardiac rhythm, if obtained
- Oxygen saturation (SpO2)
- Response to treatment
- Presence of lividity or rigor mortis
- Consultation with medical command
- Complete Form A (www.state.nj.us/ health/ems) if responding to unexplained death of an infant or child less than 3 years of age.

## Unexplained Death of an Infant or Child Under 3 Years

Form A, available at www.state.nj.us/health/ems, is to be completed by the first team or individual(s) who respond to a sudden unexplained death of an infant or child less than 3 years of age. The lead emergency medical services and the lead law enforcement individuals are each expected to complete separate forms. Please indicate if information collected was obtained by interview or observation. Upon completion, forms are to be submitted to the medical examiner along with a copy of the patient care report, ambulance run sheet or police report, as applicable. Additional comments or notes should be provided on a separate sheet of paper labeled with the name, date of birth, and case number of the infant/child. Do not use the reverse side of any form.

# (POLST) PRACTITIONER ORDERS FOR LIFE-SUSTAINING TREATMENT

## Guidance for Out-of-Hospital Providers Documents medial orders for future medical care that are consistent with individual's wishes

## Considerations - Practitioner Orders for Life-Sustaining Treatment

- Appropriate for those with:
  - -Chronic progressive disease;
  - -End-stage medical conditions; or
  - -Advanced frailty
- Travels with the patient.
- Brightly colored green, but photocopies, faxes, etc. are also valid.
- POLST form is considered a practitioner order.
- Side one of POLST form:
  - -Goals of Care.
  - -Medical Treatment:
    - -Medical Interventions;
    - -Artificially Administered Fluids and Nutrition; and
    - -CPR and Airway Management.
- Slide two of POLST form:
  - -Identification and authorization of surrogate decision maker;
  - -Signature of Practitioner; and
  - -Signature of patient or surrogate.
- Any section not completed means that full treatment should be provided.
- Honored in **all** settings (hospital, clinic, ambulatory surgery, long term care, rehabilitation, assisted living, hospice, during transport by out-of-hospital providers, home).
- **Does not revoke** Advance Directive, Living Will, or Medical Power of Attorney.
- Overrules prior instructions **only** when they conflict.
- Invalidates previous POLST documents.
- In absence of POLST form or previously recognized Medical Society of NJ Do Not Resuscitate Form, individuals will receive routine emergency medical care (including ACLS, CPR, airway management, defibrillation)

## Assessment - Practitioner Orders for Life-Sustaining Treatment

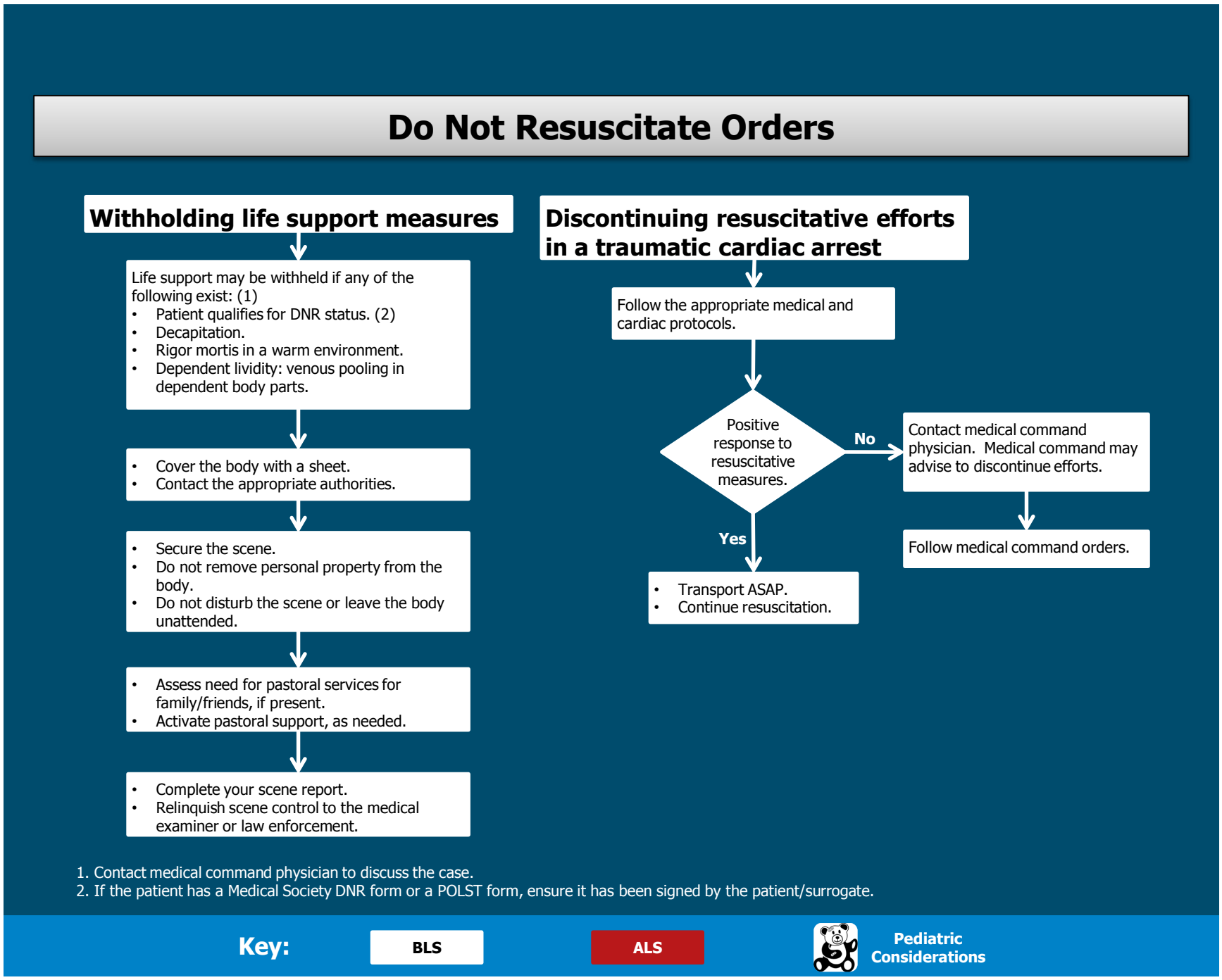
- Copy of POLST form should be given to EMS personnel before a transfer.
- EMS personnel must follow orders on POLST form.
- Form a general impression of the patient's condition.
- Establish responsiveness.
- Assess airway, breathing and confirm apnea.
- Assess pulselessness.
- Provide supportive measures to the family.

## Documentation - Practitioner Orders for Life-Sustaining Treatment

- Receipt of POLST form.
- Consultation with Medical Command.
- www.nj.gov/health/advancedirective/polst.shtml

# DO NOT RESUSCITATE ORDERS

## Treatment - Do Not Resuscitate Orders



# HEAT INDEX/WIND CHILL CHARTS

## Heat Index Chart

### NOAA's National Weather Service

### Heat Index

**Temperature (°F)**

| Relative Humidity (%) | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 80 | 81 | 83 | 85 | 88 | 91 | 94 | 97 | 101 | 105 | 109 | 114 | 119 | 124 | 130 | 136 |
| 45 | 80 | 82 | 84 | 87 | 89 | 93 | 96 | 100 | 104 | 109 | 114 | 119 | 124 | 130 | 137 | |
| 50 | 81 | 83 | 85 | 88 | 91 | 95 | 99 | 103 | 108 | 113 | 118 | 124 | 131 | 137 | | |
| 55 | 81 | 84 | 86 | 89 | 93 | 97 | 101 | 106 | 112 | 117 | 124 | 130 | 137 | | | |
| 60 | 82 | 84 | 88 | 91 | 95 | 100 | 105 | 110 | 116 | 123 | 129 | 137 | | | | |
| 65 | 82 | 85 | 89 | 93 | 98 | 103 | 108 | 114 | 121 | 128 | 136 | | | | | |
| 70 | 83 | 86 | 90 | 95 | 100 | 105 | 112 | 119 | 126 | 134 | | | | | | |
| 75 | 84 | 88 | 92 | 97 | 103 | 109 | 116 | 124 | 132 | | | | | | | |
| 80 | 84 | 89 | 94 | 100 | 106 | 113 | 121 | 129 | | | | | | | | |
| 85 | 85 | 90 | 96 | 102 | 110 | 117 | 126 | 135 | | | | | | | | |
| 90 | 86 | 91 | 98 | 105 | 113 | 122 | 131 | | | | | | | | | |
| 95 | 86 | 93 | 100 | 108 | 117 | 127 | | | | | | | | | | |
| 100 | 87 | 95 | 103 | 112 | 121 | 132 | | | | | | | | | | |

**Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity**

Caution | Extreme Caution | Danger | Extreme Danger

Courtesy of the U.S. National Weather Service. Available from: www.nws.noaa.gov/om/heat/index.shtml

## Wind Chill Chart

# NWS Windchill Chart

| Wind (mph) \ Temperature (°F) | Calm | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | -40 | -45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | 36 | 31 | 25 | 19 | 13 | 7 | 1 | -5 | -11 | -16 | -22 | -28 | -34 | -40 | -46 | -52 | -57 | -63 |
| 10 | | 34 | 27 | 21 | 15 | 9 | 3 | -4 | -10 | -16 | -22 | -28 | -35 | -41 | -47 | -53 | -59 | -66 | -72 |
| 15 | | 32 | 25 | 19 | 13 | 6 | 0 | -7 | -13 | -19 | -26 | -32 | -39 | -45 | -51 | -58 | -64 | -71 | -77 |
| 20 | | 30 | 24 | 17 | 11 | 4 | -2 | -9 | -15 | -22 | -29 | -35 | -42 | -48 | -55 | -61 | -68 | -74 | -81 |
| 25 | | 29 | 23 | 16 | 9 | 3 | -4 | -11 | -17 | -24 | -31 | -37 | -44 | -51 | -58 | -64 | -71 | -78 | -84 |
| 30 | | 28 | 22 | 15 | 8 | 1 | -5 | -12 | -19 | -26 | -33 | -39 | -46 | -53 | -60 | -67 | -73 | -80 | -87 |
| 35 | | 28 | 21 | 14 | 7 | 0 | -7 | -14 | -21 | -27 | -34 | -41 | -48 | -55 | -62 | -69 | -76 | -82 | -89 |
| 40 | | 27 | 20 | 13 | 6 | -1 | -8 | -15 | -22 | -29 | -36 | -43 | -50 | -57 | -64 | -71 | -78 | -84 | -91 |
| 45 | | 26 | 19 | 12 | 5 | -2 | -9 | -16 | -23 | -30 | -37 | -44 | -51 | -58 | -65 | -72 | -79 | -86 | -93 |
| 50 | | 26 | 19 | 12 | 4 | -3 | -10 | -17 | -24 | -31 | -38 | -45 | -52 | -60 | -67 | -74 | -81 | -88 | -95 |
| 55 | | 25 | 18 | 11 | 4 | -3 | -11 | -18 | -25 | -32 | -39 | -46 | -54 | -61 | -68 | -75 | -82 | -89 | -97 |
| 60 | | 25 | 17 | 10 | 3 | -4 | -11 | -19 | -26 | -33 | -40 | -48 | -55 | -62 | -69 | -76 | -84 | -91 | -98 |

Frostbite Times — 30 minutes — 10 minutes — 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Courtesty of NWS/NOAA. Available from: www.weather.gov/os/windchill/index.shtml

# MEASUREMENT CONVERSIONS

## Conversion Formulas

To convert units of measurement, use the formulas below.  For example, if you need 154 centimeters converted to inches, 154 cm * 0.3937 = 60.6 in.

- Centimeters (cm) * 0.3937 = Inches (in)
- Inches (in) / 0.3937 = Centimeters (cm)

- Centimeters (cm) * 10 = Millimeters (mm)
- Millimeters (mm) * 0.1 = Centimeters (cm)

- Feet (ft) / 3.2808 = Meters (m)
- Meters (m) * 3.2808 = Feet (ft)

- Millimeters (mm) * 0.03937 = Inches (in)
- Inches (in) / 0.03937 = Millimeters (mm)

- Milligrams (mg) * 1000 = Micrograms (mcg)
- Micrograms (mcg) * 0.001 = Milligrams (mg)

- Liters (L) * 1000 = Milliliters (mL) or Cubic Centimeters (cc)
- Milliliter (mL) or Cubic Centimeters (cc) * 0.001 = Liters (L)

- Pounds (lb) / 2.2046 = Kilograms (kg)
- Kilograms (kg) * 2.2046 = Pounds (lb)

- (Fahrenheit (F) – 32) / 1.8 = Celsius (C)
- (Celsius (C) * 1.8) + 32 = Fahrenheit (F)

Note: For temperature conversions, remember to use order of operations (e.g., complete the calculations inside the parentheses before the remaining calculations).  For example, when converting 98.6o F to Celsius, subtract 32 from 98.6 before dividing the resulting number by 1.8.  (98.6o F – 32) / 1.8 = 37o C

# Adult Height, Weight, Temperature Conversions

## Adult Height, Weight, Temperature Conversions

| Height | | | Weight | | Temperature | |
|---|---|---|---|---|---|---|
| ft/in | in | cm | lb | kg | F | C |
| 4′8″ | 56 | 142.2 | 90 | 40.8 | 0° | -17.7° |
| 4′9″ | 57 | 144.7 | 100 | 45.3 | 32° | 0° |
| 4′10″ | 58 | 147.3 | 110 | 49.8 | 90° | 32.2° |
| 4′11″ | 59 | 149.8 | 120 | 54.4 | 91° | 32.7° |
| 5′0″ | 60 | 152.4 | 130 | 58.9 | 92° | 33.3° |
| 5′1″ | 61 | 154.9 | 140 | 63.5 | 93° | 33.8° |
| 5′2″ | 62 | 157.4 | 150 | 68.0 | 94° | 34.4° |
| 5′3″ | 63 | 160.0 | 160 | 72.5 | 95° | 35.0° |
| 5′4″ | 64 | 162.5 | 170 | 77.1 | 96° | 35.5° |
| 5′5″ | 65 | 165.1 | 180 | 81.6 | 97° | 36.1° |
| 5′6″ | 66 | 167.6 | 190 | 86.1 | 98° | 36.6° |
| 5′7″ | 67 | 170.1 | 200 | 90.7 | 98.6° | 37.0° |
| 5′8″ | 68 | 172.7 | 225 | 102.0 | 99° | 37.2° |
| 5′9″ | 69 | 175.2 | 250 | 113.3 | 100° | 37.7° |
| 5′10″ | 70 | 177.8 | 275 | 124.7 | 101° | 38.3° |
| 5′11″ | 71 | 180.3 | 300 | 136.0 | 102° | 38.8° |
| 6′0″ | 72 | 182.8 | 325 | 147.4 | 103° | 39.4° |
| 6′1″ | 73 | 185.4 | 350 | 158.7 | 104° | 40.0° |
| 6′2″ | 74 | 187.9 | 375 | 170.0 | 105° | 40.5° |
| 6′3″ | 75 | 190.5 | 400 | 181.4 | 106° | 41.1° |
| 6′4″ | 76 | 193.0 | | | 107° | 41.6° |
| 6′5″ | 77 | 195.5 | | | 108° | 42.2° |
| 6′6″ | 78 | 198.1 | | | | |
| 6′7″ | 79 | 200.6 | | | | |
| 6′8″ | 80 | 203.2 | | | | |
| 6′9″ | 81 | 205.7 | | | | |
| 6′10″ | 82 | 208.2 | | | | |
| 6′11″ | 83 | 210.8 | | | | |
| 7′0″ | 84 | 213.3 | | | | |

# Pediatric Height and Weight Conversions

## Pediatric Height and Weight Conversions

| HEIGHT | | | WEIGHT | |
|---|---|---|---|---|
| ft/in | in | cm | lb | kg |
| 1′5″ | 17 | 43.2 | 1 | 0.5 |
| 1′6″ | 18 | 45.7 | 2 | 0.9 |
| 1′7″ | 19 | 48.3 | 3 | 1.4 |
| 1′8″ | 20 | 50.8 | 4 | 1.8 |
| 1′9″ | 21 | 53.3 | 5 | 2.3 |
| 1′10″ | 22 | 55.9 | 6 | 2.7 |
| 1′11″ | 23 | 58.4 | 7 | 3.2 |
| 2′0″ | 24 | 61.0 | 8 | 3.6 |
| 2′1″ | 25 | 63.5 | 9 | 4.1 |
| 2′2″ | 26 | 66.0 | 10 | 4.5 |
| 2′3″ | 27 | 68.6 | 15 | 6.8 |
| 2′4″ | 28 | 71.1 | 20 | 9.1 |
| 2′5″ | 29 | 73.7 | 25 | 11.3 |
| 2′6″ | 30 | 76.2 | 30 | 13.6 |
| 2′7″ | 31 | 78.7 | 35 | 15.9 |
| 2′8″ | 32 | 81.3 | 40 | 18.1 |
| 2′9″ | 33 | 83.8 | 45 | 20.4 |
| 2′10″ | 34 | 86.4 | 50 | 22.7 |
| 2′11″ | 35 | 88.9 | 55 | 24.9 |
| 3′0″ | 36 | 91.4 | 60 | 27.2 |
| 3′1″ | 37 | 94.0 | 65 | 29.5 |
| 3′2″ | 38 | 96.5 | 70 | 31.8 |
| 3′3″ | 39 | 99.1 | 75 | 34.0 |
| 3′4″ | 40 | 101.6 | 80 | 36.3 |
| 3′5″ | 41 | 104.1 | 85 | 38.6 |
| 3′6″ | 42 | 106.7 | 90 | 40.8 |
| 3′7″ | 43 | 109.2 | | |
| 3′8″ | 44 | 111.8 | | |
| 3′9″ | 45 | 114.3 | | |
| 3′10″ | 46 | 116.8 | | |
| 3′11″ | 47 | 119.4 | | |
| 4′0″ | 48 | 121.9 | | |
| 4′1″ | 49 | 124.5 | | |
| 4′2″ | 50 | 127.0 | | |
| 4′3″ | 51 | 129.5 | | |
| 4′4″ | 52 | 132.1 | | |
| 4′5″ | 53 | 134.6 | | |
| 4′6″ | 54 | 137.2 | | |
| 4′7″ | 55 | 139.7 | | |

*See the Assessment Tools protocol (pediatric section) for the length-based resuscitation tape. The length-based resuscitation tape is one way to estimate a child's weight and identify the correct pediatric equipment sizes and medication doses.

# MEDICAL SPANISH

## General

**Hello** - Hola

**My name is** - Me llamo

**Yes** - Sí

**No** - No

**Please** - Por favor

**Thank you** - Gracias

**What is your name?** - ¿Cómo se llama usted?

**Identification** - Identificación

**I am going to help you** - Estoy aquí para ayudarle

**I need to examine you** - Necesito examinarlo(la)*

**Answer yes or no** - Responda sí o no

**Do you understand?** - ¿Comprende?

**I don't understand** - No comprendo

**One** - Uno

**Two** - Dos

**Three** - Tres

**Four** - Quatro

**Five** - Cinco

**Six** - Seis

**Seven** - Siete

**Eight** - Ocho

**Nine** - Nueve

**Ten** - Diez

* "lo" and "la" are direct object pronouns meaning "you,""him," or "her" (lo = masculine, la = feminine).

## Trauma

**Are you hurt?** - ¿Está herido?

**How did it happen?** - ¿Cómo occurió?

**Did you fall?** - ¿Se cayó?

**How far did you fall?** - ¿De qué altura se cayó?

**Did you lose consciousness?** - ¿Perdio el conocimiento?

**Are you bleeding?** - ¿Está sangrando?

## Pain

**Point to where it hurts** - Señale dónde le duele

**Does this hurt?** - ¿Le duele esto?

**Is the pain strong or weak?** - ¿Es el dolor fuerto o débil?*

**Unbearable** - Insoportable

**Hurts a lot** - Duele mucho

**Hurts** - Duele

**Hurts a little** - Duele un poquito

**No pain** - No duele

**Sharp** - Agudo

**Dull** - No tan agudo

**Crushing** - Aplastante

**Tight** - Apretado

**When did it start?** - ¿Cuándo empezó?

**half hour** - media hora

**1 hour** - una hora

**2 hours** - dos horas

**3 hours** - tres horas

**Longer than 3 hours** - Más de tres horas

**1 day ago** - Ayer

*Leve, débil, and suave can all be used to describe a weak or a slight pain.

## Pregnancy

**Are you pregnant?** - ¿Está embarazada?

**Are you having contractions?** - ¿Tiene contracciones?

**How many minutes between contractions?** - ¿Cuántos minutos entre las contracciones?

## Medical

**Are you sick?** - ¿Está enfermo?

**Are you having trouble breathing?** - ¿Tiene problemas para respirar?

**Do you have allergies?** - ¿Tiene alergias?

**When did you last eat?** - ¿Cuándo fue su última comida?

**Morning** - En la mañana

**Afternoon** - En la tarde

**Evening** - En la noche

**What is making you sick?** - ¿Qué le hace sentirse mal?

**Something you ate or drank** - Algo que comió o tomó

**Something that contacted your skin** - Algo que entró en contacto con su piel

**Something you injected** - Algo que se inyectó

**Something you inhaled** - Algo que inhaló

**Do you have asthma?** - ¿Tiene asma?

# Medications

**Do you take medicine every day?** - ¿Toma medicamentos diariamente?

**What medicine do you take?** - ¿Qué medicamentos toma?

**Heart** - El corazón

**Diabetes** - La diabetes

**Stroke** - Derrame cerebral

**Asthma** - El asma

**Emphysema** - Enfisema

**Stomach** - El estómago

**Bee stings** - La picadura de abeja

**Pregnancy** - El embarazo

**Where is the medicine?** - ¿Dónde está el medicamento?

**When did you take it?** - ¿Cuándo lo tomó?

**Morning** - En la mañana

**Afternoon** - En la tarde

**Evening** - En la noche

**How much did you take?** - ¿Cuánto tomó?

**Less than half** - Menos de la mitad

**More than half** - Más de la mitad

**Do you have allergies to medicines?** - ¿Tiene alergias a alguna medicina?

**Penicillin** - Penicilina

**Codeine** - Codeína

**Morphine** - Morphina

**Sulfa** - Sulfa

**Aspirin** - Aspirina

**Lidocaine** - Lidocaína

## Treatment

**We are going to take care of you** - Nosotros vamos a atenderlo

**We're going to the hospital** - Vamos al hospital

**Take several deep breaths so I can listen to you breathe** - Respire profundo varias veces para que yo pueda escucharlo respirar

**I am going to give you some oxygen** - Le voy a dar un poco de oxígeno

**I am going to give you some medicine to help you** - Le voy a dar un medicamento para ayudarlo

**Lay in the position that is comfortable for you** - Acúestese en una posición que se sienta cómodo

**We are going to put a safety collar around your neck so your head does not move** - Le vamos a poner un collarin ortopédico alrededor del cuello para immovilizarle la cabeza

**Try not to move** - No se mueva

# MEDICATIONS

## Routes of Administration

**Table 1 Routes of Administration: Words and Their Meanings**

| This Word . . . | From These Latin Words . . . | Means . . . |
|---|---|---|
| Inhalation | Inhalatio (drawing air into the lungs) | Inhaling or breathing in |
| Intramuscular (IM) | Intra (into) and muscularis (of the muscles) | Into muscle |
| Intraosseous (IO) | Intra (into) and osse (bone) | Into bone |
| Intravenous (IV) | Intra (into) and venosus (of the veins) | Into vein |
| Per os (PO) | Per (by) and os (mouth) | By mouth |
| Per rectum (PR) | Per (by) and rectum (rectum) | By rectum |
| Subcutaneous (SC) | Sub (under) and cutis (skin) | Under the skin |
| Sublingual (SL) | Sub (under) and lingua (relating to the tongue) | Under the tongue |
| Transcutaneous (transdermal) | Trans (through) and cutis (skin) | Through the skin |
| Intranasal (IN) | Intra (into) and nasal (nose) | Into the nose |

## Medications and Their Uses

**Trade names** start with an uppercase letter and appear in **blue**. **Generic names** start with a lowercase letter and appear in **red**. The primary type of medical problem for which the medication is used is listed, and the type of medication is shown in parentheses, when indicated. **Noting patients' medications can help the responder determine the types of medical problems patients may have, even if they are unsure of their history or are unconscious.**

**Abilify** Bipolar disorder, schizophrenia

**Accolate** Asthma

**Accupril** High blood pressure, congestive heart failure

**acetaminophen with codeine** Pain

**Aciphex** Gastric problems (antiulcer)

**Actiq** Pain (narcotic analgesic)

**Actonel** Osteoporosis

**Actos** Diabetes (oral antidiabetic)

**acyclovir** Viral infections (antiviral)

**Adderall** Attention deficit/hyperactivity disorder

**Adipex** Weight loss

**Advair** Breathing problems

**albuterol** Breathing problems (bronchodilator)

**Aldactazide** High blood pressure (diuretic/water pill)

**Aldactone** Congestive heart failure (diuretic/water pill)

**Aldomet** High blood pressure

**alendronate** Osteoporosis

**Alesse 28** Birth control pills

**Allegra** Allergies (antihistamine)

**Alli** Weight loss

**allopurinol** Gout, kidney stones

**alprazolam** Anxiety, depression (sedative/antianxiety)

**Altace** High blood pressure (ACE inhibitor)

**Alupent** Asthma, breathing problems (bronchodilator)

**Amaryl** Diabetes (oral antidiabetic)

**Ambien** Insomnia (hypnotic)

**Amitiza** Gastrointestinal problems

**amitriptyline** Depression (antidepressant)

**amlodipine** High blood pressure, angina

**amoxicillin** Infection (antibiotic)

**Amoxil** Infection (antibiotic)

**Anaprox** Arthritis (anti-inflammatory)

**Ansaid** Arthritis (anti-inflammatory)

**Antivert** Dizziness, motion sickness (antivertigo)

**Apresoline** High blood pressure (antihypertensive)

**Aricept** Alzheimer's disease

**Artane** Parkinson's disease (anti-Parkinson)

**Arthrotec** Arthritis (anti-inflammatory)

**Asacol** Ulcerative colitis (antibacterial)

**Asmanex** Asthma (anti-inflammatory)

**Aspirin** Analgesic

**Atarax** Anxiety, behavioral disorders (sedative)

**atenolol** High blood pressure, heart problems, angina (beta blocker)

**Ativan** Anxiety (sedative/antianxiety)

**Atrovent** Breathing problems (bronchodilator)

**Augmentin** Infection (antibiotic)

**Avandamet** Diabetes

**Avandia** Diabetes (oral antidiabetic)

**Avapro** High blood pressure

**Avodart** Prostate enlargement

**Axid** Ulcers (antiulcer)

**azithromycin** Infection (antibiotic)

**Azulfidine** Ulcerative colitis (antibacterial)

**Bactrim** Infection (antibiotic)

**Bactroban** Impetigo (antibiotic)

**Benadryl** Allergies (antihistamine)

**benazepril** High blood pressure, congestive heart failure

**Benicar** High blood pressure

**Bentyl** Irritable bowel syndrome (anticholinergic)

**benzonatate** Cough (antitussive)

**Biaxin** Infection (antibiotic)

**bisoprolol** High blood pressure (diuretic)

**Boniva** Osteoporosis

**Brethine** Asthma, breathing problems (bronchodilator)

**Bumex** Edema, congestive heart failure (diuretic)

**bupropion** Depression, smoking cessation

**BuSpar** Anxiety (antianxiety)

**buspirone** Anxiety (antianxiety)

**Byetta** Diabetes

**Caduet** High blood pressure

**Calan** Angina, high blood pressure, rapid heart rate

**Capoten** High blood pressure, congestive heart failure

**captopril** High blood pressure, congestive heart failure

**Carafate** Ulcers (antiulcer)

**carbamazepine** Seizure disorder (anticonvulsant)

**Cardizem** Heart problems, angina (coronary vasodilator)

**Cardura** High blood pressure (alpha blocker)

**carisoprodol** Muscle spasms (muscle relaxant)

**Cartia** Angina, heart problems (calcium-channel blocker)

**carvedilol** High blood pressure

**Catapres** High blood pressure (antihypertensive)

**Ceclor** Infection (antibiotic)

**cefaclor** Infection (antibiotic)

**cefdinir** Infection (antibiotic)

**cefixime** Infection (antibiotic)

**cefprozil** Infection (antibiotic)

**Ceftin** Infection (antibiotic)

**cefuroxime** Infection (antibiotic)

**Cefzil** Infection (antibiotic)

**Celebrex** Arthritis (anti-inflammatory)

**Celexa** Depression (antidepressant)

**cephalexin** Infection (antibiotic)

**cetirizine** Antihistamine

**Chantix** Smoking cessation

**Cialis** Male impotence

**Ciloxin** Infection (antibiotic)

**cimetidine** Ulcers, gastric problems (antiulcer)

**Cipro** Infection (antibiotic)

**citalopram** Depression

**Clarinex** Allergies (antihistamine)

**Claritin** Allergies (antihistamine)

**clarithromycin** Infection (antibiotic)

**clindamycin** Infection (antibiotic)

**Clinoril** Arthritis pain (anti-inflammatory)

**clonazepam** Seizure disorder (anticonvulsant)

**clonidine** High blood pressure (antihypertensive)

**clopidogrel** Antiplatelet

**clotrimazole** Fungal infection (antifungal)

**Colestid** High cholesterol (cholesterol-lowering agent)

**Combivent** Breathing problems (bronchodilator)

**Compazine** Nausea (antiemetic)

**Concerta** Attention deficit/hyperactivity disorder

**Coreg** High blood pressure, heart problems

**Corgard** Heart problems, angina (beta blocker)

**Cotrim** Infection (anti-infective)

**Coumadin** Blood clots (blood thinner)

**Cozaar** High blood pressure

**Crestor** High cholesterol

**cyclobenzaprine** Muscle spasms (muscle relaxant)

**Cymbalta** Depression

**Darvocet-N** Pain management (narcotic analgesic)

**Daypro** Arthritis (anti-inflammatory)

**Deltasone** Severe inflammation (anti-inflammatory)

**Demadex** Edema, congestive heart failure (diuretic)

**Demerol** Pain (narcotic analgesic)

**Depakote** Seizure disorder (anticonvulsant)

**Desyrel** Depression (antidepressant)

**Detrol** Overactive bladder

**Dexedrine** Narcolepsy, attention-deficit disorder

**dexmethylphenidate** Attention deficit/hyperactivity disorder

**DiaBeta** Diabetes (oral antidiabetic)

**Diabinese** Diabetes (oral antidiabetic)

**diazepam** Anxiety (antianxiety)

**diclofenac** Inflammation (anti-inflammatory)

**Diflucan** Fungal infection (antifungal)

**Digitek** Heart problems

**digoxin** Heart problems

**Dilantin** Seizure disorder (anticonvulsant)

**diltiazem** Heart problems, angina (coronary vasodilator)

**Diovan** High blood pressure (antihypertensive)

**Dipentum** Ulcerative colitis

**diphenhydramine** Allergies (antihistamine)

**dipyridamole** Thromboembolism

**Ditropan** Bladder problems (antispasmodic)

**Donnatal** Irritable bowel syndrome (anticholinergic)

**doxazosin** Hypertension, prostate problems

**doxycycline** Infection (antibiotic)

**Duricef** Infection (antibiotic)

**Dyazide** High blood pressure, edema (diuretic)

**DynaCirc** High blood pressure

**E.E.S.** Infection (antibiotic)

**Effexor** Depression (antidepressant)

**Elavil** Depression (antidepressant)

**Eldepryl** Parkinson's disease (anti-Parkinson)

**Elocon** Dermatologic problems

**Emend** Nausea (antiemetic)

**enalapril** High blood pressure, heart failure

**Enbrel** Rheumatoid arthritis

**E-Mycin** Infection (antibiotic)

**Entex** Cough and congestion (expectorant)

**epinephrine** Cardiac arrest, allergic reactions

**Epivir** Antiretroviral

**Ery-Tab** Infection (antibiotic)

**erythromycin** Infection (antibiotic)

**escitalopram** Depression

**Esidrix** High blood pressure (diuretic/water pill)

**Eskalith** Behavioral disorders (antimanic)

**Estrace** Estrogen therapy

**Estraderm** Estrogen therapy

**estradiol** Menopause, gynecologic problems

**etodolac** Arthritis, pain (anti-inflammatory)

**Evista** Osteoporosis

**famotidine** Ulcers, gastric problems (antiulcer)

**Feldene** Arthritis (anti-inflammatory)

**fentanyl** Pain management (narcotic analgesic)

**finasteride** Prostate enlargement

**Fiorinal** Pain management (non-narcotic analgesic)

**Flagyl** Infections (antibacterial)

**Flexeril** Muscle spasms (muscle relaxant)

**flexofenadine** Antihistamine

**Flomax** Enlarged prostate (alpha blocker)

**Flonase** Allergies

**Flovent** Breathing problems

**Floxin** Infection (antibiotic)

**fluconazole** Fungal infection

**fluoxetine** Depression (antidepressant)

**flurbiprofen** Inflammation (anti-inflammatory)

**folic acid** Anemia

**Fosamax** Osteoporosis

**fosinopril** Osteoporosis

**furosemide** Congestive heart failure (diuretic/water pill)

**gabapentin** Seizures

**Gabitril** Seizure disorder (antiseizure)

**Gantrisin** Infection (antibiotic)

**gemfibrozil** High cholesterol (cholesterol-lowering agent)

**Geodon** Antipsychotic

**glimepiride** Diabetes (hyperglycemia)

**glipizide** Diabetes (oral antidiabetic)

**Glucophage** Diabetes (oral antidiabetic)

**Glucotrol** Diabetes (oral antidiabetic)

**Glucovance** Diabetes (oral antidiabetic)

**glyburide** Diabetes (oral hypoglycemic)

**Glycolax** Constipation

**granisetron** Nausea

**guaifenesin** Cough and congestion (expectorant)

**Halcion** Insomnia (hypnotic/sedative)

**Haldol** Psychotic disorders (antipsychotic)

**HCTZ** High blood pressure (diuretic/water pill)

**Humira** Rheumatoid arthritis

**Humulin** Diabetes (insulin)

**hydrochlorothiazide** High blood pressure (diuretic)

**hydrocodone** Cough, pain (narcotic)

**HydroDiuril** High blood pressure (diuretic/water pill)

**hydroxyzine** Anxiety, behavioral disorders (sedative)

**Hygroton** High blood pressure (diuretic/water pill)

**Hytrin** High blood pressure (alpha blocker)

**Hyzaar** High blood pressure (antihypertensive)

**ibuprofen** Inflammation, pain, fever (anti-inflammatory)

**Imdur** Heart problems, angina (coronary vasodilator)

**Imitrex** Migraine headaches (antimigraine)

**Inderal** High blood pressure, heart problems, angina (beta blocker)

**Indocin** Osteoarthritis, pain (anti-inflammatory)

**indomethacin** Arthritis (anti-inflammatory)

**Intal** Asthma (mast cell stabilizer)

**Iophen** Cough (antitussive)

**Isoptin** Angina, high blood pressure, rapid heart rate

**Isordil** Heart problems, angina (coronary vasodilator)

**isosorbide** dinitrate Heart problems, angina (coronary vasodilator)

**K-Dur** Potassium replacement, taken with diuretics

**K-Tab** Potassium replacement, taken with diuretics

**Keflex** Infection (antibiotic)

**Keppra** Seizure disorder (anticonvulsant)

**ketoconazole** Fungal infection (antifungal)

**ketorolac** Pain management (anti-inflammatory)

**Klonopin** Seizure disorder (anticonvulsant)

**labetalol** High blood pressure (beta blocker)

**Lamictal** Seizure disorder (anti-epileptic)

**Lamisil** Antifungal

**Lanoxin** Heart problems

**Lasix** Congestive heart failure (diuretic/water pill)

**Lescol** High cholesterol (cholesterol-lowering agent)

**Levaquin** Infection (antibiotic)

**Levitra** Male impotence

**Levothroid** Thyroid disease (thyroid hormone)

**levothyroxine** Thyroid problems (thyroid hormone)

**Levoxyl** Thyroid disease (thyroid hormone)

**Lexapro** Depression

**Librax** Peptic ulcer (anticholinergic)

**Lipitor** High cholesterol (cholesterol-lowering agent)

**lisinopril** High blood pressure

**lithium** carbonate Behavioral disorders (antipsychotic)

**Lodine** Arthritis, pain (anti-inflammatory)

**Loestrin** Fe Birth control pills

**Lomotil** Diarrhea (antidiarrheal)

**Lopid** High cholesterol (cholesterol-lowering agent)

**Lopressor** High blood pressure (beta blocker)

**Lorabid** Infection (antibiotic)

**loracarbef** Infection (antibiotic)

**loratadine** Allergies (antihistamine)

**lorazepam** Anxiety (sedative/antianxiety)

**Lorcet** Pain (narcotic analgesic)

**Lortab** Pain (narcotic analgesic)

**Lotensin** High blood pressure (ACE inhibitor)

**Lotrel** Hypertension

**Lotrimin** Fungal infection (antifungal cream and ointment)

**Lotrisone** Fungal infection (antifungal cream)

**lovastatin** High cholesterol (cholesterol-lowering agent)

**Lozol** Congestive heart failure, high blood pressure

**Lunesta** Sleep aid

**Luvox** Parkinson's disease (anti-Parkinson)

**Lyrica** Nerve pain

**Macrobid** Urinary tract infection (antibiotic)

**Macrodantin** Urinary tract infection (antibiotic)

**marijuana** Comfort management

**Maxzide** High blood pressure (diuretic/water pill)

**meclizine** Dizziness, vertigo, motion sickness (antiemetic)

**medroxyprogesterone** Gynecologic problems

**meloxicam** Inflammation, pain

**metformin** Diabetes

**methadone** Pain (narcotic analgesic), opiate withdrawal

**methylphenidate** Attention deficit disorder, narcolepsy

**methylprednisolone** Anti-inflammatory

**metoclopromide** Gastric problems (antiemetic)

**metoprolol tartrate** High blood pressure, heart problems (beta blocker)

**metronidazole** Infection (anti-infective)

**Mevacor** High cholesterol (cholesterol-lowering agent)

**Micro-K** Potassium replacement, taken with diuretics

**Micronase** Diabetes (oral antidiabetic)

**Minipress** High blood pressure (antihypertensive)

**Minocin** Infection (antibiotic)

**minocycline** Infection (antibiotic)

**Miralax** Constipation

**Mirapex** Parkinson's disease (anti-Parkinson)

**Mircette** Birth control pills

**mirtazapine** Anxiety, depression

**Mobic** Inflammation, pain

**moexipril** High blood pressure

**Monopril** High blood pressure

**morphine** Pain management (narcotic analgesic)

**Motrin** Inflammation, pain, fever (anti-inflammatory)

**nabumetone** Inflammation, pain (anti-inflammatory)

**Namenda** Alzheimer's disease

**Naprosyn** Inflammation, pain (anti-inflammatory)

**naproxen** Inflammation, pain (anti-inflammatory)

**Nasacort** Asthma, breathing problems (anti-inflammatory)

**Nasonex** Allergies (anti-inflammatory)

**Necon** Birth control pills

**Neurontin** Seizure disorders (anticonvulsant)

**Nexium** Gastric problems

**Niaspan** High cholesterol

**nifedipine** Heart problems, angina (coronary vasodilator)

**Nitro-Dur** Heart problems, angina (coronary vasodilator)

**nitrofurantoin** Urinary tract infection

**nitroglycerin** Heart problems, angina (coronary vasodilator)

**Nitrostat** Heart problems, angina (coronary vasodilator)

**nizatidine** Ulcers (antiulcer)

**Nizoral** Fungal infection (antifungal)

**Norco** Pain (narcotic analgesic)

**Normodyne** High blood pressure

**nortriptyline** Depression (antidepressant)

**Norvasc** High blood pressure (calcium-channel blocker)

**nystatin** Fungal infection (antifungal)

**omeprazole** Ulcers, gastric problems (antiulcer)

**Omnicef** Infections (antibiotic)

**Omnipen** Infections (antibiotic)

**ondansetron** Nausea

**Ortho-Cept** Birth control pills

**Ortho-Cyclen** Birth control pills

**Ortho-Novum** Birth control pills

**Ortho Tri-Cyclen** Birth control pills

**Oruvail** Arthritis pain (anti-inflammatory)

**oseltamivir** Antiviral

**oxaprozin** Inflammation, pain, fever (anti-inflammatory)

**oxcarbazepine** Seizures

**oxybutynin** Bladder problems (antispasmodic)

**oxycodone** Pain (narcotic analgesic)

**Oxy-Contin** Pain (narcotic analgesic)

**Pamelor** Depression (antidepressant)

**pantoprazole** Gastric problems, ulcers

**paroxetine** Depression (antidepressant)

**Pataday** Allergies (antihistamine)

**Patanol** Allergies (antihistamine)

**Paxil** Depression (antidepressant)

**Pediazole** Infection (antibiotic)

**penicillin** Infection (antibiotic)

**pentoxifylline** Vascular disease (blood thinner)

**Pepcid** Ulcers, gastric problems (antiulcer)

**Percocet** Pain (narcotic analgesic)

**Percodan** Pain (narcotic analgesic)

**Persantine** Thromboembolism

**phenazopyridine** Urinary tract irritation, infection

**Phenergan** Nausea (antiemetic)

**phenobarbital** Seizure disorder (anticonvulsant)

**phentermine** Weight loss

**phenytoin** Seizure disorder (anticonvulsant)

**Plavix** Thromboembolism (antiplatelet)

**Plendil** High blood pressure (calcium-channel blocker)

**potassium** chloride Potassium replacement, taken with diuretics

**Prandin** Diabetes (oral antidiabetic)

**Pravachol** High cholesterol (cholesterol-lowering agent)

**prednisone** Severe inflammation (anti-inflammatory)

**Premarin** Menopause, gynecologic problems (estrogen)

**Prempro** Menopause, gynecological problems

**Prevacid** Ulcers, gastric problems (antiulcer)

**Prilosec** Ulcers, gastric problems (antiulcer)

**Prinivil** High blood pressure (ACE inhibitor)

**Pro-Banthine** Peptic ulcer (anticholinergic)

**Procan** Rapid heart rate, tachycardia (antiarrhythmic)

**Procardia** Heart problems, angina (coronary vasodilator)

**Proloprim** Infection, mainly urinary tract (antibiotic)

**promethazine** Nausea (antiemetic)

**Propacet** Pain management (narcotic analgesic)

**Propecia** Hair loss

**propoxyphene** Pain management (narcotic analgesic)

**propranolol** High blood pressure, heart problems, angina (beta blocker)

**Proscar** Prostate enlargement

**Protonix** Gastric problems

**Proventil** Breathing problems (bronchodilator)

**Provera** Gynecologic problems (progestogen)

**Provigil** Narcolepsy

**Prozac** Depression (antidepressant)

**Pulmicort** Asthma

**Pyridium** Urinary tract infections, pain

**Quinaglute** Ventricular arrhythmias (antiarrhythmic)

**quinapril** High blood pressure (ACE inhibitor)

**Qvar** Asthma, breathing problems (anti-inflammatory)

**ramipril** High blood pressure (ACE inhibitor)

**ranitidine** Ulcers, gastric problems (antiulcer)

**Reglan** Nausea (antiemetic)

**Relafen** Inflammation, pain (anti-inflammatory)

**Remeron** Anxiety, depression (sedative)

**Restoril** Sleep disorders (hypnotic)

**Retrovir** Antiretroviral

**Risperdal** Psychological disorders (antipsychotic)

**Ritalin** Attention deficit disorder, narcolepsy

**Robaxin** Muscle spasms (muscle relaxant)

**Roxicet** Pain management (narcotic analgesic)

**Rythmol** Heart problems, ventricular tachycardia

**Sectral** High blood pressure (beta blocker)

**Septra** Infection (antibiotic)

**Serevent** Asthma, breathing problems (bronchodilators)

**Seroquel** Psychological disorders (antipsychotic)

**sertraline** Depression (antidepressant)

**Serzone** Depression (antidepressant)

**simvastatin** High cholesterol

**Sinemet** Parkinson's disease (anti-Parkinson)

**Sinequan** Anxiety, depression (antidepressant)

**Singulair** Asthma

**Skelaxin** Muscle relaxant

**Slo-Bid** Breathing problems, asthma (bronchodilator)

**Slow-K** Potassium replacement, taken with diuretics

**Soma** Muscle spasms (muscle relaxant)

**Spiriva** Breathing problems

**spironolactone** High blood pressure, heart failure (diuretic)

**Suboxone** Treatment of opioid dependence

**sucralfate** Ulcers (antiulcer)

**Sular** High blood pressure

**sulfamethoxazole** Infection (antibiotic)

**sulfasalazine** Ulcerative colitis (antibacterial)

**sulfisoxazole** Infection (antibiotic)

**Sumycin** Infection (antibiotic)

**Suprax** Infection (antibiotic)

**Sustiva** Antiretroviral

**Symbicort** Asthma

**Synthroid** Thyroid disease (thyroid hormone)

**Tagamet** Ulcers, gastric problems (antiulcer)

**Tamiflu** Antiviral

**tamoxifen** Cancer (antineoplastic)

**Tavist** Allergies (antihistamine)

**TegretoI** Seizure disorder (anticonvulsant)

**temazepam** Insomnia (sedative)

**Tenex** High blood pressure (alpha blocker)

**Tenormin** High blood pressure, heart problems, angina (beta blocker)

**Tequin** Infection (anti-infective)

**terazosin** High blood pressure (alpha blocker)

**tetracycline** Infection (antibiotic)

**Theo-Dur** Breathing problems (bronchodilator)

**theophylline** Breathing problems (bronchodilator)

**Tiazac** High blood pressure

**Ticlid** Stroke (antiplatelet)

**Tigan** Nausea and vomiting (antiemetic)

**Tofranil** Depression (antidepressant)

**Tolinase** Diabetes (oral antidiabetic)

**Topamax** Seizures

**Toprol** High blood pressure (beta blocker)

**Toradol** Short-term pain

**tramadol** Pain (analgesic)

**trazodone** Depression (antidepressant)

**Trental** Vascular disease (blood thinner)

**triamterene** High blood pressure (diuretic)

**Triavil** Anxiety, depression (antidepressant)

**Tricor** High triglycerides (antilipemic)

**trimethoprim** Infection, mainly urinary tract (antibiotic)

**Trimox** Infection (antibiotic)

**Triphasil** Birth control pill

**Trivora**-28 Birth control pills

**Tussionex** Cough (antitussive)

**Tylenol with codeine** (Tylenol #3) Pain

**Ultram** Pain (analgesic)

**valacyclovir** Herpes (antiviral)

**Valium** Anxiety (antianxiety)

**valproic** acid Seizure disorder (anticonvulsant)

**Valtrex** Herpes (antiviral)

**Vantin** Infections (antibiotic)

**Vasotec** High blood pressure, heart failure

**Veetids** Infection (antibiotic)

**venlafaxine** Depression (antidepressant)

**Ventolin** Breathing problems (bronchodilator)

**verapamil** Angina, high blood pressure, rapid heart rate

**Viagra** Male impotence

**Vibramycin** Infection (antibiotic)

**Vicodin** Pain (narcotic)

**Vicoprofen** Pain (narcotic analgesic)

**Viramune** Antiretroviral

**Viread** Antiretroviral

**Voltaren** Arthritis (anti-inflammatory)

**Vytorin** High cholesterol

**warfarin** sodium Blood clots (blood thinner)

**Wellbutrin** Depression (antidepressant)

**Xalatan** Glaucoma

**Xanax** Anxiety, depression (sedative)

**Xenical** Weight loss

**Xopenex** Breathing problems

**Yasmin** Birth control

**YAZ** Birth control

**Zantac** Ulcers, gastric problems (antiulcer)

**Zerit** Antiretroviral

**Zestoretic** High blood pressure

**Zestril** High blood pressure (ACE inhibitor)

**Zetia** High cholesterol

**Ziac** High blood pressure (beta blocker, diuretic)

**Zithromax** Infection (antibiotic)

**Zocor** High cholesterol (cholesterol-lowering agent)

**Zofran** Nausea

**Zoloft** Depression (antidepressant)

**zolpidem** Sleep aid

**Zomig** Migraine headaches

**zonisamide** Seizures

**Zovirax** Herpes, shingles, chicken pox (antiviral)

**Zyflo** Asthma

**Zyloprim** Gout

**Zyprexa** Psychological disorders (antipsychotic)

**Zyrtec** Allergies (antihistamine)

# NEW JERSEY POISON INFORMATION AND EDUCATION SYSTEM (NJPIES)

## Hotline

A national number to reach poison control centers **(1-800-222-1222)** provides free, 24-hour professional poison expertise and treatment advice. All calls are answered by pharmacists, physicians, and nurses who are toxicology specialists.

The NJPIES can be utilized by any EMS personnel to obtain assistance with prehospital triage and treatment of patients who have a suspected/actual poisoning or exposure.

Information that should be provided to NJPIES includes:

- Name and age of patient
- Substance(s) involved
- Time of exposure
- Signs and symptoms
- Any treatment provided

## Information and Education

New Jersey Poison Information and Education System (NJPIES) is designated as one of 57 U.S. regional poison control centers nationwide and is New Jersey's only poison control center. Visit **www.njpies.org** for more information.

A poison is any substance that can harm your body, make you sick, or even kill you if used in the wrong way, by the wrong person, in the wrong amount. Most poisonings involve household items such as medicines, cleaning supplies, cosmetics, and personal care items, but they may also be caused by alcohol, recreational drugs, medications, food, or plants. Poisoning can be classified according to the way the poison enters the body. The four primary routes are:

- Ingestion
- Inhalation
- Injection
- Absorption

### Ingestion

Ingestion occurs when poison enters the body through the mouth and is absorbed by the digestive system. Signs and symptoms of ingested poisons include the following:

- Unusual breath odors
- Discoloration or burning around the mouth
- Nausea and/or vomiting
- Abdominal pain
- Diarrhea

## Inhalation

Inhalation occurs when a poison enters the body through the mouth or nose and is absorbed by mucous membranes lining the respiratory system. Signs and symptoms of inhaled poisons include the following:

- Respiratory distress
- Dizziness
- Cough
- Headache
- Hoarseness
- Confusion
- Chest pain

## Injection

Injection occurs when a poison enters the body through a small opening in the skin and spreads through the circulatory system. Injection can occur as a result of an insect sting or the intentional use of a hypodermic needle to inject a poisonous substance into the body. Signs and symptoms of injected poisons include the following:

- Obvious injury site
- Tenderness
- Swelling
- Red streaks radiating from injection site
- Weakness
- Dizziness
- Localized pain
- Itching

## Absorption

Absorption occurs when a poison enters the body through intact skin and spreads through the circulatory system. Signs and symptoms of absorbed poisons include the following:

- Traces of powder or liquid on the skin
- Inflammation or redness of the skin
- Chemical burns
- Rash
- Burning
- Itching
- Nausea and vomiting
- Dizziness
- Shock

# PHONE NUMBERS AND RADIO FREQUENCIES

## General

Use the spaces provided to fill in your local phone numbers.

**Table 1 Useful Phone Numbers**

Adult Protective Services (APS) *1-800-792-8820

AIDS Information 1-800-624-2377

Air Medical Unit (AMU) 1-800-332-4356

Alzheimer's Information 1-609-943-4985

American Red Cross_____

Animal Control_____

Battered Women's Hotline 1-800-572-SAFE (7233)

CHEMTREC 1-800-262-8200

Child Abuse/Neglect 1-877-NJ-ABUSE (65-22873)

CISM Team 1-877-294-HELP (4357)

Communications/Dispatch_____

Domestic Violence Center 1-800-572-7233

Elder Abuse/Neglect 1-877-582-6995

Hazardous Materials Team 1-609-633-1418

NJ Department of Health 1-800-367-6543

County Health Dept_____

Local Health Dept_____

Homeless Shelter_____

Hospital Complaints 1-800-792-9770

Infection Control_____

MedicAlert Emergency Response 1-800-625-3780 or 1-209-634-4917

NJ State Medical Examiner/Coroner 1-609-896-8900

NJ Office of Emergency Medical Services (OEMS) 1-609-633-7777

Poison/Drug Information Center 1-800-222-1222

Psychiatric Emergency Services_____

Rape/Sexual Abuse Crisis Center_____

Regional Emergency Management_____

Communications Systems (REMCS)_____

Emergency lines 1-973-972-0911 or 1-973-973-7000

Nonemergency lines 1-800-631-3444 or 1-973-972-6290

SIDS Hotline 1-800-545-7437

Stress Response Team 1-866-4U-NJ-1ST (48-65-178)

Suicide Prevention Hotline 1-800-273-TALK (8255)

Terrorism Reporting 1-866-4-SAFE-NJ (7233-65)

Towing Service/Heavy Wrecker_____

Translators (note language)_____

Youth Hotline 1-888-222-2228

## Mobile Intensive Care Units (MICU)

Also known as Advanced Life Support (ALS)

### TABLE 2 MICU Contact Information

**Atlantic** AtlantiCare—MICU Washington Avenue Egg Harbor Township NJ 08234 (609) 407-6360 6685

**Bergen** Englewood Hospital & Medical Center—MICU Engle Street Englewood NJ 07631 (201) 894-3416 350

Hackensack University Medical Center—MICU 30 Prospect Avenue Hackensack NJ 07601 (201) 678-1601

Holy Name Hospital—MICU 718 Teaneck Road Teaneck NJ 07666 (201) 541-6322

The Valley Hospital—MICU 233 North VanDien Avenue Ridgewood NJ 07450 (201) 447-8447

**Burlington** Virtua Health Emergency Medical Services 523 Fellowship Road, Suite 270 Mt. Laurel NJ 08054 (856) 581-7500

**Camden** Virtua Health Emergency Medical Services 523 Fellowship Road, Suite 270 Mt. Laurel NJ 08054 (856) 581-7500

**Cape May** AtlantiCare—MICU 6685 Washington Avenue Egg Harbor Township NJ 08234 (609) 407-6360

**Cumberland** Underwood Memorial Hospital-MICU 238 South Evergreen Avenue Woodbury NJ 08096 (856) 384-1000

**Essex** MONOC-MICU 4806 Megill Road Neptune NJ 07753 (732) 929-3045

Atlantic Health System-Mountainside 22 Claremont Avenue Montclair NJ 07042 (908) 522-2865

University Hospital EMS-MICU 150 Cabinet Street Newark NJ 07107 (973) 972-4850

**Gloucester** Underwood Memorial Hospital-MICU238 South Evergreen Avenue Woodbury NJ 08096 (856) 384-1000

**Hudson** Jersey City Medical Center-MICU 415 Montgomery Street Jersey City NJ 07302 (201) 547-6107

**Hunterdon** Hunterdon Medical Center-MICU 2100 Wescott Drive Flemington NJ 08822 (908) 788-2500

**Mercer** Capital Health System 65 Prospect St. Trenton NJ 08618 (609) 394-4516

**Middlesex** Solaris Health System-MICU 65 James Street Edison NJ 08818 (908) 668-2928

Raritan Bay Medical Center-MICU 530 New Brunswick Avenue Perth Amboy NJ 08861 (732) 324-5093

Robert Wood Johnson University Hospital-MICU 126 Paterson Street New Brunswick NJ 08901 (732) 937-8728

**Monmouth** MONOC-MICU 4806 Megill Road Neptune NJ 07753 (732) 929-3045

Morris Chilton Memorial Hospital-MICU 97 West Parkway Pompton Plains NJ 07444 (973) 831-5170

Atlantic Health System-Morristown-MICU 100 Madison Avenue Morristown NJ 07962 (908) 522-2865

St. Clare’s Hospital/Dover-MICU 400 West Blackwell Street Dover NJ 07801 (973) 537-5654

MONOC-MICU 4806 Megill Road Neptune NJ 07753 (732) 929-3045

**Passaic** St. Joseph’s Regional Medical Center-MICU 703 Main Street Paterson NJ 07503 (973) 754-2262

MONOC-MICU 4806 Megill Road Neptune NJ 07753 (732) 929-3045

**Salem** Underwood Memorial Hospital-MICU 238 South Evergreen Avenue Woodbury NJ 08096 (856) 384-1000

**Somerset** Somerset Medical Center-MICU 110 Rehill Avenue Somerville NJ 08876 (908) 203-6253

**Sussex** St. Clare’s Hospital/Dover-MICU 400 West Blackwell Street Dover NJ 07801 (973) 537-5654

**Union** Solaris Health System-MICU 65 James Street Edison NJ 08818 (908) 668-2928

Atlantic Health System-Overlook-MICU 99 Beauvoir Avenue Summit NJ 07901 (908) 522-2865

RWJ University Hospital-Rahway-MICU 865 Stone Street Rahway NJ 07065 (732) 499-6005

Trinitas Hospital-MICU 425 Morris Avenue Elizabeth NJ 07202 (908) 994-8644

MONOC-MICU 4806 Megill Road Neptune NJ 07753 (732) 929-3045

**Warren** Hunterdon Medical Center-MICU 2100 Wescott Drive Flemington NJ 08822 (908) 788-2500

St. Clare's Hospital/Dover-MICU 400 West Blackwell Street Dover NJ 07801 (973) 537-5654

## JEMS Radio Channels

Mobile and portable radios are required on the JEMS systems for all licensed ALS and BLS providers. The four channels are determined as follows:

**JEMS 1:** Local dispatch; primary channel used to communicate to local dispatch center, regardless of frequency band.

**JEMS 2:** 155.340 MHz CSQ; ambulance to hospital ED.

**JEMS 3:** 155.280 MHz CSQ; statewide EMS coordination.

**JEMS 4:** 153.785 MHz 131.8 TX only. Same as SPEN 4; statewide mobile public safety coordination.

## Interoperability

New Jersey EMS agencies will utilize the national/state interoperability radio system to communicate with responding agencies as necessary to communicate during emergencies:

- VCALL Interoperability Call Channel—155.7525.
- VTAC1 Interoperability Tactical Channel—151.1375.
- VTAC2 Interoperability Tactical Channel—154.4525.
- VTAC3 Interoperability Tactical Channel—158.7375.
- VTAC4 Interoperability Tactical Channel—159.4725.
- All VTAC radio system frequencies will utilize Nationwide CTCSS 156.7.

## Hospital Phone Numbers and Radio Channels

| Hospital Name | Medical Control Phone Number | Emergency Room Phone Number | Medical Control Radio Channel |
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# COUNTY OFFICE OF EMERGENCY MANAGEMENT CONTACTS

**Atlantic County 609-442-1592**

**Bergen County 201-785-5757**

**Burlington County 609-265-7161**

**Camden County 856-428-9335**

**Cape May County 609-463-6570**

**Cumberland County 856-455-8770**

**Essex County 973-621-4111**

**Gloucester County 856-589-0911**

**Hudson County 201-915-1300**

**Hunterdon County 908-788-1196**

**Mercer County 609-799-0110**

**Middlesex County 732-316-7100**

**Monmouth County 732-431-7911**

**Morris County 973-285-2900**

**Ocean County 732-341-3451**

**Passaic County 973-881-7500**

**Salem County 856-769-1955**

**Somerset County 908-725-5070**

**Sussex County 973-579-0888**

**Union County 908-654-9800**

**Warren County 908-835-2051 x2047**

# STRESS MANAGEMENT

## Prevention and Planning

Proactive stress management is essential to the provision of emergency response workers. Successful stress management is built on prevention and planning, a solid understanding of roles and responsibilities, support from colleagues, good self-care, and seeking help when needed.

### Self-Care

The Substance Abuse and Mental Health Services Administration (SAMHSA) recommends "10 Things to Do Each Day" for self-care in the face of difficult work.

1. Get enough sleep.
2. Eat enough healthy food.
3. Vary the work that you do.
4. Do some light exercise.
5. Do something pleasurable.
6. Focus on what you did well.
7. Learn from your mistakes.
8. Share a private joke.
9. Pray, meditate, or relax.
10. Support a colleague.

## During Deployments

Individuals and teams can take several steps to reduce stress during deployments:

1. Adhere to established safety policies and procedures.
2. Seek and offer support to coworkers.
3. Take regular breaks whenever you experience troubling incidents and after each work shift.
4. Avoid alcohol, tobacco, drugs, and excessive caffeine.
5. Rotate work between low- and high-stress activities.
6. Rotate work from the scene to routine assignments, as practical.
7. Limit on-duty work hours to no more than 12 hours per day.
8. Call home daily.

## After a Deployment

Trained counselors through the Mental Health Association in New Jersey are available to talk to you. The toll free confidential helpline is **1-877-294-HELP (4357)** or TTY number **1-877-294-4356.**

Critical incident stress management (CISM) is a process developed to address acute stress situations and potentially decrease the likelihood that post-traumatic stress disorder will develop after a stressful event.

Following a disaster response it is not uncommon to experience physical and emotional fatigue. It is helpful to take time to stop and reflect on the experience and how it has changed you. You can help manage your stress after the crisis by:

1. Participating in stress management activities with coworkers.
2. Reconnecting with your family.
3. Having a physical checkup, if indicated.
4. Continuing normal leisure activities; staying involved with hobbies and interests.
5. Using stress management and relaxation techniques such as exercise, meditation, acupuncture, and massage therapy.
6. Drawing upon already existing religious (spirituality) beliefs.

7. Avoiding use of alcohol, tobacco, or drugs to cope with stress.
8. Seeking out professional assistance, if necessary.

**Self-Monitoring for Signs of Stress**

Be familiar with signs of too much stress. Self-awareness involves recognizing and heeding early warning signs of stress reactions. A buddy system, where coworkers agree to observe one another's stress reactions, can be important. Signs that you may need stress management assistance include the following:

1. Disorientation or confusion and difficulty communicating thoughts.
2. Difficulty remembering instructions.
3. Difficulty maintaining balance.
4. Becoming easily frustrated and being uncharacteristically argumentative.
5. Tearfulness, uncontrolled crying.
6. Inability to engage in problem-solving and difficulty making decisions.
7. Unnecessary risk-taking.
8. Tremors, headaches, or nausea.
9. Visual or auditory distortion.
10. Colds or flulike symptoms.
11. Limited attention span and difficulty concentrating.
12. Loss of objectivity.
13. Inability to relax when off duty.
14. Refusal to follow orders or to leave the scene.
15. Increased use of drugs/alcohol.
16. Unusual clumsiness, decreased coordination.

Source: Adapted from the US Department of Health and Human Services (DOH) Substance Abuse Mental Health Services Administration (SAMHSA),"Caring for Yourself in the Face of Difficult Work," created in cooperation with Idaho State University.

# EMS VEHICLE SAFETY/OPERATIONS GUIDELINES

1. Seatbelts must be utilized by all occupants.
2. State law requires EMS vehicle operators drive with "due regard for the safety of all persons."
3. EMS vehicles should not use Emergency Warning Devices (EWD) – lights/sirens – unless responding to a call or transporting a patient in circumstances requiring immediate medical intervention.
4. When transporting patients, the need for immediate medical intervention must be beyond the capabilities of the EMS providers:
   - Unable to obtain/maintain an airway.
   - Critically unstable patient.

   (It is important to note that although many patients require emergency on-scene treatment, transport can often be accomplished without the use of EWD - lights/sirens.)
5. Utilize "sterile cockpit" best practices:
   - **No unnecessary conversation.**
   - **No cellphone/pager use or texting**
   - **Co-pilot must watch traffic/assist with navigation and radio**
6. Patients should be secured using the entire restraint system, including the shoulder harness.
7. All portable equipment must be appropriately secured when the vehicle is in motion.
8. Emergency Warning Devices are generally not appropriate for:
   - Stand-bys for non-emergent or pre-planned events.
   - Carbon monoxide detector alarms without report of any ill persons.
   - Assist to another agency when there is no immediate danger to life or health.
   - Response to a hospital for non-emergent inter-facility transport.

- Response to any medical alarm activation if information indicates no immediate danger to life or health.
- Response to patients who have apparently expired.
- ALS care not indicated.
- Emergency vehicle parked out of the line of traffic and not causing any obstruction.

9. EWD (lights/sirens) should be used when proceeding through a red light or stop sign after coming to a complete stop.
10. EWD (lights/sirens) should be utilized whenever the emergency vehicle is obstructing or blocking the roadway.
11. High visibility clothing should be worn whenever operating where a motor vehicle can travel.
12. Justification for using EWD (lights/sirens) during transport should be documented on the patient care report.
13. The crew member who is operating an emergency vehicle must possess a valid driver's license. The license must be made available to OEMS staff upon request.
14. All crew members must carry valid/original certification cards as well as photo ID. These must be made available to OEMS staff upon request.
15. Crew members must be familiar with the proper operation of the EMS communication equipment.
16. All emergency vehicles must be locked and inaccessible to anyone other than the crew members when unattended.
17. Check expiration dates on a monthly basis on all supplies and equipment.
18. Ensure that all biomedical equipment is operating properly and in accordance with manufacturer's recommendations (example: AED).
19. Ensure that the vehicle air conditioning and heating systems are working properly.
20. All interior surfaces of the vehicle must be impervious to blood, vomitus, urine and excrement, grease, oil, and common cleaning materials.
21. All equipment and supplies must be stored in a crash worthy manner. No items are to be left unsecured on counter tops or on top of shelves.
22. Ensure that all cabinets have a properly working positive-action latch in place.
23. All stretcher mattresses and seat covers must be in good condition and have no tears present.
24. Check at the beginning of every shift that all emergency lights and sirens are working properly.
25. Ensure that No Smoking signs are present in the driver and passenger compartments.
26. Ensure that all vehicle seat belts are present and working properly.
27. Ensure that all bench seat latches are working properly.
28. Ensure that the fire extinguisher is fully charged and secured in a commercially designed quick release bracket.
29. Ensure that the vehicle exhaust system and gaskets around the exterior doors and windows are in good condition.
30. The vehicle must have a current Motor Vehicle Commission (MVC) Inspection decal (ambulances are NOT EXEMPT from MVC Inspections). No vehicle shall be utilized to provide services white it bears a voided, expired, or "Rejected" MVC sticker.
31. Ensure that the vehicle has a current/valid registration and insurance card.
32. The vehicle must meet current certification requirements of the applicable paragraphs of the Federal KKK-A-1822 Federal Motor Vehicle Safety Standards (FMVSS), as amended and supplemented. Must have FMVSS "Star of Life" vehicle certification label affixed to vehicle.
33. The vehicle must be tagged by the vehicle manufacturer or converter.
34. The vehicle must have a passive barrier at the forward end of the bench seat.
35. Routinely check the main oxygen system to ensure that the straps/frame are properly secured.
36. Portable oxygen cylinders must be properly secured in a commercially approved holder. Velcro and hook and loop type devices are not considered crash worthy.
37. On-board oxygen retention systems must meet the "Ambulance Manufacturers Division" (AMD) standards as reported by the (FMVSS).The following are basic guidelines established by the Office of Emergency Medical Services.

    a. Three points of restraint on the cylinder; the bottom two restraints must not be "quick release"-type buckles.

b. A “yoke”-type restraint is acceptable as one point on the top of the cylinder.

c. Bracketed/frame-type enclosure.

d. The oxygen cylinder controls shall be accessible from inside the vehicle.

38. Ensure that portable and on-board suction devices have all components present and are fully charged and operational.
39. Doorway openings shall not be obstructed and must comply with FMVSS specifications.
40. Interior door handles shall be accessible and not obstructed (e.g., by cabinetry, accessories, etc.).
41. All glass must be intact and free of cracks.
42. Exhaust systems must be secured and free of damage and leaks. Exhaust pipe must extend beyond the doors and the edge of the vehicle body.
43. Air bag deployment zones should be void of accessories (MDTs, GPSs, lights, etc.).