## EMERGENCY MEDICAL SERVICES - STAFF DIRECTORY

| | | |
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# Approved Abbreviations

| | |
|---|---|
| **AAA** | Abdominal aortic aneurysm |
| **Ab** | abortion |
| **ABC** | airway, breathing, circulation |
| **abd** | abdomen, abdominal |
| **ABG** | arterial blood gases |
| **abn** | abnormal |
| **AC** | antecubital |
| **AED** | automated external defibrillator |
| **A-fib** | atrial fibrillation |
| **AIDS** | Acquired Immune Deficiency Syndrome |
| **ALCO** | Alameda County |
| **ALOC** | altered level of consciousness |
| **ALS** | advanced life support |
| **am or a.m.** | morning |
| **AMA** | against medical advice |
| **amb** | ambulatory |
| **amp.** | ampule |
| **A+O** | alert and oriented |
| **ant** | anterior |
| **approx** | approximately |
| **ASA** | aspirin |
| **ASAP** | as soon as possible |
| **ASHD** | Arteriosclerotic heart disease |
| **AV** | atrioventricular |
| **BBB** | bundle branch block |
| **BCP** | birth control pills |
| **bicarb** | sodium bicarbonate |
| **bid** | twice a day |
| **bilat.** | bilateral |
| **BLS** | basic life support |
| **BM** | bowel movement |
| **BP or BP** | blood pressure |
| **BS** | breath sounds or blood sugar |
| **C** | centigrade |
| **c̄** | with |
| **C-2** | Code 2 |
| **C-3** | Code 3 |
| **CA** | carcinoma |
| **CaCl** | calcium chloride |
| **caps** | capsules |
| **cath** | catheter/catheterize |
| **CAT** | computerized axial tomography |
| **cc** | cubic centimeter |
| **CC** | chief complaint |
| **CCU** | Coronary Care Unit |
| **CHF** | congestive heart failure |
| **cm** | centimeter |
| **CMED** | Central Medical Emergency Dispatch |
| **CNS** | central nervous system |
| **c/o** | complains of |
| **CO** | carbon monoxide |
| **cod** | codeine |
| **consc** | conscious |
| **cont** | continued |
| **COPD** | chronic obstructive pulmonary disease |
| **CP** | chest pain |
| **CPAP** | Continuous positive airway pressure |
| **CPR** | Cardiopulmonary resuscitation |
| **CSF** | cerebrospinal fluid |
| **CSM** | Circulation, sensation, and movement |
| **C-Section** | cesarean section |
| **C-Spine** | cervical spine |
| **CT** | Computerized Tomography |
| **CVA** | cerebrovascular accident |
| **D & C** | dilatation and curettage |
| **d/c or dc'd** | Discontinue, discontinued |
| **DCAP-BTLS** | deformities, contusions, abrasions, punctures, burns, tenderness, lacerations, swelling |
| **$D_5W$** | Dextrose 5%. in water |
| **DDS** | Doctor of Dental Surgery |
| **Dig** | Digitalis |
| **Disch** | discharged (from hospital) |
| **DM** | diabetes mellitus |
| **DOA** | dead on arrival |
| **DOE** | dyspnea on exertion |
| **DPT** | diphtheria, pertussis, tetanus |
| **DT's** | delirium tremens |
| **Dr.** | doctor |
| **dsg** | dressing |
| **Dx** | diagnosis |
| **EB or E/B** | eastbound |
| **ED** | emergency department |
| **EDC** | estimated date of confinement |
| **EDD** | Esophageal detection device |
| **EEG** | electroencephalogram |
| **EHR** | Electronic Health Record |
| **EKG** | electrocardiogram |
| **Emb** | embolus |
| **ENT** | Ear, nose and throat |
| **E/O** | east of |
| **Epi** | Epinephrine |
| **ER** | Emergency Room |
| **ET** | Endotracheal |
| **ETI** | Endotracheal Intubation |
| **ETT** | Endotracheal tube |

| | |
|---|---|
| **$ETCO_2$** | Endtidal $CO_2$ |
| **ETA** | estimated time of arrival |
| **ETDLA** | Esophageal tracheal double lumen airway |
| **ETOH** | ethyl alcohol |
| **exam** | examination |
| **ext** | external |
| **F** | Fahrenheit |
| **FB** | foreign body |
| **FBO** | foreign body obstruction |
| **FHT** | fetal heart tone |
| **fr.** | french |
| **FUO** | fever of unknown origin |
| **fx** | fracture |
| **g** | gauge |
| **GC** | Gonococcus |
| **GI** | gastrointestinal |
| **gm** | gram |
| **GOA** | gone on arrival |
| **gr** | grain |
| **GSW** | gunshot wound |
| **gtt. or gtts** | drop/drops |
| **GU** | genitourinary |
| **GYN** | gynecology |
| **H or hr** | hour |
| **$H_2O$** | water |
| **HCTZ** | Hydrochlorothiazide |
| **HEENT** | Head, ears, eyes, nose, and throat |
| **HOB** | head of bed |
| **HS** | hour of sleep |
| **ht** | height |
| **HTN** | hypertension |
| **Hx** | history |
| **irreg** | irregular |
| **ICU** | Intensive Care Unit |
| **IFO** | in front of |
| **1M** | intramuscular |
| **IN** | intranasal |
| **inj or injs** | injury(ies) |
| **IV** | intravenous |
| **IVP** | intravenous push |
| **JVD** | jugular venous distention |
| **$K^+$** | potassium |
| **KCl** | potassium chloride |
| **kg** | kilogram |
| **L** | liter |
| **LA** | left arm |
| **lat** | lateral |
| **lac** | laceration |
| **lb or lbs** | pound(s) |
| **LBB** | left bundle branch block |
| **lido** | Lidocaine |
| **LLL** | Left Lower Lobe |
| **LLQ** | Left Lower Quadrant |
| **LMP** | Last Menstrual Period |
| **LNMP** | Last Normal Menstrual Period |
| **LOC** | Loss Of Consciousness |
| **LPM** | Liters per Minute |
| **LSD** | lysergic acid diethylamide |
| **LS** | lung sounds |
| **LUL** | Left upper lobe |
| **LUQ** | left upper quadrant |
| **max** | maximum |
| **MCA** | motorcycle accident |
| **mcg** | micrograms |
| **meds** | Medicines |
| **mEq** | Milliequivalent |
| **mg or mgs** | Milligram (s) |
| **MI** | Myocardial Infarction |
| **Min. or mins.** | Minute (s) |
| **min** | minimum |
| **ml** | milliliter |
| **mm** | millimeter |
| **mod** | moderate |
| **MRI** | Magnetic Resonance Imaging |
| **MS** | Morphine sulfate |
| **MVA** | Motor vehicle accident |
| **N & V or NV** | Nausea and vomiting |
| **$NaHC0_3$** | Sodium bicarbonate |
| **N/A** | Not applicable |
| **NAD** | no acute distress |
| **NB or N/B** | northbound |
| **NC** | Nasal cannula |
| **N/G or NG** | nasogastric |
| **NKA** | No known allergies |
| **NKDA** | No known drug allergies |
| **N/O** | North of |
| **NORM** | normal |
| **NPO** | Nothing by mouth |
| **NRB** | non-rebreather |
| **NRBM** | non-rebreather mask |
| **NS** | Normal saline |
| **NSR** | Normal sinus rhythm |
| **NTG** | nitroglycerine |
| **$O_2$** | oxygen |
| **OB** | obstetrics |
| **OBS** | Organic Brain Syndrome |

| | |
|---|---|
| **Occ** | occult |
| **OD** | overdose |
| **OPA** | oropharyngeal airway |
| **Ortho** | orthopedic |
| **oz** | ounce |
| **P** | pulse |
| **PAC** | Premature Atrial Contraction |
| **palp** | palpate |
| **PCR** | Patient Care Report Form |
| **PE or P. E.** | physical exam |
| **Ped** | pedestrian |
| **Pedi** | pediatric |
| **PERL** | Pupils Equal, Reactive to Light |
| **PERRLA** | Pupils Equal, Round, Reactive to Light Accommodation |
| **PID** | pelvic inflammatory disease |
| **pm or p. m.** | afternoon - evening |
| **PMD** | private medical doctor |
| **PNB** | pulseless non- breathing |
| **PND** | paroxysmal nocturnal dyspnea |
| **po** | by mouth |
| **POV** | privately owned vehicle |
| **poss** | possible |
| **post-op** | after surgery |
| **PRN** | as needed or when necessary |
| **psych** | psychiatric |
| **pt or pts** | patient(s) |
| **PTA** | prior to arrival |
| **Pul** | pulmonary |
| **Pulse Ox** | Pulse oximetry |
| **PVC or PVCs** | premature ventricular contraction(s) |
| **qd** | every day |
| **qh** | every hour |
| **q2h** | every 2 hours |
| **qid** | four times a day |
| **qod** | every other day |
| **qt** | quart |
| **R** | right |
| **RA** | right arm |
| **RBBB** | right bundle branch block |
| **reg** | regular |
| **resp** | respiration |
| **r/o** | rule out |
| **RLL** | right lower lobe |
| **RLQ** | right lower quadrant |
| **ROM** | range of motion |
| **RR** | respiratory rate |
| **Rt or R** | right |
| **RUL** | Right upper lobe |
| **RUQ** | Right upper quadrant |
| **Rx** | prescription |
| **s̄** | without |
| **SB or S/B** | southbound |
| **SL or s1** | sublingual |
| **S/O** | south of |
| **SOAP** | subjective, objective, assessment, plan |
| **SOB** | shortness of breath |
| **$SpO_2$** | pulse oximetry (saturation of peripheral oxygen) |
| **stat** | immediately |
| **STEMI** | ST elevation myocardial infarction |
| **SW** | stab wound |
| **sub-q or sq** | subcutaneous |
| **Surg** | surgery |
| **Sx** | symptom |
| **sz** | seizure |
| **tab** | tablet |
| **TB** | tuberculosis |
| **Tbsp or T** | tablespoon |
| **TCN** | Tetracycline |
| **TCP** | Transcutaneous pacing |
| **temp** | temperature |
| **TIA** | transient ischemic attack |
| **tid** | three times a day |
| **TKO** | to keep open |
| **trans** | transport |
| **tsp or t** | teaspoon |
| **Temp** | temperature |
| **Tx** | treatment |
| **u** | units |
| **UA** | urinalysis |
| **URI** | upper respiratory infection |
| **UTI** | urinary tract infection |
| **vag** | vaginal |
| **VD** | venereal disease |
| **vs** | vital signs |
| **V-tach or VT** | Ventricular tachycardia |
| **WB or W/B** | westbound |
| **Wk or wks** | Week(s) |
| **WNL** | within normal limits |
| **WO** | west of |
| **ws or w/s** | watt seconds |
| **wt** | weight |
| **x** | times |
| **yo** | year old |
| **yr or yrs** | year(s) |

## HOSPITALS

| | |
|---|---|
| **ACMC** | Alameda County Medical Center (Highland) |
| **AH** | Alameda Hospital |
| **ABMC** | Alta Bates Medical Center |
| **CHO** | Children's Hospital |
| **EMC** | Eden Medical Center |
| **JMMC** | John Muir Medical Center |
| **KF** | Kaiser Fremont |
| **KO** | Kaiser Oakland |
| **KSL** | Kaiser San Leandro |
| **KWC** | Kaiser Walnut Creek |
| **SLH** | San Leandro Hospital |
| **SRH** | St. Rose Hospital |
| **SRR** | San Ramon Regional |
| **SMC** | Summit Medical Center |
| **SUH** | Stanford University Hospital |
| **VCMC** | ValleyCare Medical Center |
| **WR** | Willow Rock |
| **WTH** | Washington Township Hospital |

## PROVIDER AGENCIES

| | |
|---|---|
| **ALA** | Alameda Fire Department |
| **ACF** | Alameda County Fire Department |
| **ALB** | Albany Fire Department |
| **BER** | Berkeley Fire Department |
| **CHP** | California Highway Patrol |
| **PRK** | Camp Parks Fire Department |
| **EBY** | East Bay Regional Parks Fire Department |
| **FLK** | Falck Ambulance |
| **FRE** | Fremont Fire Department |
| **HAY** | Hayward Fire Department |
| **LAP** | Livermore-Pleasanton Fire Department |
| **OKL** | Oakland Fire Department |
| **PIE** | Piedmont Fire Department |

## SYMBOLS

| | |
|---|---|
| **c̄** | with |
| **s̄** | without |
| **ā** | before |
| **p̄** | after |
| **<** | less than |
| **>** | greater than |
| **≤** | less than or equal to |
| **≥** | greater than or equal to |
| ♀ | Female |
| ♂ | Male |
| ↑ | Increase |
| ↓ | Decrease |
| **=** | equal |
| **≈** | approximately |
| **-** | negative |
| **+** | positive |
| **“** | inches |
| **‘** | feet |
| **#** | pounds |
| **°** | degree |
| **@** | at |
| **Δ** | change |
| **%** | percent |
| **2°** | Secondary to |

# ASSAULT | ABUSE | DOMESTIC VIOLENCE

- **Routine Medical Care**
- Level of distress - Is patient a trauma victim? If yes, see trauma protocol
- Provide emotional support to the victim and the family
- Contact appropriate law enforcement agencies

1. **CHILD ABUSE / ELDER ABUSE / DOMESTIC VIOLENCE:** In any situation where EMS personnel knows or reasonably suspects a person suffering from any wound or other physical injury inflicted upon the person where the injury is the result of **assaultive or abusive conduct**:
   - 1.1 Immediately notify the appropriate law enforcement agency
   - 1.2 Reasonable effort will be made to transport the patient to a receiving hospital for evaluation. Immediately inform hospital staff of your suspicions
   - 1.3 Document all pertinent observations on the patient care report
   - 1.4 Immediately (or as soon as practical) contact the appropriate agency by telephone and give a verbal report
   - 1.5 A written report for child/elder abuse must be filed within 36 hours

**► TO REPORT CHILD ABUSE:**

**Child Protective Services**
24100 Amador St.
Hayward, CA 94544
**(510) 259-1800** - 24 hour number

**► TO REPORT ELDER OR DEPENDENT ADULT ABUSE:**

➔ By staff at a licensed health care facility contact:

**Ombudsman (800) 231-4024**

➔ At home, or by a visitor or another resident at a licensed health care facility contact:

**Adult Protective Services**
6955 Foothill Blvd., Suite 300
Oakland, CA 94605
**(866) 225-5277** - 24 hour number

*After 5 pm M-F and weekends, an operator answers this line and can page a social worker (if needed.) If the patient was assaulted or has suffered serious neglect contact local law enforcement.*

APS ONLINE REPORT

bit.ly/aps-report

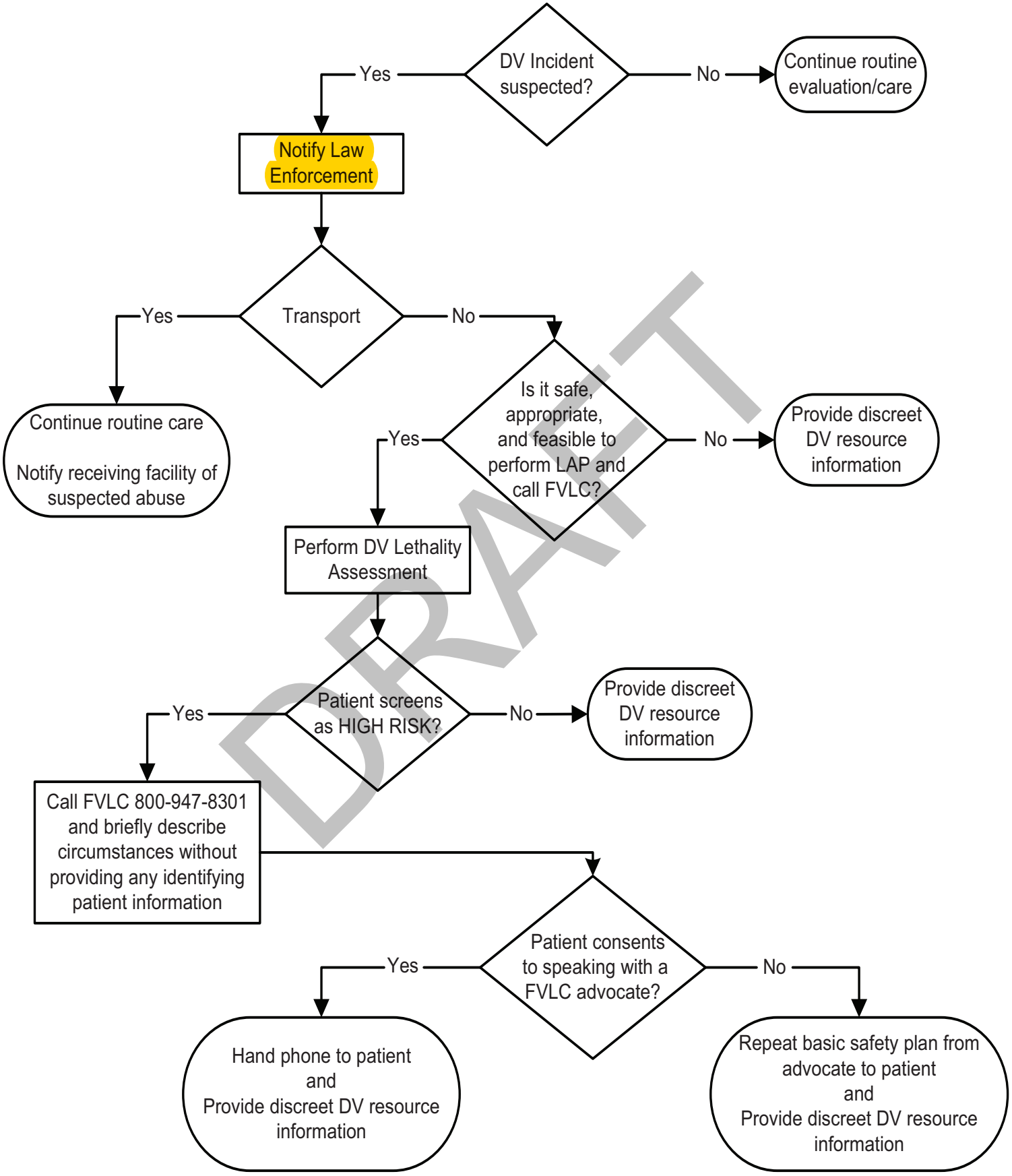
**► TO REPORT DOMESTIC VIOLENCE:**

*Domestic violence is defined as the willful intimidation, physical assault, battery, sexual assault, and/or other abusive behavior as part of a systematic pattern of power and control perpetrated by one intimate partner against another.*

➔ Notify receiving hospital staff

➔ Perform DV Assessment (see section 3)

2. **SEXUAL ASSAULT:** Patients should be transported to the appropriate facility for evaluation regardless of the hospital's diversion status
   - 2.1 **Adult patients:** Alameda County Medical Center or Washington Hospital
   - 2.2 **Pediatric patients:** Children's Hospital (≤14 y.o.)


DV Incident suspected?
Yes
No
Continue routine evaluation/care
Notify Law Enforcement
Transport
Yes
No
Continue routine care
Notify receiving facility of suspected abuse
Is it safe, appropriate, and feasible to perform LAP and call FVLC?
Yes
No
Provide discreet DV resource information
Perform DV Lethality Assessment
Patient screens as HIGH RISK?
Yes
No
Provide discreet DV resource information
Call FVLC 800-947-8301 and briefly describe circumstances without providing any identifying patient information
Patient consents to speaking with a FVLC advocate?
Yes
No
Hand phone to patient and Provide discreet DV resource information
Repeat basic safety plan from advocate to patient and Provide discreet DV resource information

## C. TAR BURNS

1. Do not attempt to remove the tar
2. Cool with water
3. **Maintain body temperature and observe for hypothermia**

## D. CHEMICAL BURNS

1. Remove clothing
2. **Liquid chemicals:**

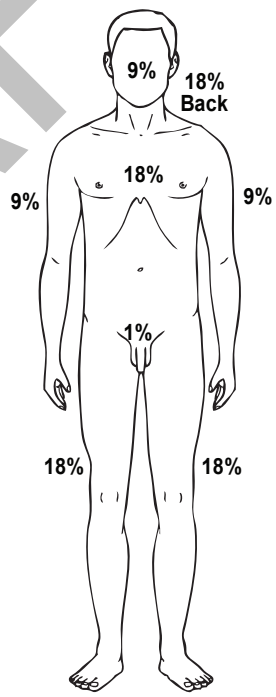
   ➔ Flush **immediately** with copious amounts of tepid water for 10 - 15 minutes
3. **Dry chemicals:**

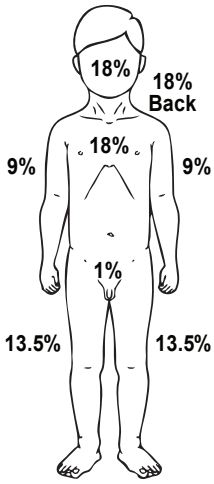
   ➔ Brush off as much as possible, then flush with copious amount of tepid water for 10 - 15 minutes
4. Identify chemical
5. Assess for associated respiratory burns



**ALCO PRE-HOSPITAL FLUID FORMULA**

$$\frac{\text{weight in kg x TBSA (\%)}}{8} = \text{rate (mL/HR)}$$



# SCOPE OF PRACTICE - LOCAL OPTIONAL

1. **Approved for use in Alameda County** – all items require additional training
   - 1.1 **BLS PERSONNEL:**
     - 1.1.1 Aspirin
     - 1.1.2 Pulse Oximetry
     - 1.1.3 Glucometry
     - 1.1.4 Epinephrine
     - 1.1.5 Narcan
   - 1.2 **ALS PERSONNEL:**
     - 1.2.1 Pulse-oximetry
     - 1.2.2 Length-based resuscitation tape
     - 1.2.3 End-tidal $CO_2$ detection
     - 1.2.4 12-lead EKG
     - 1.2.5 Continuous Positive Airway Pressure (CPAP)
     - 1.2.6 Intraosseous Infusion – Adult and Pediatric
2. **Local Optional Scope of Practice** – requires authorization from State EMS Authority and additional training
   - 2.1 **ALS PERSONNEL:**
     - 2.1.1 Hydroxocobalamin (optional)
     - 2.1.2 igel supraglottic airway device (SGA)
     - 2.1.3 Ketorolac (Toradol)
     - 2.1.4 Olanzapine (Zyprexa)
     - 2.1.5 Sodium Thiosulfate
     - 2.1.6 Tranexamic Acid
   - 2.2 **BLS PERSONNEL:**
     - 2.2.1 Supraglottic airway device (SGA) - optional (see “Advanced Airway Management” **page 114**)
3. Field personnel will not perform any skill that is not a part of his/her scope of practice or has not been authorized by the Alameda County Health Officer and/or EMS Medical Director
4. During an inter-facility transfer or during a mutual aid response into another jurisdiction, a paramedic may utilize the scope of practice for which he/she is trained and accredited
5. Paramedics will not draw blood unless approved in advance by the EMS Medical Director
6. Field personnel are prohibited from carrying any medical equipment or medications that have not been authorized for prehospital use by the Alameda County EMS Medical Director

4. **SPECIAL PATIENT CONSIDERATIONS:** Patients with the following considerations should be considered for transport to a trauma center. ***It is highly recommended that you make base contact in these situations***

4.1 **Age** Anticoagulation consideration removed

4.1.1 Older adults

➔ Risk of injury and/or death increases after age 55

➔ SBP <110 may represent shock after age 65

➔ Low impact mechanisms (e.g. ground level falls) may result in severe injury

4.1.2 Children (≤ 14 Years of age)

➔ should be triaged preferentially to a pediatric-capable trauma center (e.g.- Children's)

4.2 **Burns**

➔ Without other trauma mechanism: ***Triage to burn center***

➔ With trauma mechanism: ***Triage to trauma center***

4.3 **Pregnancy > 20 weeks**

4.4 **EMS provider judgement**

5. **TRANSPORT:** Patients identified as a CTP will be transported to **the closest, most appropriate, designated Trauma Center. Exception:** The patient is identified as a CTP or Potential CTP but presents with one of the following:

| PATIENT PRESENTATION | ACTION | |
|---|---|---|
| **UNMANAGEABLE AIRWAY:** ***The patient requires intubation, and the paramedic is unable to intubate, and an adequate airway cannot be maintained with B.V.M. device.*** | **Closest Basic E.D.** | |
| **ADULT TRAUMA ARREST - BLUNT or PENETRATING:** | **Determination of Death in the Field** (page 86) **Note:** Coroner's personnel must transport all dead bodies. If ordered to move a body by law enforcement, note the time, name, and badge number of the officer, and comply with the request. Ensure that the police officer on scene has contacted the Coroner's Bureau for permission to move the body | |
| **PEDIATRIC TRAUMA ARREST BLUNT or PENETRATING:** | ➔ ETA to the Pediatric Trauma Center ≤ 20 minutes | Pediatric Trauma Center |
| | ➔ ETA to the Pediatric Trauma Center ≥ 20 minutes | Closest Adult Trauma Center |

1. **DESCRIPTION** - Tranexamic Acid (TXA) is a Lysine analogue that works to inhibit the formation of plasmin, which is a molecule responsible for clot degradation. It has had multiple medical applications in the past including pre-operative use, menorrhagia, hemophilia and hereditary angioedema. It has recently been shown in multiple studies to reduce mortality in trauma patients meeting specific physiologic criteria or who have obvious signs of massive hemorrhage.

2.

| INCLUSION CRITERIA | EXCLUSION CRITERIA |
|---|---|
| Within three hours of onset of injury or illness, prehospital administration of TXA should be considered for all patients with blunt or penetrating trauma or other massive uncontrolled bleeding (GI bleeding, vaginal hemorrhage, etc.) that have signs and symptoms of hemorrhagic shock and meet any one of the following inclusion criteria: | ► Any patient <15 years of age<br>► Any patient more than three hours post-injury<br>► Isolated penetrating cranial injury<br>► Traumatic brain injury with brain matter exposed<br>► Suspected cervical cord injury with motor deficits |
| ► SBP < 90 mmHg<br>► Significant hemorrhage with a HR > 120<br>► Bleeding not controlled by direct pressure or tourniquet<br>► Major amputation of any extremity above the wrists or ankles | |



3. **ADMINISTRATION**

3.1 Administer TXA 1 gram in 100ml NS or $D_5W$ IV/IO over 10 minutes

***Do NOT administer IV push. This will cause hypotension.***

3.2 Place an approved wristband on the patient.

3.3 Assure that RN/MD at receiving facility is notified that TXA was administered.

3.4 Follow IV fluid resuscitation guidelines on page 23, “Trauma Patient Care”

# ACUTE STROKE

1. **PURPOSE:** To identify acute stroke patients who may be candidates for thrombolysis and specialized care at a certified stroke center. Information in this policy is based on the Cincinnati Prehospital Stroke Scale (CPSS). The CPSS evaluates using FASTT criteria (Facial droop, Arm drift, Speech abnormalities, Time of onset/Transport)
2. **Certified Stroke Centers:** The following hospitals have been designated as certified stroke centers. If possible patient should be transported to the patient's regular source of hospitalization and/or healthcare.

   ➔ Alameda Hospital , Alameda

   ➔ Eden Medical Center, Castro Valley

   ➔ Kaiser Hospital, Fremont

   ➔ Kaiser Hospital, Oakland

   ➔ Kaiser Hospital. San Leandro

   ➔ Summit Medical Center, Oakland

   ➔ ValleyCare Hospital, Pleasanton

   ➔ Washington Hospital, Fremont

   Consider transport to one of the following out-of-county centers, if appropriate. Contact the stroke center prior to transport.

   ➔ San Ramon Medical Center, San Ramon

   ➔ Stanford University Medical Center, Palo Alto

   ➔ John Muir Medical Center, Walnut Creek

   ➔ Kaiser Hospital, Walnut Creek

   ➔ Regional Medical Center, San Jose
3. **Assessment and transport of suspected Acute Stroke patient:**

   ➔ Provide routine medical care including pulse oximetry

   ➔ Obtain blood glucose

   ➔ Assess the patient using the Cincinnati Prehospital Stroke Scale

► **Note: Early transport is essential if CPSS is positive**

| Cincinnati Prehospital Stroke Scale | | | |
|---|---|---|---|
| **Sign/Symptom** | **How Tested** | **Normal** | **Abnormal** |
| **F**acial Droop | Have the patient show their teeth or smile | Both sides of the face move equally | One side of the face does not move as well as the other |
| **A**rm Drift | The patient closes their eyes and extends both arms straight out for 10 seconds | Both arms move the same, or both do not move at all. | One arm either does not move, or one arm drifts downward compared to the other. |
| **S**peech | The patient repeats "The sky is blue in Cincinnati". | The patient says correct words with no slurring of words. | The patient slurs words, says the wrong words, or is unable to speak |
| **T**ime of Onset | must be within **24** hours, observed by a reliable witness or reported by a reliable patient (for thrombolysis) | | |
| **T**ransport | The patient is considered a possible Acute Stroke patient if any of the tested signs/symptoms are abnormal and must be transported to the closest, most appropriate certified stroke center. If possible, patient should be transported to the patient's regular source of hospitalization and/or healthcare. | | |

4. **The patient may be a candidate for thrombolysis if all of the following are true:**
   - ➔ One or more of the CPSS signs/symptoms are present.
   - ➔ CPSS signs/symptoms were initially observed within **24 hours** of contact by a reliable witness or reported by a reliable patient.
     **Please note:** Ask when the patient was last seen at normal baseline **and** when the onset of new stroke signs and symptoms appeared.
   - ➔ Normal blood glucose level is obtained

**Make sure to either:**
- ▶ **transport the witness to the stroke center in the ambulance (PREFERRED); OR,**
- ▶ **if driving, tell him/her to leave immediately and meet you at the stroke center; AND,**
- ▶ **obtain a contact number where the witness can be reached by the attending physician**

5. **Treatment and support guidelines (to be done en route)**
   - ➔ Transport patient in supine position. If this position is not tolerated or there is evidence of increasing intracranial pressure/intracranial hemorrhage, transport in semi fowlers with no more than 30° head elevation
   - ➔ $O_2$ – titrate to 94-99% $SpO_2$
   - ➔ Establish IV access enroute using an 18 gauge (no smaller than 20 gauge) proximal to wrist (AC preferred). No more than 1 AC attempt and no more than 2 IV attempts total. ***Maintain with a saline lock or IV infusion set TKO***
   - ➔ Obtain a 12-Lead EKG enroute when a dysrhythmia or ACS symptoms are present (specifically watch for STEMI and/or atrial fibrillation)
6. Immediately call the designated stroke center via phone and/or radio and notify them that you are transporting a "possible Acute Stroke patient by the Cincinnati Prehospital Stroke Scale (CPSS), ETA ____ minutes". (**Reminder:** See "Diversion Criteria" or the information on **page v** of the field manual regarding CT Diversion)
7. Document the results of the assessment on the EHR and specifically describe any of the CPSS signs and/or symptoms that were abnormal

## MEDICATIONS – AUTHORIZED | STANDARD INITIAL DOSE

| | |
|---|---|
| **Adenosine** | 1st dose: 6 mg; 2nd dose: 12 mg (rapid ***IV/IO*** push) |
| **Albuterol** | 5 mg in 6 ml normal saline |
| **Amiodarone** | **Wide complex Tachycardia:** 150 mg ***IV/IO*** over 10 mins<br>**VF/VT:** 1st dose: 300 mg ***IV/IO***; 2nd dose: 150 mg ***IV/IO***<br>Follow each dose with 20mL NS flush. (two doses only) |
| **Aspirin** | 162 mg chewable or 324 mg (5gr.) tablet – not enteric coated) |
| **Atropine sulfate** | **Bradycardia:** 0.5 mg ***IV/IO*** - (max total 3 mg - 6 doses) |
| **Calcium chloride 10%** | 1 gm over 2 minutes ***IV/IO*** |
| **Charcoal** | 1 gm/kg (Max 50 gms) ***PO*** |
| **Dextrose 10%** | 10 gms ***IV/IO*** |
| **Diphenhydramine (Benadryl)** | **Allergic Reaction:** 1 mg/kg ***IV/IO/IM*** up to 50 mg |
| **Epinephrine 1mg/mL** | **Anaphylaxis:** 0.3 mg-0.5 mg ***IM***<br>**Bronchospasm:** 0.01 mg/kg ***IM*** (max dose 0.5mg) |
| **Epinephrine 0.1mg/mL** | **Anaphylactic shock:** 1mL (0.1mg) ***IV/IO*** slowly<br>**Cardiac arrest:** 10mL (1 mg) ***IV/IO***<br>**Cardiogenic/Distributive Shock:** Diluted to 0.01mg/ml (10mcg/ml), 0.5ml (5mcg) ***slow IV/IO*** |
| **Fentanyl** | **Pain Management:** 25-100 mcg ***IV/IO/IM/IN*** (max. single dose 100 mcg |
| **Glucagon** | 1 mg ***IM*** |
| **Oral Glucose** | 30 gms ***PO*** |
| **Ipratropium (Atrovent)** | 500 mcg (2.5 ml unit dose) ***Via nebulizer*** |
| **Lidocaine 2%** | 40 mg ***IO*** (2 mL) slowly (1 ml over 30 seconds) |
| **Ketorolac (Toradol)** | 15 mg IM/IV/IO |
| **Midazolam (Versed)** | **Sedation:** ***IV (slowly) / IN (briskly):*** 1-2 mg, ***IM:*** 2-4 mg (if no IV)<br>**Seizure:** ***IM/IN:*** 10 mg, ***IV/IO:*** 0.1 mg/kg - max dose 10 mg |
| **Naloxone (Narcan)** | Initial dose: Titrated up to 2 mg ***IV/IM/IN*** BLS Providers may only use IN Route. Max. initial dose is 2 mg |
| **Nitroglycerine spray** | 0.4 mg metered spray or tablet |
| **Normal saline** | 250 - 500 ml ***IV/IO*** fluid bolus |
| **Olanzapine (Zyprexa)** | 10 mg **PO** orally dissolving tablet |
| **Ondansetron (Zofran)** | 4 mg ***IV*** †Slowly over 30 seconds or 4 mg ***IM/PO (oral dissolving tablets)***<br>(†rapid IV administration <30 seconds can cause syncope) |
| **Oxygen**<br>(titrate to 94%-99% SpO2) | 2 - 6 L/nasal cannula \| 15 L/non-rebreather mask |
| **Sodium bicarbonate** | 1 mEq/kg ***IV/IO*** |
| **Sodium thiosulfate** | 12.5 grams ***IV/IO*** over 10 minutes |
| **Tranexamic Acid- TXA** | 1 gram in 100ml NS or D5W ***IV/IO*** over 10 minutes |

# PAIN MANAGEMENT

DRAFT

- **Routine Medical Care**
- Pain management should be initiated as early as possible and before transport in the stable patient. Consider pain management prior to the manipulation of suspected fractures
- Document the level of pain prior to and after any interventions

**BLS Interventions:**
Positioning
Cold Pack(s)
Splinting
Coaching

**Minor-Moderate Pain:**

(Preferred first-line medication for minor-moderate pain in patients 15-65 y/o. May start with Fentanyl if appropriate or if Ketorolac is contraindicated)

**Ketorolac** IV/IO/IM 15 mg x 1

Monitor/Reassess

Consider lower doses for older adults (25mcg) or if Ketorolac was administered

**Moderate-Severe Pain**

**Fentanyl**
IV/IO: 1 mcg/kg (50-100 mcg) Slow push
Repeat q 5min, max. dose 200 mcg

IM/IN: 1 mcg/kg (50-100 mcg)
Repeat q 10min, max. dose 200 mcg

**Base Physician consult if patient requires >200mcg or if contraindication(s) are present**

Monitor/Reassess

***Ketorolac Considerations:***

**Indications:**
The preferred medication for patients with suspected kidney stones or chronic back pain

**Contraindications:**
- Patient age > 65 years
- Patients who meet Trauma Criteria
- NSAID Allergy (e.g. Ibuprofen, Naproxen, Aspirin)
- Pregnancy
- History of: Asthma, GI Bleed, Ulcers, Renal disease
- Current anticoagulant use

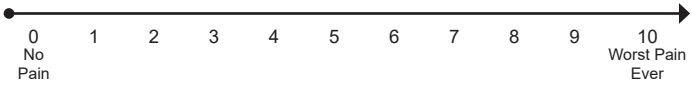
**Note:**
Fentanyl may be administered if Ketorolac is ineffective (use a lower dose of Fentanyl if Ketorolac was given)

***Fentanyl Considerations:***

**Contraindications:**
- Systolic BP <90
- Decreased respiratory rate
- Altered mental status
- Suspected Traumatic Brain Injury

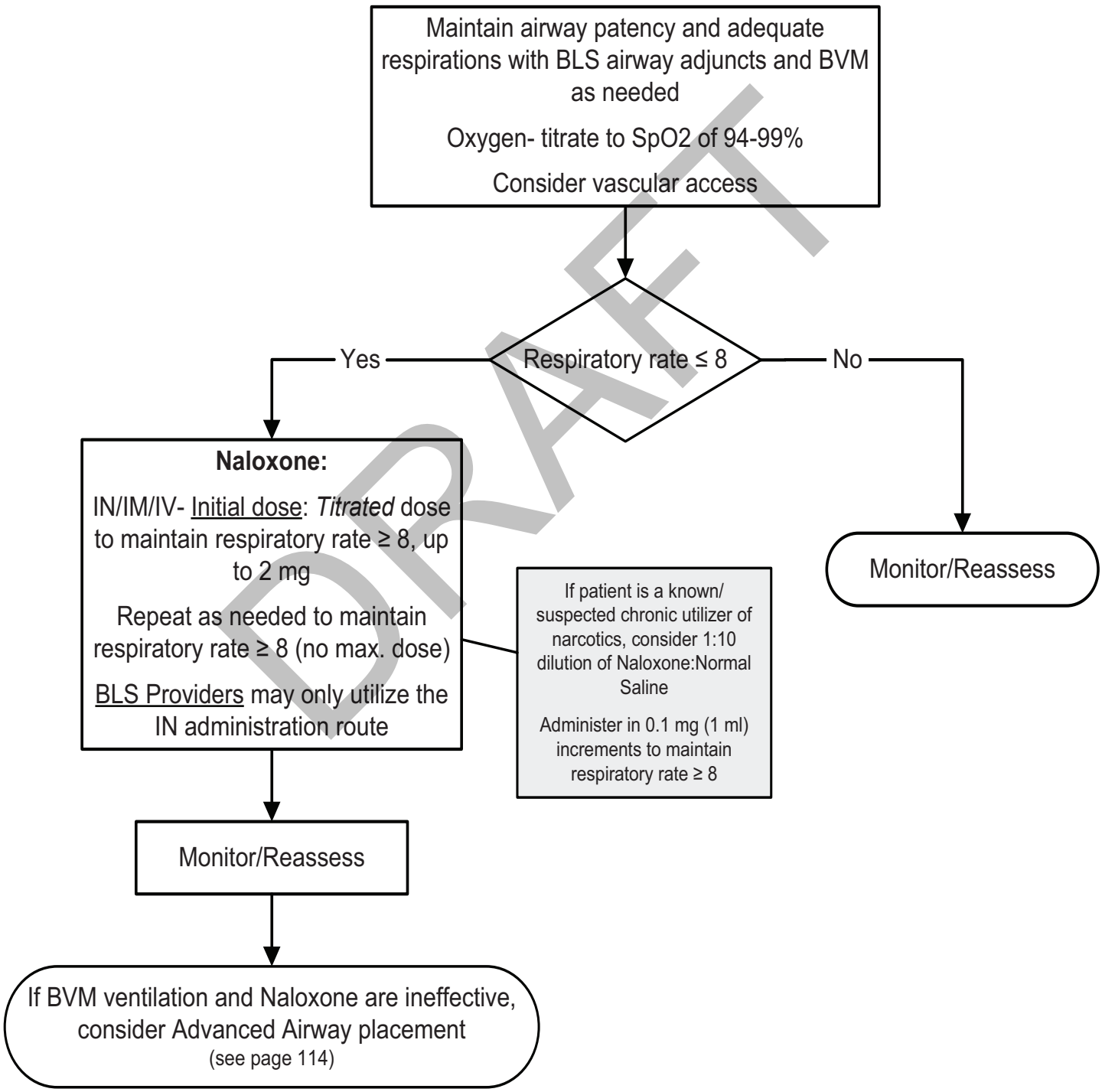
**Notes:**
- Capnography monitoring is recommended
- Burn patients may require higher doses
- Have Naloxone readily available
- Ketorolac may be administered if Fentanyl is ineffective

**VISUAL ANALOG SCALE**



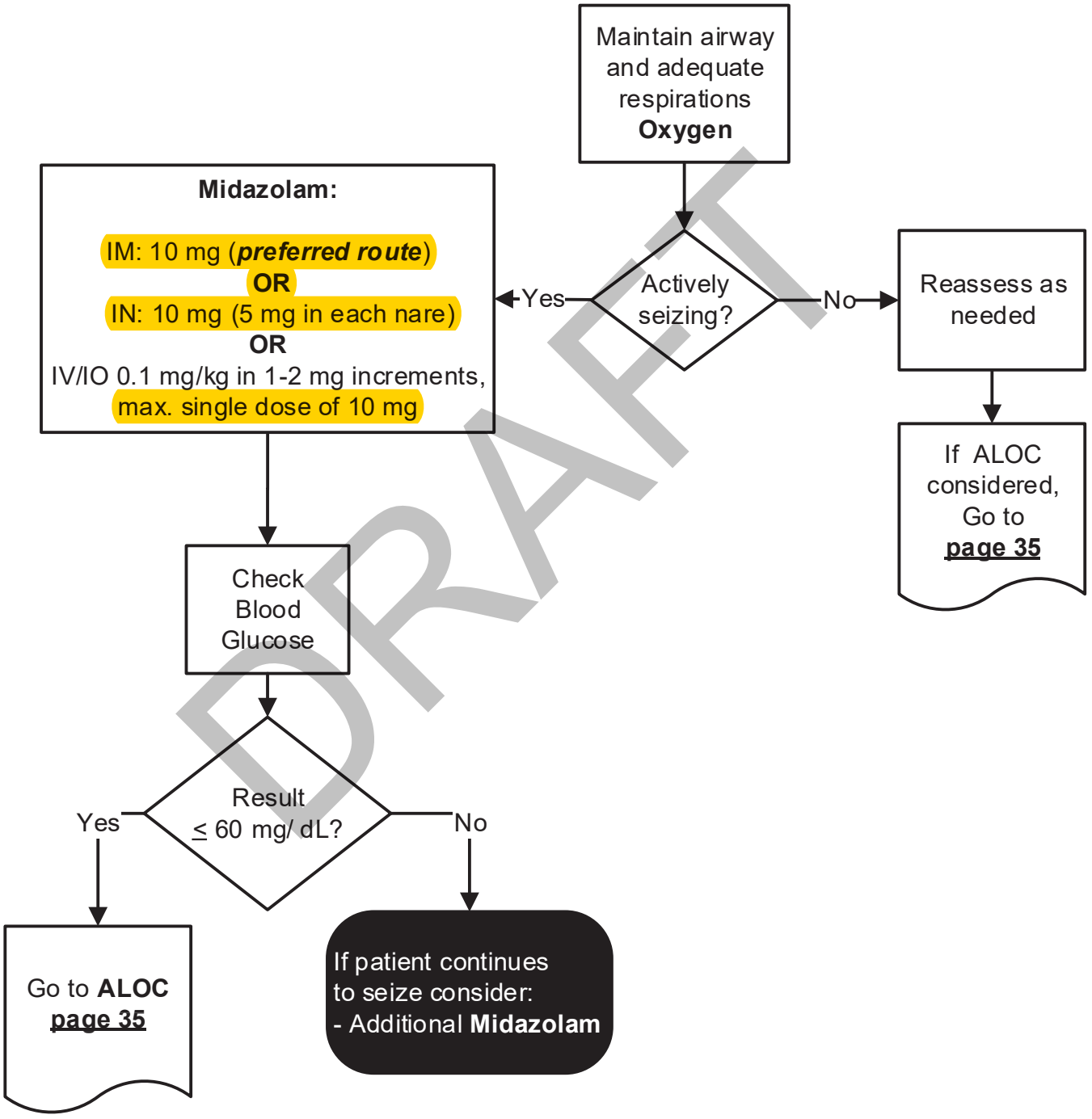
# RESPIRATORY DEPRESSION OR APNEA (SUSPECTED NARCOTIC OD)

- **Routine Medical Care**
- **Naloxone can cause acute withdrawal symptoms (agitation,vomiting, etc.) in patients who are chronic utilizers of narcotics**
- Naloxone can cause cardiovascular side effects (chest pain, pulmonary edema) or seizures in a small number of patients (1-2%)
- Older patient are at higher risk for cardiovascular complications
- Patients who are maintaining adequate respirations with decreased level of consciousness do not generally require Naloxone for management



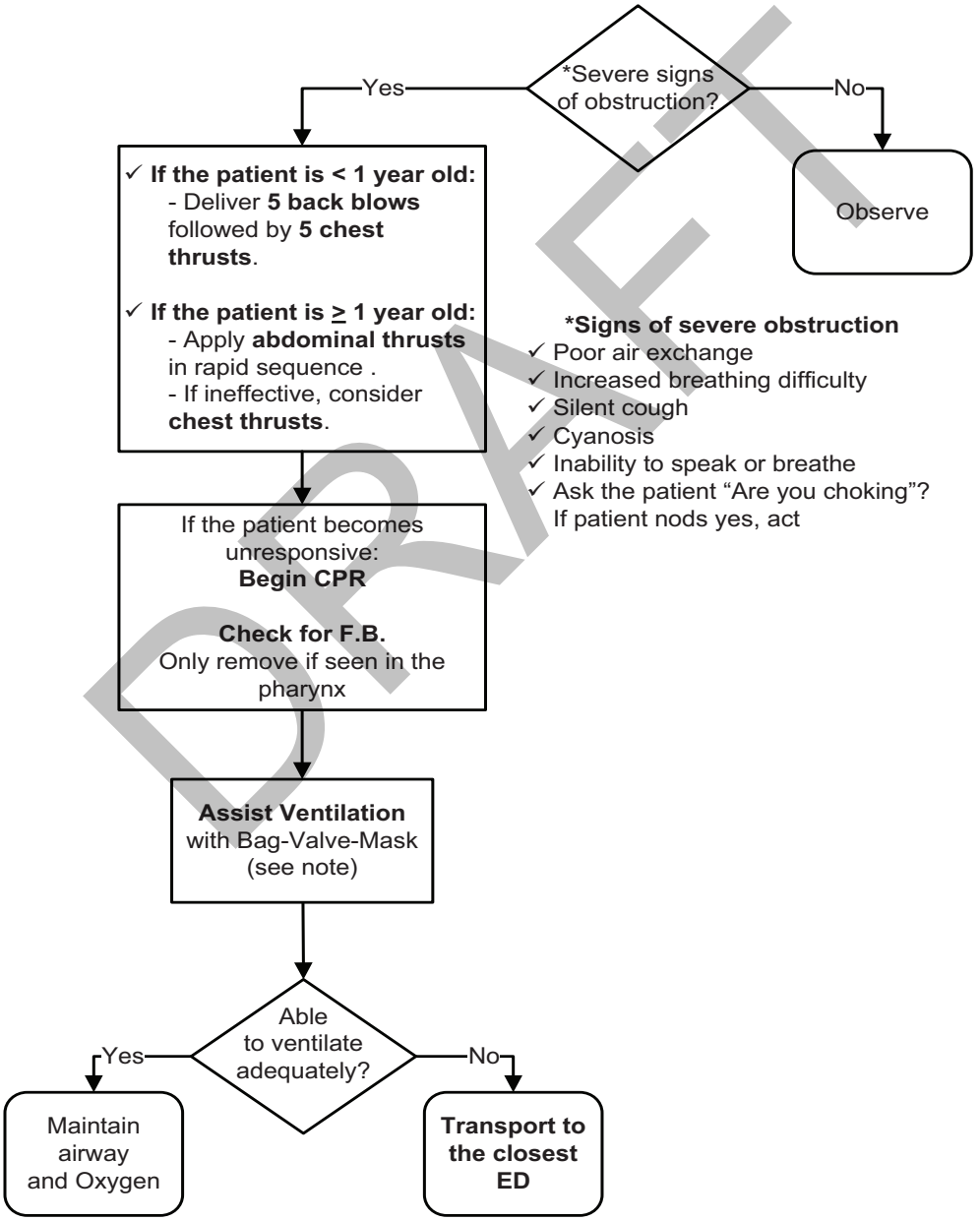
# SEIZURE

- **Routine Medical Care**
- Midazolam should not be given unless the patient is actively seizing - 3 or more seizures in ≤ 5 minutes or any seizure lasting > 5 minutes.
- Protect the patient from further injury by padding or moving objects as necessary; do not forcibly restrain the patient



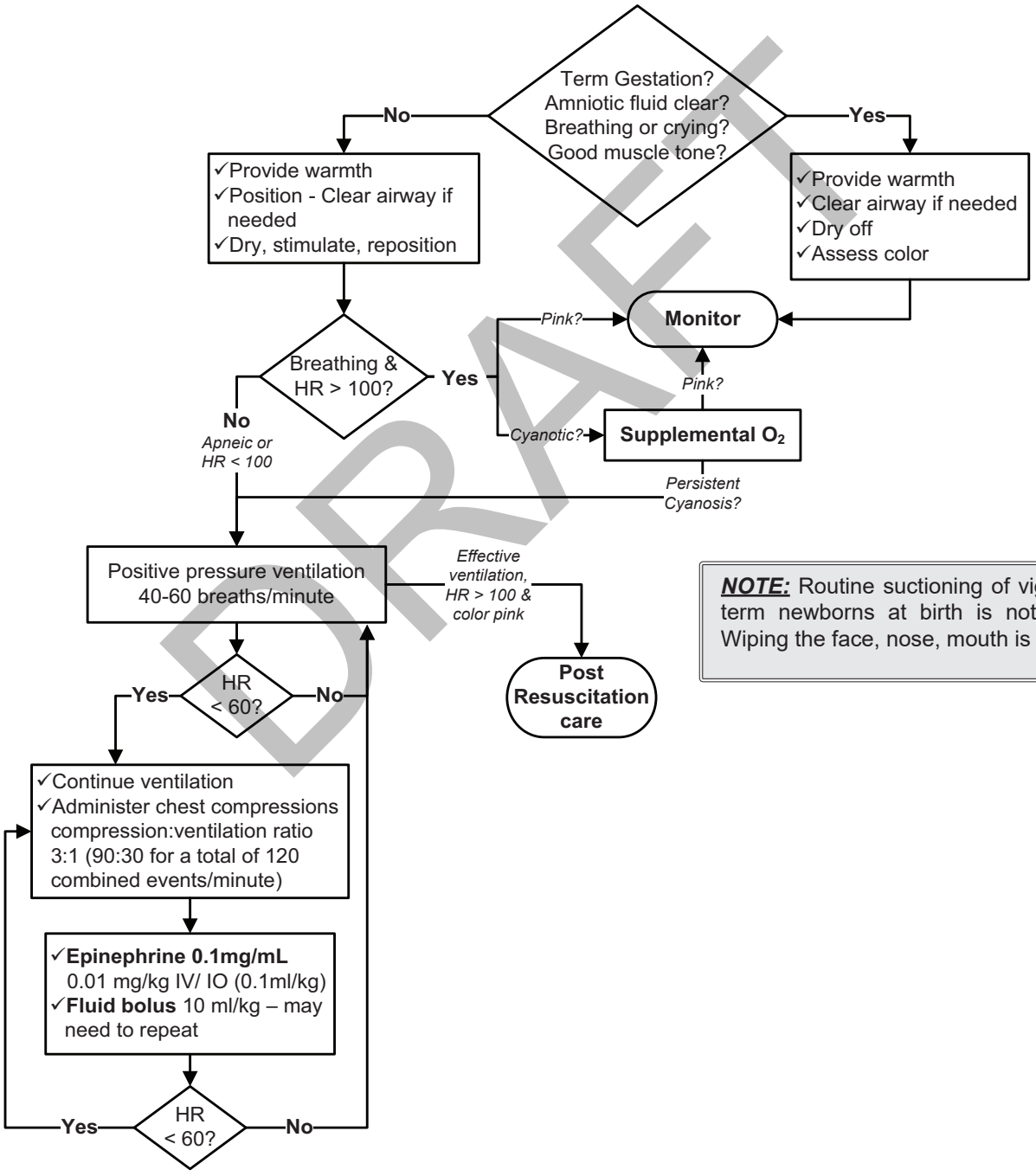
# AIRWAY OBSTRUCTION

- **Pediatric Routine Medical Care**
- If airway obstruction is caused by laryngeal trauma, see **page 24** "Trauma Patient Care"
- Do not use a tongue/jaw lift or perform blind finger sweeps
- Obstruction due to suspected epiglottitis:
  - ➔ Do not attempt to visualize the throat or insert anything into the mouth
  - ➔ Minimize outside stimulation. Keep the patient calm. Position of comfort.
- **Note:** Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary. Consider Advanced Airway Management (**page 114**) if BVM ventilation is not adequate.
- **Rapid Transport**



# NEONATAL RESUSCITATION

- **Pediatric Routine Medical Care**
- Resuscitation should be initiated on **all** premature infants who meet the following criteria:
  **Weight:** > 500 gms or 1 pound and **Gestational Age:** ≥ 20-24 weeks
- If naloxone considered for persistent respiratory depression, HR and color must first be restored
- Avoid naloxone for neonates whose mothers are suspected of long-term exposure to opiods
- **Note:** Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary. Consider Advanced Airway Management (page 114) if BVM ventilation is not adequate.
- **Use an LBRT to determine pediatric drug doses**
  (Shown underlined on the algorithm)




***NOTE:*** Routine suctioning of vigorous, full term newborns at birth is not indicated. Wiping the face, nose, mouth is preferred

# PAIN MANAGEMENT

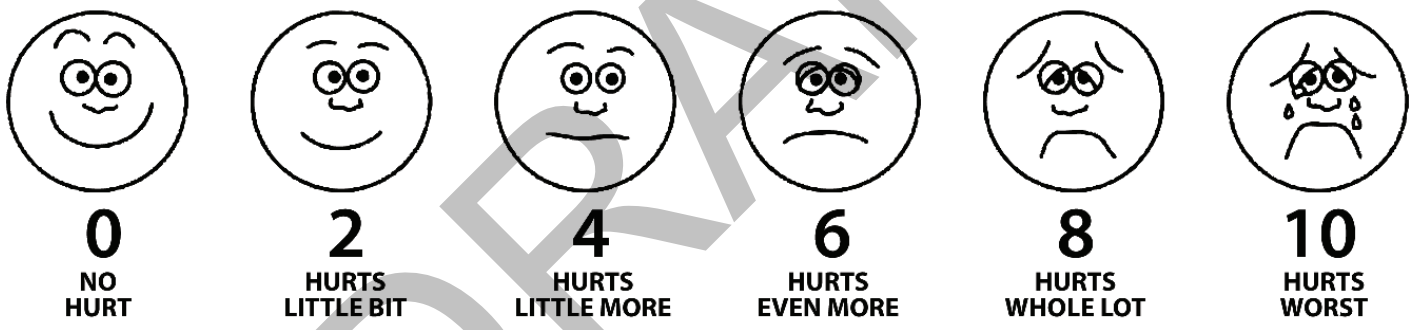
- **Pediatric Routine Medical Care.** If oxygen is adminstered, titrate to 94-99% SpO2
- Pain management should be initiated as early as possible and before transport in the stable patient. Consider pain management prior to the manipulation of suspected fractures
- **The preferred route of administration is intranasal (IN)**

## ASSESSMENT:

**Document level of pain (as a fraction - e.g.: 2/10 or 6/10) prior to and after any interventions are performed:**

- ▶ < 3 years old – Behavioral tool or FACES Scale:
- ▶ 3–7 years old – FACES scale or visual analog scale
- ▶ 8–14 years old – visual analog scale

| | 0 | 1 | 2 |
|---|---|---|---|
| **Face** | No particular expression or smile | Occasional grimace or Frown, withdrawn, disinterested | Frequent to constant frown Clenched jaw, quivering chin |
| **Legs** | Normal or relaxed position | Uneasy, restless, tense | Kicking, or legs drawn up |
| **Activity** | Lying quietly, normal position, moves easily | Squirming, tense, shifting Back and forth | Arched, rigid or jerking |
| **Cry** | No cry (awake or asleep) | Moans or whimpers; occasional complaint | Cries steadily, screams, sobs, frequent complaints |
| **Consolability** | Content, relaxed | Reassured by "talking to, hugging; distractible | Difficult to console or comfort |



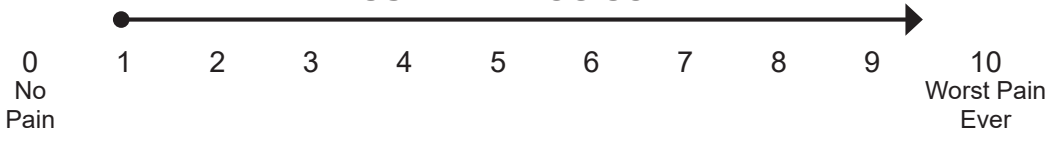

From Wong D.L., Hockenberry-Eaton M., Wilson D., Winkelstein M.L., Schwartz P.: Wong's Essentials of Pediatric Nursing, ed. 6, St. Louis, 2001, p. 1301. Copyrighted by Mosby, Inc. Reprinted by permission.

**Instructions:**

Explain to the person that each face is for a person who feels happy because he has no pain (hurt) or sad because he has some or a lot of pain. Ask the person to choose the face that best describes how he/she is feeling

- ➔ **Face 0** is very happy because he doesn't hurt at all
- ➔ **Face 2** hurts just a little bit
- ➔ **Face 4** hurts a little more
- ➔ **Face 6** hurts even more
- ➔ **Face 8** hurts a whole lot
- ➔ **Face 10** hurts as much as you can imagine, although you don't have to be crying to feel this bad

## VISUAL ANALOG SCALE



# PAIN MANAGEMENT

- **Pediatric Routine Medical Care.** If oxygen is adminstered, titrate to 94-99% SpO2
- Pain management should be initiated as early as possible and before transport in the stable patient. Consider pain management prior to the manipulation of suspected fractures
- **The preferred route of administration is intranasal (IN)**

**BLS Interventions:**
Positioning
Cold Pack(s)
Splinting
Coaching

**ALS Intervention:**

**Fentanyl**
IN/IM: 2 mcg/kg (max. single dose 100 mcg)
Repeat q 10 min, max. total dose 200 mcg

IV/IO: 2 mcg/kg (max. single dose 100 mcg) Slow push
Repeat q 5 min, max. total dose 200 mcg

**Base Physician consult if patient requires > 200 mcg or if contraindication(s) are present**

Monitor/Reassess

***Fentanyl Considerations:***

**Contraindications:**
- Age-adjusted hypotension
- Decreased respiratory rate
- Altered mental status
- Suspected Traumatic Brain Injury

**Notes:**
- Capnography monitoring is recommended
- Burn patients may require higher doses
- Have Naloxone readily available

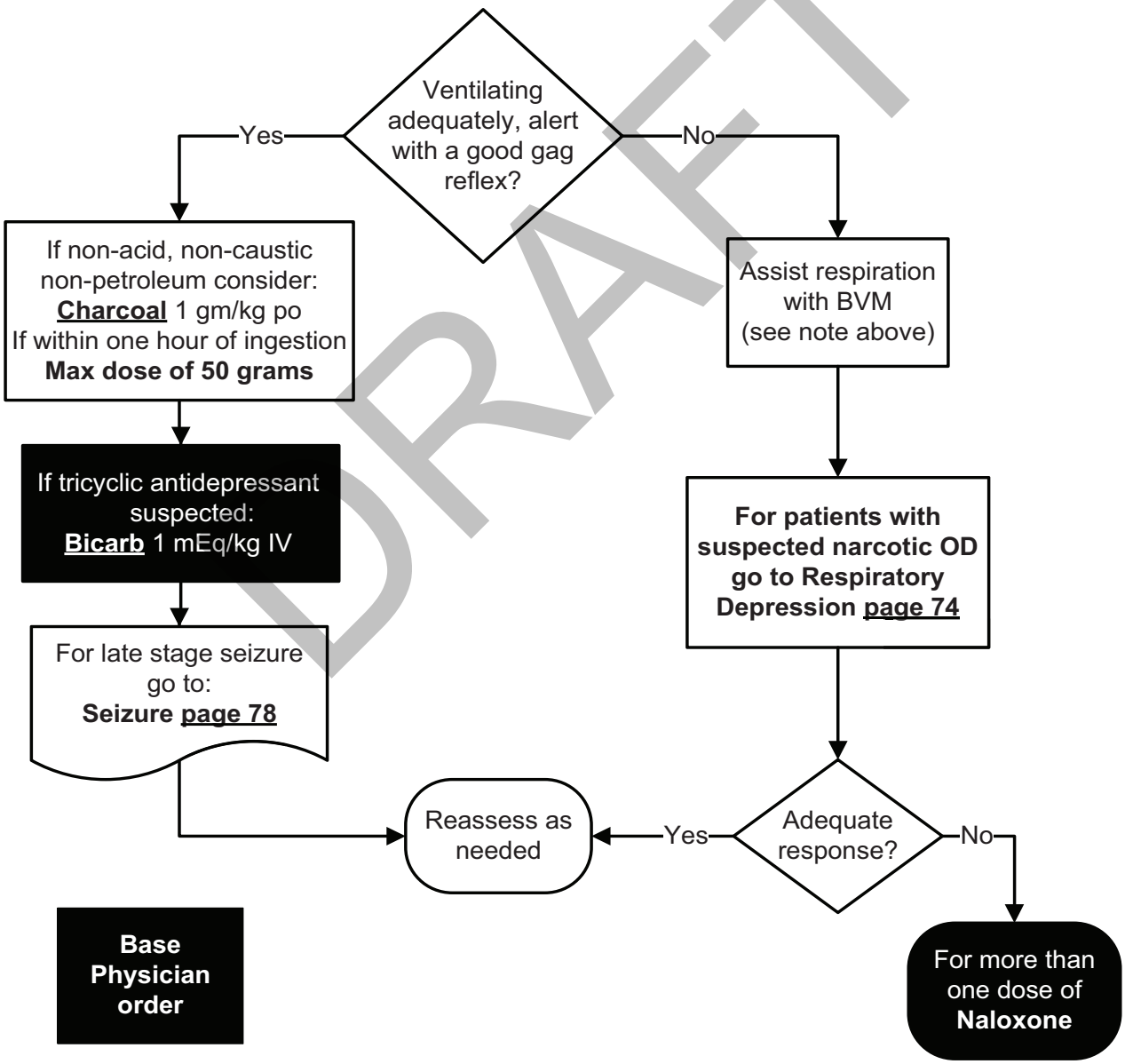


| Pediatric Fentanyl Dose Chart (2 mcg/kg) | | |
|---|---|---|
| 50 mcg/mL | | |
| **WEIGHT** | **DOSE** | **VOLUME** |
| **5 kg** | 10 mcg | 0.2 mL |
| **10 kg** | 20 mcg | 0.4 mL |
| **20 kg** | 40 mcg | 0.8 mL |
| **30 kg** | 60 mcg | 1.2 mL |
| **40 kg** | 80 mcg | 1.6 mL |
| **> 50 kg** | 100 mcg | 2 mL |

# POISONING | INGESTION | OVERDOSE

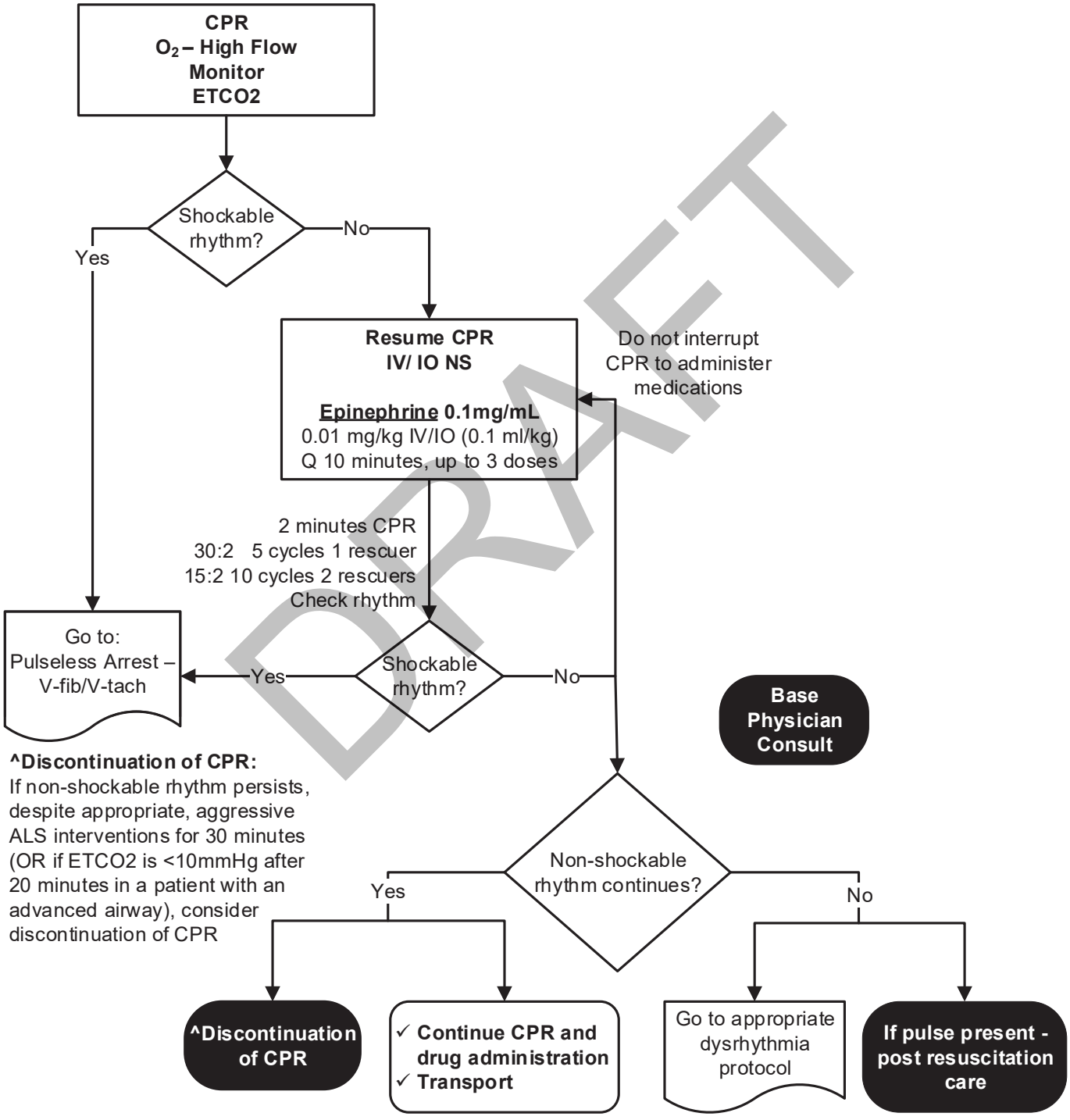
- **Pediatric Routine Medical Care**
- **Protect Yourself!** - See **page 157** "Medical Management of Hazardous Materials"
- **Identify substance** – **contact the Base Physician** regarding other treatment options. Bring any containers, labels or a sample (if safe) into the hospital with the patient
- Determine type, amount, and time of the exposure
- **Base Physician consult** for treatment options if suspecting: organophosphate poisoning, or calcium channel or beta blocker OD. Consider contacting Poison Control for other substances **800-222-1222**
- Remove contaminated clothing. Brush powders off, wash off liquids with large amount of water
- Withhold charcoal if rapidly decreasing level of consciousness a possibility (e.g., tricyclic OD)
- **Note:** Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary. Consider Advanced Airway Management (pg. 118) if BVM ventilation is not adequate.
- **Use an LBRT to determine pediatric drug doses**

(Shown underlined on the algorithm)



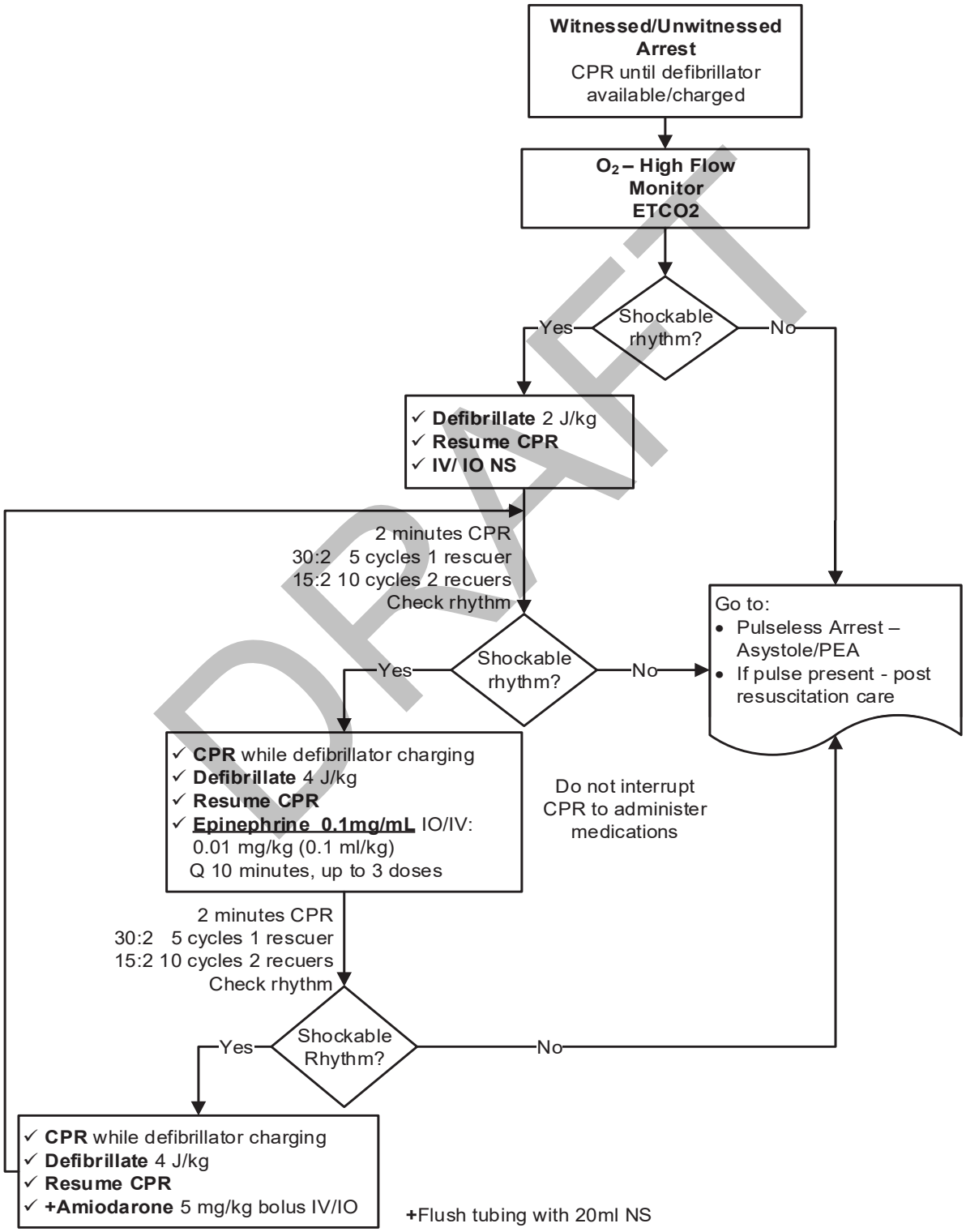
# PULSELESS ARREST: ASYSTOLE, PEA

- **Pediatric Routine Medical Care**
- In PEA, identify other causes and treat (See CPR **page 9**)
- **Note:** Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary. Consider Advanced Airway Management (page 114) if BVM ventilation is not adequate.
- **Use an LBRT to determine pediatric drug doses**
  (Shown underlined on the algorithm)



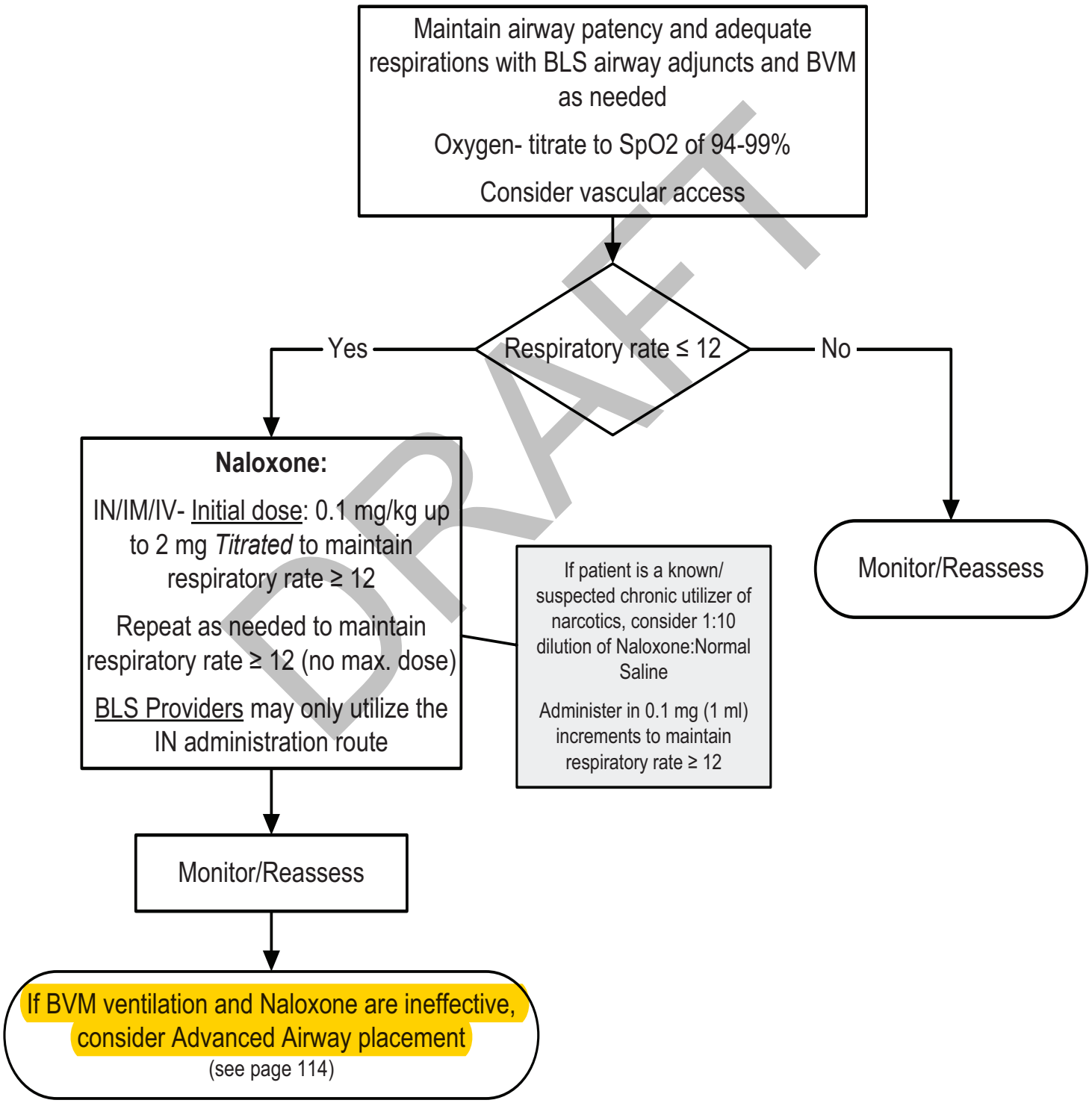
# PULSELESS ARREST: VF/ VT

- **Pediatric Routine Medical Care**
- **Note:** Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary. Consider Advanced Airway Management (page 114) if BVM ventilation is not adequate
- **Use an LBRT to determine pediatric drug doses**
  (Shown underlined on the algorithm)



# RESPIRATORY DEPRESSION OR APNEA (SUSPECTED NARCOTIC OD)

- **Routine Medical Care**
- **Naloxone can cause acute withdrawal symptoms (agitation,vomiting, etc.) in patients who are chronic utilizers of narcotics**
- Naloxone can cause cardiovascular side effects (chest pain, pulmonary edema) or seizures in a small number of patients (1-2%)
- Patients who are maintaining adequate respirations with decreased level of consciousness do not generally require Naloxone for management



# RESPIRATORY DISTRESS (STRIDOR) – UPPER AIRWAY

- **Pediatric Routine Medical Care**
- **CROUP/EPIGLOTTITIS:**

➔ If the patient deteriorates, or becomes completely obstructed, positive pressure ventilation via bag-valve-mask should be attempted

➔ **Do not** attempt to visualize the throat or insert anything into the mouth if epiglottitis suspected

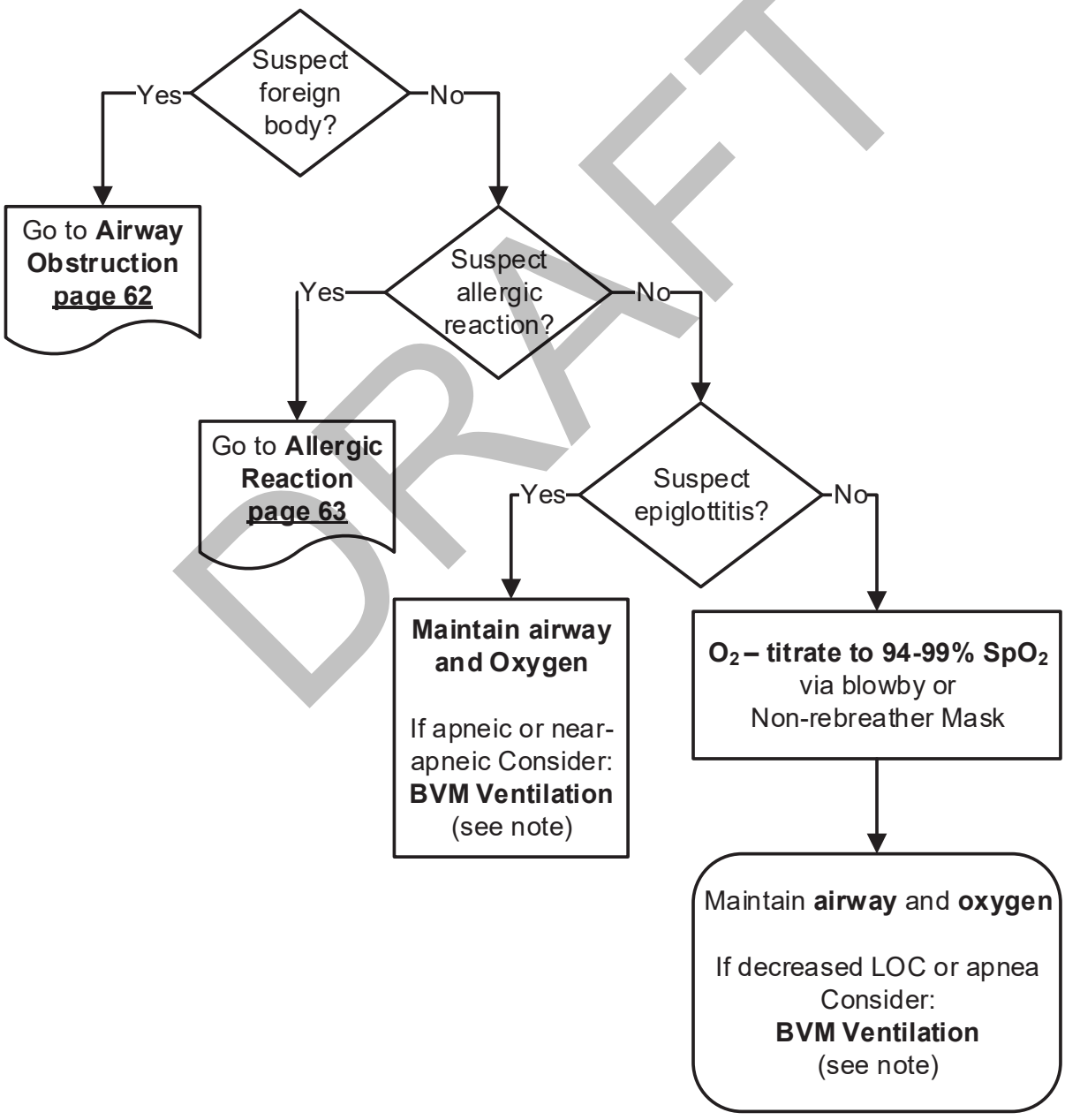
➔ Allow a parent to hold the child or the $O_2$ mask if the presence of the parent calms the child

➔ Minimize outside stimulation. Keep the patient calm

➔ Position of comfort

- **Note:** Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary. Consider Advanced Airway Management (page 114) if BVM ventilation is not adequate
- **Use an LBRT to determine pediatric drug doses**

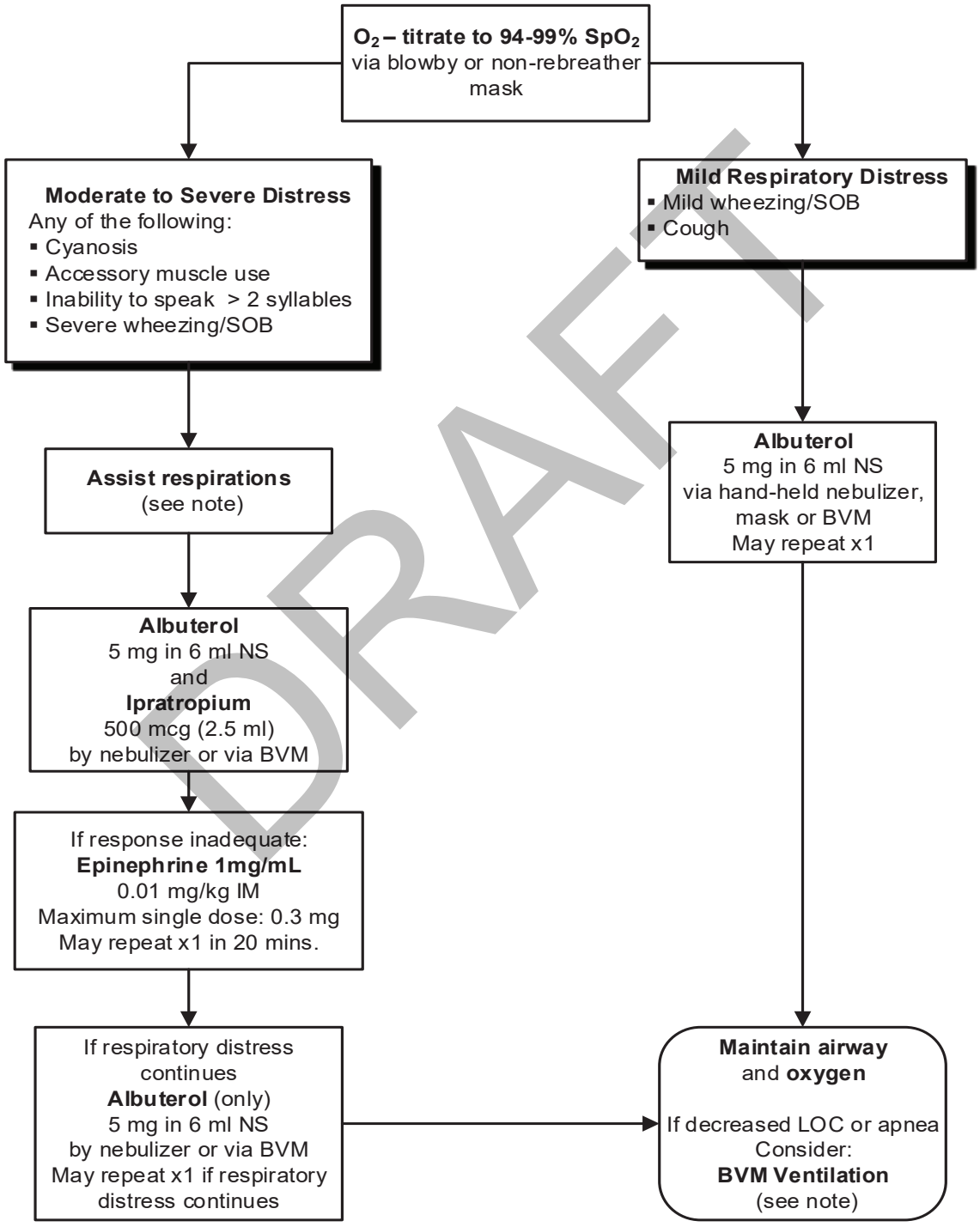
(Shown underlined on the algorithm)



# RESPIRATORY DISTRESS (WHEEZING) – LOWER AIRWAY

- **Pediatric Routine Medical Care**
- Position of comfort
- **Note:** Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary. Consider Advanced Airway Management (page 114) if BVM ventilation is not adequate
- **Use an LBRT to determine pediatric drug doses**

(Shown underlined on the algorithm)



# ROUTINE MEDICAL CARE - PEDIATRIC

The defined age of a pediatric patient is **14 years old or less**, and unless specified otherwise, pediatric protocols should be used to treat these patients. Note: An infant is considered to be < 1 year old. A child is considered to be ≥ 1 year old. Specified ages for transport or treatment other than 14 years old include:

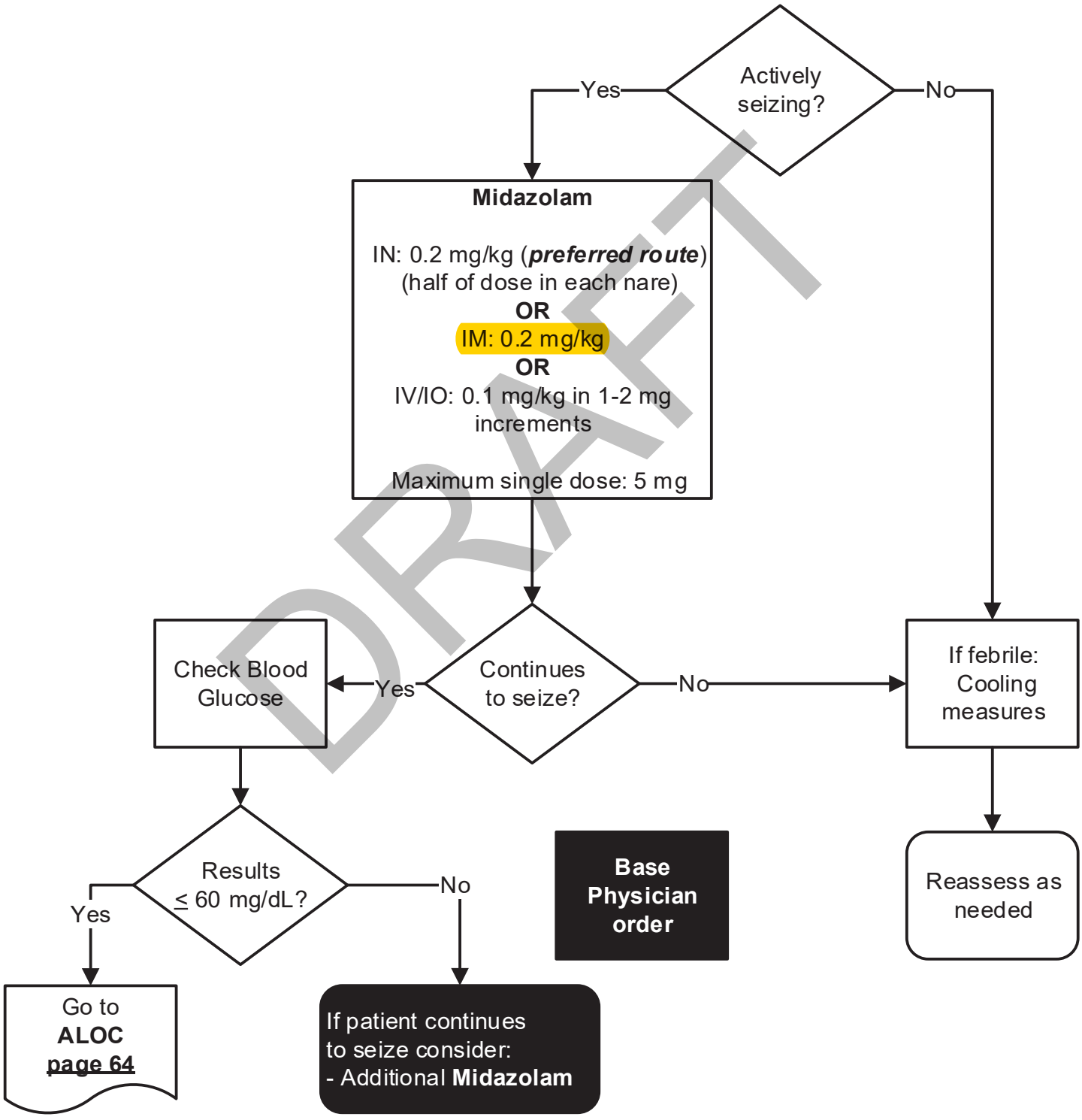
| TRANSPORT | TREATMENT |
|---|---|
| **5150 Psych Evaluation (page 133)**:<br>➔ Children ( ≤ 11 y.o.) – Children's Hospital<br>➔ Adolescents ( ≥ 12 y.o. & ≤ 17 y.o.) – Willow Rock<br>**Trauma Destination (page 26):**<br>➔ ≤ 14 y.o. – Children's Hospital<br>➔ ≥ 15 y.o. – Closest Adult Trauma Center<br>**Sexual Assault (page 3):**<br>➔ Children ( ≤ 14 y.o.) – Children's Hospital<br>➔ All Others ( ≥ 15 y.o.) – Highland or Washington | **Advanced Airway Management (page 114):**<br>➔ <40kg- authorized airway is OPA/NPA, BVM, or SGA<br>**CPAP (page 122):**<br>➔ < 8 y.o. – Absolute Contraindication<br>**IO Access (page 130 or page 131):**<br>**Refusal of Care (page 117):**<br>➔ ≤ 17 y.o. may not refuse transport or treatment unless legally emancipated |

A pediatric **LBRT** will be used to determine drug doses, fluid volumes, defibrillation settings and equipment sizes. The tape is designed to estimate a child's weight based on length (head to heel).

| PRIMARY SURVEY | SPECIAL CONSIDERATIONS |
|---|---|
| **Establish level of responsiveness** | ▶ AVPU: **A**lert, **V**erbal, **P**ainful, **U**nresponsive |
| **Evaluate airway and protective airway reflexes** | ▶ Identify signs of airway obstruction and respiratory distress, including:<br>➔ cyanosis ➔ intercostal retractions ➔ choking<br>➔ stridor ➔ absent breath sounds ➔ grunting<br>➔ drooling ➔ apnea or bradypnea ➔ nasal flaring<br>➔ tachypnea |
| **Secure airway** | ▶ Open airway using jaw-thrust and chin-lift (and/or head tilt if no suspected spinal trauma). Suction as needed. Consider placement of an oral or nasal airway adjunct if the child is unconscious<br>▶ If cervical spine trauma is suspected, see **page 139** |
| **Consider Spinal Motion Restriction (SMR)** | ▶ Use chest rise as an indicator of ventilation<br>▶ Use pulse oximetry |
| **Assess need for ventilatory assistance** | ▶ CPR as needed (see CPR **page 9**)<br>▶ Assess perfusion using the following indicators:<br>➔ heart rate ➔ mental status ➔ skin signs<br>➔ quality of pulse ➔ capillary refill ➔ blood pressure |
| **Evaluate and support circulation. Stop Hemorrhage** | ▶ Perform a head-to-toe assessment, including temperature<br>▶ Obtain a patient history<br>▶ Do environmental assessment, consider possibility of intentional injury |
| **Continue with secondary survey** | ▶ Perform a head-to-toe assessment, including temperature<br>▶ Obtain a patient history<br>▶ Do environmental assessment, consider possibility of intentional injury |
| **Determine appropriate treatment protocols** | ▶ Provide family psychosocial support<br>▶ For drugs not on the LBRT see **page 68** "Pediatric Drug Chart"<br>▶ When starting an IV/IO/saline lock, use chlorhexidine as a skin prep<br>▶ Label insertion site with "PREHOSPITAL IV – DATE and TIME"<br>▶ Pediatric patients are subject to rapid changes in body temperature. Steps should be taken to prevent loss of or increase in body temperature<br>▶ Compared to the adult patient, a small amount of fluid, lost from or administered to, a pediatric patient can result in shock or pulmonary edema<br>▶ Scene time for treatment of pediatric patients should be kept at a minimum. Most treatment should be done en route |

# SEIZURE

- **Pediatric Routine Medical Care**
- Midazolam should not be given unless the patient is actively seizing - 3 or more seizures in ≤ 5 minutes or any seizure lasting > 5 minutes
- **Cooling Measures:** Loosen clothing and/or remove outer clothing/blankets
- **Use the ALCO EMS mobile app, the chart on the following page, or an LBRT to determine pediatric drug dosages.**



## SEIZURE - MIDAZOLAM DRUG CHART

### MIDAZOLAM (Versed) 5 mg/ml Pediatric Dose Chart
(For Indicated Seizures Only)

| WEIGHT | GREY | PINK | RED | PURPLE | YELLOW | WHITE | BLUE | ORANGE | GREEN | OTHER | OTHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| kg | 3 –5 | 6–7 | 8–9 | 10–11 | 12–14 | 15–18 | 19–22 | 24–28 | 30–36 | 40 | 45 |
| lbs | 6–11 | 13–15 | 17–20 | 22–25 | 27–31 | 33–40 | 42–49 | 53–62 | 65–80 | 90 | 100 |
| INTRAVENOUS / INTRAOSSEOUS | | | | | | | | | | | |
| 0.1 mg/kg IV/IO Dose | 0.4 mg | 0.65 mg | 0.85 mg | 1 mg | 1.25 mg | 1.75 mg | 2 mg | 2.5 mg | 3.3 mg | 4 mg | 4.5 mg |
| 0.1 mg/kg IV/IO Volume | 0.08 ml | 0.13 ml | 0.17 ml | 0.2 ml | 0.25 ml | 0.35 ml | 0.4 ml | 0.5 ml | 0.65 ml | 0.8 ml | 0.9 ml |
| INTRANASAL / INTRAMUSCULAR | | | | | | | | | | | |
| 0.2 mg/kg IN/IM Dose | 0.75 mg | 1.25 mg | 1.75 mg | 2 mg | 2.5 mg | 3.5 mg | 4 mg | 5 mg | 5 mg | 5 mg | 5 mg |
| 0.2 mg/kg IN/IM Volume | 0.15 ml | 0.25 ml | 0. 35 ml | 0.4 ml | 0.5 ml | 0.7 ml | 0.8 ml | 1 ml | 1 ml | 1 ml | 1 ml |
| USE A 1 ML SYRINGE FOR MIDAZOLAM ADMINISTRATION TO PEDIATRIC PATIENTS | | | | | | | | | | | |

# EQUIPMENT AND SUPPLY REQUIREMENTS AND INSPECTION

1. **EQUIPMENT AND SUPPLIES:** The provider agency is responsible for providing a full inventory of equipment and supplies to its units
2. All ALS and BLS patient care response vehicles (transporting and non-transporting) shall have at a minimum, all equipment and supplies specified in "Equipment and Supply Specifications - ALS/BLS" (**page 96**). This policy does not supersede the California Vehicle Code or California Code of Regulations, Title 13 requirements for ambulance equipment. In addition, each patient care response vehicle shall have:
   - 2.1 Adequate space in the patient care compartment to accommodate one stretcher, a patient(s) and two providers. There must be sufficient space to allow for patient care activities during transport
   - 2.2 County approved communications equipment capable of contact with receiving hospitals, base hospitals, and other provider agencies during an MCI or mutual aid situation
   - 2.3 Personal protective equipment in accordance with Cal/OSHA standards and/or California EMSA Guideline #216
3. Each ALS provider (transport and non-transport) shall have an approved controlled substance/medication restock procedure on file with the EMS Agency
4. **INSPECTION:** Alameda County EMS Agency personnel may inspect any BLS, CCT and/or ALS mobile unit at any time for compliance with the identified standards for equipment and personnel – see “Equipment and Supply Specifications - ALS/BLS” **page 96**
   - ► Deficiencies may result in the unit's removal from service until the deficiencies are remedied
   - ► The Alameda County EMS Agency will notify the service provider agency's designated management representative immediately of the infraction

# EQUIPMENT AND SUPPLY SPECIFICATIONS - ALS/BLS

| ▶ MINIMUM SUPPLY SPECIFICATIONS | BLS | ALS Non-Transport | ALS Transport |
|---|---|---|---|
| **AIRWAY EQUIPMENT** | | | |
| **▼Airways:** | | | |
| • Oropharyngeal (Sizes 0 - 6)..... | 1 each | 1 each | 2 each |
| • Nasopharyngeal (soft rubber) | | | |
| »14 Fr., 18 Fr., 22 Fr., 26Fr. ..... | 1 each | 1 each | 1 each |
| »30 Fr. ..... | 1 | 1 | 1 |
| »32 Fr. ..... | 1 | 1 | 2 |
| »34 Fr. ..... | 1 | 1 | 1 |
| **▶Atomizer for intranasal medication administration** | 1 | 1 | 3 |
| **▶Continuous Positive Airway Pressure Device** Variable flow generator to allow control of $O_2$ concentrations from 28 to 100% at flows from 0 to 140 L/min. or disposable, County approved CPAP device. | | 1 | 1 |
| **▶Impedance Threshold Device (ResQPOD®)** ..... | | 1 | 1 |
| **▼Intubation Equipment:** | | | |
| • County approved video laryngoscopy device ..... | | 1 (optional) | 1 (optional) |
| • Laryngoscope (handle) ..... | | 1 | 1 |
| • Batteries (extra) ..... | | 1 set | 1 set |
| • Blades (curved McIntosh): | | | |
| • Adult | | | |
| »# 4 ..... | | 1 | 1 |
| »# 3 ..... | | 1 | 1 |
| • Pediatric | | | |
| »# 2 ..... | | 1 | 1 |
| »# 1 ..... | | 1 | 1 |
| • Adult (Straight Miller) | | | |
| »# 4 ..... | | 1 | 1 |
| »# 3 ..... | | 1 | 1 |
| • Pediatric | | | |
| »# 2 ..... | | 1 | 1 |
| »# 1 ..... | | 1 | 1 |
| • Magill forceps: | | | |
| »Adult ..... | | 1 | 1 |
| »Pediatric ..... | | 1 | 1 |
| • Adult (cuffed with adaptor) | | | |
| »Size 6.0 ..... | | 1 | 2 |
| »Size 6.5 ..... | | 1 | 2 |
| »Size 7.0 ..... | | 1 | 2 |
| »Size 7.5 ..... | | 1 | 2 |
| »Size 8.0 ..... | | 1 | 2 |
| • Stylet | | | |

# EQUIPMENT AND SUPPLY SPECIFICATIONS - ALS/BLS

| MINIMUM SUPPLY SPECIFICATIONS | BLS | ALS Non-Transport | ALS Transport |
|---|---|---|---|
| »Adult | | 1 | 1 |
| • igel Supraglottic Airway | | | |
| »Size 1.0 | | 1 (optional) | 1 (optional) |
| »Size 1.5 | | 1 | 1 |
| »Size 2.0 | | 1 | 1 |
| »Size 2.5 | | 1 | 1 |
| »Size 3 | | 1 | 1 |
| »Size 4 | | 1 | 1 |
| »Size 5 | | 1 | 1 |
| • Disposable Waveform Capnography | 2 (optional) | 2 | 5 |
| • ET Tube Holder | | | |
| »Adult | | 2 | 3 |
| • Tracheal tube introducer (bougie) | | 1 | 2 |
| **▼Nebulizer** | | | |
| • Patient Activated | | 1 | 2 |
| • Hand-held for Inhalation | | 1 | 2 |
| • In-Line nebulizer equipment with 22 & 24 mm “T-piece” | | 1 | 2 |
| **▼Oxygen equipment and supplies:** | | | |
| • $O_2$ Tank (portable) | 1 | 1 | 1 |
| • Non-rebreather masks (transparent) | | | |
| »Adult | 2 | 1 | 2 |
| »Pediatric/Infant | 1 | 1 | 1 |
| »Nasal cannula for $O_2$ administration | 2 | 1 | 2 |
| »Portable Pulse-Oximetry | 1 | 1 | 1 |
| »Adult end-tidal $CO_2$ sampling nasal cannula | | 1 | 1 |
| »Pediatric end-tidal $CO_2$ sampling nasal cannula | | 1 | 1 |
| **▶County-approved pleural decompression kit** | | 1 | 2 |
| **▼Resuscitation bag-valve with $O_2$ reservoir** | | | |
| • Adult | 1 | 1 | 1 |
| • Pediatric | 1 | 1 | 1 |
| • Infant | 1 | 1 | 1 |
| **▼Face masks for resuscitation (BVM)** | | | |
| »Adult | 1 | 1 | 1 |
| »Pediatric | 1 | 1 | 1 |
| »Infant | 1 | 1 | 1 |
| **▼Suction equipment and supplies:** | | | |
| • Rigid Suction Catheter | 1 | 1 | 2 |
| • Suction apparatus (portable) | 1 | 1 | 1 |
| • Suction catheters, pediatric: | | | |

# EQUIPMENT AND SUPPLY SPECIFICATIONS - ALS/BLS

| MINIMUM SUPPLY SPECIFICATIONS | BLS | ALS Non-Transport | ALS Transport |
|---|---|---|---|
| » 6 Fr | 1 | 1 | 1 |
| »10 Fr | 1 | 1 | 1 |
| »18 Fr | 1 | 1 | 1 |
| • Suction Canisters | 1 | 1 | 1 |
| **DRESSING MATERIALS** | | | |
| ▶ **County Approved Chest Seals** | | 2 | 3 |
| ▶ **Adhesive bandages (Assorted)** | 1 container | 1 container | 1 container |
| ▶ **Cold Pack** | 2 | 2 | 2 |
| ▼ **Dressing Materials** | | | |
| • 4” by 4” gauze | 12 | 6 | 12 |
| • 10 by 30” or larger universal dressings | 2 | 2 | 3 |
| • ABD pad (9 x 5”) | 2 | 2 | 2 |
| • Roller bandages (sterile) | | | |
| »2” | 2 | 1 | 2 |
| »3” | 2 | 1 | 2 |
| • Bulky gauze roller bandages 4" | 2 | 2 | 2 |
| • QuikClot® Combat Gauze™ | | 1 (Optional) | 1 (Optional) |
| ▶ **Elastic Bandage 3”** | 1 | 1 | 1 |
| ▶ **Scissors** (heavy duty) | 1 | 1 | 1 |
| ▼ **Splints** - ladder or cardboard splints with a soft or cushioned surface, or equivalent padded board: | | | |
| • Arm 3” x 15” | 1 | 1 | 2 |
| • Leg 3” x 36” | 1 | 1 | 2 |
| • Traction Splint | | 1 | 1 |
| ▼ **Tape** | | | |
| • 1” | 1 roll | 1 roll | 1 roll |
| • 2” | 1 roll | 1 roll | 1 roll |
| ▶ **Triangular Bandage** | 1 | 1 | 2 |
| ▶ **County Approved Tourniquet (for hemorrhange control)** | 1 | 1 | 1 |
| **EQUIPMENT AND SUPPLIES** | | | |
| ▼ **Automated External Defibrillator (AED) equipment** | | | |
| • Automated External Defibrillator - pediatric ready | 1 | | |
| • “Hands- off” defib pads | | | |
| »Adult | 1 set | | |
| »Pediatric | 1 set | | |
| ▶ **Blanket Disposable** | 1 | 1 | 1 |
| ▼ **Blood pressure cuff (portable):** | | | |
| • Adult | 1 | 1 | 1 |
| • Obese | | 1 | 1 |
| • Pediatric | 1 | 1 | 1 |

# EQUIPMENT AND SUPPLY SPECIFICATIONS - ALS/BLS

| MINIMUM SUPPLY SPECIFICATIONS | BLS | ALS Non-Transport | ALS Transport |
|---|---|---|---|
| • Infant | | 1 | 1 |
| ▶ **Bulb Syringe** (optional if supplied in Delivery Kit) | 1 | 1 | 1 |
| ▶ **Burn Sheets (sterile)** may be disposable, or linen (sterilization date indicated) | 1 | 1 | 1 |
| ▶ **CO Monitor** | | 1 (Optional) | 1 (Optional) |
| ▼ **Delivery Kit** **Sterile, prepackaged to include:** • a minimum of two (2) umbilical cord clamps • scissors (may be packaged separately) • aspirating bulb syringe • gloves • drapes • antiseptic solution | 1 | 1 | 1 |
| ▶ **EMS Field Manual** | 1 | 1 | 1 |
| ▶ **Gloves, disposable** | 1 box | 1 box | 2 boxes |
| ▶ **Glucometer** | 1 | 1 | 1 |
| ▼ **Irrigation Equipment:** | | | |
| » Sterile Saline for irrigation | 2 | 1 (Optional) | 2 |
| » Tubing for irrigation | | Removed | 1 |
| ▶ **EMS Approved Length Based Resuscitation Tape - (LBRT)** | | 1 | 1 |
| ▶ **Lubricant, water soluble** | 2 packs | 2 packs | 2 packs |
| ▶ **County Approved Mechanical CPR Device** | | 1 (Optional) | 1 (Optional) |
| ▼ **Monitor/defibrillator equipment:** | | | |
| • Defibrillator Must have strip recorder, synchronized cardioversion and transcutaneous pacing capability, and be portable & operational. Both monophasic and biphasic waveform defibrillators are acceptable; however, biphasic is preferred. Energy level dependent upon manufacturer. | | 1 | 1 |
| • Batteries, extra (if available) | | 1 set | 1 set |
| • "Hands-off" defib pads | | | |
| » Adult | | 1 set | 1 set |
| » Pediatric | | 1 set | 1 set |
| • EKG electrodes | | 3 packs | 6 packs |
| • 12-lead EKG capability | | 1 | 1 |
| ▶ **Pen Light** | 1 | 1 | 1 |
| ▶ **Point of Wounding (POW) Kit** (Items located in this kit may be counted towards minimums of other items in this table) | 1 (optional for IFT) | 1 | 1 |
| ▶ **Radio unit(s)** Must be able to function with all facets of the current EBRCS radio system | 1 | 1 | 1 |

## EQUIPMENT AND SUPPLY SPECIFICATIONS - ALS/BLS

| MINIMUM SUPPLY SPECIFICATIONS | BLS | ALS Non-Transport | ALS Transport |
|---|---|---|---|
| ▶**Thermometer - patient safe** | 1 | 1 (optional) | 1 |
| ▶**Triage Tags** | 20 | 20 | 20 |
| ▶**Triage Tape** | 1 roll ea. - red, yellow, green, black | | |
| ▶**Scoop** | 1 (optional for IFT) | | 1 |
| ▶**Flexible multi-positional patient carrying device** (optional) | 1 | 1 | 1 |
| ▶**Stethoscope** | 1 | 1 | 1 |
| ▶**Stretcher** | 1 | | 1 |
| **IMMOBILIZATION EQUIPMENT** | | | |
| ▶**Cervical collars - Stiff:** Sizes to fit all patients over one year old | 1 each size | 1 each size | 2 each size |
| ▶**Head immobilizer** that provides lateral and built-in occipital support | 1 | 1 | 2 |
| ▼**Spine boards** (rigid) | | | |
| • Long board (72" x 14") with removable 5-strap adjustable immobilization device | 1 | 1 | 1 |
| • Pediatric with velcro straps and head harness | 1 (optional for IFT) | 1 | 1 |
| (LBRT holder optional) | | | |
| ▶**Vacuum Mattress** | 1 (optional) | 1 | 1 |
| ▶**Athletic helmet face mask removal tool (optional)** | 1 | 1 | 1 |
| **IV EQUIPMENT/SYRINGES/NEEDLES** | | | |
| ▼**Armboards** | | | |
| • Short | | | 1 |
| • Pediatric | | 1 | 1 |
| ▼**Catheters** 14 gauge removed | | | |
| • 16 gauge | | 1 (optional) | 2 |
| • 18 gauge | | 2 | 2 |
| • 20 gauge | | 2 | 2 |
| • 22 gauge | | 2 | 2 |
| • 24 gauge | | 2 | 2 |
| ▶**Chlorhexidine** | | 6 | 12 |
| ▼**Handheld Battery Powered Intraosseous Equipment** | | | |
| • EZ-IO® Driver | | 1 | 1 |
| • 15 mm Needle Set (pink hub, 3kg-39kg) | | 1 (optional) | 2 (optional) |
| • 25 mm Needle Set (blue hub, >3kg) | | 1 | 2 |
| • 45 mm Needle Set (yellow hub, >40kg with excessive tissue) | | 1 | 2 |
| • Vascular access pack | | 1 | 2 |
| ▼**Needles** 18g and 25g removed | | | |
| • 22 g x 1.5" | | 1 | 4 |
| • 23 g x 1" | | 1 | 2 |
| • 18 g x 1½" 5 micron filter needle (optional) | | 1 | 2 |

# EQUIPMENT AND SUPPLY SPECIFICATIONS - ALS/BLS

| MINIMUM SUPPLY SPECIFICATIONS | BLS | ALS Non-Transport | ALS Transport |
|---|---|---|---|
| ▶ **Pressure Infusion Bags** | | 1 | 1 |
| ▶ **Saline Lock** | | 2 | 2 |
| ▼ **Syringes (with Luer-Lok™)** | | | |
| • 1 mL "Epi-Safe" or equivalent | 1 (optional) | | |
| • 1 mL | | 1 | 2 |
| • 3 mL | | 1 | 2 |
| • 10 mL | | 2 | 2 |
| • 30 mL | | 1 | 2 |
| ▶ **T-connector** | | 1 | 2 |
| ▶ **Tourniquet** (for IV start) | | 1 | 1 |
| ▶ **Tubing -** Adjustable flow 3-way administration set | | 1 | 2 |
| **MEDICATIONS AND SOLUTIONS - preloads preferred** | | | |
| ▶ **Adenosine 6 mg / 2 mL NS** | | 1 | 2 |
| ▶ **Adenosine 12 mg / 4 mL NS** | | 1 | 2 |
| ▶ **Albuterol 2.5 mg in 3 mL NS** | | 2 | 4 |
| ▶ **Amiodarone 150 mg in 3 mL** | | 2 | 3 |
| ▶ **Aspirin 81 mg chewable tablet or 325 mg/5 gr. tablet** | 1 bottle | 1 bottle | 1 bottle |
| ▶ **Atropine Sulfate 1 mg / 10 mL** | | 1 | 1 |
| ▶ **Autoinjector antidote kit (optional)** (atropine 2mg in 0.7mL's & pralidoxime chloride 600mg in 2 mL's) | 3 per person | 3 per person | 3 per person |
| ▶ **Calcium Chloride 1 gm / 10 mL** | | 1 | 1 |
| ▶ **Charcoal, 25 grams** | | 1 bottle | 2 bottles |
| ▶ **Dextrose 10% in 250mL bags** | | 1 | 2 |
| ▶ **Diphenhydramine 50 mg / 1 mL** | | 1 | 2 |
| ▶ **Epinephrine 1mg/mL 1 mg / 1 mL** | | 2 | 2 |
| ▶ **Epinephrine 0.1mg/mL 1 mg / 10 mL** | | 3 | 3 |
| ▶ **Epinephrine Auto-Injectors** Adult 0.3mg, Pediatric 0.15mg<br>▶ **Epinephrine 1mg/mL 1 mg / 1 mL** | 1 of each Auto-injector or 1 vial | | |
| ▶ **Fentanyl 100 mcg / 2 mL** | | 2 | 2 |
| ▶ **Glucagon 1 mg Kit** | | 1 | 1 |
| ▶ **Hydroxocobalamin 5g / 250ml** | | Optional | |
| ▶ **Oral Glucose - 31 gms** | 2 | 2 | 2 |
| ▶ **Ipratropium (Atrovent) 500 mcg (2.5 mL)** | | 1 | 2 |
| ▶ **Lidocaine 2% 40 mg / 2 mL** | | 1 | 1 |
| ▶ **Midazolam 10 mg / 2 ml** | | 2 | ~~4~~ 2 |
| ▶ **Naloxone 2 mg / 2 mL** | 2 | 2 | 2 |
| ▶ **Nitroglycerine** | | 1 bottle | 1 bottle |
| ▶ **Olanzapine (Zyprexa) 10mg oral dissolving tablets** | | 2 | 2 |
| **ADD Ketorolac 15mg** | | 1 | 1 |

## EQUIPMENT AND SUPPLY SPECIFICATIONS - ALS/BLS

| MINIMUM SUPPLY SPECIFICATIONS | BLS | ALS Non-Transport | ALS Transport |
|---|---|---|---|
| ▶Ondansetron (Zofran) 4mg / 2 mL for IV/IM injection | | 1 | 2 |
| ▶Ondansetron (Zofran) 4mg oral dissolving tablets | | 2 | 4 |
| ▶Saline, sterile (for injection) 10 mL | | 2 | 2 |
| ▶Sodium bicarbonate 50 mEq / 50 mL | | 1 | 2 |
| ▶Sodium Thiosulfate 12.5 gms with 10 gtt/mL vented tubing | 1 (Supervisor or Battalion Chief) | | |
| ▶Tranexamic Acid | | 1 | 1 |
| ▼Bags for infusion | | | |
| • $D_5W$ or Normal Saline 100mL | | 1 | 2 |
| • Normal Saline (NS)- May use 500mL or 1000mL bags | | 1,000mL | 2,000mL |

# ADVANCED AIRWAY MANAGEMENT

1. **INTRODUCTION:** The approved airway management procedure consists of endotracheal intubation (ETI) or insertion of a supraglottic airway (SGA) device.

   ***Nasotracheal intubation is NOT an approved skill in Alameda County***

   1.1 Manage the patient's airway with proper airway positioning, simple airway adjuncts, suctioning, and BVM ventilation as necessary with all patients.

   1.2 For patients **≥ 40kg,** ALS personnel are authorized to perform the skill of endotracheal intubation or placement of an SGA.

   1.3 For patients **< 40kg**, BVM ventilation is the preferred method of ventilatory management. If BVM ventilation is unsuccessful or impossible, a SGA device may be placed.

   1.4 BLS personnel are authorized to perform the skill of insertion of a supraglottic airway only after completing an approved training program and with the approval of the EMS Medical Director. BLS personnel may not intubate.

   1.5 **If advanced airway placement will interrupt chest compressions, providers may consider deferring insertion of the airway until the patient fails to responds to initial CPR and defibrillation or demonstrates ROSC (2015 AHA Guidelines)**

   1.6 ALS and BLS personnel must confirm tube placement (ETI or SGA) with capnography/ capnometry, auscultation and physical assessment (auscultation, observation of chest rise, visualization of the tube passing through the cords, etc.). See Section #4. EDD removed

1. **INDICATIONS:**

   1.1 Non-traumatic cardiac and/or respiratory arrest.

   1.2 Traumatic cardiac and/or respiratory arrest or severe ventilatory compromise where the airway cannot be adequately maintained by BLS techniques.

1. **APPROVED ADVANCED AIRWAY MANAGEMENT PROCEDURE:**

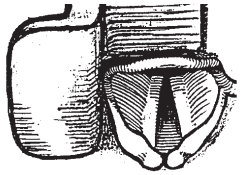
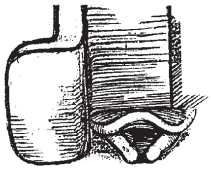
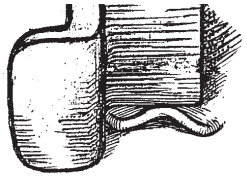
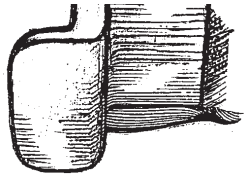
   1.1 **Endotracheal intubation** - (ALS only)

      1.1.1 **Definition:** An intubation attempt is defined as the insertion of the laryngoscope blade into the patient's mouth.

      1.1.2 Make no more than 2 total intubation attempts per patient. Each attempt should not last longer than 30 seconds. Ventilate with 100% oxygen for one minute prior to each attempt.

      1.1.3 If patient has a Cormack-Lehane* grade of 3 or 4 (epiglottis is not or is barely visible), consider primary use of a supraglottic airway.



| *Cormack-Lehane scale | | | |
|---|---|---|---|
|  |  |  |  |
| **Grade 1** | **Grade 2** | **Grade 3** | **Grade 4** |

1.2 **Supraglottic Airway Device (i-gel®)**

1.2.1 **Definition:** An supraglottic airway attempt is defined as the insertion of the supraglottic airway device into the patient's mouth.

1.2.2 For patients **≥ 40kg,** a supraglottic airway (i-gel®) device may be placed as a primary airway (if Cormack-Lehane grade is 3 or 4) or after unsuccessful attempt(s) at endotracheal intubation.

1.2.3 For patients **< 40kg**, BVM ventilation is the preferred method of ventilatory management. If BVM ventilation is unsuccessful or impossible, a SGA device may be placed

1.2.4 The i-gel® SGA device comes in seven sizes determined by the patient's weight:

| Size | 5 | 4 | 3 | 2.5 | 2.0 | 1.5 | 1.0 |
|---|---|---|---|---|---|---|---|
| Weight (kg) | >90kg | 50-90kg | 30-60kg | 25-35kg | 10-25kg | 5-12kg | 2-5kg |

1.2.5 The patient should be in the sniffing position. The chin should be gently pressed down/ inferior before proceeding to insert the i-gel device.

1.2.6 Introduce the leading soft tip into the mouth of the patient in a direction toward the hard palate.

1.2.7 Glide the i-gel device downwards and backwards along the hard palate with a continous, but gentle push until definitive resistance is felt.

1.2.8 Do not apply excessive force during insertion.

1.2.9 If unexpected resistance is met during insertion, apply jaw-thrust and slightly rotate the device.

1. **CONFIRM TUBE PLACEMENT:** To be used on an endotracheal tube or the i-gel® device in the order listed below

1.1 **Waveform capnography/capnometry must be continously monitored.**

1.2 **Visualize** the ETT passing through the vocal cords and look for chest rise with ventilation.

1.3 **Auscultate** both lung fields for breath sounds. Listen over left upper quadrant of the abdomen for air in the stomach

1.4 **Document. All devices used to confirm ETT/SGA placement must be electronically uploaded into and documented on the patient's EHR.**

1.4.1 Describe waveform (e.g. box, shark fin, straight line, bumpy line, etc.)

1.4.2 Capnometry number in mmHg (e.g.15 mmHg) should be, at a minimum, documented at the initiation of monitoring, after every patient movement, and at transfer of patient care.

1. If there is any doubt as to proper placement of the endotracheal tube, visualize the pharynx and vocal cords with laryngoscope and use capnographic waveform to make a decision. If still in doubt, suction the patient, deflate the cuff, remove the endotracheal tube and replace with a supraglottic airway. (Be prepared - removal of an ET tube may induce vomiting). Ventilate between attempts with 100% oxygen

1. If the patient regains consciousness while intubated, do not extubate. Use restraints as necessary to prevent uncontrolled extubation. Consider Sedation (see Sedation **page 137**)

1. **If the patient has a suspected spinal injury:**

► Open the airway using a jaw-thrust without head extension

► If airway can not be maintained with jaw thrust use a head-tilt/chin-lift maneuver

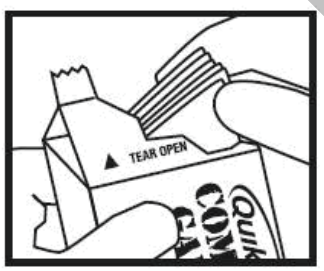
► Manually stabilize the head & neck rather than using an immobilization device during CPR

# HEMORRHAGE CONTROL

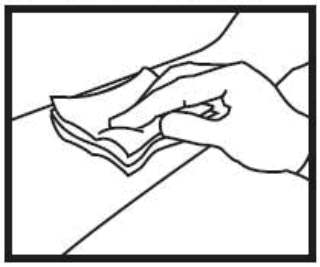
1. **INTRODUCTION:** Controlling severe bleeding from an extremity injury can be challenging (especially in the lower limbs). Use of a County approved tourniquet can assist in the care of patients with uncontrollable bleeding in the extremities safely and effectively when the appropriate precautions are taken. Approved for both ALS and BLS.
2. **INDICATIONS:**
   - ► Amputation
   - ► Failure to stop bleeding with pressure dressing(s)
   - ► Injury does not allow control of bleeding with pressure dressing(s)
   - ► Impaled foreign body with ongoing extremity bleeding
   - ► Under difficult or dangerous situation for responding caregivers
   - ► Mass casualty event
   - ► Significant extremity hemorrhage in the face of any or all of:
     - •Need for airway management
     - •Need for breathing support
     - •Circulatory shock
     - •Need for other emergent interventions or assessment
     - •Significant bleeding from multiple locations
3. **TOURNIQUET:** Place county approved tourniquet according to manufacturer's instructions
4. **WOUND PACKING:** Significant uncontrolled bleeding from extremity and junctional (shoulder or groin) wounds may be packed with standard or hemostatic gauze. Wounds to the chest, abdomen, or pelvis should not be packed.
5. **HEMOSTATIC AGENT:** After tourniquet placement, and to aid in severe arterial bleeding; or to control severe bleeding where tourniquets are not indicated (trunk, head, neck, etc), use of a hemostatic guaze is indicated. **Use of hemostatic gauze is optional.**
6. **INDICATIONS:**
   - ► Bleeding that is not controllable with the use of a tourniquet or other means.
7. **PROCEDURE:** Any standard gauze or County-approved hemostatic gauze may be utilized



**DIRECTIONS FOR USE**

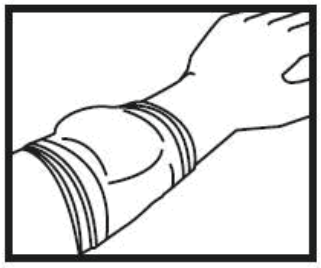



**1.** Open package and remove **Combat Gauze.** Keep the empty package.



**2.** Pack **Combat Gauze** into wound and use it to apply pressure directly over bleeding source. (More than one **Combat Gauze** may be required).

**3.** Continue to apply pressure for 3 minutes or until bleeding stops.



**4.** Wrap and tie bandage to maintain pressure. Seek medical care immediately. Show PRODUCT REMOVAL directions on package to medical personnel.

# PLEURAL DECOMPRESSION

1. **INDICATIONS:** When clinical findings reveal a tension pneumothorax (severe respiratory distress, diminished breath sounds on the affected side, tracheal deviation) with rapidly deteriorating vital signs
2. **EQUIPMENT:**
   - 2.1 County-approved decompression needle/kit
3. **PROCEDURE:**
   - 3.1 Approved Site: Mid-Axillary Line (MAL) site Removed
     - ► 2nd or 3rd intercostal space, mid-clavicular line
   - 3.2 Prep site with chlorhexadine
   - 3.3 Firmly but carefully insert the needle at a 90 degree angle just over the superior aspect (superior border) of the rib, through the skin and pleura until air escapes or a distinct "give" is felt. The undersurface of the rib should be avoided to limit injury to the neurovascular bundle. Air should be freely aspirated (if not, you are not in the pleural space)
   - 3.4 Remove the needle
   - 3.5 Attach a one-way valve (if neccessary).
   - 3.6 Recheck breath sounds and continuously monitor cardio-respiratory status.
4. **COMPLICATIONS:**
   - 4.1 Lung laceration
   - 4.2 Pneumothorax
   - 4.3 Hemorrhage secondary to damage to the intercostal artery or vein

# PSYCHIATRIC AND BEHAVIORAL EMERGENCIES- OLANZAPINE

**1. INTRODUCTION:** Olanzapine (Zyprexa) 10mg sublingual is an atypical antipsychotic with minimal side effects. The major side effect would be minimal sedation that can be worsened by alcohol or other sedatives. Orally disintegrating Olanzapine sublingual allows for rapid absorption, with effects occurring within 10-15 minutes of administration.

**2. INDICATIONS:**

2.1 Olanzapine is indicated for the cooperative, anxious adult patient with a primarily behavioral health presentation and a history of psychiatric disorder. These patients will commonly be hearing voices or having paranoid thoughts after not taking their usual psychiatric medications.

2.2 In accordance with Restraint Policy (P.111), restraints may be utilized after patient self-administers Olanzapine.

**3. CONTRAINDICATIONS:** **Removed "agitation requiring restraints"**

➔ Age less than 18 or over 65

➔ Clinical intoxication with other substances

➔ Pregnant patients

**4. POSSIBLE ADVERSE EFFECTS:**

► Dystonic Reaction
► Anticholinergic Effects
► CNS Depression

**5. ADMINISTRATION:** Olanzapine (Zyprexa) 10mg, should be handed to the patient for sublingual self-administration. No water is needed for the orally disintegrating table

# SEDATION

1. **GENERAL INDICATIONS:**
   - 1.1 To reduce combative behavior that endangers patient or caregivers
   - 1.2 As an adjunct to pain relief for ALS procedures such as cardioversion and/or cardiac pacing
   - 1.3 **Use CAUTION with:**
     - ►**Concomitant use of an opiate and midazolam can cause significant respiratory depression, hypotension and decreased level of consciousness. Administer concomitantly only when absolutely indicated. Administer lower doses of one or both agents**
     - ►**Elderly patients are especially sensitive to the effects of midazolam. They should receive a lower dose and especially close monitoring**
     - ►**A very small proportion of patients may have a paradoxical effect (i.e. - increased agitation)**
2. **CONTRAINDICATIONS:**
   - 2.1 **Absolute:**
     - ►Sensitivity to midazolam
     - ►Systolic BP < 90 mmHg (adult) - ***except for patients who need TCP or cardioversion***
   - 2.2 **Relative:**
     - ►Nausea/vomiting
     - ►Suspected drug/alcohol intoxication
     - ►Head injury
     - ►Concomitant narcotic administration - (this is a RELATIVE contraindication and is not intended to prevent the use of necessary narcotic analgesia, when indicated)
     - ►Depressed mentation
     - ►Multiple systems trauma

   *(These MAY be the most likely cause for the condition that requires proposed sedation. The best judgment of the paramedic is necessary to evaluate the need for sedation)*
3. **PROCEDURE:**
   - 3.1 Give supplemental oxygen (titrate to 94-99% $SpO_2$)
   - 3.2 Institute continuous cardiac monitoring
   - 3.3 Continuously monitor the patient using the Airway Checklist, including $ETCO_2$
   - 3.4 Establish IV access if possible
   - 3.5 Be prepared to provide airway/ventilation management
   - 3.6 Ensure that receiving hospital personnel are aware that patient has been sedated

| INDICATIONS: | MEDICATION – DOSE/ROUTE: |
|---|---|
| **SEDATION INDICATIONS**<br>✓To reduce combative behavior that endangers patient or caregivers<br>✓Anticipated:<br>•Cardioversion in the conscious patient<br>•Cardiac pacing in the conscious patient | **MIDAZOLAM:** (refer to weight-based chart for dosing guidance)<br>**Adult:**<br>✓**IV/IO (slowly):** 1-2 mg increments- titrated to desired degree of sedation. May repeat, q 5 min, to a total max dose of 10 mg<br>✓**IM/IN:** 2-5 mg increments- titrated to desired degree of sedation. May repeat q 5 min, to a total max dose of 10 mg<br>**Pediatric** (> 5kg or <40kg)<br>✓**IV (slowly) / IN (briskly):** 0.05 mg/kg - loading dose. Titrate to desired degree of sedation. May repeat x 2, q 5 minutes, to total max dose of 3 mg<br>✓**IM:** 0.1 mg/kg - if unable to establish IV access. May repeat x 1, q 30 minutes |

# MULTI-CASUALTY INCIDENT - EMS RESPONSE

1. **INTRODUCTION:** A Multi-Casualty Incident (MCI) is any incident where the number of injured persons exceeds the day-to-day operating capabilities; requiring additional resources and/or the distribution of patients to multiple hospitals. This may be different for each incident based on time of day, location, resources available, etc.
2. **NOTIFICATIONS:** Incident Commanders shall make notifications through ACRECC. Organizations should have internal notification procedures
3. **MCI RESOURCE ORDERING, INITIATION AND TERMINATION:**
   - 3.1 The first arriving unit should initiate an MCI through ACRECC
   - 3.2 Inform ACRECC of the Incident Type (Medical, Trauma, MVC, Haz-Mat etc.)
   - 3.3 Responders should order MCI Resource Response (MCI Response) as soon as possible in order to get resources responding. This resource ordering can occur before an exact patient count is obtained.
   - 3.4 Patient count approximations should be used as guidelines for initiating a specific MCI LEVEL and are not intended as a substitute for sound scene judgment
   - 3.5 As soon as there is an approximate number of patients determined, the MCI Level should be declared
   - 3.6 Immediately cancel assigned resource(s) when no longer required
   - 3.7 Terminate the MCI through ACRECC when the MCI has been mitigated

**MCI RESOURCE ORDERING**

| MCI RESPONSE | MCI RESOURCE RESPONSE PACKAGE | MCI NOTIFICATIONS |
|---|---|---|
| MCI Response 1 | ➔5 Closest 911 Ambulances<br>➔1 EMS Supervisor<br>➔EMS TAC channel assigned<br>*Note: Immediately cancel assigned resource(s) when no longer required* | ➔Jurisdictional Fire Battalion Chief<br>➔County EOA Provider Operations Supervisor<br>➔LEMSA Duty Officer |
| MCI Response 2 | ➔5 Closest Ambulances<br>➔1 EMS Supervisor<br>➔1 DMSU<br>*Note: Immediately cancel assigned resource(s) when no longer required* | ➔All County Fire Duty Chiefs |
| *Resources in MCI Response 2 are in addition to resources assigned in MCI Response 1* | | |
| MCI Response 3 | ➔5 Closest Ambulances<br>➔1 EMS Supervisor<br>➔Consider Air Assets<br>*Note: Immediately cancel assigned resource(s) when no longer required* | |
| *Resources in MCI Response 3 are in addition to resources assigned in MCI Response 2* | | |
| Additional Levels | For Each Additional level:<br>➔5 Closest Ambulances<br>➔1 EMS Supervisor | |

# MULTI-CASUALTY INCIDENT - EMS RESPONSE

| MCI LEVELS | |
|---|---|
| **MCI Level** | **Approximate Patient Count** |
| **I** | **5-14 Patients** |
| **II** | **15-50 Patients** |
| **III** | **> 50 Patients** |

4. **RESOURCE ORDERING PRIORITY LIST**
   - 4.1 ALCO 911 Ambulances
   - 4.2 ALCO BLS Permitted Ambulances
   - 4.3 Mutual Aid from contiguous county(ies)
5. **MANAGEMENT OF MCI INCIDENTS AND PATIENT DISTRIBUTION**

5.1 Once an MCI alert is determined by prehospital personnel, Alameda County Regional Emergency Communications (911 dispatch) will be notified and will "Initiate an MCI" under the Reddinet MCI module. ACRECC will immediately send an "ED Capacity poll and general notification" to the hospitals in Alameda County

5.2 For MCI Levels II & III, ACRECC will notify the EMS Duty Officer of the incident

5.3 Emergency responders shall perform triage using one of the following triage methods:

- ► The Simple Triage and Rapid Treatment (START) algorithm for adults and JumpSTART for pediatrics
- ► The Sort, Assess, Lifesaving Interventions, Treatment / Transport (SALT) algorithm for patients in all age groups

5.3.1 Acuity based Triage colors for both Triage Tape and Triage Tags are universally accepted as Black (expectant / deceased), Red (immediate / life threatening,), Yellow (delayed / serious non life threatening), and Green (minor / walking wounded). Only Black, Red, Yellow, and green are acceptable triage colors

5.3.2 The use of colored "Triage Tape" upon initial contact with victims at the crisis site is preferred over Triage Tags to identify initial acuity. Triage tags should be used at the external Casualty Collection Point (CCP) outside the crisis site or applied to patients during transport. Acuity guided transport of all patients shall occur in a coordinated and expedient manner

5.4 Hospital Poll: For MCI incidents involving 15+ patients, ACRECC will send a "bed capacity" poll to all hospitals in Alameda County to confirm bed availability

5.5 For the duration of the MCI, the Transportation Unit Leader under ICS will determine transportation methods and destinations

5.6 Whenever possible, patients should be transported to the most appropriate hospital without overloading one particular facility. Every effort will be made to transport trauma patients to a designated trauma hospital. In a Level II or III MCI, transport to a designated trauma center may not always be possible

5.7 First Round Destination Procedure may be implemented without prior authorization. All Alameda County receiving hospitals should prepare to receive patients, especially those in close proximity to the incident

| First Round Destination Procedure | |
|---|---|
| **Non-Trauma patients**** to each Alameda County receiving hospital (for a total of 6):<br>✓Two (2) "Immediate"<br>✓Four (4) "Delayed" and/or "Minor"<br>*** e.g.: Medical incident, HazMat* | **Trauma patients** to each Alameda County Trauma Center (for a total of 7):<br>✓Three "Immediate"<br>✓Four (4) "Delayed" and/or "Minor" |

5.8 ACRECC in conjunction with the incident command structure will track patient numbers, acuity and destinations in ReddiNet in as close to real-time as possible. ReddiNet will serve as the primary mechanism notifying receiving facilities of the number and acuity of incoming patients. Receiving hospitals will enter patient names and other relevant information into ReddiNet. This will facilitate patient accountability and reunification. On scene EMS Supervisors may also have the ability to enter information into ReddiNet

5.9 Verbal notification to hospitals: In a Level I MCI, transporting units should contact the receiving hospital enroute to give an abbreviated report on the patient(s) status and ETA. In a Level II or III MCI, if ReddiNet is unavailable or non-functional, a medical communications coordinator should be designated to notify receiving facilities of the number and acuity of incoming patients.

5.10 Incident Log - The Transportion Unit Leader should maintain an incident log

5.11 The on-scene Incident Commander or designee (ie. Medical Group Supervisor or Transportation Unit Leader) should contact ACRECC during and at the conclusion of the MCI to provide and reconcile patient tracking information to ensure accountability

6. **RESOURCE MANAGEMENT** - The Incident Commander has the overall responsibility for developing objectives and requesting the necessary resources required to mitigate the incident. There will be no self-dispatching. Clear communications between all involved agencies is imperative

6.1 The following items are MCI Management points to consider

- ►The three "T's" ensure that Triage, Treatment and Transport have been addressed
- ►Request resources through the Incident Commander in the early stages of the incident. Ensure adequate personnel and equipment
- ►Establish staging areas. Transport Units and/or other units that do not immediately have an assignment should report to the designated staging area and wait for instructions
- ►Use a one-way traffic pattern. Transport units should be staged to assure good access and egress from Loading Area
- ►All incoming units drop off required EMS equipment at a designated location
- ►County Disaster Trailers shall be requested through ACRECC

6.2 Use ICS identification vests. At a minimum the IC, Medical Group Supervisor, Triage and Treatment, and Transportation Unit Leader should be clearly identified with vests