I-GEL AIRWAY PROCEDURE

Indications

- When ventilation cannot be adequately maintained by BVM or other BLS techniques and intubation is anticipated to be difficult or intubation is unsuccessful after one attempt (cardiac arrest patients) or two attempts (respiratory arrest patients)

Pre-procedure

- Open airway and pre-oxygenate with BVM for 1-3 min with 100% O2. Avoid hyperventilation in cardiac arrest
- Apply water soluble lubricant to the back, sides and front of the cuff. Ensure no lubricant remains in the bowl of the cuff
- Position the head into the “sniffing” position or neutral position if trauma is suspected
- Remove dentures before inserting tube

Procedure

- With the cuff opening facing the patient’s chin, glide the device downwards and backwards along the hard palate with a continuous but gentle push until definitive resistance is felt. The incisor teeth should be resting on the integral bite block
- Attach bag-valve to I-gel Airway
- Verify placement using all of the following
  - Rise and fall of chest
  - Bilateral breath sounds
  - Capnometry/capnography or colorimetric device
- Secure the tube with tape or commercial tube holder

Equipment

- i-gel or i-gelO2 airway device
- Water soluble lubricant
- Portable suction device
- Capnometry/capnography or colormetric device
- Stethoscope

I-gel Sizing

Size	Patient Size	Color	Patient weight
3	Small adult	Yellow	30-60kg
4	Medium adult	Green	50-90kg
5	Large adult	Orange	90+kg

SPECIAL CONSIDERATIONS

- If there is any doubt about the proper placement of the i-gel airway, remove device; ventilate the patient with BVM for 30 seconds and repeat sequence of steps
- If unsuccessful on second attempt, resume BLS airway management
- If an excessive air leak during ventilation is noticed, use one or all of the following:
  - Hand ventilate the patient with gentle and slow squeezing of the reservoir bag
  - Limit estimated tidal volume to no more than 5ml.kg
  - If all of the above fail then change to one size larger I-gel

Critical Information

- Contraindications:
  - Responsive patient with an intact gag reflex
  - Patient with known esophageal disease
  - Patients who have ingested caustic substances
  - Tracheal stoma
  - Patient <4ft tall or <12 yrs

ROUTINE MEDICAL CARE (RMC) ALS

Indications

- To define procedures indicated by ALS RMC per treatment guidelines
- Patient condition warrants ALS care/assessment, but does not meet the indication of any other treatment policy

Monitoring as indicated:

- Cardiac
- Core temperature
- ETCO2
- 12-Lead EKG
- Blood glucose

↓

Airway interventions as indicated:

- Initiate oxygen therapy for respiratory distress, signs of hypoxia, suspected CO poisoning, or SpO2 <94%
- Advanced airway management

↓

Circulatory interventions as indicated:

- Intravascular access
- Intraosseous access

↓

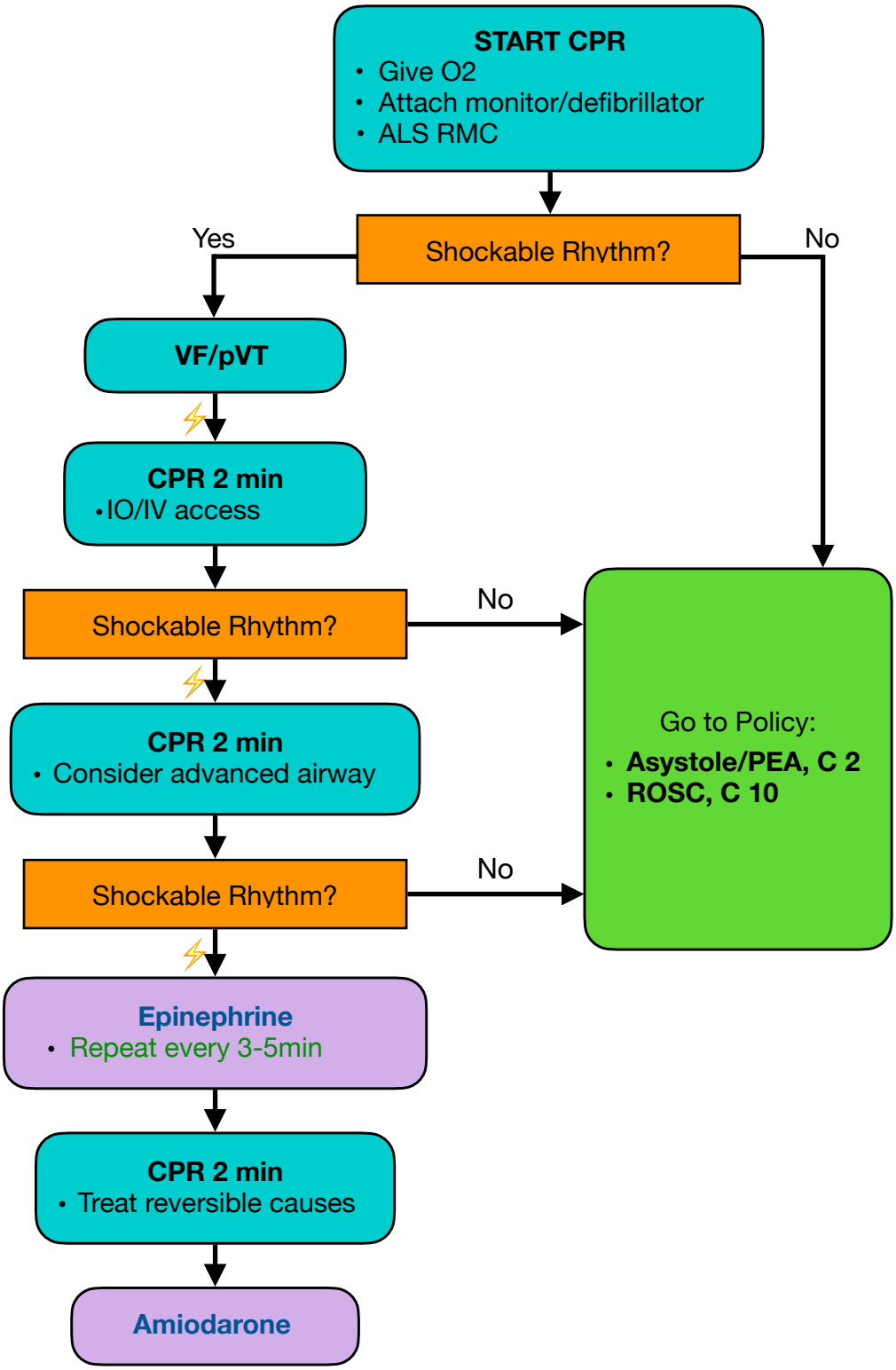
Pediatric Patient

- Use length based color-coded resuscitation tape and apply corresponding wrist band

CRITICAL INFORMATION

- Best practice is to maintain cardiac/ETCO2 monitoring all the way through transfer of care
- Continuous monitoring is required for any patient who has been administered a sedative or analgesic during EMS evaluation/transport

V-FIB/PULSELESS V-TACH



CRITICAL INFORMATION

- Mechanical CPR for transport

Airway Management

- BLS airway preferred during first 5 minutes
- Do not interrupt CPR for >10 seconds for intubation
- Use continuous ETCO2

Drug Therapy

- **Epinephrine** 1mg (0.1mg/ml) IV/IO. Repeat every 3-5 min
- **Amiodarone** first dose: 300mg IV/IO; second dose 150mg in 3-5 min.
  - If ROSC after **Amiodarone**, consider **Amiodarone drip** 150mg in 100ml NS, 1mg/min = 40gtts/min with 60gtt/ml tubing

Reversible Causes

- Hypovolemia
- Hypoxia
- Hydrogen Ion (Acidosis)
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponade (cardiac)
- Toxins
- Thrombus
- Trauma

- DO NOT transport rVF patients with any of the following: >75yrs, hospice, advanced dementia, irreversible neurological injury, active malignancy
- ☎ **PHYSICIAN CONSULT** to transport rVF patients with: unwitnessed arrest, >5min prior to resuscitation initiation (bystander or EMS personnel), non-cardiac etiology known or suspected

SEIZURE

Indications

- Recurring or continuous generalized seizures with ALOC
- Status epilepticus (two or more successive seizures without a period of consciousness, or one seizure lasting longer than five minutes

ALS RMC

If seizing upon EMS arrival (suspect status epilepticus):

- **Midazolam** IM/IN: 5mg (2.5mg in each nostril if IN)
  - MR x1 in 2 min if still seizing
- Do not delay **Midazolam** administration for IV or IO insertion

If seizure starts after EMS arrival:

- **Midazolam**
  - IV/IO: 1 mg slowly over 20-30 seconds
    - MR q3 min until seizure stops or
    - Max dose: 0.05mg/kg
  - IM: 5mg
    - MR x1 in 2 min if still seizing
  - IN: 5mg (2.5mg in each nostril)

SPECIAL CONSIDERATIONS

- Consider treatable etiologies (hypoglycemia, hypoxia, narcotic overdose, unusual odor of alcohol, signs of trauma, medic alert tag) prior to administering anti-seizure medications.
- Expect and manage excessive oral secretions, vomiting, and inadequate tidal volume.
- Treatment should be based on the severity and length of the seizure activity.
- Focal seizures without mental status changes may not require pre-hospital pharmacological intervention.
- Never administer **Midazolam** rapid IV/IO since cardiac and/or respiratory arrest may occur.

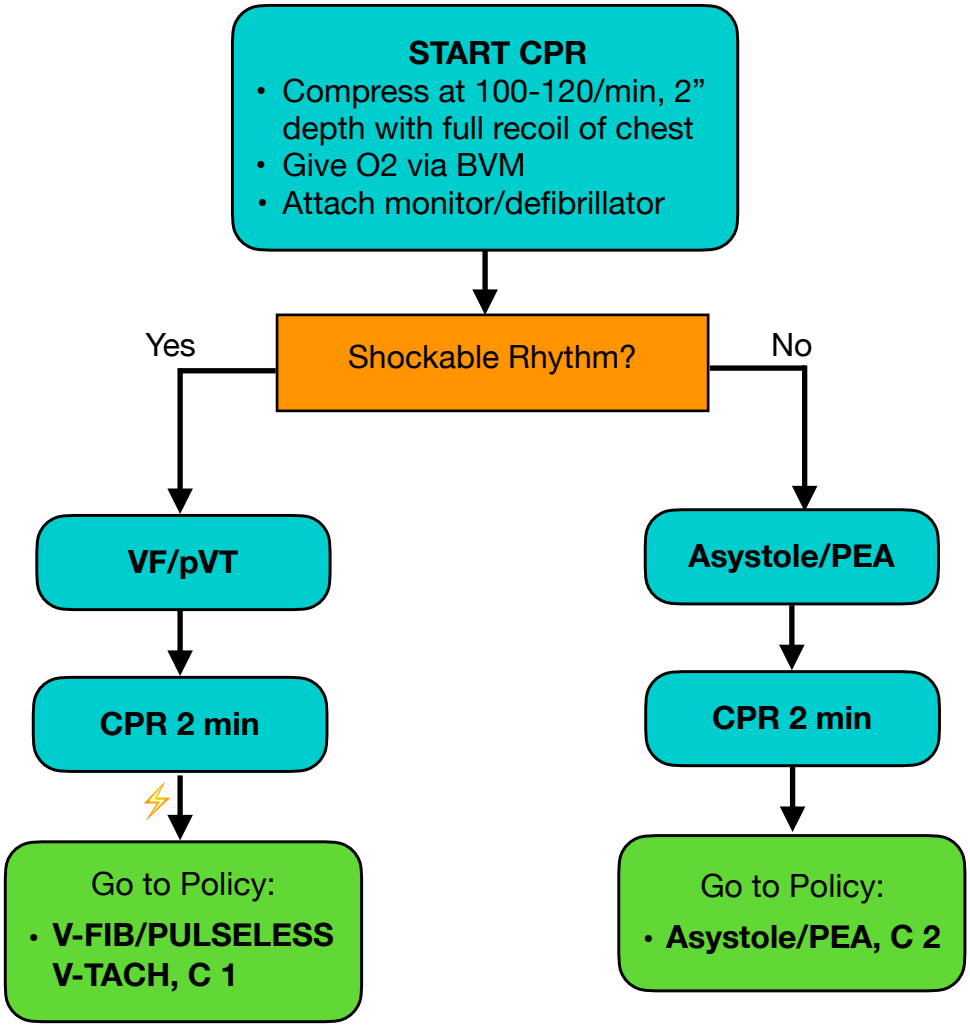
Midazolam Weight Based Chart- MAXIMUM DOSING for IV/IO only

Kg	Lb	Dose (0.05mg/kg)
40-50	88-110	2-2.5mg
51-60	111-132	2.5-3mg
61-70	133-154	3-3.5mg
71-80	155-176	3.5-4mg
81-90	177-198	4-4.5mg
91-100	199-220	4.5-5mg
>100	>220	5mg

ADULT CARDIAC ARREST

Indication

- Unresponsive; no breathing or has agonal respirations; no pulse



CRITICAL INFORMATION

- Witnessed vs Unwitnessed
- Consider pre-cordial thump if witnessed and defibrillator not immediately available
- Compress at 100-120bpm. Use metronome or similar device
- Mechanical CPR is mandatory during transportation
- Change compressors every 2 minutes
- Minimize interruptions
- Defibrillate at 200J, 300J, 360J
- Do not stop compressions while defibrillator is charging
- Resume compressions immediately after shock

BLS Airway Management

- BLS airway preferred during first 5 minutes
- Use two-person BLS airway management whenever possible
- Avoid excessive ventilation
- 30:2 compression/ventilation ratio

ALS Airway Management

- King Airway/iGel/Video laryngoscopy (VL)
- Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
- Use continuous ETCO2 to monitor CPR effectiveness and advanced airway placement
- Maintain SpO2 94-99%
- 1 breath every 6 seconds

SPECIAL CONSIDERATIONS

- If patient is in refractory V-fib (3 unsuccessful shocks), transport to nearest available STEMI Receiving Center. Otherwise proved resuscitation on scene until ROSC of when patient meets Determination of Death criteria
- Regardless of the above, transportation is warranted in the following situations: unsafe scene conditions, unstable airway, hypothermia/hyperthermia as primary cause of arrest, any patient pulled from a fire in cardiac arrest
- To assure ROSC continues, remain on scene for 5-10 minutes and then transport to a STEMI Receiving Center

COLD INDUCED INJURY

Indications

- Exposure to cold or wet environment

Move to a warm, protected area ASAP

Signs of life
- Start warming measures; handle gently

If ALOC
- Obtain rectal temp

Begin transport

No signs of life

If submersion ≤1 hour
- Obtain rectal temp

If submersion ≥1 hour
- Determination of death

If rectal temp <95°F *
- Initiate warming measures
- Follow appropriate protocol according to patient's cardiac rhythm
- Immediately transport

If rectal temp >95°F
- Follow appropriate protocol according to patient's cardiac rhythm

Warming measures
- Remove all wet clothing
- Cover entire body with warm blankets
- Apply hot packs
- Warm IV fluids

Symptoms
- Mild: shivering, increased RR & HR
- Moderate/Severe: ALOC, slurred speech, unsteady gait, slow HR & RR, low BP, (ventricular) dysrhythmias

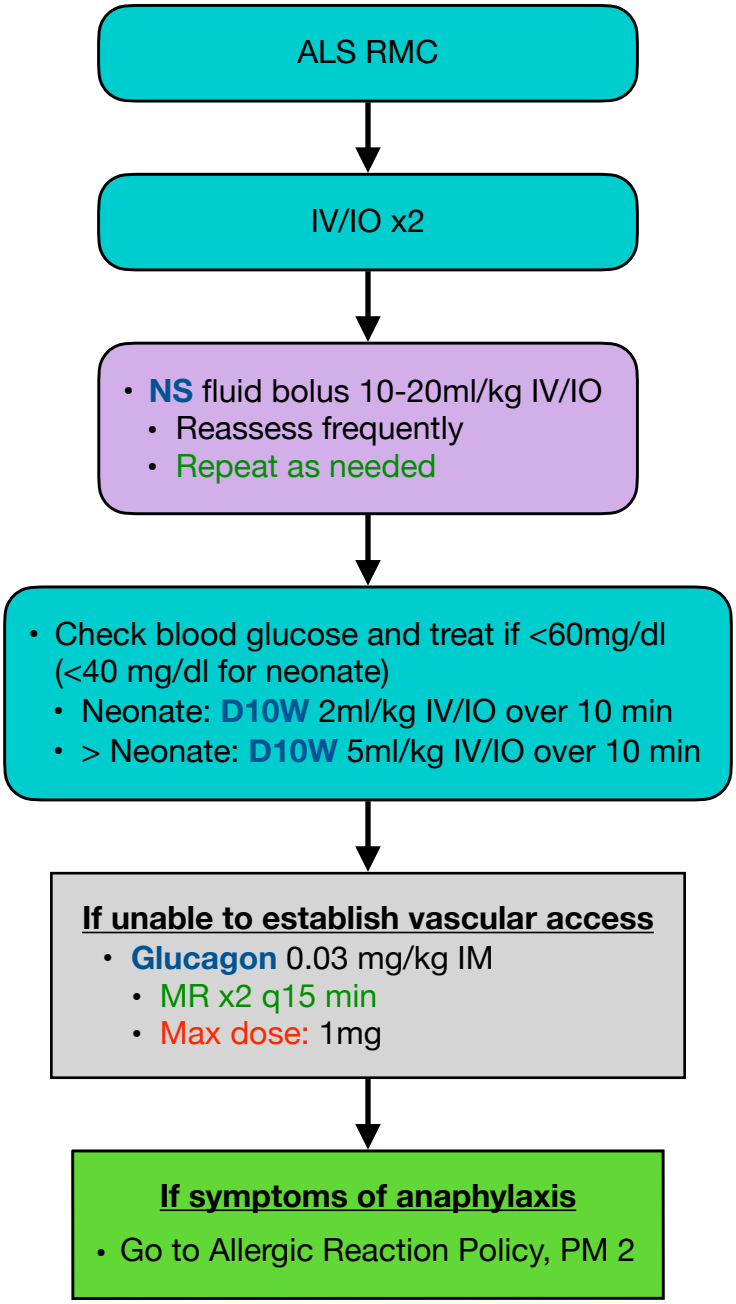
Special Consideration
- Subtler presentations exist in elderly, newborns, chronically ill and alcoholics

* Withhold ACLS meds if temp <86°F

PEDIATRIC SHOCK

Indications

- Inadequate organ and tissue perfusion to meet metabolic demands



SUSPECTED ABUSE/NEGLECT/ INFLICTED PHYSICAL INJURY

Indications

- Identification and guidelines for reporting and treating suspected child abuse (persons <18 years), dependent adults between the ages of 18 and 64 years (those with physical or mental limitations restricting their ability to carry out normal activities), domestic abuse (intimate partner violence, includes dating relationships), and elder adults (≥65 years)
- Abuse is defined as harmful, wrongful, neglectful or improper treatment which may result in physical or mental injury
- Physical injury includes any injury that is self-inflicted or inflicted by another person or any assaultive or abusive contact

- BLS/ALS RMC
- Treat and transport the patient per Destination Guidelines Policy GPC4

If patient or patient's Designated Decision Maker (DDM) refuses transportation and patient's life IS in imminent danger

- Stay on scene, request local law enforcement agency to respond and place patient in protective custody

If patient or patient's DDM refuses transportation and patient's life is NOT in imminent danger

- Leave the scene, contact law enforcement, establish radio contact with the intended receiving hospital, describe situation including reasons for suspecting abuse

If abuse suspected in individuals other than the patient

- Follow the procedures stated above for imminent and/or non-imminent danger

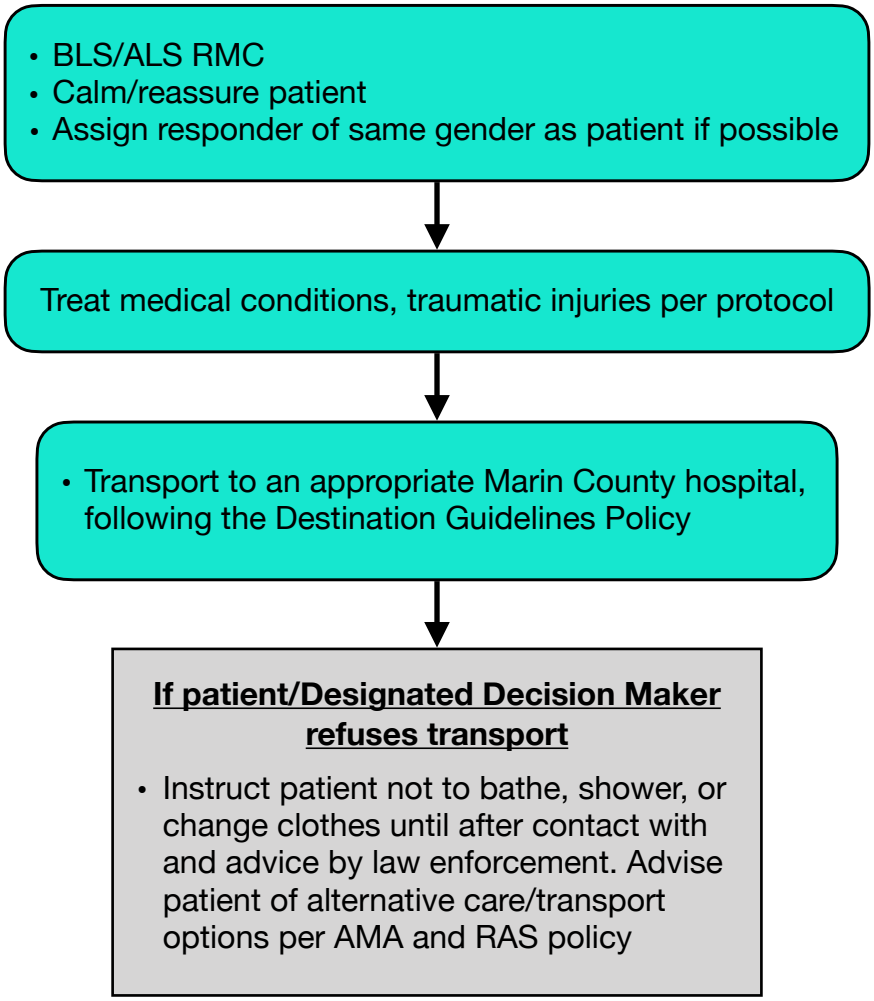
- Contact the local law enforcement agency and/or one of the following protective service agencies by phone within 24 hours and submit completed report within 36 hours of incident
  - Marin Children and Family Services Emergency Response 415-473-7153
    - State of California Report os Suspected Child Abuse (Form SS 8583- see GPC 9A)
  - Marin County Adult Protective Services 415-473-2774
    - State of California Report of Suspected Dependent Adult/Elder Abuse (Form SOC 341- See GPC 9B)

- For inflicted physical injury:
  - Healthcare provider shall place a telephone call to the law enforcement agency with investigative jurisdiction as soon as practically possible
  - A written report shall be completed (OES form 2-920) and faxed to the law enforcement agency within two working days (see below for fax numbers)
  - Both telephone and written reports shall be submitted if the patient has expired
  - The prehospital providers at the scene shall determine who amongst them submits the report

SEXUAL ASSAULT/HUMAN TRAFFICKING

Indication

- Patients with complaints consistent with sexual assault or evidence of human trafficking
- Human trafficking involves labor or services, through the use of force, fraud, or coercion for the purposes of subjection to involuntary servitude, peonage, debt bondage or slavery
- Commercial sex acts through the use of force, fraud or coercion
- Any commercial sex act, if the person is under 18 years of age, regardless of whether any form of coercion is involved



SPECIAL CONSIDERATIONS

- If patient's clothing is removed and law enforcement is not at scene, place clothing in a paper bag and bring to the hospital. Do not use a plastic bag
- A patient who requires/requests a specialized evidentiary examination will first be transported to a Marin County hospital. Once medically cleared, the patient will be transported by the appropriate law enforcement agency to Kaiser Permanente Vallejo Medical Center

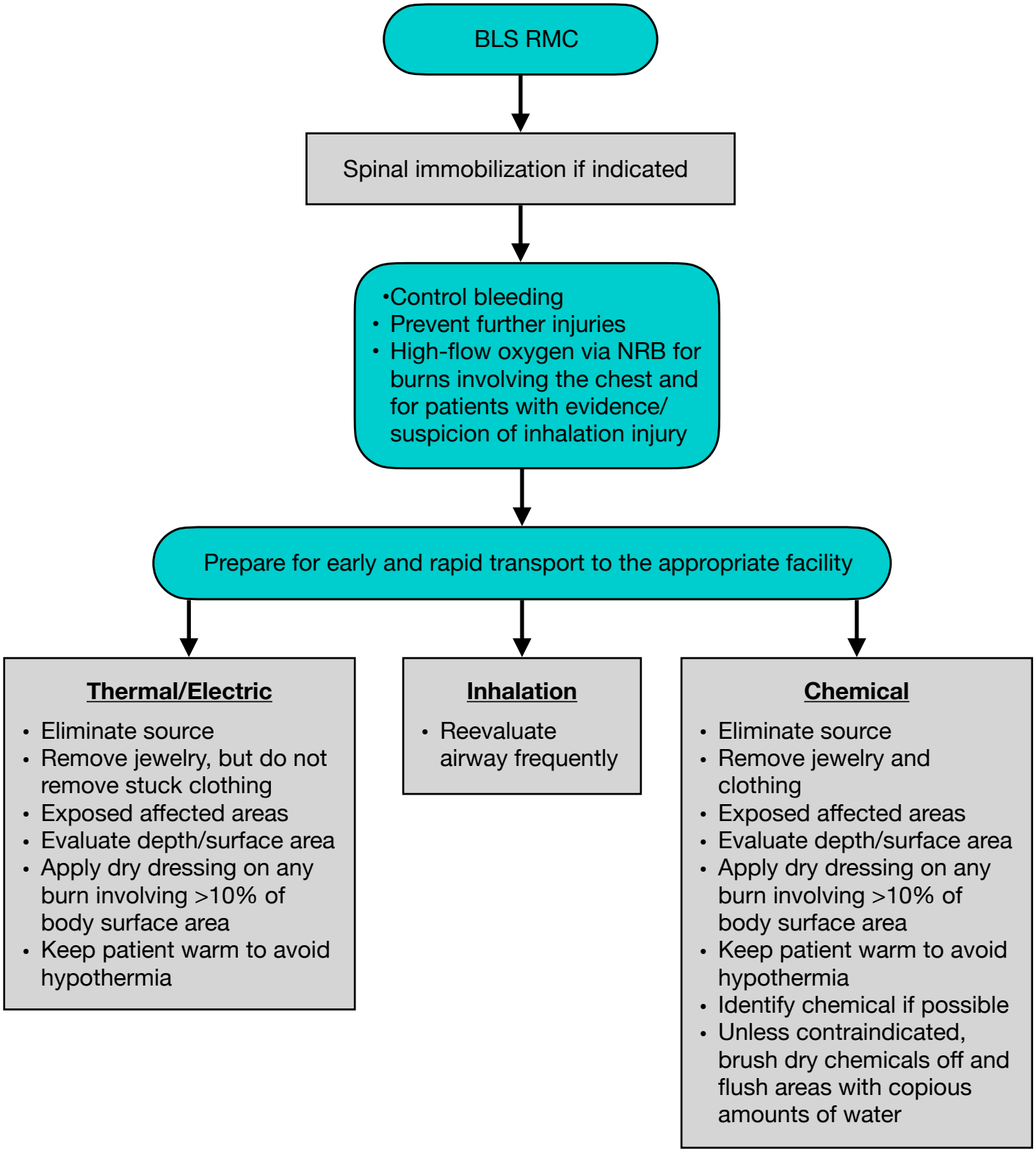
Critical Information

- Preserve possible evidence and advise patient not to clean, bathe or change clothes until examination by hospital personnel
- Notify police and dispatch of nature of call
- EMS personnel are encouraged to report to local law enforcement suspected human trafficking cases
  - Warning signs of human trafficking include:
    - Individuals who are segregated from contact with others, or don't have control of there own ID/documents
    - Locations with unsuitable living conditions or unreasonable security measures
    - Incidents where responders are approached and asked for protection/asylum from other individuals at a scene
  - For suspected human trafficking, offer the patient the 24/7 National Human Trafficking hotline number: 1-888-373-7888 or they can text "HELP" or "INFO" to 233733

BURNS

Indications

- Damage to the skin caused by contact with caustic material, electricity, or fire. Any burn associated with respiratory involvement



PATIENT DETERMINATION

Indications

- To determine if a person is considered a patient and the appropriate course of care.

Are they considered a patient?

- Is there a chief complaint or request for medical assistance?
- Is there obvious s/sx of injury or illness?
- Was there an event that MOI would cause the responder to reasonably believe that an injury may be present?
- Is there evidence of suicidal intent?
- Is the person disoriented or have impaired psychiatric function?
- Is the person dead?

Yes → PCR is required

No → No patient found PCR is required

PCR is required → Does the patient wish to receive care?

Yes → Treat patient according to appropriate protocol

No → Does the patient meet the requirements to decline medical treatment?

Does the patient meet the requirements to decline medical treatment?

No → Treat patient according to appropriate protocol

Yes → EMS personnel and the patient or Designated Decision Maker (DDM) agree that the illness/ injury does not require immediate treatment/ transport via ambulance?

EMS personnel and the patient or Designated Decision Maker (DDM) agree that the illness/ injury does not require immediate treatment/ transport via ambulance?

Yes →
- Review RAS policy (GPC3)
- Complete RAS form and have patient or DDM sign
- Complete PCR

No →
- Review AMA policy (GPC2)
- Complete AMA form and have patient or DDM sign
- Complete PCR

Critical Information

- Patients who may legally request no medical treatment, RAS or AMA are as follows:
  - At least 18 years of age
  - A minor <18 who is lawfully married/divorced, or on active duty with the armed forces
  - A minor ≥12 years of age seeking treatment of rape, contagious diseases, alcohol or drug abuse
  - A self sufficient minor, ≥15 years of age, caring for themselves
  - A legally emancipated minor
  - Has the mental capacity to make a sound decision regarding their care
- DDM is an individual that the patient or court has legally given authority to make medical decisions on behalf of the patient.
- Patients who do not have a DDM physically present may be released at the scene after telephone consent is obtained

PEDIATRIC SHOCK

Indications

- Inadequate organ and tissue perfusion to meet metabolic demands as seen in the following signs and symptoms: pale, cool, clammy and/or mottled skin, ALOC, SBP <70mmHg

ALS RMC

IV/IO x2

Cardiogenic Shock

- ☎ ***PHYSICIAN CONSULT*** for treatment orders

Hypovolemic, Septic, or Spinal Shock

- Control hemorrhage, I appropriate

- **NS** fluid bolus 10-20ml/kg IV/IO
  - Reassess frequently
  - Repeat as needed

- Check blood glucose and treat if <60mg/dl (<40 mg/dl for neonate)
  - Neonate: **D10W** 2ml/kg IV/IO over 10 min
  - > Neonate: **D10W** 5ml/kg IV/IO over 10 min

If unable to establish vascular access

- **Glucagon** 0.03 mg/kg IM
  - MR x2 q15 min
  - Max dose: 1mg

If symptoms of anaphylaxis

- Go to Allergic Reaction Policy, PM 2

CRITICAL INFORMATION

- Shock in children may be subtle and hard to recognize
- BP may be difficult to obtain and readings may be inaccurate
- Initiate early transport and treat enroute, if appropriate

PEDIATRIC SEIZURE

Indications

- Recurring or continuous generalized seizures with ALOC

ALS RMC

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IV/IO access for prolonged seizures

↓

- Check blood glucose and treat if <60mg/dl (<40 mg/dl for neonate)
  - Neonate: **D10W** 2ml/kg IV/IO over 10 min
  - > Neonate: **D10W** 5ml/kg IV/IO over 10 min

↓

If unable to establish vascular access
- **Glucagon** 0.03 mg/kg IM
  - MR x2 q15 min
  - Max dose: 1mg

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- **Midazolam**
  - IV/IO: 0.05mg/kg slowly over 20-30 seconds
    - Max per dose: 1mg
    - MR x2 q15 min
  - IM: 0.1mg/kg
    - MR x1 in 10 min if still seizing
  - IN: 0.2mg/kg
    - Split dose equally per nostril
    - Max dose: 5mg

CRITICAL INFORMATION

- Evaluate for and treat hypoglycemia, hypoxia, narcotic overdose, trauma, fever, etc. prior to administering anti-seizure medications
- Never administer **Midazolam** rapid IV/IO since cardiac and/or respiratory arrest may occur