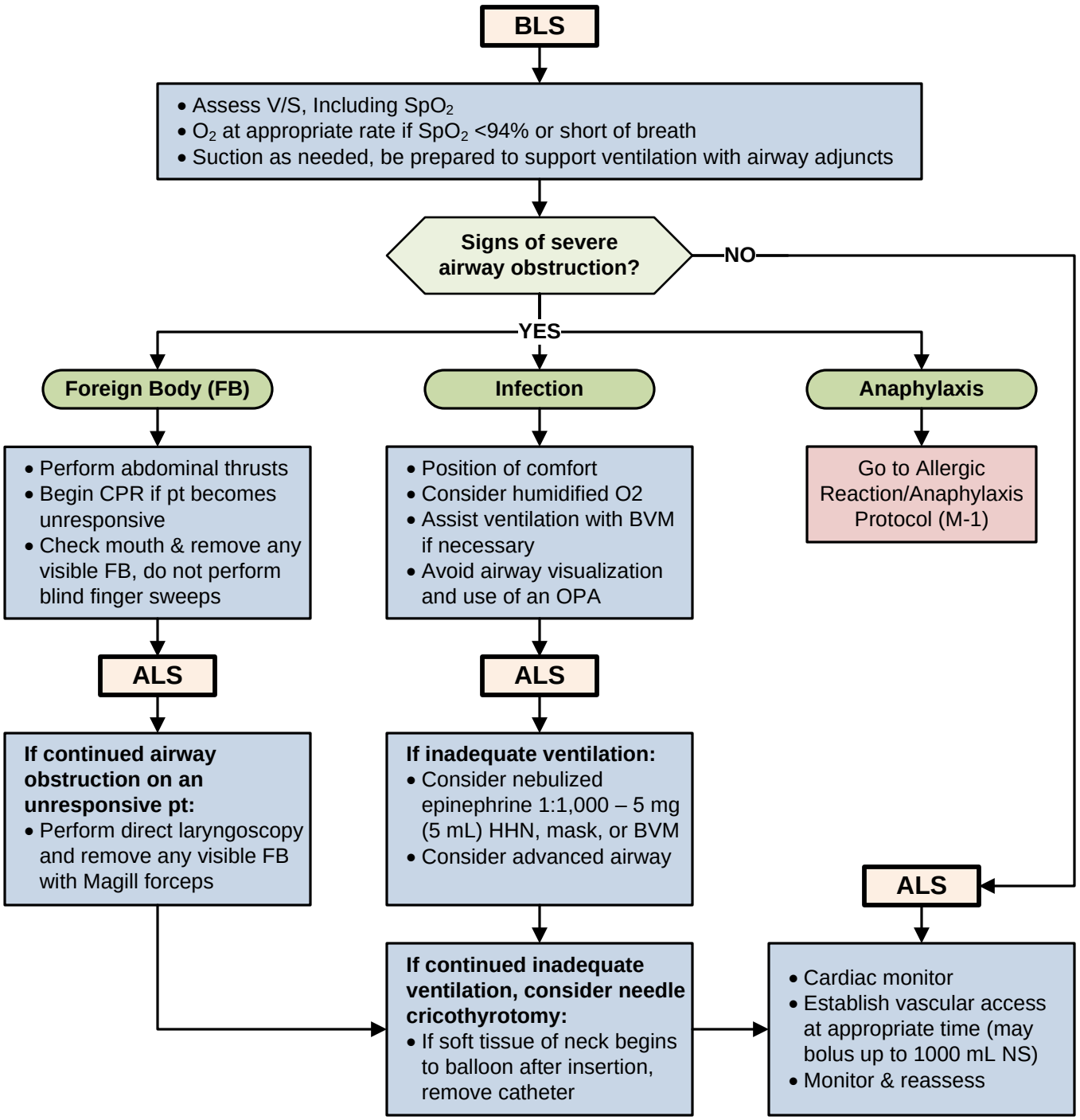
Sierra – Sacramento Valley EMS Agency Treatment Protocol	R-1
Airway Obstruction	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director	Next Review: 09/2024

- **Signs of severe airway obstruction:**
  - Poor air exchange
  - Cyanosis
  - Increased breathing difficulty
  - Inability to speak/breathe
  - Silent cough



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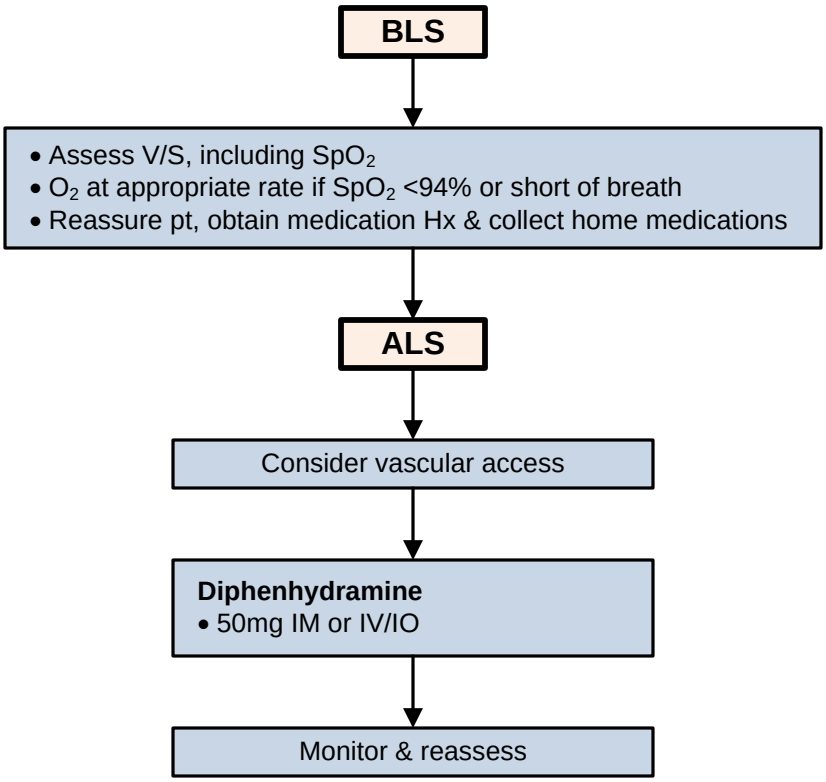
	Sierra – Sacramento Valley EMS Agency Treatment Protocol	M-3
	Phenothiazine/Dystonic Reaction	
Approval: Troy M. Falck, MD – Medical Director		Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director		Next Review: 09/2024

- **Assessment:**
  - History includes possible ingestion of phenothiazine
  - Symptoms often mistaken for a seizure disorder or tetany
- **Signs & Symptoms:**
  - Facial grimaces
  - Protruding tongue/jaw muscle spasm
  - Oculogyric crisis (circular movement of the eyeballs)
  - Spasms of the back muscles, causing the head and legs to bend backward and the trunk to arch up
  - Anxiety/restlessness
  - Torticollis (twisting of the neck)



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	Sierra – Sacramento Valley EMS Agency Treatment Protocol	M-7
	Nausea/Vomiting	
Approval: Troy M. Falck, MD – Medical Director		Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director		Next Review: 09/2024

Notes/Considerations

- Nausea/vomiting can be symptoms of a multitude of different causes. If possible, the specific underlying cause should be determined and treated. EMS personnel should realize that the use of an antiemetic may relieve symptoms while leaving the cause untreated, and possibly, more difficult to detect. EMS personnel should weigh the benefits of antiemetic use against the possible risk of making an accurate diagnosis more difficult, and the possible side effects of the antiemetic agent.
- Treatment of nausea/vomiting is warranted for pts where it may contribute to a worsening of their medical condition, or where the pt's airway may be endangered.
- EMS personnel may consider administering Zofran (Ondansetron) prophylactically, prior to or immediately after opioid administration, for a pt with a history of nausea/vomiting secondary to opioid administration. Zofran (Ondansetron) may also be administered prior to transport to a pt with a history of motion sickness.

BLS

- Assess V/S, including SpO_2
- O_2 at appropriate rate if SpO_2 <94% or short of breath
- Assess/treat underlying cause of nausea/vomiting as appropriate

ALS

- Cardiac monitor
- Consider vascular access (may bolus up to 1000 mL)
- Check blood glucose if hypoglycemia or hyperglycemia suspected, and treat as necessary according to appropriate protocol

Zofran (Ondansetron)

Base/modified base hospital consultation is required prior to administration of Zofran (Ondansetron) to any pt <4 yo or any pt during the first 8 weeks of pregnancy

Adult Pts (≥15 yo)

- 4 - 8 mg ODT (oral disintegrating tablet), or 4 - 8 mg IM, or 4 - 8 mg slow IV/IO (over 30 seconds)
- May repeat as needed (max total dose: 16 mg)

Pediatric Pts (4 - 14 yo)

- 4 mg ODT (oral disintegrating tablet), or 4 mg IM, or 4 mg slow IV/IO (over 30 seconds)
- Additional doses require base/modified base hospital consultation

Monitor & reassess

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Sierra – Sacramento Valley EMS Agency Treatment Protocol	M-8
Pain Management	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director	Next Review: 09/2024

General Pain Management Principles
- Pain management shall be adequately addressed/documented for all pts with a report of pain.
- EMS treatment should be directed at reducing pain to a tolerable level - pts may not experience complete pain relief.

BLS

- Assess V/S including pain scale & SpO_2
- O_2 at appropriate rate if SpO_2 <94% or short of breath
- Place pt in position of comfort, immobilize, splint & apply ice/cold packs as appropriate

Pain From Acute Injuries
- Burns, frostbite, extremity injuries, multi-system trauma, etc.

Other Causes of Pain
- Back pain, abdominal pain, sickle cell crisis, cancer, etc.

Pain managed effectively? YES → Monitor & reassess ← YES **Pain managed effectively?**

NO

NO

- Contact base/modified base hospital for pain management consultation
- May proceed to ALS treatment in the event of communication failure

ALS

- IV/IO NS TKO if necessary (may bolus up to 1000 mL)
- Continuous cardiac & ETCO2 monitoring (if available)

Any Pain Severity Not Effectively Managed With BLS Methods (may administer either or both)

Acetaminophen
- 1 gram IV/IO infusion over 15 mins (single dose only)

Ketorolac
- 15 - 30 mg IV/IO or IM (single dose only)

ⓘ Do not administer acetaminophen to pts with severe hepatic impairment or active liver disease

ⓘ Do not administer ketorolac to pts who are pregnant, ≥65 yo, or who have any of the following:

- ALOC or suspected TBI	- Active bleeding	- Current anticoagulation therapy
- Multi-system trauma	- Current steroid use	- Hx of GI bleeding or ulcers
- Hx of asthma	- NSAID allergy	- Hx of renal disease/insufficiency/transplant

SEE PAGE 2 FOR ADDITIONAL ALS PAIN MANAGEMENT TREATMENT

Additional ALS pain management options for pts with severe pain, pain not effectively managed with acetaminophen/ketorolac, acetaminophen/ketorolac contraindicated, or acetaminophen/ketorolac not available

Opioids

Fentanyl
- 25 - 50 mcg slow IV/IO (over 1 min) or IM/IN
- May repeat every 5 mins as necessary
- Max cumulative: 200 mcg

Morphine
- 2 - 5 mg slow IV/IO (over 1 min) or IM
- May repeat every 5 mins as necessary
- Max cumulative: 20 mg

Opioid Administration Notes

ⓘ Administer lower opioid doses (25 mcg fentanyl or 2 mg morphine) to elderly pts, or pts also receiving ketamine

ⓘ If administering fentanyl & morphine to the same pt, max cumulative: 100 mcg fentanyl & 10 mg morphine

Opioid Contraindications
- SBP <100
- SpO2 <94% or RR <12
- ALOC or suspected TBI

Ketamine

- 0.3 mg/kg IV/IO (max: 30 mg) mix in 100 mL NS & infuse over 10 mins
- May repeat 10 mins after completion of the previous infusion as necessary
- Max cumulative: 2 doses

Ketamine Administration Notes

ⓘ Utilize the following lower ketamine doses for pts also receiving opioids:
- 0.15 mg/kg (max: 15 mg) mix in 100 mL NS & infuse over 10 mins
- May repeat 10 mins after completion of the previous infusion as necessary
- Max cumulative: 2 doses

Ketamine Contraindications
- Pregnancy
- Multi-system trauma
- Suspected internal bleeding
- Active external bleeding

Severe pain from acute isolated extremity injuries (including hip & shoulder), not adequately relieved by other pain management methods/analgesics

Midazolam
- 1 mg slow IV/IO
- May repeat x 1 in 5 mins
- Max cumulative: 2 mg

Midazolam Administration Notes

ⓘ Use extreme caution when administering opioids or ketamine & midazolam to the same pt; this results in a deeper level of sedation with an increased risk for airway & respiratory compromise

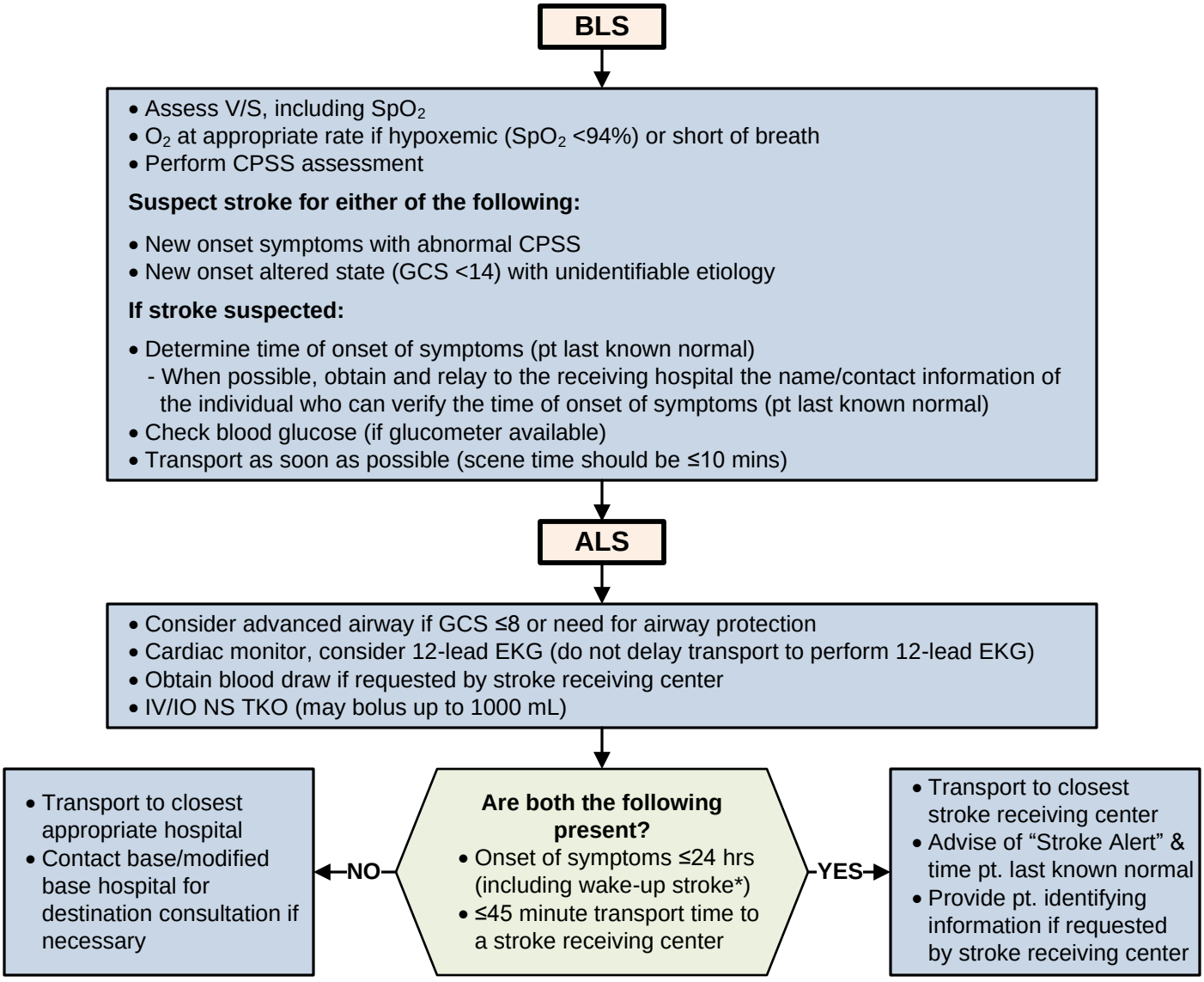
ⓘ Midazolam doses shall be administered a minimum of 5 mins following administration of an opioid or ketamine dose

Midazolam Contraindications
- SBP <100
- SpO2 <94% or RR <12
- ALOC or suspected TBI

Sierra – Sacramento Valley EMS Agency Treatment Protocol	N-3
Suspected Stroke	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director	Next Review: 09/2024

Cincinnati Prehospital Stroke Scale (CPSS)

Component	Normal Result	Abnormal Result
Facial Droop (Ask pt to show teeth or smile)	Both sides of face move equally	One side of face does not move as well as the other side
Arm Drift (Ask pt to close eyes & hold both arms out with palms up)	Both arms move the same, or both arms do not move	One arm does not move, or one arm drifts down compared with the other
Speech (Ask pt to say "you can't teach an old dog new tricks")	Pt uses correct words with no slurring	Pt slurs words, uses the wrong words, or is unable to speak



***Wake-up stroke definition:** Pt awakens with stroke symptoms that were not present prior to falling asleep

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Sierra – Sacramento Valley EMS Agency Treatment Protocol	OB-G1
Childbirth	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director	Next Review: 11/2024

APGAR Score

	Sign/Score	0	1	2
A	Appearance	Blue/Pale	Peripheral cyanosis	Pink
P	Pulse Rate	None	<100	>100
G	Grimace	None	Grimace	Cries
A	Activity	Limp	Some motion	Active
R	Respiration	Absent	Slow/irregular	Good/strong cry

- Assess V/S, including SpO_2
- O_2 at appropriate rate if SpO_2 <94% or short of breath
- Estimate blood loss
- Consider vascular access at appropriate time (may bolus up to 1000 mL)

Presenting Part

Prolapsed Cord

Rapid transport & early hospital contact

Protect umbilical cord
- Place mother in knee-chest position
- Insert gloved hand into vagina & gently push presenting part off cord
- Cover exposed cord with wet saline dressing

Head

Allow delivery
- Dry/provide warmth
- Assure open/clear airway
- Refer to Neonatal Resuscitation Protocol (P-2) if necessary

Breech or Footling

Rapid transport & early hospital contact

- Avoid compression of cord by presenting part
- Allow delivery to progress until baby's waist appears
- Rotate baby to face down position (do not pull)
- If head does not deliver in 3 mins, insert gloved hand into vagina to create an air passage for infant
- As mother bears down, sweep head out of vagina

After delivery
- Calculate Apgar Score at 1 & 5 mins after delivery
- Clamp & cut umbilical cord
  - Delay clamping cord for 2 mins for uncomplicated births not requiring resuscitation
  - Double clamp cord, cut with sterile scissors between clamps, 6" from baby
- Transport, do not wait for placenta delivery
- After delivery of placenta, gently massage fundus until firm

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Sierra – Sacramento Valley EMS Agency Treatment Protocol	T-2
Tension Pneumothorax	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director	Next Review: 09/2024

BLS

- Assess respiratory status, manage airway and assist ventilations as appropriate
- High flow O_2

ALS

Suspected tension pneumothorax with absent or diminished breath sounds and at least one of the following:

- Combined hypotension (SBP <90) and SpO2 <94%
- Penetrating injury to the thorax

OR

Traumatic cardiac arrest with suspected tension pneumothorax

NO → Monitor & reassess

YES

Perform Needle Thoracostomy on the affected side(s) as follows:

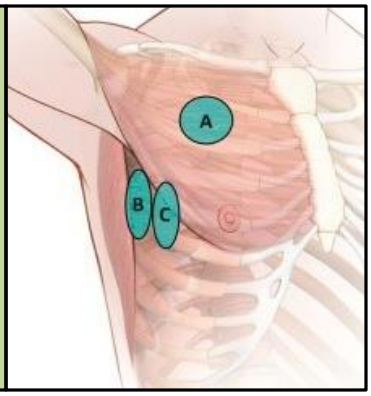
- Use a minimum 14g x 3.25" catheter specifically designed for needle decompression
- Attach an empty 10 mL syringe to the catheter prior to insertion to allow for better grip when puncturing the chest wall
- Insert needle with syringe attached at a 90^0 angle, just over the superior border of the rib, and advance until air is freely aspirated
- If using a 3.25" length catheter, advance catheter over the needle until catheter hub rests against the skin
- Remove syringe and needle from catheter, attach a stopcock or one-way valve and adequately secure
- Recheck breath sounds
- Two (2) attempts allowed on affected side(s) without base/modified base hospital contact
- Continuously monitor & reassess

Approved Needle Thoracostomy Sites

A Mid-clavicular line in the 2nd intercostal space
B Mid-axillary line in the 4th or 5th intercostal space*
C Anterior axillary line in the 5th intercostal space*

*Above the anatomic nipple line

Note: If an initial attempt at one approved site is unsuccessful, consider utilizing an alternate approved site



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Sierra – Sacramento Valley EMS Agency Treatment Protocol	P-34
Pediatric Pain Management	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/01/2021
Approval: Victoria Pinette – Executive Director	Next Review: 09/2024

General Pain Management Principles
- Pain management shall be adequately addressed/documented for all pts with a report of pain.
- EMS treatment should be directed at reducing pain to a tolerable level - pts may not experience complete pain relief.

BLS

- Assess V/S including pain scale & SpO_2
- O_2 at appropriate rate if SpO_2 <94% or short of breath
- Place pt in position of comfort, immobilize, splint & apply ice/cold packs as appropriate

Pain From Acute Injuries
- Burns, frostbite, extremity injuries, multi-system trauma, etc.

Other Causes of Pain
- Back pain, abdominal pain, sickle cell crisis, cancer, etc.

Pain managed effectively? — **YES** → Monitor & reassess ← **YES** — **Pain managed effectively?**

NO (from Pain managed effectively?)

NO (from Pain managed effectively?)

- Contact base/modified base hospital for pain management consultation
- May proceed to ALS treatment in the event of communication failure

ALS (only pts ≥4 yo)

- IV/IO NS TKO if necessary (may bolus up to 20 mL/kg)
- Continuous cardiac & ETCO2 monitoring (if available)

Any Pain Severity Not Effectively Managed With BLS Methods (may administer either or both)

Acetaminophen
- 15 mg/kg IV/IO infusion over 15 mins (max: 1000 mg) - single dose only

Ketorolac
- 0.5 mg/kg IV/IO or IM (max: 15 mg) - single dose only

ⓘ Do not administer acetaminophen to pts with severe hepatic impairment or active liver disease

ⓘ Do not administer ketorolac to pts who are pregnant or who have any of the following:

- ALOC or suspected TBI	- Active bleeding	- Current anticoagulation therapy
- Multi-system trauma	- Current steroid use	- Hx of GI bleeding or ulcers
- Hx of asthma	- NSAID allergy	- Hx of renal disease/insufficiency/transplant

SEE PAGE 2 FOR ADDITIONAL ALS PAIN MANAGEMENT TREATMENT

Additional ALS pain management options for pts with severe pain, pain not effectively managed with acetaminophen/ketorolac, acetaminophen/ketorolac contraindicated, or acetaminophen/ketorolac not available

Opioids

Fentanyl
- 1 mcg/kg slow IV/IO (over 1 min) or IM/IN (max single dose: 50 mcg)
- May repeat every 5 mins as necessary (max cumulative: 4 doses)

Morphine Sulfate
- 0.1 mg/kg slow IV/IO (over 1 min) or IM (max single dose: 5 mg)
- May repeat every 5 mins as necessary (max cumulative: 4 doses)

Opioid Administration Notes

ⓘ If administering fentanyl & morphine to the same pt, max cumulative: 2 doses of each

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Opioid Contraindications

- SBP <100
- SpO2 <94% or RR <12
- ALOC or suspected TBI

Ketamine

- 0.3 mg/kg IV/IO (max: 30 mg) mix in 100 mL NS & infuse over 10 mins
- May repeat 10 mins after completion of the previous infusion as necessary
- Max cumulative: 2 doses

Ketamine Administration Notes

ⓘ Utilize the following lower ketamine doses for pts also receiving opioids:
- 0.15 mg/kg (max: 15 mg) mix in 100 mL NS & infuse over 10 mins
- May repeat 10 mins after completion of the previous infusion as necessary
- Max cumulative: 2 doses

Ketamine Contraindications

- Pregnancy
- Multi-system trauma
- Suspected internal bleeding
- Active external bleeding