Yolo County Health & Human Services Agency

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Date: April 20, 2023

To: ALS Providers

From: Yolo County EMS Agency

Subject: Interim Guidelines for Albuterol Shortage

MEMORANDUM

The prehospital treatment of bronchospasms has been demonstrated to improve patient outcomes. Due to a nationwide shortage of albuterol impacting EMS providers, YEMSA is authorizing modifications to all patient care protocols where albuterol is indicated for respiratory distress.

Before implementing the changes listed in this memo, provider agencies must make multiple attempts to purchase albuterol in different formulations and from multiple sources. Provider agencies should also contact YEMSA to determine if reduced stocking levels of albuterol will be sufficient to mitigate the impacts of the shortage. Attempts should also be made to obtain albuterol from other provider agencies.

In the event of an unresolved shortage of albuterol, the following protocol changes are authorized, effective April 20, 2023, and until otherwise rescinded by YEMSA:

- If a patient experiencing mild respiratory distress has their own MDI bronchodilator, providers are encouraged to assist the patient with utilizing their MDI if it is appropriate.
- If any agency cannot obtain sufficient albuterol to maintain the minimum supply levels for patient care, they may purchase and use levalbuterol for patients ≥ 6 years old. The treatment protocol for levalbuterol is detailed on page 2.
- If both levalbuterol and albuterol are available for patient treatment, levalbuterol should be the primary medication for the treatment of patients ≥ 6 years old. The remaining albuterol stock should be preserved for treatment of patients < 6 years old.
- For pediatric patients < 6 years old experiencing mild respiratory distress where a bronchodilator is indicated, field providers may utilize a reduced initial dose of 2.5 mg albuterol and repeat if needed in accordance with existing protocol.
- In cases where a handheld or mask nebulizer is utilized to administer bronchodilators, a Breathing Actuated Nebulizer (BAN) device should be utilized, when available, to improve medication delivery and reduce wasted medication.
- If, after the above measures are taken, an agency does not have sufficient albuterol on-hand for pediatric patients < 6 years old, agencies are authorized to use albuterol within 6 months of the printed expiration date.
- Any agency needing to utilize levalbuterol must turn on the appropriate medication field and associated fields in their CEMSIS-compliant ePCR platform to allow for proper documentation.

- Any agencies needing to utilize levalbuterol will develop an appropriate Quality Improvement Plan, monitoring for the appropriateness indication for use, correct dose, and any adverse events related to the use of levalbuterol.

- Agencies will commit to returning to the approved medication (Albuterol) as soon as it is available.

Treatment Protocol - Levalbuterol

Pharmacology: Levalbuterol works similarly to albuterol in that it selectively stimulates beta-2 receptors, resulting in the relaxation of smooth muscles in the airways. Albuterol is a racemic mixture of R and S-enantiomers of the medication. Levalbuterol is solely the R-enantiomer.

- **Indications**: Anaphylaxis/Allergic Reaction, Respiratory Distress caused by suspected bronchospasm
- **Route**: Nebulizer, BVM, CPAP
- **Contraindications:** Allergy to albuterol
- **Dosing:**
    - Concentration: 1.25 mg per 3 mL
    - Adult: 2.5 mg, may repeat x 1 as needed
    - Pediatric: ≥ 6 years old 1.25 mg, may repeat x 1 as needed

Please contact douglas.brim@yolocounty.org with any questions.