GOAL
Decrease % of admissions that do not receive racemic epinephrine after admission

ADMISSION CONSIDERATIONS
(does not substitute clinical judgment)
- Receives ≥3 racemic epinephrine or requires racemic epinephrine more frequently than Q2 hours x 2 doses in the ED and/or
- Persistent stridor at rest, respiratory distress, tachypnea or
- Inadequate hydration or
- Need for supplemental oxygen or
- Concern for alternative diagnosis

Does not exceed acute care floor care limitations:
- Floor can administer racemic epinephrine Q1 hour x1 only
- Floor cannot start heliox or positive pressure ventilation

DISCHARGE CRITERIA
- Receives ≥1 dexamethasone
- ≥2 hours since last racemic epinephrine treatment (if received)
- ≤2 racemic epinephrine within 4 hours
- Mild or improved croup symptoms (no or minimal stridor and suprasternal or intercostal retractions at rest)
- Able to talk and feed without difficulty
- No supplemental oxygen or hydration requirement

See more evidence-based recommendations

This clinical care guideline is meant as a guide for the healthcare provider, does not establish a standard of care, and is not a substitute for medical judgment which should be applied based upon the individual circumstances and clinical condition of the patient.
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Do not routinely use heliox \[^{[9, 11, 25]}\] | Strong | Low to moderate
---|---|---
Suggest scoping if meet criteria below \[^{[10, 26-28]}\]. Severe cases do not need ENT consult unless airway needs to be secured.
- recommend if age <1 year, consider if < 3 years
- history of intubation
- history of inpatient ENT consult
- prematurity, recurrent croup (>2 episodes in a year)
- concerns like foreign body and stridor in the absence of URI and symptoms do not improve after several days of treatment | Strong, consensus | Low to moderate
Evaluate for alternative diagnoses for patients who do not follow typical course \[^{[29]}\].
Common diagnoses:
- foreign body
- subglottic stenosis
- subglottic hemangioma | Strong, consensus | Low
Do not routinely order imaging \[^{[30]}\] | Consensus | Low
Do not routinely order laboratory testing (respiratory viral panel) \[^{[1, 2]}\] | Consensus |

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Croup Clinical Care Guideline References


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This clinical care guideline is meant as a guide for the healthcare provider, does not establish a standard of care, and is not a substitute for medical judgment which should be applied based upon the individual circumstances and clinical condition of the patient.
The true effect may differ significantly from the estimate. We are quite confident that the effect in the study is close to the true effect, but it is also possible it is substantially different. The true effect is likely to be substantially different from the estimated effect.

References

Rating the Quality of Evidence using GRADE

Assign priori ranking
- Randomized controlled trial (RCT): HIGH
- Observation study (OS): LOW

Determine factors for upgrade or downgrade
Downgrade for:
- Design limitations
- Inconsistency of results
- Indirectness of evidence
- Imprecision
- Publication bias
Upgrade for:
- Large consistent effect
- Dose response
- Confounders only reducing size of effect

Assign final grade per number of upgrade or downgrade
- High: RCT, OS with 2 upgrades
- Moderate: RCT with 1 downgrade, OS with 1 upgrade
- Low: RCT with 2 downgrades, OS
- Very Low: RCT with ≥ 3 downgrades, OS with ≥ 1 downgrades, Case series/case report

Determine factors impacting recommendations
- Balance of desirable and undesirable effects
- Cost-effectiveness
- Preference of patients

Make recommendations
- Strong
- vs
- Weak

What does our rating mean to our readers?
- High: We are very confident that the effect in the study reflects the actual effect.
- Moderate: We are quite confident that the effect in the study is close to the true effect, but it is also possible it is substantially different.
- Low: The true effect may differ significantly from the estimate.
- Very Low: The true effect is likely to be substantially different from the estimated effect.

Design limitations
- Lack of blinding - members involved in study are aware of which arm the patient is allocated
- Lack of allocation concealment – enrolled patients are aware of which group the next enrolled patient will be allocated
- Large losses to follow up
- Incorrect analysis of Intention to treat (ITT)
- Stopped early for benefit
- Selective reporting of measured outcomes (e.g. no effect outcomes) – incomplete or absent reporting of some outcomes and not others on the basis of the results

Inconsistency of results
- Wide variation of treatment effect across studies
- Population varied
- Interventions varied
- Outcomes varied

Indirectness of evidence
- Head-to-head comparison in correct population
- Indirect comparisons
- Different populations – indirectness in population
- Different interventions – interventions delivered differently in different settings
- Different outcomes measured – time differences, use of surrogate outcomes in place of patient important outcomes
- Comparisons not applicable to questions/outcome

Imprecision
- Sample size lower than calculated optimal size
- Total # of events <300
- 95% CI includes negligible effect and appreciable benefit of harm
- Wide confidence interval
- Confidence interval not reported

Publication bias
- Studies with ‘negative’ findings remain unpublished

Large consistent effect
- Effect cannot be accounted for by bias common to the study; usually when relative risk are > 5 or < 2

Dose response
- when the result is proportional to the degree of exposure

Confounding only reduce size of effect
- when all possible confounders would only diminish the observed effect. It is likely that the actual effect is larger than the data suggests

Based on the GRADE Handbook.