

# Pharmacy Pearl of the Month: Inhaled Mucolytics

October 2nd, 2025  
Trauma APP Meeting



**Dignity Health**<sup>™</sup>

# Mucolytics

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- Inhaled mucolytics
  - N-Acetylcysteine (NAC or Mucomyst)
    - Breaks disulfide bonds within mucin glycoproteins, reducing mucous viscosity
    - Use if your patient has thick secretions they are unable to clear/cough
      - Usually more appropriate for an extubated patient, but can use in intubated patients with difficult to suction secretions
    - IV route is superior to inhaled route, but too costly for widespread use
    - Minimum daily dose is 1200 mg
    - Adverse effects
      - Bronchospasm - MUST BE ADMINISTERED WITH BRONCHODILATOR
      - Nausea
      - Rhinorrhea

# Inhaled acetylcysteine

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- Ordering tips
  - Select the Acetylcysteine 20% solution
  - Order at half the frequency of your scheduled nebs (albuterol or duoneb)
    - If your nebs are Q4h, order your mucolytic Q8h, if your nebs are QID, order your mucolytic BID
    - More frequent dosing can increase airway irritation and lead to an increase in reactive secretions
  - Ensure your total daily dose is at least 1200 mg
- Example appropriate orders
  - N-acetylcysteine 20% 600 mg INH BID
  - N-acetylcysteine 20% 400 mg INH Q8h
- Example inappropriate orders
  - N-acetylcysteine 20% 200 mg INH Q4h
  - N-acetylcysteine 10% 600 mg INH Q8h

## Inhaled Hypertonic Saline (HTS)

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- 7% Sodium Chloride is the only hypertonic solution available at CRMC
- Increases airway surface hydration to facilitate mucociliary clearance and facilitate expectoration
- Data only supports its efficacy in cystic fibrosis and bronchiectasis
- Outside of these indications it functions more as an airway irritant to induce expectoration
  - To facilitate collection of sputum for culture
- Limited utility ongoing use for secretion management