



REGIONAL PEDIATRIC PARENTERAL DRUG MONOGRAPH

GENERIC NAME

acetylcysteine



Effective Date: Dec 2011

Revised Date: July 2024

CLASSIFICATION
**Antidote for
acetaminophen**

OTHER NAMES
Mucomyst

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ADMINISTRATION POLICY:

- IV Infusion – May be administered by a nurse
- IV Intermittent – May be administered by a nurse
- IM Injection – DO NOT administer

RECONSTITUTION/DILUTION/ADMINISTRATION:

Available as: 200 mg/mL – 10 mL, 30 mL vial.

- Contact the Manitoba/Ontario Poison Control Centre at **1-855-776-4766**.
- WRHA/HSC Sites use the acetylcysteine (3 bag protocol) monograph. Dosing and administration in this monograph will not be congruent with WRHA/HSC Toxicology dosing and administration guidelines.

Patient is less than or equal to 20 kg:

Remove 37.5 mL from a 250 mL bag of D5W Add 37.5 mL (7 500 mg) acetylcysteine 200 mg/mL
Final volume: 250 mL Final concentration: 30 mg/mL (3%)

Patient is 21 to 40 kg:

Remove 75 mL from a 500 mL bag of D5W. Add 75 mL (15 000 mg) acetylcysteine 200 mg/mL
Final volume: 500 mL Final concentration: 30 mg/mL (3%)

Patient is greater than 40 kg:

Remove 150 mL from a 1000 mL bag of D5W. Add 150 mL (30 000 mg) acetylcysteine 200 mg/mL
Final volume: 1000 mL Final concentration: 30 mg/mL (3%)

IV intermittent (Loading Dose): Pump Library: (acetylLp)

Acetylcysteine loading

Concentration (mg/mL)	Total Dose (mg) (max 24 000)	VTBI (mL)	Administration Time (hours)
30	Calculated dose (per dosage section)	variable	4

Clinical Advisory: High Alert

Soft Low Dose Limit: 1920 mg Soft High Dose Limit: 24 000 mg

Care unit: Pediatric

LOADING DOSE:

60 mg/kg/hr (maximum of 6000 mg/hr) of 3% *N*-Acetylcysteine X 4 hours
Calculate *N*-Acetylcysteine dose using total body weight up to a **maximum of 100 kg**.

Eg. Patient weight=120kg (above max weight of 100kg)

60mg x 100kg (use max weight, not 120kg) =

6000mg/hr x 4 hours = **24 000 mg total dose**

Eg. Patient weight= 30 kg

60mg x 30kg = 1800mg/hr x 4 hours = **7 200 mg total dose**

Note: Discard the rest of the bag once loading dose is complete. Use a new bag for the maintenance dose that follows.



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IV infusion: Pump Library:

Acetylcysteine Maintenance

Drug Library	Dose Rate	Short Name	Care Unit
Yes	mg/kg/h	acetylMp	Pediatric
Drug	Diluent	Final Volume (VTBI)	Final Concentration
variable	variable	250, 500, or 1000 mL	30 mg/mL
Patient weight: enter patient weight to a MAX of 100kg in the pump (eg. if patient weighs 120kg enter 100kg)			
Clinical Advisory: High Alert and maximum 600mg/hour			
Soft Low Dose Limit: 6 mg/kg/h		Soft High Dose Limit: 6 mg/kg/h	

DOSAGE:

MAINTENANCE DOSE: 6 mg/kg/hr (**maximum of 600 mg/hr**) of 3% *N*-Acetylcysteine continuously until advised to STOP by the Poison Control Centre
 Calculate *N*-Acetylcysteine dose using total body weight up to a **maximum of 100 kg**.
 Eg. Patient weight=120kg (above max weight of 100kg)
 $6\text{mg} \times 100\text{kg}$ (use max weight, not 120kg) = **600mg/hr**
 Eg. Patient weight= 30kg
 $6\text{mg} \times 30\text{kg}$ = **180mg/hr**

STABILITY/COMPATIBILITY

Stability of Final Admixture: 24 hours at room temperature

Compatibility: D5W preferred, normal saline

PRECAUTIONS, POTENTIAL ADVERSE REACTIONS:

- Nausea, vomiting, hypotension may occur (asthmatics especially at risk)
- Hypersensitivity reactions – skin rash, hives, flushing and urticarial
- Patients with asthma may develop bronchospasm

ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

- **Obesity:** In patients who weigh greater than 100 kg, the calculation of the IV acetylcysteine dose should be capped at 100 kg of body weight
- Do not order intravenous *N*-Acetylcysteine to run over a fixed duration (e.g. 21 hours) or a fixed dose (e.g. 100mg/kg over 16 hours), but instead order as an open-ended hourly infusion, with reassessment at least q12 hours based on serial laboratory testing as recommended by the Poison Centre.