REGIONAL ADULT PARENTERAL DRUG MONOGRAPH

GENERIC NAME

acetylcysteine

Effective Date: June 2012 **Revised Date:** July 2024	CLASSIFICATION **Mucolytic, Antidote for acetaminophen Overdose**	OTHER NAMES **Mucomyst**	PAGE 1 of 2

ADMINISTRATION POLICY:

IV Infusion - May be administered by a nurse
IV Intermittent - May be administered by a nurse
IM Injection - Not to be administered
IV Bolus - *Not recommended*

RECONSTITUTION/DILUTION/ADMINISTRATION:

Available as: 200 mg/mL (20 %) – 10 mL and 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 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%)

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%)

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

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: 10 000 mg		Soft High Dose Limit: 24 000 mg	
Care unit: Critical Care			

IV infusion: Pump Library:

Acetylcysteine Maintenance

Drug Library	**Dose Rate**	**Short Name**	**Care Unit**
Yes	mg/kg/h	acetylM	Critical Care
Drug	**Diluent**	**Final Volume (VTBI)**	**Final Concentration**
variable	variable	1000 mL OR 500 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	

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DOSAGE:

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 **= <u>24 000 mg total dose</u>**
Eg. Patient weight= 70kg
60mg x 70kg =4200mg/hr x 4 hours **= <u>16 800 mg total dose</u>**
Note: Discard the rest of the bag once loading dose is complete. Use a new bag for the maintenance dose that follows.

MAINTENANCE DOSE: 6 mg/kg/hr (**maximum of 600 mg/hr**) of 3% *N*-Acetylcysteine continuously until advised to STOP by the Poison 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)
6mg x 100kg (use max weight, not 120kg) = **600mg/hr**
Eg. Patient weight= 70kg
6mg x 70kg= **420mg/hr**

STABILITY/COMPATIBILITY:

Stability of Final Admixture: 24 hours

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 urticaria

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 total 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.