



# Poison Centre<sup>®</sup>

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## Centre Anti-Poison

### Intravenous *N*-Acetylcysteine (NAC) Dosing Scenario for **High Risk Patients**

For those patients who have taken a potentially toxic amount of acetaminophen, intravenous *N*-Acetylcysteine is the recommended treatment. The literature has identified that certain patients require greater amounts of *N*-Acetylcysteine following their acetaminophen exposure. High risk patients are identified based on a number of clinical and laboratory findings including acetaminophen levels, liver enzymes, need for dialysis, as well as symptoms such as altered mental status and lactic acidosis. Through consultation with the Poison Centre, your patient has been identified as one of these patients. Using a 3% solution, the following dosing schedule is recommended for your patient. Please refer to and follow the Poison Centre's recommendations on how to prepare this 3% solution.

**LOADING DOSE:**            **2 mL/kg/hr** (maximum 200 mL/hr) of 3% *N*-Acetylcysteine IV infusion X 4 hours

**MAINTENANCE DOSE:**    **0.4 mL/kg/hr** (maximum of 40 mL/hr) of 3% *N*-Acetylcysteine IV continuously until advised to STOP by the Poison Centre or meets the Stopping Criteria. This is effectively just a doubling of the infusion rate.

#### SMART PUMP DOSING:

For those institutions whose SMART PUMPS are unable to be programmed in mL/kg/hr the doses above have been converted for your convenience:

**LOADING DOSE:**            **60mg/kg/hr** (maximum of 6000 mg/hr) of 3% *N*-Acetylcysteine X 4 hours

**MAINTENANCE DOSE:**    **12 mg/kg/hr** (maximum of 1200 mg/hr) of 3% *N*-Acetylcysteine continuously until advised to STOP by the Poison Centre or meets the Stopping Criteria

#### Additional Notes:

This dosing gives 240 mg/kg *N*-Acetylcysteine over the first 4 hours and, at least, an additional 96 mg/kg *N*-Acetylcysteine in the next 8 hours before the first reassessment at 12 hours; slightly more than the 300 mg/kg total that a patient received with the old 21 hour protocol.

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.

Calculate *N*-Acetylcysteine dose using total body weight up to a maximum of 100 kg.