



Poison Centre[®]

Centre Anti-Poison

PREPARATION OF A 3% INTRAVENOUS *N*-ACETYLCYSTEINE BAG

As part of the Poison Centre's treatment recommendations for the acetaminophen-poisoned patient, a 3% *N*-Acetylcysteine solution will need to be prepared. The following are instructions on how to prepare this solution in **D5W**.

Patient is ≤ 20 kg:

Remove 37.5 mL from a 250 mL bag of D5W

Add 37.5 mL of 20% IV *N*-Acetylcysteine to the remaining 212.5 mL in the D5W bag

$$37.5 \text{ mL} \times 200 \text{ mg/mL} = 7\,500 \text{ mg of } N\text{-Acetylcysteine}$$

7500 mg in 250 mL yields a final solution with 30 mg/mL or 3%

Patient is 21 – 40 kg:

Remove 75 mL from a 500 mL bag of D5W

Add 75 mL of 20% IV *N*-Acetylcysteine to the remaining 425 mL in the D5W bag

$$75 \text{ mL} \times 200 \text{ mg/mL} = 15\,000 \text{ mg of } N\text{-Acetylcysteine}$$

15 000 mg in 500 mL yields a final solution with 30 mg/mL or 3%

Patient is ≥ 41 kg:

Remove 150 mL from a 1000 mL bag of D5W

Add 150 mL of 20% IV *N*-Acetylcysteine to the remaining 850 mL in the D5W bag

$$150 \text{ mL} \times 200 \text{ mg/mL} = 30\,000 \text{ mg of } N\text{-Acetylcysteine}$$

30 000 mg in 1000 mL yields a final solution with 30 mg/mL or 3%

Notes:

1. 20% IV *N*-Acetylcysteine is equivalent to 200 mg/mL.
2. The 3% solution is slightly hyperosmolar but still within the safety margin for administration via a peripheral vein.
3. It is recognized that any particular bag of IV fluid could have excessive fluid more than advertised. It is of little consequence when making this 3% solution. Assume a finished volume as advertised on the bag.
4. Mixing is important to ensure uniform distribution of *N*-Acetylcysteine in the infusion solution.
5. Each bag of 3% *N*-Acetylcysteine should be changed at 24 hours to guarantee stability of the solution.