Acetylcysteine (SNAP 12 hour regimen - PREFERRED in GUH) Intravenous Infusion for Adults

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- **This information applies to ORAL paracetamol overdoses, for INTRAVENOUSÂ paracetamol overdoses contact the**Â National Poisons Information Centre (NPIC)
- The SNAP regimen can also be used in cases of **non-paracetamol associated hepatotoxicity** (Unlicensed)**Â** [ref 2]
- **SNAP** (Scottish and Newcastle Acetylcysteine Protocol) (Also known as **Modified 12-hour regimen)**
    - SNAP (modifiedÂ 12-hour regimen) is an off label use of acetylcysteine albeit at its licensed doseÂ
    - This regimen is endorsed by National Poisons Information ServiceÂ (NPIS) and the Royal College of Emergency Medicine
    - This regimen is the preferred regimenÂ for use in GUH for Adult patients (information on the 21 hour regimen may be found on TOXBASE if required)
    - **The total dose of intravenous acetylcysteine is the same as the standard 21-hour regimen (i.e. 300 mg/kg) but the rate and duration of treatment is different which results in a lower peak plasma acetylcysteine concentration and a significantly lower risk of anaphylactoid reactionsÂ** [ref 1]
- Anaphylactoid reactions may occur, particularly with initial loading dose.Â Patient should be carefully observed.Â Most anaphylactoid reactions can be managed by temporarily suspending the acetylcysteine infusion, administering appropriate supportive care and restarting at a lower infusion rate (e.g. administer the first bag over twice as long as usual.)Â The normal infusion rate can be used for subsequent bagsÂ [ref 1]
- A previous anaphylactoid reaction to acetylcysteine may not be a contraindication for use.Â Contact NPIC [ref 1]

Available preparations

Parvolex 2g per 10ml ampoule

Acetylcysteine 2g per 10ml ampoule

Reconstitution

Already in solution

Draw up using a 5 micron filter needle

Dilute further prior to administration

Infusion fluids

Glucose 5% preferredÂ (or Sodium chloride 0.9% [ref 3])

Methods of intravenous administration

Intermittent intravenous infusion

- Prepare the infusion to the correct concentration- as indicated in tables below
- Administer overÂ the time specified in the tables below

Dose in adults

Paracetamol poisoning

- See TOXBASE to determine the management of the patient depending on the number of hours since ingestion.
- If Acetylcysteine is indicated, follow the tables below

Non-paracetamol associated hepatotoxicity

- The SNAP regimen can also be used for this indication (unlicensed)[ref 2]

SNAP(Also known as **Modified 12-hour regimen)**

- Give 100mg/kg (max 11g) over two hours
- Followed by 200mg/kg (max 22g) over ten hours
- **Avoid delay when changing infusion bags**
- See tables below
- Continued treatment with Acetylcysteine may be necessary (after these two bags have been given over twelve hours total -see Toxbase for advice on the clinical assessment of the patient
- If further infusions are required, repeat Infusion 2

Table 1: SNAP (Also known as Modified 12-hour regimen)
Acetylcysteine for Adults WEIGHING 40KG OR MORE
Each ampoule contains 2g/10ml (200mg per ml)

12 hour regimen	First infusion	Second infusion
Infusion fluid	Add required dose to **200ml** infusion fluid (discard 50ml from 250ml bag)	Add required dose to 1000ml infusion fluid (no need to withdraw any volume)
Duration of infusion	**2 hours**	**10 hours**
Drug dose	**100mg/kg**	**200mg/kg**

Table 1: SNAP (Also known as Modified 12-hour regimen)
Acetylcysteine for Adults WEIGHING 40KG OR MORE
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Patient weight	Ampoule volume	Infusion rate	Ampoule volume	Infusion rate
kg	**mL**	**mL/hour**	**mL**	**mL/hour**
less than 40kg- see table 2 below				
40 to 49	23	112	45	105
50 to 59	28	114	55	106
60 to 69	33	117	65	107
70 to 79	38	119	75	108
80 to 89	43	122	85	109
90 to 99	48	124	95	110
100 to 109	53	127	105	111
110kg or more	55	128	110	111

Dose calculations are based on the weight in the middle of each band
Figures have been rounded up to the nearest whole number

Table 2: SNAP (Also known as Modified 12-hour regimen)
Acetylcysteine for Adults WEIGHING LESS than 40KG
The volume of infusion fluid has been modified to take patient weight into account, as fluid overload is a potential danger
Each ampoule contains 2g/10ml (200mg per ml)

12 hour regimen	**First infusion**		**Second infusion**			
Duration of infusion	**2 hours**		**10 hours**			
Drug dose	**100mg/kg**		**200mg/kg**			
Concentration of infusion	**50mg/mL** (prepare by diluting each 10ml ampoule **with** 30ml infusion fluid)		**10mg/mL** Prepare as per table below			
Patient weight	**Total infusion volume**	**Infusion rate**	**Acetylcysteine injection solution (mL) to be added to infusion bag** (volume of infusion bag in next column)	**Infusion volume**	**Total volume after addition of drug solution**	**Infusion rate**
kg	**mL**	**mL/hour**	**mL**			**mL/hour**
20 to 24	44	22	22	418 (remove 82mL from 500mL bag)	440	44
25 to 29	54	27	27	513(remove 487mL from 1000mL bag)	540	54
30 to 34	64	32	32	608 (remove 392mL from 1000mL bag)	640	64

Table 2: SNAP (Also known as Modified 12-hour regimen)
Acetylcysteine for Adults WEIGHING LESS than 40KG
The volume of infusion fluid has been modified to take patient weight into account, as fluid overload is a potential danger
Each ampoule contains 2g/10ml (200mg per ml)

35 to 39	74	37	37	703 (remove 297mL from 1000mL bag)	740	74

40kg or greater- use table 1 above

Example: patient weighs 37kg
First infusion: administer 74mL of 50mg/mL drug infusion taken from an infusion of 80mL, prepared by adding 2x10ml ampoules to 60ml infusion fluid)
Second infusion: Add 37mL of injection solution 200mg/mL to 703ml infusion fluid (remove 297mL from a 1000mL infusion bag). This produces a total of 7.4g in 740mL. Infuse at 74mL per hour

Dose calculations are based on the weight in the middle of each band
Figures have been rounded up to the nearest whole number

Storage

Store below 25^{0}C

Storage locations- see antidote list

Search Synonym: NAC

References

SPC September 2019

1: Toxbase- accessed 11/02/2026

2: Email Communication with Prof L Egan, September 7th, 2023

3. Injectable drugs guide, downloaded from Medusa 13/05/2026