



Contact Poison Control at 800-222-1222 for:

- Pediatric patients <12 years of age.
- Polysubstance or Tylenol PM overdose.
- Any questions or advice.

Patient presents with acute acetaminophen ingestion.

Intentional overdose

Notify BH on call.

Hours post-ingestion

< 4 hours

> 4 hours or unknown

- Administer activated charcoal 1 gram/kg (max 50 grams) if airway intact.
- If ingestion is suspected to be >150 mg/kg or >7.5 grams, start acetylcysteine 30-60 minutes after activated charcoal.

Draw labs 4 hours post-ingestion.

- Draw acetaminophen level, CMP, and PT/INR.
- Consider starting acetylcysteine while awaiting results.
- If suspected intentional and/or polysubstance ingestion, expand work-up to include UDS, salicylate level, alcohol level, pregnancy test, VBG, lactate, and EKG (if appropriate).

Indications for Starting N-acetylcysteine (NAC)

- Acetaminophen level above treatment line on nomogram.
- Suspected ingestion >150 mg/kg or >7.5 grams total in patient who will not get labs within eight hours of ingestion.
- Acetaminophen level >10 mcg/mL and time of ingestion unknown.
- Possible acetaminophen ingestion and ANY evidence of liver injury.

Indications for Stopping N-acetylcysteine (NAC) *All must be true.*

- 21 hour IV protocol is complete or patient has received at least 21 hours of oral therapy.
- Acetaminophen level undetectable.
- ALT trending down (less than 50% of peak level).
- Patient is asymptomatic (especially no RUQ pain).

Note: If polysubstance ingestion, other substances such as diphenhydramine may affect absorption, so this guideline may be less relevant. Consult Poison Control.

Behavioral Health evaluation if intentional; otherwise discharge.

Does patient meet criteria for NAC? (See box.)

Yes

Admit to hospital for IV or PO acetylcysteine. Consider consult with toxicologist/Poison Control.

Recheck acetaminophen level, CMP, and INR Q12h.

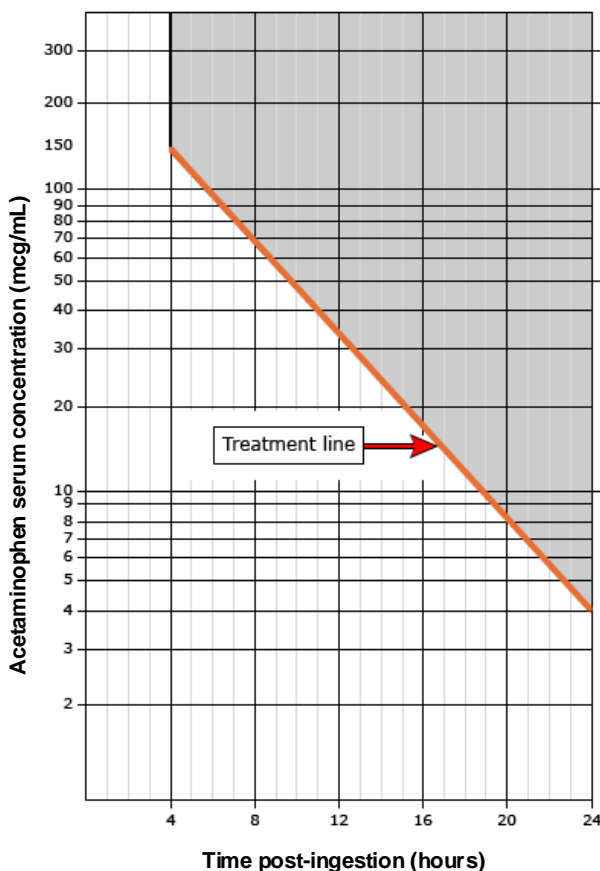
Discontinue NAC.

Indications to stop NAC met

Indications to stop NAC not met after 21 hours of therapy

- Continue NAC at 6.25 mg/kg/hour IV or 70 mg/kg PO Q4h.
- If ALT >1000 or trending up, INR >1.5 or trending up, or patient worsening, consult Poison Control and/or hepatologist via ANMC, SCH, or UW Medcon. Consider transfer.

Rumack-Matthew Nomogram for Single Acute Acetaminophen Poisoning



Village Management

- Administer activated charcoal 1 gram/kg (max 50 grams) if airway intact and <4 hours since ingestion.
- If patient in village and toxicity is at all possible, start treatment with oral acetylcysteine and draw blood at 4 hours post ingestion. Instruct health aide to draw 2 mL (minimum 200 microliters) in a gold/SST or green top tube.
- Transport patient and blood work to Bethel on next available commercial flight, if stable.

For vomiting:

- If within one hour of NAC dose, repeat full dose.
- May give ondansetron or metoclopramide.

N-Acetylcysteine (NAC) Administration Protocols

- IV 21 Hour Protocol:** Dose is 150 mg/kg (max 15 grams) over 60 minutes immediately followed by 50 mg/kg (max 5 grams) over 4 hours immediately followed by 100 mg/kg (max 10 grams) over 16 hours (6.25 mg/kg/hour). Dilute with D5W or ½ NS. See [Dose Calculator](#) for details on dose and dilution, especially in children under 40 kg. Note: calculator defaults to pounds.
- PO 72 Hour Protocol:** Dilute with strongly-flavored juice or soda. Mix one part medication with three parts juice/soda. Loading dose is 140 mg/kg. Maintenance dose of 70 mg/kg Q4h for up to 72 hours. The villages carry vials of inhalation/oral solution that is 200 mg/mL in 30 mL vials. See [this resource](#) for details on dosing, including diluent and dosing volumes for weight.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Approved by Clinical Guideline Committee 4/28/23.

Click [here](#) to see the supplemental resources for this guideline.

If comments about this guideline, please contact Leslie_Herrmann@ykhc.org.