### EVIDENCE-BASED PRACTICE RECOMMENDATIONS

**An Evidence-Based Approach To Acetaminophen (Paracetamol, APAP) Overdose**  
Agrawal P, Brown CA III.  September 2010, Volume 12; Number 9

*This issue of Emergency Medicine Practice provides general background information and a synopsis of the best available evidence from the literature regarding the treatment of APAP toxicity. For a more detailed discussion of this topic, including figures and tables, clinical pathways, and other considerations not noted here, please see the complete issue on the EB Medicine website at [www.ebmedicine.net/topics](http://www.ebmedicine.net/topics).*

<table>
<thead>
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<th>Key Points</th>
<th>Comments</th>
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<td>Almost 600 deaths occur yearly from APAP-associated overdoses, with only 20% of these being unintentional.</td>
<td>More people are hospitalized after APAP-related overdoses than after any other drug-related toxic ingestion. APAP ingestion is the most common indication for liver transplantation in Great Britain and is also the most common cause of acute liver failure in the US.</td>
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<td>Try to elicit as much detail about the timing and amount of ingestion, along with any co-ingestants; this will help direct your management.</td>
<td>The primary goals in assessing the patient with APAP exposure are to identify the risk for APAP-induced hepatotoxicity and to initiate timely treatment.</td>
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<td>Consider activated charcoal if the ingestion has occurred less than 1 hour prior to presentation and if the patient is not at risk for aspiration.</td>
<td>When AC is given appropriately and within the specified window of time, it can reduce APAP absorption. Beyond those narrow specifications, the potential risks and overall benefits of giving AC cannot be determined, and such therapy is therefore not recommended.</td>
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<td>Gastric emptying maneuvers should not be used unless they are indicated for another reason.</td>
<td>Although serum concentrations peak within 4 hours, APAP is usually completely absorbed within 2 hours. Studies have shown that ipecac given more than 60 minutes after an ingestion does not decrease peak APAP concentrations. The act of emesis itself may delay or preclude the administration of the oral form of NAC. In several experimental studies assessing the usefulness of gastric lavage, the amount of APAP removed by this means was highly variable and diminished significantly with time.</td>
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<td>Check acetaminophen level between 4 and 24 hours after an acute ingestion to guide N-acetylcysteine therapy.</td>
<td>A serum APAP concentration between 150 and 200 mcg/mL at 4 hours indicates a “possible risk” for hepatotoxicity. “Probable risk” for toxicity is associated with a concentration from 200 to 300 mcg/mL at 4 hours, and values above 300 mcg/mL at 4 hours indicate a “high risk” for toxicity.</td>
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<td>With good supportive care and early administration of NAC, most patients who present after an acetaminophen overdose will recover completely</td>
<td>Certain factors may place patients at higher risk for hepatotoxicity. These include malnutrition, chronic alcohol use, young age, and the use of drugs that induce the cytochrome P450 oxidase system.</td>
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*See reverse side for reference citations.*
REFERENCES

These references are excerpted from the original manuscript. For additional references and information on this topic, see the full text article at ebmedicine.net.


CLINICAL RECOMMENDATIONS

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