



## Aspirin Poisoning: Quick Treatment Tips

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Aspirin can be deadly in overdose! Health care providers are encouraged to attend to aspirin poisoning cases with the same diligence afforded to cases of sepsis or other life-threatening diseases. Aspirin poisoning is best cared for by clinicians with appropriate knowledge and experience in treating critical drug poisoning.

### Principles of Medical Management of Aspirin Poisoning

- After overdose, aspirin may be absorbed from the gut into the bloodstream over a prolonged period of time. Monitor serial serum drug levels, and carefully consider the potential benefit of activated charcoal administration or whole bowel irrigation.
- Aspirin poisoning often leads to dehydration: administer intravenous fluids as necessary to restore and maintain intravascular volume.
- Aspirin may lead to hypoglycemia and/or low CNS glucose availability: monitor blood glucose concentrations and administer dextrose as warranted.
- Aspirin crosses the blood-brain barrier in acidic blood. Administer IV sodium bicarbonate to achieve a blood pH between 7.45-7.5. [Many physicians will use *D5W with 150 mEq HCO<sub>3</sub>/L* as an initial crystalloid infusion]
- Aspirin poisoning causes hyperventilation which helps to maintain alkalemia. Beware! Giving sedatives may lead to hypoventilation and worsen aspirin poisoning.
- Paralysis and endotracheal intubation may be a lethal procedure! A rise in P<sub>a</sub>CO<sub>2</sub> (and a resultant decline in serum pH) from paralysis or hypoventilation may lead to an increase in aspirin entry to the brain, and positive-pressure ventilation may reduce cardiac filling. If mechanical ventilation becomes necessary it is important that hyperventilation and cerebral perfusion be expertly maintained.
- In addition to alkalinizing the bloodstream, sodium bicarbonate helps to alkalinize the urine and promote aspirin elimination by the kidney. Monitor urine pH carefully and try to achieve urine pH 7-8. Hypokalemia will inhibit the ability to alkalinize urine; potassium supplementation is typically necessary.
- Hemodialysis can remove aspirin from the bloodstream and correct fluid, electrolyte, and pH balance. It can be life-saving!

#### Indications for Dialysis (Partial Listing)

- Worsening confusion, somnolence, or agitation suggesting CNS toxicity
- Seizures (preferably, 30 minutes before seizures occur)
- Pulmonary edema or heart failure complicating IV bicarbonate therapy
- Inability to adequately correct acid-base or electrolyte abnormalities

24-hour hotline  
1-800-222-1222

34th Street & Civic Center Boulevard, Philadelphia, PA 19104-4399  
Administration 215-590-2003 • Fax 215-590-4419  
<http://poisoncontrol@chop.edu>

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-Consider strongly if serum salicylate concentration is  $> 100$  mg/dL (acute ingestion) or  $> 60$  mg/dL (acute-on-chronic or chronic ingestion), or if serum salicylate level is rising dangerously fast

#### Notes on Performing Dialysis

- The dialysate can be buffered to a pH between 7.45 and 7.5 to maintain alkalemia.
- The dialysis run-time may be more than 3-4 hours; use serial serum salicylate concentrations to determine when dialysis has been sufficiently effective.

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