



# MethyleneBlue & SSRI's: A Risky Life-Threatening Drug Interaction

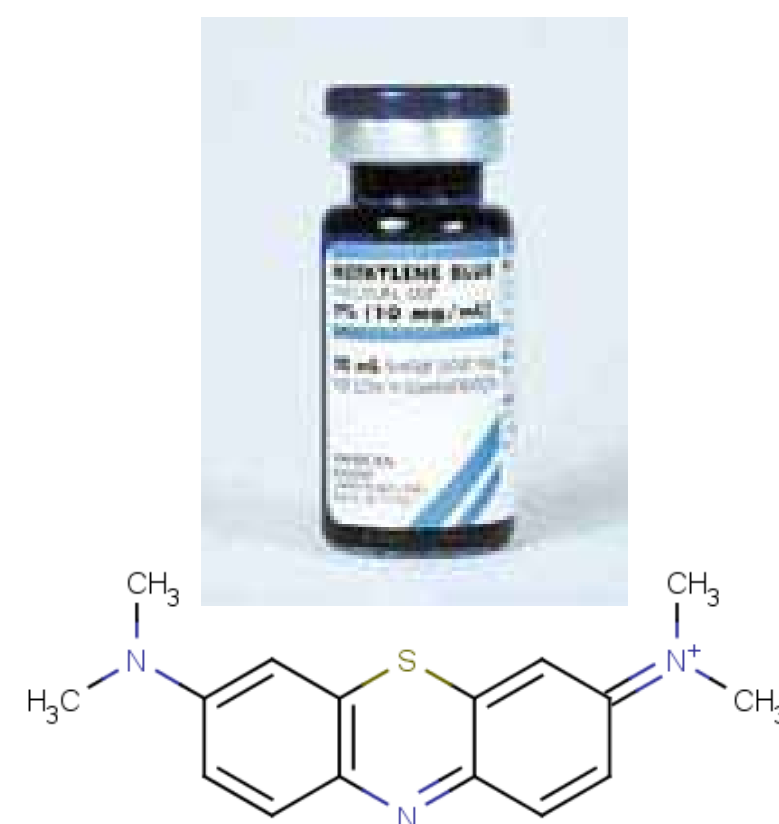


Hurley AW - Capital High School, Olympia WA  
Hurley WT - Washington Poison Center  
& Harborview Medical Center, Seattle WA



## Background

The Washington Poison Center recently identified a potentially life-threatening drug interaction between antidepressants (SSRI's) & Methylene Blue. Reports of serotonin syndrome with Methylene Blue began to appear in the medical literature in 2006. The interaction does not appear in drug interaction screening programs. Methylene Blue, like many drugs, is used in time-sensitive environments like the Operating Room, Critical Care Unit, and Emergency Department without involvement of a Pharmacist and without screening for potential drug interactions. We surveyed hospitals in Washington with Cardiothoracic Surgery programs to: Examine knowledge about this drug interaction, search for screening methods to prevent the interaction, & increase knowledge about the interaction



Methylene Blue is used as a dying agent to localize parathyroid tissue & identify the ureter, and as an antidote for methemoglobinemia. It has recently been used to decrease hypotension with cardiac surgery, sepsis, burns, overdose, & hepatic failure due to blockade of Nitric Oxide production.

## WA State Study

None of the 16 hospitals we contacted were aware of the interaction between Methylene Blue and serotonergic agents. None used screening methods to identify the use of serotonergic agents prior to administration of Methylene Blue.

## Recommendations

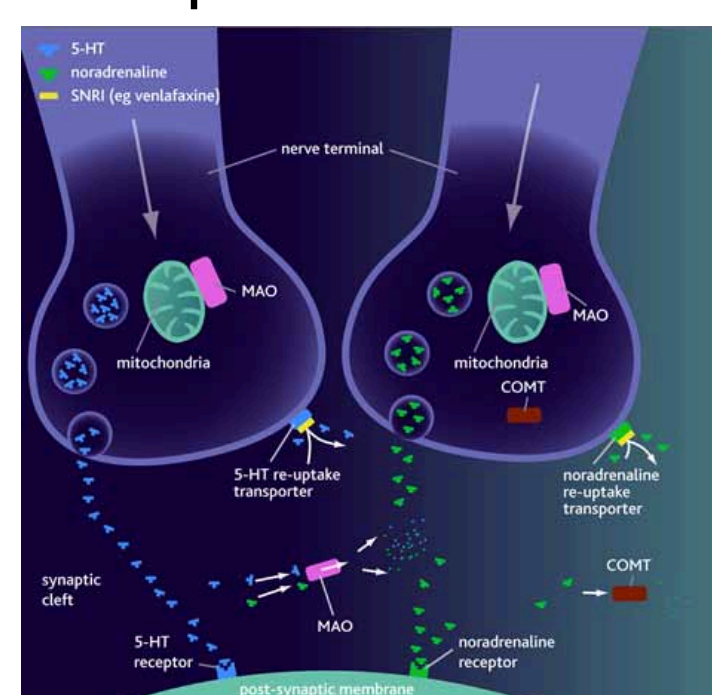
Pharmacists, Emergency Physicians, Cardiologists, Surgeons, Anesthesiologists, & nurses should incorporate screening for serotonergic drugs in patients before administering Methylene Blue.

## Serotonin Syndrome / Serotonin Toxicity

Addition / increased dose of serotonergic agent with:  
Neuromuscular dysfunction - Myoclonus, tremors, chills, rigidity, hyper-reflexia, ataxia, akathisia  
Mental status changes - Agitation, hypomania, anxiety, confusion, obtundation, coma  
Autonomic dysfunction - Hyperthermia, tachycardia, diaphoresis, flushing, mydriasis  
Symptoms not due to a psychiatric disorder, infectious, toxic-metabolic, endocrine or neuroleptic cause.  
Multiple scoring systems & continuum of severity from mild to moderate to severe toxicity.  
Severe serotonin syndrome or serotonin toxicity may require multiple agents acting at multiple sites.

## Contact Information

William Hurley, MD FACEP  
Medical Director,  
Washington Poison Center  
hurley@wapc.org  
(206) 517-2351



## References

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