

# Isotonic fluids safer for pediatric maintenance IV therapy

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For children requiring maintenance intravenous fluids, isotonic fluids are safer than hypotonic fluids in terms of plasma sodium levels, according to a meta-analysis published online Dec. 30 in *Pediatrics*.

(HealthDay)—For children requiring maintenance intravenous (IV) fluids, isotonic fluids are safer than hypotonic fluids in terms of plasma sodium (pNa) levels, according to a meta-analysis published online Dec. 30 in *Pediatrics*.

Jingjing Wang, M.D., from the Second Affiliated Hospital of Medical School of Xi'an Jiaotong University in China, and colleagues conducted a systematic literature review and assessed evidence from 10 [randomized controlled trials](#) to compare the safety of isotonic versus hypotonic IV maintenance [fluids](#) in hospitalized [children](#). A meta-analysis was conducted to assess the risks of developing hyponatremia (pNa 145 mmol/L).

The researchers found that the risks for developing hyponatremia and severe hyponatremia were significantly increased with hypotonic IV fluids (relative risks, 2.24 and 5.29, respectively). Children who received hypotonic fluids experienced a significantly greater fall in pNa than those who received isotonic fluids ( $-3.49$  mmol/L). The risk of hypernatremia was not significantly different between the intervention groups (relative risk, 0.73; 95 percent confidence interval, 0.22 to 2.48).

"Overall, isotonic fluids are safer than hypotonic fluids in hospitalized children requiring maintenance IV fluid therapy in terms of pNa levels," the authors write.

**More information:** [Abstract](#)  
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