

# Diluted apple juice, preferred fluids for treating mild gastroenteritis in kids

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Children with mild gastroenteritis and minimal dehydration experienced fewer treatment failures such as IV rehydration or hospitalization when offered half-strength apple juice followed by their preferred fluid choice compared with children who received electrolyte maintenance solution to replace fluid losses, according to a study published online by *JAMA*. The study is being released to coincide with its presentation at the Pediatric Academic Societies meeting.

Gastroenteritis is a common pediatric illness. Electrolyte maintenance solution is recommended to treat and prevent dehydration, although it is relatively expensive and its taste can limit use. Its advantage in minimally dehydrated children is unproven. Stephen B. Freedman, M.D.C.M., M.Sc., of the University of Calgary, Canada, and colleagues randomly assigned children age 6 to 60 months with gastroenteritis and minimal dehydration to receive color-matched half-strength [apple juice](#)/preferred [fluids](#) (n = 323) or apple-flavored electrolyte maintenance solution (n = 324). After discharge, the half-strength apple juice/preferred fluids group was administered fluids as desired; the electrolyte maintenance solution group replaced losses with electrolyte maintenance solution.

The primary outcome for the study was a composite of treatment failure defined by any of the following occurring within 7 days of enrollment: intravenous rehydration, hospitalization, subsequent unscheduled physician encounter, protracted symptoms, crossover, and 3 percent or more weight loss or significant dehydration at in-person follow-up.

Among 647 randomized children (average age, 28 months; 68 percent without evidence of dehydration), 644 completed follow-up. Children who were administered diluted apple juice experienced treatment failure less often than those given electrolyte maintenance solution (17 percent vs 25 percent). Fewer children administered apple juice/preferred fluids received intravenous rehydration (2.5 percent vs 9 percent). Hospitalization rates and diarrhea and vomiting frequency were not significantly different between groups.

The authors write that these results challenge the recommendation to routinely administer electrolyte maintenance solution when diarrhea begins, based primarily on an unblinded study in which blocks of participants were provided instructions for use of electrolyte maintenance solution or instructions plus a prescription for electrolyte maintenance solution at no charge. "The present study findings, derived from a larger and more heterogeneous population, confirmed via provincial registries, and conducted in an era when complicated episodes of gastroenteritis have become uncommon, may more accurately reflect the effect rehydration fluid choice has on unscheduled medical visits."

"In many high-income countries, the use of dilute apple juice and preferred fluids as desired may be an appropriate alternative to electrolyte maintenance fluids in [children](#) with mild gastroenteritis and minimal dehydration."

**More information:** *JAMA*, [DOI: 10.1001/jama.2016.5352](https://doi.org/10.1001/jama.2016.5352)

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