

Normal saline solution and lactated Ringer's solution were associated with similar 24-hour recovery scores and 7-day health care use in stable ED patients. These results supplement those of recent trials by informing fluid choice for stable ED patients”

Friederich et al (2018).

Abstract:

**Study objective:** The purpose of this study is to test the hypothesis that balanced crystalloids improve quality of recovery more than normal saline solution (0.9% sodium chloride) in stable emergency department (ED) patients. Secondary outcomes measured differences in health care use.

**Methods:** A single-site, participant- and evaluator-blinded, 2-arm parallel allocation (1:1), comparative effectiveness, randomized controlled trial allocated adults receiving intravenous fluids in the ED before discharge to receive 2 L of lactated Ringer's solution or normal saline solution. The primary outcome was symptom scores measured by the validated Quality of Recovery-40 instrument (scores 40 to 200) 24 hours after enrollment. Secondary outcomes included subsequent health care use and medication compliance.

**Results:** Participants (N=157) were enrolled and follow-up was analyzed for 94 (follow-up rate of 60%) with intention-to-treat methodology. There was no difference in postenrollment Quality of Recovery-40 scores between normal saline solution and lactated Ringer's solution groups (mean difference 2.4; 95% confidence interval -6.8 to 11.6). Although preenrollment scores were higher in the lactated Ringer's solution group (mean difference 10.5; 95% CI 1.9 to 19.0), adjusting for presurvey imbalances did not change the primary outcome (adjusted difference -3.9; 95% CI -12.9 to 5.2). There were no differences in return to ED (mean difference 7.5%; 95% CI -8.7% to 23.8%), prescriptions filled (mean difference 22.2%; 95% CI -3.3% to 47.6%), or seeking care from another provider (mean difference -2.0%; 95% CI -19.9% to 15.9%) at 7 days.

**Conclusion:** Normal saline solution and lactated Ringer's solution were associated with similar 24-hour recovery scores and 7-day health care use in stable ED patients. These results supplement those of recent trials by informing fluid choice for stable ED patients.



Reference:

Friederich, A., Martin, N., Swanson, M.B., Faine, B.A. and Mohr, N.M. (2018) Normal Saline Solution and Lactated Ringer's Solution Have a Similar Effect on Quality of Recovery: A Randomized Controlled Trial. *Annals of Emergency Medicine*. August 23rd. .

DOI: <https://doi.org/10.1016/j.annemergmed.2018.07.007>