



Effect of Glucose–Insulin–Potassium Infusion on Mortality in Critical Care Settings: A Systematic Review and Meta-Analysis

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Effect of Glucose–Insulin–Potassium Infusion on Mortality in Critical Care Settings: A Systematic Review and Meta-Analysis

[Puskarich, Michael A.](#); [Runyon, Michael S.](#); [Trzeciak, Stephen.](#); [Kline, Jeffrey A.](#); [Jones, Alan E.](#)



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Abstract:

This study seeks to measure the treatment effect of glucose—insulin—potassium (GIK) infusion on mortality in critically ill patients. A systematic review of randomized controlled trials is conducted, comparing GIK treatment with standard care or placebo in critically ill adult patients. The primary outcome variable is mortality. Two authors independently extract data and assess study quality. The primary analysis is based on the random effects model to produce pooled odds ratios (ORs) with 95% confidence intervals (CIs). The search yields 1720 potential publications; 23 studies are included in the final analysis, providing a sample of 22 525 patients. The combined results demonstrate no heterogeneity ($P = .57$, $I^2 = 0\%$) and no effect on mortality (OR = 1.02; 95% CI, 0.93–1.11) with GIK treatment. No experimental studies of shock or sepsis

populations are identified. This meta-analysis finds that there is no mortality benefit to GIK infusion in critically ill patients; however, study populations are limited to acute myocardial infarction and cardiovascular surgery patients. No studies are identified using GIK in patients with septic shock or other forms of circulatory shock, providing an absence of evidence regarding the effect of GIK as a therapy in patients with shock.

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