

## Publication

### A systematic literature review and meta-analysis of randomized clinical trials of parenteral glutamine supplementation

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Glutamine supplementation has been associated with reduced mortality, infections and hospital length of stay in critically ill patients and patients undergoing major surgery. We carried out a meta-analysis to examine randomized clinical trial (RCT)-based evidence of these effects.; Based on a systematic database search, RCTs published since 1990 were included if they evaluated the effect of parenteral glutamine supplementation against a background of parenteral nutrition. Enteral (tube) feeding in a proportion of patients was allowable. Information on RCT methodology, quality and outcomes was extracted. Random effects meta-analysis followed the DerSimonian-Laird approach.; Forty RCTs were eligible for meta-analysis. Parenteral glutamine supplementation was associated with a non-significant 11% reduction in short-term mortality ( $RR=0.89$ ; 95% CI, 0.77-1.04). Infections were significantly reduced ( $RR=0.83$ ; 95% CI, 0.72-0.95) and length of stay was 2.35 days shorter (95% CI, -3.68 to -1.02) in the glutamine arms. Meta-analysis results were strongly influenced by one recent trial. An element of publication bias could not be excluded.; Parenteral glutamine supplementation in severely ill patients may reduce infections, length of stay and mortality, but substantial uncertainty remains. Unlike previous meta-analyses, we could not demonstrate a significant reduction in mortality.

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