Supplemental intravenous crystalloid administration does not reduce the risk of surgical wound infection.

Wound perfusion and oxygenation are important determinants of the development of postoperative wound infections. Supplemental fluid administration significantly increases tissue oxygenation in surrogate wounds in the subcutaneous tissue of the upper arm in perioperative surgical patients. We tested the hypothesis that supplemental fluid administration during and after elective colon resections decreases the incidence of postoperative wound infections.

Patients undergoing open colon resection were randomly assigned to small-volume (n = 124, 8 mL.kg(-1).h(-1)) or large-volume (n = 129, 16-18 mL.kg(-1).h(-1)) fluid management. Our major outcomes were two distinct criteria for diagnosis of surgical wound infections: 1) purulent exudate combined with a culture positive for pathogenic bacteria, and 2) Center for Disease Control criteria for diagnosis of surgical wound infections. All wound infections diagnosed using either criterion by a blinded observer in the 15 days after surgery were considered in the analysis. Wound healing was evaluated with the ASEPSIS scoring system. Of the patients given small fluid administration, 14 had surgical wound infections; 11 given large fluid therapy had infections, P = 0.46.

ASEPSIS wound-healing scores were similar in both groups: 7 +/- 16 (small volume) versus 8 +/- 14 (large volume), P = 0.70. Our results suggest...
that supplemental hydration in the range tested does not impact wound infection rate.