



The role of fluid restriction in abdominal surgery

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Recently, Myles *et al.* (1) published a multi-center randomized controlled trial (RCT) concluding that compared to liberal fluid regimen, restricted fluid regimen did not improve clinical outcomes in patients after abdominal surgery. Perioperative fluid management plays an important role in postoperative care. As fluid accumulation was associated with poor outcomes in surgical patients (2), restricted fluid protocol was investigated to alleviate this situation. However, the conclusions remain conflicting. In contrast to Myles *et al.*'s finding, the benefits of restricted fluid protocol have been reported in several RCTs (PMID: 12044376, 14578723, 21948211). According to the opinion of Enhanced Recovery After Surgery (3), increased perioperative fluid accumulation is a high risk of postoperative complications, and postoperative weight

gain of more than 2 kg should be avoided for a better prognosis. As fluid restriction does not always lead to less fluid accumulation, we speculate postoperative weight gain may play a critical role in these inconsistent findings. For better interpretation, we performed a sub-meta-analysis using data from one recent published meta-analysis (4), according to different postoperative weight gain (Figure 1). In the subgroup of high weight gain, restricted protocol was associated with lower postoperative complication rate, while in the rest three RCTs, no significant benefit of restricted protocol was found. Furthermore, the heterogeneity become less significant in the two subgroups. Based on these finding, it seems that avoiding postoperative gain instead restricting fluid input may be the key in ensuring better prognosis.

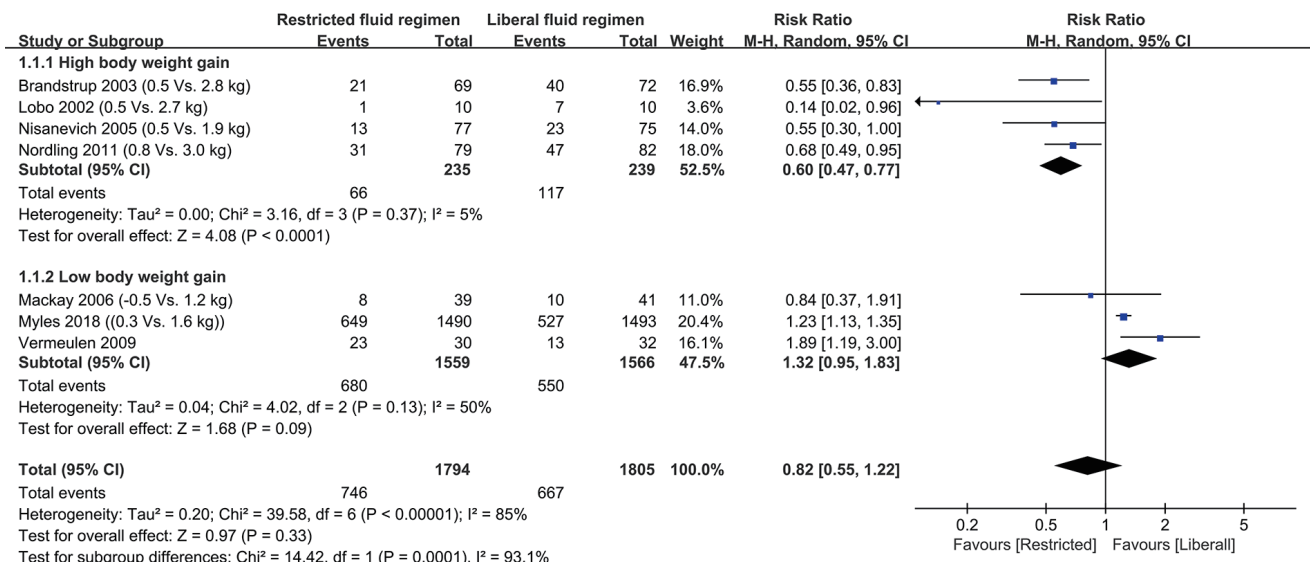


Figure 1 Subgroup meta-analysis according to different postoperative weight gain.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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