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**Supplementary file 1: CENTRAL search strategy**

1. MeSH descriptor: [Pancreatitis] explode all trees
2. pancreatitis
3. 1 or 2
4. MeSH descriptor: [Fluid Therapy] this term only
5. MeSH descriptor: [Resuscitation] explode all trees and with qualifier(s): [Methods - MT]
6. fluid near/3 resuscitation
7. fluid near/2 balance
8. fluid near/2 restriction\*
9. MeSH descriptor: [Colloids] this term only
10. MeSH descriptor: [Hydration] this term only
11. colloid\* or crystalloid\*
12. 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11
13. 3 AND 12

**Supplementary file 2: MEDLINE search strategy**

1. exp pancreatitis/
2. pancreatitis.mp.
3. 1 or 2
4. Fluid Therapy/
5. exp Resuscitation/mt
6. (fluid adj3 resuscitation).mp.
7. (fluid adj2 balance).mp.
8. (fluid adj2 restriction\*).mp.
9. Hydration/
10. Colloids/
11. colloid\*.tw.
12. crystalloid\*.tw.
13. 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12
14. randomized controlled trial.pt.
15. controlled clinical trial.pt.
16. randomized.ab.
17. placebo.ab.
18. drug therapy.fs.
19. randomly.ab.
20. trial.ab.
21. groups.ab.
22. 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21
23. 3 AND 13 AND 22



**Supplementary Figure 1:** TSA for primary outcomes: (A) Development of SAP; (B) hypovolemia. AFR: Aggressive fluid resuscitation; CFR: Controlled fluid resuscitation; SAP: Severe AP; TSA: Trial sequential analysis.

**Supplementary Figure 2:** Forest plots illustrating secondary outcomes: (A) development of respiratory failure; (B) development of renal failure; (C) development of local complications. AFR: Aggressive fluid resuscitation; CFR: Controlled fluid resuscitation; CI: Confidence interval.



**Supplementary Figure 3:** Forest plots illustrating subgroup analysis for safety outcome as hypovolemia based on TI between disease onset and treatment. AFR: Aggressive fluid resuscitation; AP: Acute pancreatitis; CFR: Controlled fluid resuscitation; CI: Confidence interval; TI: Time interval.