

**Oesophageal Doppler Monitoring (ODM)
Published Randomised Controlled Trials (RCT's):-**

1. Mythen MG, Webb AR. Perioperative plasma volume expansion reduces the incidence of gut mucosal hypoperfusion during cardiac surgery. *Arch Surg* 1995; 130: 423-9
2. Sinclair S, James S, Singer M. Intraoperative intravascular volume optimisation and length of hospital stay after repair of proximal femoral fracture: randomised controlled trial. *Br Med J* 1997; 315: 909-12
3. Conway DH, Mayall R, Abdul-Latif MS, Gilligan S, Tackaberry C. Randomised controlled trial investigating the influence of intravenous fluid titration using oesophageal Doppler monitoring during bowel surgery. *Anaesth* 2002; 57: 845-9
4. Gan TJ, Soppitt A, Maroof M, El-Moalem H, Robertson KM, Moretti E, Dwane P, Glass PSA. Goal-directed intraoperative fluid administration reduces length of hospital stay after major surgery. *Anesthesiol* 2002; 97: 820-6
5. Venn R, Steele A, Richardson P, Poloniecki J, Grounds M, Newman P. Randomized controlled trial to investigate influence off the fluid challenge on duration of hospital stay and perioperative morbidity in patients with hip fractures. *Br J Anaesth* 2002; 88(1): 65-71
6. McKendry, M., McGloin, H., Saberi, D., Caudwell, L., Brady, A.R., and Singer, M. Randomised controlled trial assessing the impact of a nurse delivered, flow monitored protocol for optimisation of circulatory status after cardiac surgery. *BMJ*, 2004. **329**(7460): p. 258.
7. Wakeling HG, McFall MR, Jenkins CS, Woods WGA, Miles WFA, Barclay GR, Fleming SC. Intraoperative oesophageal Doppler guided fluid management shortens postoperative hospital stay after major bowel surgery. *Br J Anaesth* 2005; 95(5): 634-642
8. Noblett SE, Snowden CP, Shenton BK, Horgan AF. Randomized clinical trial assessing the effect of Doppler-optimized fluid management on outcome after elective colorectal resection. *Br J Surg* 2006; 93: 1069-76
9. Chytra, I., Pradl, R., Bosman, R., Pelnar, P., Kasal, E., Zidkova, A., Esophageal Doppler-guided fluid management decreases blood lactate levels in multiple-trauma patients: a randomized controlled trial. *Crit Care*, 2007. **11**(1): p. R24

10. Senagore AJ, Emery T, Luchtefeld M, Kim D, Dujovny N, Hoedema R. Fluid management for laparoscopic colectomy: a prospective, randomized assessment of goal-directed administration of balanced salt solution or hetastarch coupled with an enhanced recovery program. *Dis Colon Rectum* 2009; 52(12): 1935-40
11. Challand C, Struthers R, Sneyd JR, Erasmus PD, Mellor N, Hosie B, Minto G. Randomized controlled trial of intraoperative goal-directed fluid therapy in aerobically fit and unfit patients having major colorectal surgery. *Br J Anaesth* 2012; 108(1): 53-62
12. Pillai P, McElevy I, Gaughan M, Snowden C, Nesbitt I, Durkan G, Johnson M, Cosgrove J, Thorpe. A double-blind randomized controlled clinical trial to assess the effect of Doppler optimized intraoperative fluid Management on outcome following radical cystectomy. *J Urol* 2012; 186(6): 2201-6
13. Brandstrup B, Svendsen PE, Rasumssen M, Belhage B, Rodt SA, Hansen B, Møller DR, Lundbeck LB, Andersen N, Berg V, Thomassen N, Andersen ST, Simonsen L. Which goal for fluid therapy during colorectal surgery is followed by the best outcome: near maximal stroke volume or zero fluid balance? *Br J Anaesth* 2012; 109(2): 191-9 12
14. Srinivasa S, Taylor MGH, Singh PP, Yu T-C, Soop M, Hill AG. Randomized clinical trial of goal-directed fluid therapy within an enhanced recovery protocol for elective colectomy. *Br J Surg* 2013; 100(1): 66-74
15. Zakhaleva J, Tam J, Denoya PI, Bishawi M, Bergamaschi R. The impact of intravenous fluid administration on complication rates in bowel surgery within an enhanced recovery protocol: a randomized controlled trial. *Colorectal Dis* 2013; 15: 892-9
16. McKenny M, Conroy P, Wong A, Farren M, Gleeson N, Walsh C, O'Malley C, Dowd N. A randomised prospective trial of intra-operative oesophageal Doppler-guided fluid administration in major gynaecological surgery. *Anaesthesia* 2013
17. El Sharkawy OA, Refaat EK, Ibraheem AEM, Mahdy WR, Fayed NA, Mourad WS, Abd Elhafez HS, Yassen KA. Transoesophageal Doppler compared to central venous pressure for perioperative hemodynamic monitoring and fluid guidance in liver resection. *Saudi J Anaesth* 2013; 7(4): 378-86
18. Phan TD, D'Souza B, Rattray MJ, Johnston MJ, Cowie BS. A randomised controlled trial of fluid restriction compared to oesophageal Doppler guided goal directed therapy in elective major colorectal surgery within an Enhanced Recovery After Surgery program. *Anaesth Intensive Care* 2014 Nov; 42 (6):752-60

19. Eman Sayed Imbrahim, Taha Aid Yassein, Wesam Saber Morad. The beneficial values of transoesophageal Doppler in intraoperative fluid guidance versus standard clinical monitoring parameters in infants undergoing Kasai operation. Middle East Journal Anaesthesiology 2015 Jun; 23(2); 205-11
20. Picard J, Bedague D, Bouzat P, Ollinet C, Albaladejo P, Bosson JL, Payen JF. Oesophageal Doppler to optimize intraoperative haemodynamics during prone position. A randomized controlled trial. Anaesth Crit Care Pain Med. 2016 Aug;35(4):255-60. doi: 10.1016/j.accpm.2015.12.011.
21. Kaufmann KB, Steil L, Ulrich F, Kaifi JT, Hauschke D, Loop T, Goebel U. Oesophageal Doppler guided goal-directed haemodynamic therapy in thoracic surgery - a single centre randomized parallel-arm trial. Br J Anaesth. 2017 Jun 1;118(6):852-861. doi: 10.1093/bja/aew447.
22. Feldheiser A, Pavlova V, Weinmann K, Hunisicker O, Stockmann M, Koch M, Giebels A, Wenecke KD, Spies CD. Haemodynamic Optimization by Oesophageal Doppler and Pulse Power Wave Analysis in Liver Surgery: A Randomised Controlled Trial. PLoS One. 2015 Jul 17;10(7):e0132715 doi: 10.1371/journal.pone.0132715
23. Calvo-Vecino JM, Ripollés-Melchor J, Mythen MG, Casans-Francés R, Balik A, Artacho JP, Martínez-Hurtado E, Serrano Romero A, Fernández Pérez C, Asuero de Lis S; FEDORA Trial Investigators Group. Effect of goal-directed haemodynamic therapy on postoperative complications in low-moderate risk surgical patients: a multicentre randomised controlled trial (FEDORA trial). Br J Anaesth. 2018 Apr;120(4):734-744.
24. Szturz P, Folwarczny P, Kula R, Neiser J, Ševčík P, Benes Multi-parametric functional hemodynamic optimization improves postsurgical outcome after intermediate risk open gastrointestinal surgery, a randomized controlled trial. Minerva Anestesiol. 2018 May 11. doi: 10.23736/S0375-9393.18.12467-9
25. Mühlbacher J, Luf F, Zotti O, Herkner H, Fleischmann E, Kabon B. Effect of Intraoperative Goal-Directed Fluid Management on Tissue Oxygen Tension in Obese Patients: a Randomized Controlled Trial. Obesity Surgery 2020 November 27
26. Respiratory and Hemodynamic Effects of Prophylactic Alveolar Recruitment During Liver Transplant: A Randomized Control Trial. Experimental and Clinical Transplantation May 2021