

Reply from the authors

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Editor—We thank Dr Drummond for his interest in our article¹ and particularly for his comment on our results on postoperative blood oxygenation. He also reminds us of the significance of functional residual capacity (FRC) and lung function tests, which is welcome and relevant because frequent misinterpretations are found in the literature.

We would, however, like to clarify that we did not state, 'General anaesthesia causes a reduction in functional residual capacity (FRC) that can last several days' but rather, 'General anaesthesia decreases functional residual capacity (FRC) and causes atelectasis. After upper abdominal surgery, FRC remains decreased in the immediate postoperative period and then recovers slowly over several days.' Our sentences do not assume that the changes induced by general anaesthesia alone persist for several days but refer to the combined effects of anaesthesia and upper abdominal surgery. These effects are well described in the literature. Although most studies in the field were carried out after open abdominal surgery, computed tomography scan after upper abdominal laparoscopic surgery also showed atelectasis 24 h after surgery.^{2 3}

We agree with Dr Drummond that the fact that we did not observe any reduction in FRC 24 h after surgery despite a decreased intraoperative compliance and no recruitment suggests that intra- and postoperative atelectasis are different entities and have a different pathophysiology.

We also would like to take this opportunity to emphasize that our study remains so far the only study to have investigated the independent effect of recruitment manoeuvres in a lung-protective ventilation. Such studies are needed, as stated recently by Futier and colleagues.⁴ We did not demonstrate any postoperative benefit of recruitment manoeuvres when combined with lung-protective ventilation during upper abdominal laparoscopic surgery. Two recent multicentre studies reported opposite clinical outcomes of lung-protective ventilation strategies including recruitment manoeuvres after open abdominal surgery.^{5 6} Further studies are needed to determine the exact place or contribution of lung recruitment during intraoperative protective ventilation.⁷

Declaration of interest

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References

1. Defresne AA, Hans GA, Goffin PJ, et al. Recruitment of lung volume during surgery neither affects the postoperative spirometry nor the risk of hypoxaemia after laparoscopic gastric bypass in morbidly obese patients: a randomized controlled study. *Br J Anaesth* 2014; **113**: 501–7
2. Eichenberger A, Proietti S, Wicky S, et al. Morbid obesity and postoperative pulmonary atelectasis: an underestimated problem. *Anesth Analg* 2002; **95**: 1788–92
3. Talab HF, Zabani IA, Abdelrahman HS, et al. Intraoperative ventilatory strategies for prevention of pulmonary atelectasis in obese patients undergoing laparoscopic bariatric surgery. *Anesth Analg* 2009; **109**: 1511–6
4. Futier E, Marret E, Jaber S. Perioperative positive pressure ventilation: an integrated approach to improve pulmonary care. *Anesthesiology* 2014; **121**: 400–8
5. Futier E, Constantin JM, Paugam-Burtz C, et al. IMPROVE Study Group. A trial of intraoperative low-tidal-volume ventilation in abdominal surgery. *N Engl J Med* 2013; **369**: 428–37
6. PROVE Network Investigators for the Clinical Trial Network of the European Society of Anaesthesiology Hemmes SN, Gama de Abreu M, Pelosi P, Schultz MJ. High versus low positive end-expiratory pressure during general anaesthesia for open abdominal surgery (PROVHILO trial): a multicentre randomised controlled trial. *Lancet* 2014; **384**: 495–503
7. Goldenberg NM, Steinberg BE, Lee WL, Wijeyesundera DN, Kavanagh BP. Lung-protective ventilation in the operating room: time to implement? *Anesthesiology* 2014; **121**: 184–8

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Videolaryngoscopes confer benefits in human factors in addition to technical skills

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Editor—We read with great interest the editorial by Zaouter and colleagues¹ describing videolaryngoscopy (VL) as a new standard

of care. We have been using VL regularly in our institution for the past 4 years, and agree that VL represents a significant advance in