

General anaesthesia does not inevitably result in apnoea or require ventilatory support

We thank Yip et al. [1] for their interest in our manuscript [2]. We had, of course, stressed how anaesthesia is a continuum from sedation [3]. We note that Yip et al. stress the close link between the state of 'general anaesthesia' on the one hand and need for 'respiratory support' on the other. The way they present their argument implies that one cannot achieve general anaesthesia without need for respiratory support.

Their conclusion is understandably borne out of clinical practice in delivering anaesthesia for surgery, where the aim is to achieve a depth of unconsciousness that invariably goes hand in hand with complete respiratory depression. However, it is not relevant to providing general anaesthesia at end of life. As we stressed in our paper, the key approach at end of life, as first described by Moyle [4] and others [5], is to induce anaesthesia in a controlled manner such that spontaneous ventilation is maintained. Not only is this possible in clinical practice, as has been extensively described, but there is a sound theoretical basis on which this can be expected [6].

We agree that the doctrine of double effect is unlikely to be a defence to a practice of rapid induction of anaesthesia, followed by unsupported respiration (and then death) when apnoea ensues. However, the doctrine can apply to death that occurs after several hours or days from slow induction of anaesthesia, when the patient at end-of-life has clearly been self-ventilating. This applies to existing practices in end-of-life care (for example morphine analgesia and terminal sedation), and would apply similarly to at least some forms of general anaesthesia at the end of life.

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