

Cough projectile during emergence

Cough projectile during emergence from anaesthesia is an occupational hazard spilling patient's secretions into operating room personnel's airspace. The narrow tubular conduit provided by the endotracheal tube causes cough projectile to travel large distance secondary to larger fluid velocity generated across a smaller cross-sectional area of the endotracheal tube. Usually, this distance travelled by patients' secretions lies enclosed within anaesthesia circuit. However, the anaesthesia circuit is sometimes transiently detached to avoid inadvertent premature extubation secondary to stretched circuit pulling out endotracheal tube during intubated patient's transfer from operating table to patient stretcher. The endotracheal tube should remain connected to right angle connector and in-line filter to contain cough projectile [Figure 1a]. Unless the anaesthesia team is pre-emptively using closed in-line suction catheter system, the operating room environment can get exposed to cough projectile during suctioning through an open endotracheal tube. An emergent suction catheter system can be created by simple replacement of right-angle connector with fibre-optic bronchoscopy swivel adapter to allow closed suctioning through an endotracheal tube with in-line filter containing cough projectile [Figure 1b]. Fibre-optic bronchoscopy swivel adapter can contain cough projectile during rarely performed inadvisable instillation of normal saline prior to endotracheal suctioning.^[1] When secretions are expected to be voluminous enough to overwhelm in-line filter thereby leading to endotracheal spill-back,^[2] in-line filter and anaesthesia circuit can be replaced during brief lavage and suction procedure with an anaesthesia circuit extension tubing [Figure 1c and d]. The extension tubing allows spontaneous breathing among adults while containing cough projectile in its circular and corrugated boundaries or diverting it towards operating room ground.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

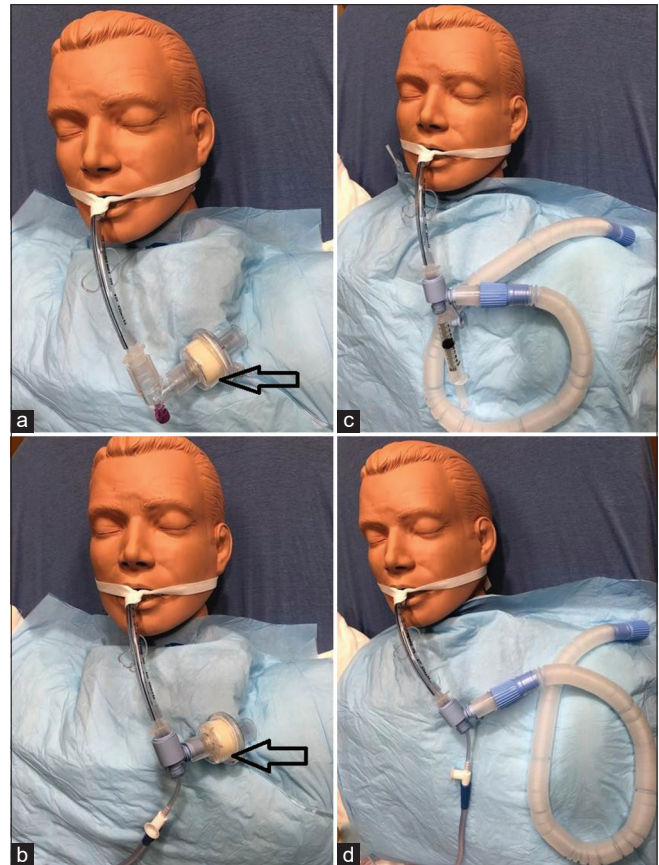


Figure 1: Schematic diagram with manikin demonstrating how to contain cough projectile during emergence: By keeping endotracheal tube connected to right angle connector and in-line filter indicated by hollow arrowhead (a) or by connecting it to fibre-optic bronchoscopy swivel adapter accommodating either suction catheter (b) or lavage-syringe for normal saline instillation (c) while anaesthesia circuit extension tubing catching copious cough secretions during suctioning (d) or diverting them to operation room ground

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Received: 03rd April, 2019

Revision: 23rd August, 2019

Accepted: 10th November, 2019

Publication: 07th January, 2020

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Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/ija.IJA_257_19

How to cite this article: Gupta D. Cough projectile during emergence. *Indian J Anaesth* 2020;64:72-3.

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