

# THREE WAY STOP COCK AS A RESCUE DEVICE FOR A MALFUNCTIONING SAMPLING LINE OF SIDESTREAM CAPNOGRAPHY

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## Abstract

Capnography is an important monitoring parameter during operative period. It gives adequate information regarding the ventilation, metabolism and circulatory status of the patients various systems. Accidental fracture and malfunction of sampling line of side stream capnograph may disturb the valuable capnogram. We here report a successful management of such an accidental breakdown of sampling line using a commonly available three way stop cock and adhesive tape in operating theatre.

**Keywords:** capnograph, surgery

Dear Sir

With increasing number of patients undergoing surgery, need of proper monitoring of hemodynamic parameters cannot be overlooked. End Tidal measurement of CO<sub>2</sub> is an integral part of various monitoring done by anesthesiologists during the perioperative period. Besides monitoring lung ventilation, capnography can provide safety-critical information about the patient's circulation and metabolism, and can aid the diagnosis of low cardiac output states and pulmonary embolism<sup>1</sup>.

In the year 2011 American Society of Anesthesiologists (ASA) and Association of Anaesthetists of Great Britain and Ireland (AAGBI) have revised and updated their recommendation on the use of capnography inside and outside the operating room<sup>2</sup>.

We here report a successful use of a three way stop clock (Bi-Valve)<sup>R</sup> manufactured by Romsons Scientific & Surgical Industries Pvt Ltd, India as a rescue device for a defective sampling line of a sidestream capnograph of Mindray BeneView T5 patient monitor during the intraoperative period of a patient going through an elective plastic surgery procedure under general anesthesia. A 24 year old ASA 1, 70 kg male patient was taken for graft cover of raw area forehead under general anesthesia with endotracheal intubation. Patient was induced with Propofol 130 mg i.v along with Fentanyl 100ug i.v and 7mg Vecuronium i.v. Following endotracheal intubation and secure confirmation of the tube with the ETCO<sub>2</sub> monitor and bilateral breath sounds, patient was painted and draped under strict aseptic precautions and surgery started. There was a sudden loss of ETCO<sub>2</sub> graph after about 10 min of procedure along with leakage alarm from the workstation. Surgeon was notified and a thorough inspection of the ventilator circuit was done. On examination of all connections it was found that the sampling line broke from the luer lock site causing a leak from the angle connector and loss of capnograph.

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A new sample line in spare was asked but was unavailable due to some reasons beyond our control. In view of the undergoing surgery, we tried to improvise with the available faulty sample line along with three way stop cock and adhesive tape (Figure 1).

With the above indigenous improvised technique

we were able to successfully conduct the case without any leak in the circuit and proper capnograph (Figure 2). Three way stop cock and adhesive tape are common things which are regularly available in operation theatres in surplus, and can be handy in dealing such untoward incidences

Fig. 1

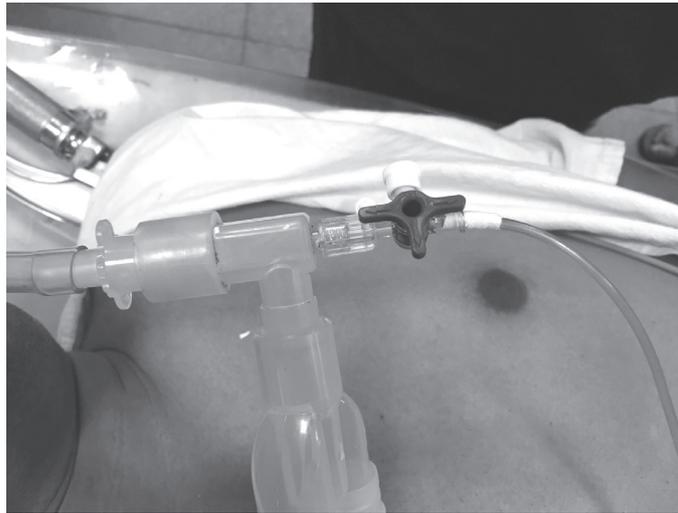


Fig. 2



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Practice Parameters (Approved by the ASA House of Delegates on October 21, 1986, and last amended on October 20, 2010 with an effective date of July 1, 2011) - viewed 7-18-12 ([www.asahq.org](http://www.asahq.org)).