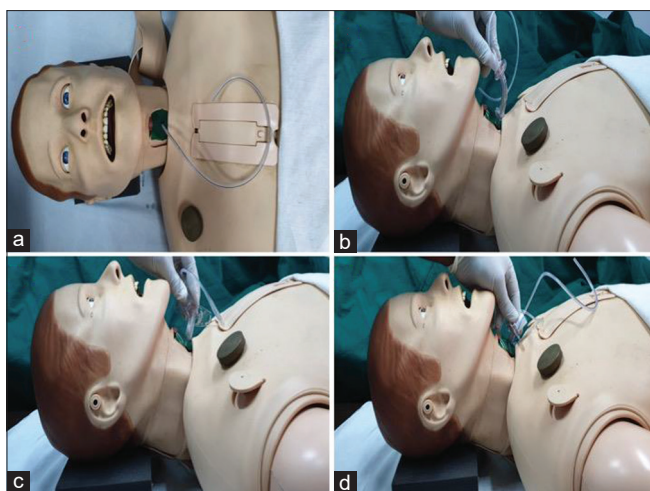


## **A novel manoeuvre in succeeding rail-roading of tracheostomy tube**

Sir,

A 42 year old male patient, a case of polytrauma with

multiple long bone fractures with acute kidney injury was requiring prolonged mechanical ventilation and planned for percutaneous dilatational tracheostomy (PDT).<sup>[1,2]</sup> The procedure was uneventful until the dilatation of trachea with blue rhino dilator (Ciaglia Blue Rhino Advanced Percutaneous Trachesotomy set, Cook Medical, Bloomington, USA). Once tracheal stomal dilatation was completed, 7.5 mm cuffed tracheostomy tube (TT) was railroaded over the guiding catheter assembly. TT could not be visualised with fiberoptic



**Figure 1:** (a) Introduction of nasogastric tube into tracheal stomal opening; (b) Rail-riding of tracheostomy tube (TT) with tip facing cephalad; (c) once half of the TT enters stoma, TT is rotated 180° with tip facing caudally; (d) TT inside trachea

bronchoscope (FOB). TT was removed and guidewire with catheter guide assembly was left in trachea which was visualised with FOB. Another attempt of rail-riding with 7.5 mm TT resulted in non-visualisation of TT with FOB, as it would have entered into false track most probably. Guiding catheter assembly was removed and breathing circuit was connected with TT that did not show any capnographic trace upon ventilation. Hence, TT was removed. The tracheal stomal opening was visualised well after retracting strap muscles and air blast was appreciated by ventilating via ETT. A 12 French nasogastric tube (NGT) was inserted into the tracheal stomal opening and 7.5 mm TT was railroded with 180° rotation (TT tip was facing cephalad) [Figure 1b]. Once half of the TT had gone inside the stoma site, it was rotated 180° with its tip facing caudally [Figure 1c]. The success of this manoeuvre was most probably due to the sliding down of tip of TT along the lesser curvature of the guide, NGT [Figure 1a-d].

A 38 year old male patient was admitted with traumatic brain injury (TBI) and had undergone decompressive craniectomy. He was tracheostomised on day 5 after TBI. There was an accidental decannulation of the TT (2 days after tracheostomy) and he was maintaining oxygen saturation ( $SpO_2$ ) of 99% with the tracheal mask. Topicalisation of the trachea was done with 2 ml of 4% lignocaine through the stoma and a 12 French NGT was passed via the stoma. A well-lubricated, cuffed 7.5 mm TT was rail-roded over the NGT and then NGT was removed. There was no air blast from TT and his peripheral oxygen saturation ( $SpO_2$ ) dropped to

90%. TT was removed and the patient was oxygenated with tracheal mask (Tracheal mask, Flexicare limited, Mountain Ash, UK) via the stomal site and that improved the saturation to 99%. Placing an ETT via stomal site over the NGT was kept as plan B if patient desaturated or any further placement of TT failed. With aforementioned experience with PDT, 12 French NGT was inserted again through the stoma site and then 7.5 mm cuffed TT was rail-roded with TT tip rotated 180°. Once half of the TT was entering the stomal site, TT was rotated 180° with TT tip facing caudally. This novel manoeuvre resulted in appropriate placement of TT.

It is said that we should always call for help during accidental decannulation of TT in the intensive care unit (ICU) and try to maintain oxygenation either with face mask after occluding the stomal site or via the stomal site if air blast is present.<sup>[3]</sup> If  $SpO_2$  is not being maintained with the above methods, then either we have to reposition the TT if the trachea is visualised or the patient needs to be intubated by keeping the tip of ETT distal to the opening of trachea.<sup>[4,5]</sup> In the aforementioned patients, rail-riding of TT over NGT resulted in inappropriate placement of TT. Hence, we used a new manoeuvre to succeed in appropriate placement of the TT. The main concern in placing the TT 180° with the tip facing cephalad is injury to the recurrent laryngeal nerve or direct mechanical injury to the vocal cords. In aforementioned cases, the bilateral vocal cords were mobile as seen on FOB.

We suggest to utilise this novel manoeuvre while railroding TT whenever the first attempt of railroding TT with conventional method fails.

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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#### Conflicts of interest

There are no conflicts of interest.

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