Japan Council for Quality Health Care

Project to Collect Medical Near-Miss/ Adverse Event Information

Medical Safety Information

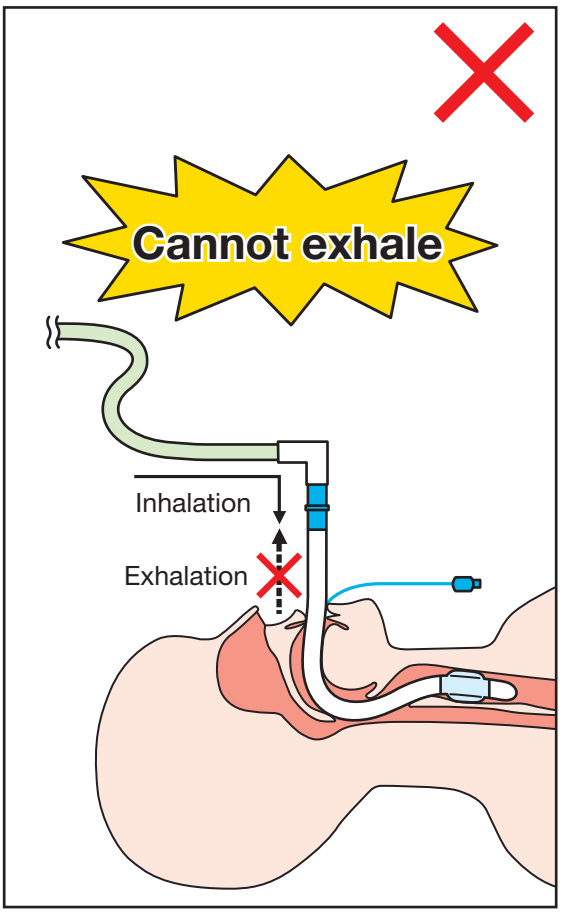
No.159, February 2020

Misconnection Causing Obstructed Exhalation in Patients with an Endotracheal/ Tracheostomy Tube

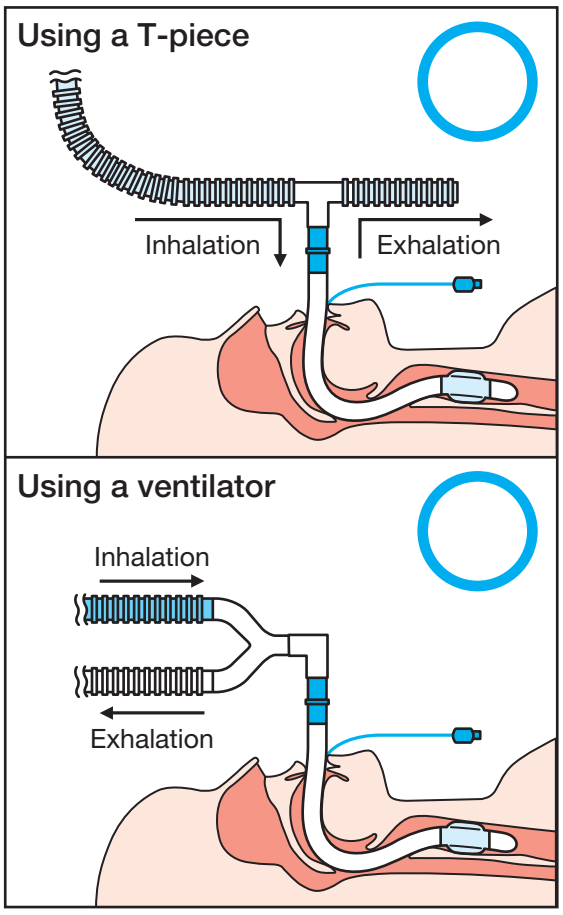
Five cases have been reported in which misconnection occurred when changing devices to administer oxygen or inhalation medication to a patient with an endotracheal or tracheostomy tube, resulting in the patient's exhalation being obstructed (information collection period: from January 1, 2013 to December 31, 2019). This information was compiled on the basis of the content featured in the Analysis Themes section of the 58th Quarterly Report.

Cases have been reported in which devices were misconnected, causing obstructed exhalation in patients with an endotracheal or tracheostomy tube.

Image of Misconnection



Example of connection



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Case

The patient underwent tracheal intubation and was transferred to the MRI examination room while being ventilated by the resident using a resuscitator bag. In the MRI room, the radiological technologist pointed out that the resuscitator bag could not be used. The nurse, who had no experience of administering oxygen to a patient with an endotracheal tube, connected the oxygen line, the catheter mount, and the endotracheal tube in that order, but did not notice that the patient could not exhale. After the examination began, the patient was unable to exhale and developed bilateral tension pneumothorax, so a chest drain was inserted.

Key Preventive Measures

- **Ensure that medical staff understand the inhalation and exhalation flows in patients with an endotracheal or tracheostomy tube.**
- **When changing devices connected to endotracheal or tracheostomy tubes, think about whether the patient can exhale.**
- **After connection, check for movement of the chest to confirm that the patient is able to breathe.**
- **Establish a procedure for the aforementioned content and conduct education and training to ensure that medical staff can carry it out, without fail.**

(Comprehensive Evaluation Panel)

* As part of the Project to Collect Medical Near-Miss/Adverse Event Information (a Ministry of Health, Labour and Welfare grant project), this medical safety information was prepared based on the cases collected in the Project as well as on opinions of the "Comprehensive Evaluation Panel" to prevent the occurrence and recurrence of medical adverse events. See the Project website for details.
http://www.med-safe.jp/

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