Enhancing Tracheostomy Care Practices to Prevent Dislodgement or Displacement in the Intensive Care Unit

Singapore Healthcare Management 2019

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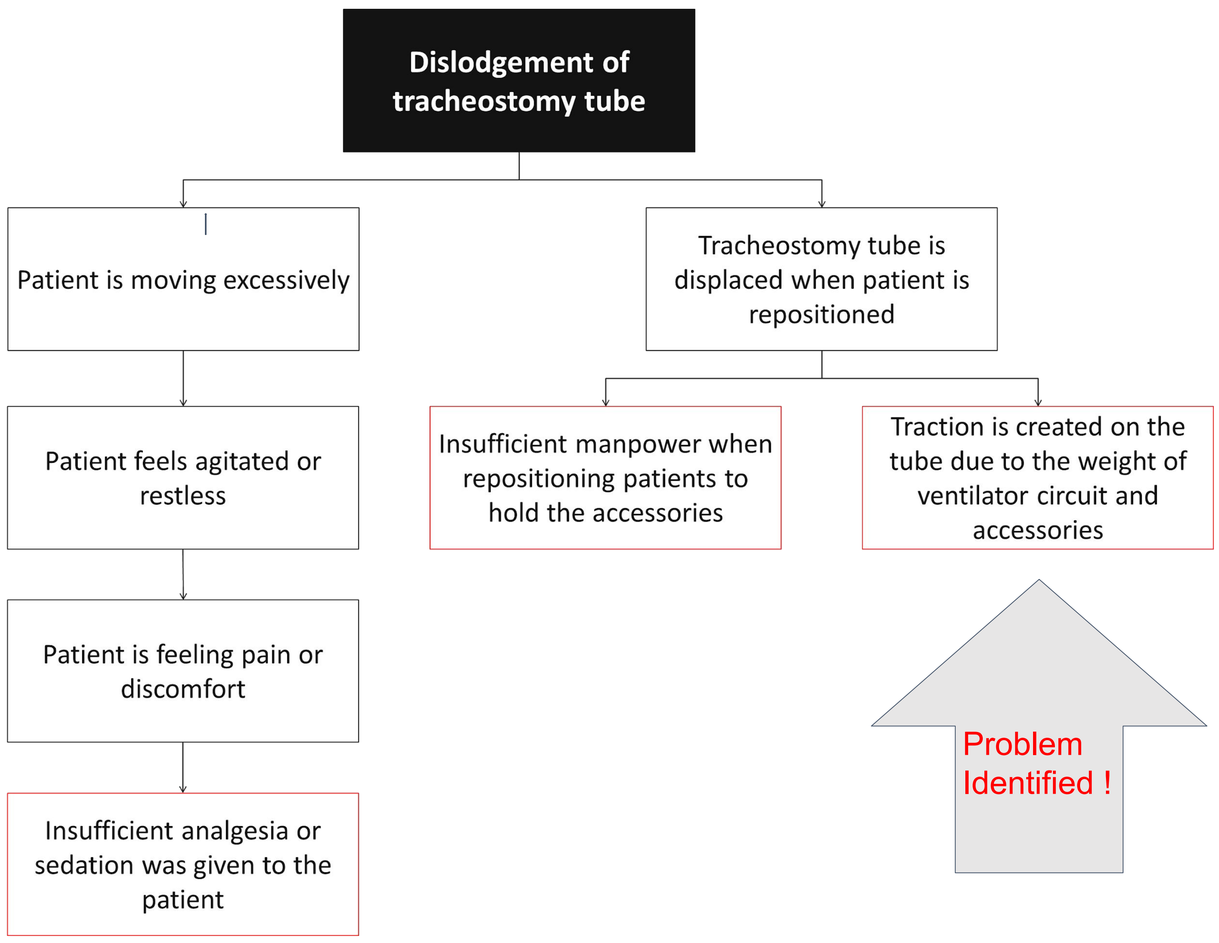
Introduction:

In 2015, there were four incidents of tracheostomy dislodgement or displacement in the Surgical Intensive Care Unit. These incidents occurred as a result of patient movement(during repositioning, coughing during suctioning) and invariably led to airway obstruction and rapid desaturation in the patients, which had to be resolved by adjusting the position of the tube or inserting a new one.

Our objectives is to eliminate incidences of tracheostomy tube dislodgement or displacement for patients in the Intensive Care Unit in six months.



Method:

Before applying intervention, tracheostomy and ventilator circuit are visibly displaced to the right due to traction.

A Mepilex Border® 10x10cm dressing is applied to the patient's skin, just below the clavicle, and the catheter mount (a section of the ventilator circuit closest to the patient) is secured to the patient's body by tying it to the dressing using two pieces of cotton tape as illustrated

Results:

The viability of the method was tested by attaching weights in the form of Normal Saline bottles (250ml, 500ml, 1000ml) to the circuit and measuring the corresponding length of displacement of the tracheostomy tube. The results are illustrated in the table below.

	Current Method			New Method		
Weight applied	**250g**	**500g**	**1kg**	**250g**	**500g**	**1kg**
Traction on Tracheostomy Tube	Yes	Yes	Yes	No	Yes (slight)	Yes (slight)
Length of Displacement of Tracheostomy Tube from midline	1cm	1.7cm	2.5cm	0cm	0.5cm	1cm

Length of the displacement is greatly reduce by at least 60% with the intervention in placed.

Given that the total weight of the ventilator circuit and accessories connected to the tracheostomy tube is approximately 200g, the intervention essentially eliminates the risk of tube displacement, and hence is able to prevent tube dislodgement caused by traction.

Conclusion:

- With less tugging on the tracheostomy tube, patients will also feel more comfortable with less cough stimulus.
- The initiative will be rolled out in the Surgical Intensive Care Unit and incidences of tracheostomy dislodgement or displacement will be monitored.
- Feedback will be obtained from the nurses on the effectiveness and practicality of the intervention.
- The initiative will then be rolled out to the other Intensive Care Units and included as part of the standard of care for patients ventilated with a tracheostomy tube.