NHS England

Patient Safety Alert

Stage One: Warning

Risk of inadvertently cutting in-line (or closed) suction catheters

17 July 2014

Alert reference number:	NHS/PSA/W/2014/013
Alert stage:	One - Warning

An incident has occurred recently where an in-line (or closed) suction catheter was left in the endotracheal tube (ET tube) by mistake. When the ET tube was cut to reduce the dead space, the suction catheter was also cut and the tip remained in the ET tube. The incident was not noticed for several days and during this time the tip of the suction catheter migrated into the patient's main bronchus. The tip was identified on a chest X-ray and subsequently removed by bronchoscopy.

Eight additional incidents describing retained suction tips have been reported to the NRLS, STEIS and the MHRA since 1 January 2012. These cases involved neonates and adult patients and appear to have resulted in moderate harm. However, there is potential for serious harm because of the risk of infection and, especially in unstable patients, the undertaking of an invasive procedure to retrieve the foreign object.

An example incident report states:

Doctors … were using fibre optic bronchoscope … and identified a foreign object in the left main bronchus, procedure abandoned and foreign object removed and identified as being 7cm of closed suction circuit tubing … at some point during her stay the ET tube must have been cut.

Local investigations have identified the following:

- in closed suction systems for neonates, the suction catheter is not easily visible if left inside the ET tube (similar sizes and colours);
- it was not always documented when and by whom the ET tube was cut;
- suturing through the ET tube to secure it could also inadvertently lead to damage of the in-line catheter; and
- some patients were suctioned regularly and staff failed to fully withdraw the catheter following suction.

Leaving a suction tube inside the ET tube is poor clinical practice and may restrict ventilation. It poses a particular risk if the ET tube is to be cut for any reason. Following suction, the catheter must be withdrawn according to manufacturer's instructions and this procedure should be reflected in local guidelines and training material.

Actions

Who: All services that use in-line (or closed) suction systems

When: As soon as possible but no later than 14 August 2014

1. Disseminate the information from this Alert to all staff who use in-line or closed suction systems as part of patient care.
2. Establish if there is a risk of inadvertently cutting in-line suction catheters during the process of shortening endotracheal tubes (ET tubes) and if similar incidents have occurred.
3. Consider if immediate action needs to be taken locally and ensure that an action plan is underway, if required, to reduce the risk of a similar incident occurring.
4. Share any learning from local investigations or locally developed good practice resources by emailing patientsafety.enquiries@nhs.net

Publications Gateway Reference 01943

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Technical notes

Search strategies for similar incidents

A search of the NRLS was undertaken on 30 June 2014 using the following search criteria: Incidents reported since 1 January 2012 and keywords: in_line OR close* AND suction*. Seven incidents were found and two of these were relevant.

Incidents reported to STEIS between 1 April 2012 and 31 March 2014 were searched for reports containing the keywords in_line OR close* AND suction* in the free text description. Three relevant reports were found.

A search of the MHRA AITS database back to 2012 (using two search terms – 1. closed AND suction AND cut; and 2. closed AND suction AND detached). Seven incidents were identified.

Stakeholder engagement

The Patient Safety Alert was developed with advice from the MHRA, Safe Anaesthesia Liaison Group (SALG) and the NHS England Children and Young People's Patient Safety Expert Group (see www.england.nhs.uk/patientsafety for membership details) who fully supported the publication of this alert.

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