English Summary

Title
Clinical guideline for tracheal suctioning and humidification of non-ventilated, adult hospitalised patients with a tracheostomy.

Background
To ensure patent airways in patients with a tracheostomy, the tracheal tube needs to be suctioned to clear it from secretions and crusts, the inner-cannula must be cleansed and the formation of secretion and crusts be prevented. Incorrect handling of these procedures may lead to unnecessary discomfort to the patient, damage to trachea and could ultimately block the tracheal tube leading to fatal consequences.

Objectives
To ensure that patients with a tracheal tube, receives the best possible care during tracheal suctioning and humidification, according to the guidelines reaching consensus among the national departments of ORL – Head & Neck Surgery

Participants
Adult hospitalised patients above the age of 15 years, who have a tracheostomy and are non-ventilated.

Types of Intervention(s)
Indication, frequency, depth, duration and technique during suctioning and humidification

Types of studies
No literature of sufficient strength was found, thus the guideline has been developed on consensual basis.

Types of outcomes
Indication and duration, depth of suctioning and technique, oxygenation and hygienic management, hydration and humidification during suctioning, as well as technique, frequency and equipment at humidification.

Search strategy
A systematic search was performed in October 2013 and October 2014 in the databases: Cochrane, PubMed, Embase, Cinahl and SveMed+ Chain search was performed in references of select articles in December 2013. In August 2014 international guidelines were sought in the databases: Trip database, NICE (UK), SIGN (Scotland), National Guideline Clearing-house (USA) and Joanna Briggs Institute (Australia). In May 2016 an updated search was performed in the mentioned databases.

Methodological quality
All articles have been read and critically assessed and guidelines have been assessed using AGREE I.

Data synthesis
A modified Delphi method has been applied in order to reach consensus. The process has been performed as a questionnaire survey, using SurveyXact with an expert panel of 30 persons, consisting of one doctor and one – two nurses from each of the 10 national departments of ORL. The process was carried out twice and after final calculation of replies from the panel, an end product was achieved consisting of a quantitative, brief expression of the evaluation of the entire group. In total 25 statements reached consensus.

Recommendations for clinical practice
- the duration of suctioning should be as short as possible (IV) D
- suctioning should not be applied, if cleaning the inner cannula is sufficient (IV) D
- suctioning should be performed, when secretion is seen or heard in the tracheal tube, and the patient is unable to cough up secretion (IV) D
- suctioning should be performed, when obstruction of the tracheal tube is suspected (IV) D
- suctioning should only be performed when needed (IV) D
- the suction catheter should not be inserted beyond the tip of the tracheal tube (IV) D
- only the necessary number of suctioning episodes are performed, during each suctioning (IV) D
- a short break takes place between each suctioning episode(IV) D
- one-eyed suction catheters are rotated during suctioning (IV) D
- the skin colour of the patient is assessed after each suctioning based on professional knowledge (IV) D
- respiration after suctioning is based on professional knowledge (IV) D
- clean gloves are in use during every suctioning (IV) D
- non touch principles are in use up to one week after surgical placement of the tracheostomy (IV) D
- the suction catheter is discarded after each suctioning (IV) D
- the suction tube is rinsed with ordinary water after each suctioning (IV) D
- oxygenation is always humidified (IV) D
- sterile saline instillation may be performed before suctioning (IV) D
- no more than 5 ml sterile saline should be instilled, as this may be unpleasant to the patient (IV) D
- the amount of sterile saline should be evaluated based on the patients ability to cough and the characteristics of the secretion (IV) D
- secretion and crusts can be prevented by maintaining a normal fluid balance (IV) D
- sterile saline instillation by dripping or spraying is performed when needed (IV) D
- a filter, a moisturised bib or collar are used in order to preserve moist (IV) D

Short clarification of recommendations:
Consensus has mainly been reached regarding suctioning when needed, with shortest possible duration, as few passes as possible and never deeper than the tip of the tracheal tube. Crusts and secretion should be prevented by sufficient hydration and humidification, as well as sterile saline instillation through dripping or spray. Clean principles are performed in connection to the surgical placement of the tracheostomy. The suctioning tube is rinsed with normal water and the catheter discarded after each suctioning.