

LETTER

# Checklist for percutaneous tracheostomy in critical care

Gokulnath Rajendran\* and Stephen Hutchinson

See related research by Simon *et al.*, <http://ccforum.com/content/17/5/R258>

Simon and colleagues are to be commended for their effort in reviewing articles published since 1985 on the incidence and risk factors associated with mortality following percutaneous dilatational tracheostomy (PDT) [1].

An important milestone in an attempt to reduce surgery-related complications was the introduction of the World Health Organization Surgical Safety Checklist in 2008. A pilot study showed a reduction in both mortality and potential complications following introduction of the checklist [2]. Over 300 organisations have endorsed the campaign worldwide and 1,790 hospitals are actively using the checklist with more than 4,100 hospitals registered [3].

With such broad recognition of the importance for safety and implementation of the checklist in general surgery, it seems appropriate to follow a similar checklist for the PDT procedure in intensive care. Checklists are not alien to ICUs. Checklists have helped nursing staff to adhere to infection control guidelines and hence a reduction in bloodstream-related infections [4]. Several other checklists (mechanical ventilation, daily goals [5]) have proven useful.

The checklist before PDT (see Table 1) is intended to reduce error and harm. Although the clinician has overall responsibility for ensuring that it is safe to undergo PDT, having a checklist would also provide an opportunity for the nurses to highlight or challenge any criteria that are not followed. We believe that if the checklist is tailor-made to suit individual organisations, it does not overstrain clinicians and may actually improve safety and efficiency.

**Table 1 Proposed checklist before percutaneous dilatational tracheostomy (pre and post)**

	Yes	No
<b>Preparation</b>		
Confirm patient's consent or next of kin's assent		
Is the neck anatomy favourable (no previous surgery or radiotherapy?)		
Ultrasound of the neck performed? (Midline/abnormal vessels absent?)		
FiO <sub>2</sub> requirement <70 %, PEEP <10 mm Hg		
Is coagulation okay? (Platelets >80,000/ $\mu$ l, INR <1.5, APTT <45 seconds)		
Anticoagulants and antiplatelets withheld?		
Gastric feeding suspended?		
<b>Procedure</b>		
Airway management and anaesthesia: Dr .....		
Tracheostomy: Dr.....		
Minimum monitoring (ECG/SpO <sub>2</sub> /NIBP/EtCO <sub>2</sub> )		
Airway rescue equipment available?		
General anaesthesia (propofol + opioid) and paralysis (atracurium)		
20 ml local anaesthesia – 1 % lignocaine with adrenaline		
Ciaglia dilatational tracheostomy (preferably with subglottic suction). A range of tube sizes and adjustable flange tube should be available		
Airway toilet/suction and bronchoscopy		
Tracheostomy position is confirmed by EtCO <sub>2</sub> and bronchoscopy		
Tracheostomy is secured with sutures and tapes, and inner cannula inserted		
<b>Post procedure</b>		
Check chest X-ray satisfactory?		
Document in the clinical record		
Review sedation and ventilation		

APTT, activated partial pressure thromboplastin time; ECG, electrocardiogram; EtCO<sub>2</sub>, level of carbon dioxide released at the end of expiration; FiO<sub>2</sub>, fraction of inspired oxygen; INR, international normalised ratio; NIBP, non-invasive blood pressure; PEEP, positive end-expiratory pressure; SpO<sub>2</sub>, blood oxygen saturation.

\* Correspondence: [drgokul100@gmail.com](mailto:drgokul100@gmail.com)  
Norfolk and Norwich University Hospitals, Colney Lane, Norwich NR4 7UY, UK

#### Abbreviation

PDT: Percutaneous dilatational tracheostomy.

#### Competing interests

The authors declare that they have no competing interests.

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